

## 16 People and Communities – All Travellers

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

The assessment identifies paths, including core paths, rights of way, National Cycle Routes, equestrian routes and local paths within 500m of the proposed scheme. A total of twenty-two NMU routes were identified in the study area, comprising seven core paths, eleven local paths, the wider network paths within the Inverness Campus, two rights of way and one National Cycle Network route. Changes to NMU journey lengths and amenity value were assessed. The assessment took into account the mitigation embedded in the proposed scheme design such as new shared-use facilities and crossing points. The baseline for the assessment also included the paths embedded in the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme.

The proposed scheme includes approximately 7.3km of new NMU paths (for pedestrians and cyclists), including a grade-separated path south of the proposed Eastfield Way Roundabout to provide a link to local paths connecting to the Inverness Retail and Business Park and the Inverness Campus.

During construction, temporary significant impacts are anticipated on journey length for six paths due to potential diversion lengths. During construction there is anticipated to be temporary significant impacts on amenity value for eight paths due to a decrease in the amenity value as result of construction activities.

Moderate significant residual impacts are anticipated for three NMU routes (IN08.10, LP2 and LP5) during operation. NMUs using core path IN08.10, and local paths LP2 and LP5 are anticipated to experience significant impacts due to decreased amenity value as a result of the proximity of the proposed scheme to the paths and subsequent increased visual and noise impacts. NMUs using LP5 are also expected to experience significant impacts due to increased journey length; the path is severed and requires a significant diversion as result of the proposed scheme.

With regard to impacts on vehicle travellers, views from the road were assessed on roads surrounding the proposed scheme during winter year of opening and during the summer 15 years after opening. Impacts of Negligible adverse (Inverness Urban Fringe and Culloden LLCA) and Slight/Moderate beneficial (Enclosed Farmed Landscapes LLCA) significance are anticipated during the summer 15 years after opening and are both considered to be non-significant impacts.

Driver stress can be caused by frustration, fear of accidents and uncertainty of the route being followed. The DMRB methodology considers driver stress as a function of traffic flows and speed, consequently driver stress for the proposed scheme in the Do-Something scenario i.e. with the proposed scheme in place in the design year 2037 is assessed as high. According to the descriptive scale within the DMRB, driver stress, as a function of traffic flows and speed, would be described as high for the proposed scheme due to the low traffic speeds and the two roundabouts introduced by the proposed scheme. However, it is considered that other aspects of the design including appropriate signage may contribute to reducing driver stress during operation by achieving high levels of operational reliability and reducing driver frustration.

### 16.1 Introduction

16.1.1 This chapter presents the Design Manual for Roads and Bridges (DMRB) Stage 3 Environmental Impact Assessment (EIA) for the A9/A96 Inshes to Smithton scheme (hereafter referred to as the proposed scheme) in relation to impacts on the journeys made by pedestrians, cyclists, equestrians (collectively referred to as Non-Motorised Users (NMUs)) and vehicle travellers.

16.1.2 This assessment is based on guidance presented in DMRB Volume 11. As explained in Chapter 15 (People and Communities – Community and Private Assets) DMRB Interim Advice Note (IAN) 125/15 (supersedes IAN 125/09) (Highways England, Transport Scotland, Welsh Assembly Government and The Department for Regional Development Northern Ireland 2015) recommends that the three topic areas of 'Land Use', 'Pedestrians, Cyclists, Equestrians and Community Effects' and 'Vehicle Travellers' (Volume 11: Parts 6, 8 and 9 respectively) are considered under a single topic area: 'People and Communities', for which updated DMRB topic guidance has not yet been published. Due to the volume and complexity of data covered under 'People and Communities' in relation to the

proposed scheme, the findings are reported in two linked chapters; this chapter (Chapter 16) covering 'All Travellers', and the previous chapter (Chapter 15) covering 'Community and Private Assets'.

- 16.1.3 This chapter focuses on the potential impacts of the proposed scheme on NMUs (e.g. changes to journey length and/or amenity value) due to changes to paths and access to outdoor areas in the study area. The assessment also considers how access to public transport facilities would be affected by the proposed scheme. Chapter 15 (People and Communities - Community and Private Assets) assesses general community severance and impacts that the proposed scheme would have on access to residential and commercial land; community facilities; development land; agricultural land; and sporting and forestry interests for both NMUs and vehicle travellers. Chapter 10 (Visual) provides an assessment of views of the proposed scheme from existing viewpoints and outdoor receptors in the study area. An assessment of the proposed scheme's compliance with national, regional and local planning policy, for example Scotland's National Planning Framework 3 (NPF3) 2014 (Scottish Government 2014) is provided in Chapter 18 (Policies and Plans).
- 16.1.4 The A9/A96 Inshes to Smithton DMRB Stage 2 Scheme Assessment Report (Jacobs 2017), established the following design objectives which have been taken into account in the design of the proposed scheme:
- to maintain continuity of the existing National Cycle Network Route 1 (NCN 1) as it passes through the scheme corridor;
  - to maintain continuity of the existing Core Path at Ashton Farm as it passes through the scheme corridor;
  - to maintain continuity of other existing NMU routes as they pass through the scheme corridor;
  - to take account of the proposed East Inverness Active Corridor in the development of the scheme design; and
  - to recognise and exploit opportunities to provide for existing and potential future NMU routes that pass through the scheme corridor and the surrounding area.
- 16.1.5 Impacts on vehicle travellers have been assessed in terms of how contributing factors to driver stress are affected as a result of the proposed scheme, as well as the extent to which vehicle travellers are exposed to different types of scenery while travelling on the proposed scheme.
- 16.1.6 This chapter assesses and reports potential construction and operational impacts separately. Impacts during construction are considered to be those resulting from severance of existing routes. Impacts during operation are considered to be those resulting from the existence of new carriageways and associated junctions following completion.
- 16.1.7 This chapter sets out the following:
- a description of the methodology used to predict and assess potential impacts;
  - the baseline conditions within the study area relating to path network, outdoor access, driver stress and public transport; and
  - the assessment of potential impacts of the proposed scheme with regard to the identified baseline conditions; and an outline of anticipated mitigation measures that might be developed for the proposed scheme.
- 16.1.8 This chapter is supported by the following appendices and figures:
- Appendix A16.1: Impact Assessment for NMU Routes and Access to Outdoor Areas;
  - Figure 16.1: Baseline Conditions;
  - Figure 16.2: Potential Impacts on NMU Routes and Proposed Mitigation; and
  - Figure 10.3: Visual Impact on Outdoor Receptors.

## Legislative and Policy Background

### Land Reform Act (Scotland) Act 2003

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

16.1.10 Under the Act, local authorities were 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'*

16.1.11 Section 10 of the Act states that it is the duty of Scottish National Heritage (SNH) to prepare and issue a Scottish Outdoor Access Code, setting out guidance in relation to access rights and responsibilities. Furthermore, it is the duty of SNH and local authorities to publicise the Code and for SNH to promote understanding of it. The Code was approved by the Scottish Parliament in July 2004.

16.1.12 Chapter 18 (Policies and Plans), Appendix A18.1 (Planning Policy Context for Environmental Assessment) describes the planning policies and guidance from national to local level which are relevant to NMU and vehicle travellers. An assessment of the compliance of the proposed scheme against all development plan policies relevant to this environmental topic is reported in Appendix A18.2 (Assessment of Development Plan Policy Compliance) with a summary overview provided in Section 18.4 (Assessment of Compliance) of the Policy and Plans assessment (Chapter 18).

## 16.2 Methodology

16.2.1 As noted in Chapter 5 (Overview of Assessment) the assessment of the impacts of the proposed scheme on all travellers has taken into account the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme, and in particular the mitigation that is proposed in relation to NMU routes as part of that scheme.

### Non-Motorised Users (NMUs)

#### Introduction

16.2.2 In accordance with DMRB Volume 11, Section 3 Part 8 (Highways Agency, Scottish Office Development Department, The Welsh Office and the Department of Environment Northern Ireland 1993a) the assessment of impacts on NMUs focuses on three main aspects:

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

16.2.3 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.

- 16.2.4 The use of paths can help to improve health, reduce social exclusion and, unlike other modes of transport, generally has fewer associated costs (e.g. fuel and travel ticket). 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.
- 16.2.5 In accordance with SNH guidance on EIA (SNH 2018), likely significant effects on access to outdoor areas have been considered in this assessment. Outdoor access areas considered in line with SNH guidance are presented in Table 16.1.

**Table 16.1: Outdoor Access Areas Considered**

<b>Area Based Facilities</b>	National, Regional and Country parks
	Geoparks
	Areas subject to a S.49A Management Agreements including public access
	National Nature Reserves and Local Nature Reserves
	Local open space and green infrastructure
	Inland lochs and reservoirs
<b>Linear Access Facilities</b>	Promoting surfing, diving and climbing sites
	Core paths and wider networks available through access rights
	Long distance routes, regional routes, National Cycle Network
	Any other public rights of way that are not identified as core paths or local paths
	Permissive paths and routes on land where access rights do not apply
Rivers and canals	

- 16.2.6 There are no outdoor area-based facilities within the study area or immediate vicinity that NMU routes identified in the study area are used to access, therefore, access to outdoors area-based facilities has been scoped out of this assessment. To avoid duplication, potential impacts on linear access facilities such as NCN 1 are assessed under footpaths/cycleways and other routes in Section 16.4.
- 16.2.7 Impacts on community land and facilities are considered in Chapter 15 (People and Communities: Community and Private Assets).

#### Study Area

- 16.2.8 The study area for the assessment of impacts on NMUs includes paths within 500m of the proposed scheme. The DMRB guidance does not explicitly define a distance for a study area to be assessed, so this has been based on professional judgement. In some instances, the study area will extend beyond 500m to include paths used to access outdoor areas that are outside of the identified study area.

#### Baseline Conditions

- 16.2.9 Baseline data were collected through desk-based studies, consultation and a site survey undertaken on 15 and 16 May 2018.

#### *Desk-based Assessment*

In line with IAN 125/15 and DMRB (Highways Agency et al. 1993a) the desk-based review considered the following resources:

- A review of digital Ordnance Survey (OS) Maps.
- Review of aerial photography provided by Transport Scotland (BLOM Survey 2017).
- A review of relevant local plans and strategies:

- Inverness East Development Brief (The Highland Council 2018);
- The Highlands and Islands Transport Partnership (HITRANS) (2011);
- Infrastructure Investment Plan 2015 (Scottish Government 2015);
- The Highland Council Core Paths Plan (The Highland Council 2011); and
- Inverness Active Travel Audit 2011 (Halcrow 2011).
- A review of publicly available and requested data from relevant sources including Sustrans and review of OS maps to identify:
  - Existing paths (recreational and functional), and rights of way used by pedestrians, cyclists and equestrians;
  - key views and areas of scenic quality from the proposed scheme area;
  - outdoor access facilities as specified in Appendix 6, Table 1 of 'Environmental Impact Assessment Handbook' (SNH 2018);
  - area based facilities (e.g. parks, local open spaces, inland lochs reservoirs, woodlands) and linear facilities (e.g. paths, rights of way, cycleways); and
  - public transport links including bus and train routes.

*Site Walkover and Surveys*

16.2.10 To verify the baseline data collected through the desk-based assessment and consultation, surveys of identified NMU routes were undertaken in May 2018 by suitably qualified environmental specialists.

*Consultation*

16.2.11 Consultation with the following organisations has been considered in the assessment:

**Table 16.2: List of Stakeholders Considered in the Assessment**

Consultees	
<ul style="list-style-type: none"> <li>• Architectural and Heritage Society of Scotland</li> <li>• British Horse Society</li> <li>• Cycle Touring Club Scotland (CTC)</li> <li>• HITRANS</li> <li>• John Muir Trust (JMT)</li> <li>• Mobility and Access Committee (MACS) Scotland</li> <li>• Scottish Disability Equality Forum</li> </ul>	<ul style="list-style-type: none"> <li>• Scottish Outdoor Access Network (SOAN)</li> <li>• ScotWays</li> <li>• Stagecoach (Local Bus Operator)</li> <li>• Sustrans Scotland</li> <li>• The Highland Council</li> <li>• Transport Scotland</li> <li>• Visit Scotland</li> </ul>

16.2.12 Appendix A6.1 (Summary of Consultation Responses) provides a summary of correspondence carried out with the consultees listed in Table 16.2 in relation to the All Travellers assessment.

*Number and Type of User*

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

16.2.14 As stated in paragraphs 16.1.9 to 16.1.11, the Land Reform (Scotland) Act 2003 imposes certain requirements on local authorities for maintaining public access. In addition, Scottish Planning Policy (SPP) (Scottish Government 2014) 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 undertaken for the purposes of this

assessment as based on the Land Reform (Scotland) Act 2003 and SPP, levels of usage should not influence path sensitivity.

- 16.2.15 For this assessment, the type of user (including use by vulnerable users) was determined from information provided during consultation with relevant bodies and the site survey undertaken in May 2018.

Impact Assessment

- 16.2.16 The assessment of potential impacts of the proposed scheme on NMUs was undertaken with reference to DMRB Volume 11, Section 3, Part 8 (Highways Agency et al. 1993a).
- 16.2.17 The potential impact of the proposed scheme on NMUs was determined by considering changes in both journey length and amenity using the approach detailed below.
- 16.2.18 The significance of potential impacts on NMUs was 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 mitigation measures identified in Section 16.5 (Mitigation).

*Sensitivity*

- 16.2.19 In acknowledgement of the statutory duties placed on local authorities by the Land Reform (Scotland) Act 2003 (refer to paragraphs 16.1.9 to 16.1.11) 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 cycle routes).
- 16.2.20 Table 16.3 outlines the 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. Vulnerable users include children, elderly persons, and those affected by a disability.

**Table 16.3: Sensitivity Parameters for Effects on NMUs**

Sensitivity	Parameters
High	<ul style="list-style-type: none"> <li>• Popular routes regularly used to access community facilities, residential areas, employment centres and outdoor areas (e.g. Country Parks, forests and beaches).</li> <li>• Routes which are valued highly as they are key national or regional core paths, long distance walks or cycle routes.</li> <li>• Routes which are used by vulnerable users.</li> <li>• These routes may be key commuter routes or routes used to access tourist destinations.</li> <li>• Vindicated rights of way and asserted rights of way.</li> <li>• Core paths/proposed core paths.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>• Claimed rights of way.</li> <li>• National Cycle Routes.</li> <li>• Regional Cycle Routes.</li> <li>• Routes used by the public for local recreational purposes but where alternatives routes exist. These are not key tourist or commuter routes.</li> <li>• Regionally important community land (e.g. Country Parks, forests and beaches).</li> </ul>
Low	<ul style="list-style-type: none"> <li>• Local routes/other paths out with the above categories.</li> <li>• Locally important community land (e.g. local parks and playing fields).</li> <li>• Routes rarely used by pedestrians, cyclists and equestrians as more favourable alternatives exist.</li> <li>• These routes may have fallen into a state of disrepair or have been severed by historical development.</li> </ul>

Note: a definition of vindicated and asserted is provided in paragraph 16.3.7



16.2.21 Community facilities used by vulnerable groups, such as schools, care homes and doctors' surgeries, where applicable, have been identified in Chapter 15 (People and Communities – Community and Private Assets) and are shown on Figure 15.1. The sensitivity rating of paths known to be used by vulnerable groups, such as those which serve these types of community facilities were reviewed. Where applicable, the sensitivity was adjusted using professional judgement to take into consideration the vulnerability of users. Table 16.12 describes the paths in the study area and provides a sensitivity rating in line with the parameters in Table 16.3.

*Changes in Journey Length and Accessibility*

16.2.22 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 flow on roads crossed by or adjacent to paths, which may result in NMUs deciding to use an alternative route).

16.2.23 Desk-based assessment, consultation and on-site verification were used to identify where paths currently crossed the proposed scheme footprint. The existing journey lengths for paths were derived from The Highland Council Core Path Plan, Rights of Way data from ScotWays, local paths identified by Jacobs, and through consultation. Where possible, alternative routes for paths anticipated to be severed during construction were defined in order to maintain a link between potential origin and destinations and a comparative journey length calculated. 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 and detailed in Appendix A16.1 (Impact Assessment for NMU Routes and Access to Outdoor Areas).

16.2.24 NMUs may be deterred from making trips alongside or across existing traffic once the proposed scheme is in operation and therefore alternative routes may be taken. In accordance with DMRB, changes in traffic flows based on Average Annual Daily Traffic over 18 hours (AADT18) are reported for opening year (2022) with and without the proposed scheme.

16.2.25 Considering the guidance provided in DMRB, criteria were developed to determine magnitude of impact resulting from changes in journey length as shown in Table 16.4.

**Table 16.4: Magnitude of Impact Criteria for Changes to Journey Length**

Magnitude	Characteristics
High	500m or greater of closure or loss of NMU route.
Medium	250 to <500m of closure or loss of NMU route.
Low	100 to < 250m of closure or loss of NMU route.
Negligible	<100m of closure of NMU route.

16.2.26 The significance of impacts on journey length was then determined using the matrix in Table 16.5.

**Table 16.5: Significance of Impact on Journey Length**

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

16.2.27 For the purposes of this assessment, impacts were considered to be 'significant' in the context of the EIA Regulations where the assessment results indicate impacts of Moderate or higher significance.

*Changes in Amenity*

- 16.2.28 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 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 an improvement to visual amenity, and/or improvement in air quality or safety, there would be a possible perceived improvement in amenity. 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. Therefore, changes in amenity were considered where:
- existing paths would be crossed by the proposed scheme;
  - traffic flows would potentially affect paths along a NMU route or at a crossing point;
  - noise and air quality on existing paths would potentially be significantly increased or decreased; or
  - the proposed scheme would be visible from existing paths.
- 16.2.29 In line with DMRB guidance, the assessment of change to amenity on NMU routes does not make use of sensitivity or magnitude criteria, or 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 of existing views, air quality, traffic flows and noise levels.
- 16.2.30 Air quality, noise, landscape and visual assessments are reported in Chapters 7 (Air Quality), 8 (Noise and Vibration), 9 (Landscape) and 10 (Visual). Traffic data was obtained from the strategic traffic model for the proposed scheme and the AADT18 reported for the opening year (2022) with and without the proposed scheme was used for the assessment. It is important to note that traffic flows provided in this chapter only relate to sections of the selected road where paths intersect and are therefore not necessarily representative of the full length of the road. Community severance resulting from increased traffic flows is assessed separately in Chapter 15 (People and Communities - Community and Private Assets).
- 16.2.31 In determining the overall significance of potential amenity impacts, the visual impact is based on winter year of opening (2022) (as described in Chapter 10: Visual) and the noise impact is based on the short-term scenario (as described in Chapter 8: Noise and Vibration). The residual impact significance incorporates the visual impact at summer 15 years after opening (once landscape planting has established) and the noise impacts in the long-term scenario.
- 16.2.32 The significance of impact criteria for change in amenity are described in Table 16.6.

**Table 16.6: Significance of Impact on Amenity**

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 NMU (journey length and amenity)*

- 16.2.33 To determine overall significance of impacts on NMUs, changes in journey length and amenity were considered together using professional judgement.



Public Transport

- 16.2.34 Public transport has been considered in terms of the potential for disruption in access to facilities during both the construction and operational phases.

*Study Area*

- 16.2.35 The study area for the effects on travellers of public transport is the same as that for NMUs as described in paragraph 16.2.8 and shown on Figure 16.1.

*Assessment Criteria*

- 16.2.36 In the absence of specific guidance available for this aspect of the assessment in DMRB, the assessment of effects on access to public transport has been undertaken using a descriptive and qualitative approach based on professional judgement.
- 16.2.37 Impacts are considered to be adverse where access to public transport would be impeded or made less convenient and impacts are considered to be beneficial where access to public transport would be improved and made more convenient.
- 16.2.38 Adverse effects as a result of the proposed scheme are considered to be significant where the impact on access to public transport would be impeded or disrupted to the extent that it would deter users from the facilities. Conversely, beneficial impacts are considered to be significant where the proposed scheme is considered to improve access to public transport facilities such that there would be an uptake in their use.

**Vehicle Travellers (View from the Road and Lay-bys)**

Introduction

- 16.2.39 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.
- 16.2.40 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. 1993b). The view from the road assessment considers the types of scenery or landscape character, the extent to which travellers using the proposed scheme would be able to view the scene, the quality of the landscape and features of particular interest or the prominence of the view and the sequence in which they are seen. Whilst DMRB does not specifically require an assessment of the sequence in which views are perceived by travellers, this has been included as the unfolding experience of the journey is considered to be an important factor in helping to determine whether and to what degree changes are beneficial or not.
- 16.2.41 DMRB Volume 11, Section 3, Part 9 requires consideration of *'any especially good or bad potential views along the route'*. To this end, the assessment considers the scenic quality of views – i.e. the attractiveness of the landscape as determined through professional judgement by the combination of elements such as landform, water, ground cover/vegetation and built development. To systematically record this, the quality of the visual experience of the landscape through which the proposed scheme would pass was considered. Both the immediate landscape and wider surrounds were taken into account to determine value as being high, medium or low. This involved a consideration of the landscape character, the presence of designated landscapes (such as National Scenic Areas) and the scenic quality of the landscape.

- 16.2.42 The extent to which vehicle travellers would be able to perceive the landscape would 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 embankment with views extending over the sider landscape or only restricted by existing landscape features.

- 16.2.43 The assessment also considered the presence of features which might be of particular interest or prominence within the view. These may include natural landmarks such as hills, watercourses, distinctive stands of trees or manmade elements which provide visual interest, and/or a point of reference associated with the journey being undertaken.

#### Study Area

- 16.2.44 The study area for the assessment of changes to views from the road was defined as the route of the proposed scheme and the route required to make the equivalent journey via use of the existing A9 Perth – Inverness Trunk Road (hereafter referred to as the A9) and the A96 Aberdeen – Inverness Trunk Road (hereafter referred to as the A96). Views of both the immediate landscape and wider surrounds visible from both the proposed and existing routes were taken into account.

#### Baseline Conditions

- 16.2.45 The identification of the character and scenic qualities of the landscape through which the proposed scheme passes was established as part of the landscape assessment (Chapter 9: Landscape).
- 16.2.46 Additional baseline data were collected though desk-based studies including the following:
- review of 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 key views and areas of scenic quality within the study area.
- 16.2.47 The extent of the views was established as part of the field studies undertaken for the landscape and visual assessments (Chapters 9 and 10 respectively) and identification of where views of the surrounding scenery/landscape are possible and the duration of these views as part of the journey. It also incorporated consideration of the likely nature of views from the dualled A96 following review of the Environmental Statement to the proposed A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme (Jacobs 2016).
- 16.2.48 To verify the desk-based assessment results in relation to view from the road, a site survey was undertaken on 20 and 21 February 2018. The site survey consisted of driving along the existing A9 and the A96 in both directions to identify areas of likely changes due to revised earthworks and realigned local roads in addition to walking an approximation of the proposed route.

#### Impact Assessment

- 16.2.49 DMRB Volume 11, Section 3, Part 9, does not set out any criteria for the assessment of sensitivity, magnitude or significance of changes to the view from the road. The key criteria developed for use in this assessment are included in Tables 16.7 to 16.9.

*Sensitivity Evaluation*

- 16.2.50 The criteria used for evaluation of sensitivity of existing views from the existing route considers the character and quality of the existing scenery and the degree to which it would be visible, taking into account the categories of views experienced, as detailed in Table 16.7.

**Table 16.7: Sensitivity Criteria for The Existing Views from the Road**

<b>Sensitivity</b>	<b>Criteria</b>
High	The traveller experiences extensive views of a high-quality landscape, area of unique landscape character, or prominent features of particular interest.
Medium	Traveller experiences partial/intermittent views of a high-quality landscape (or extensive views of a medium quality landscape), area of unique/distinctive landscape character, or features of interest.
Low	Traveller experiences views of low quality landscape/unremarkable or degraded landscape character or has heavily restricted views/no view of surrounding landscape regardless of quality.

*Magnitude of Change*

- 16.2.51 The magnitude of change to views from the road as a result of the proposed scheme in comparison to views from the existing route (e.g. A9 and A96) was evaluated in accordance with the criteria in Table 16.8. The nature of the change can be adverse or beneficial.

**Table 16.8: Magnitude of Change Criteria for View from the Road**

<b>Magnitude</b>	<b>Criteria</b>
High	A major alteration in views from the road such that the driving experience is significantly affected.
Medium	An alteration in views from the road such that the driving experience would be diminished or enhanced – but to a minor degree.
Low	Minimal alteration in views from the road such that there would be a perceptible change, but this would not significantly affect the driving experience either positively or negatively.
Negligible	Very little appreciable change in views from the road and not considered to have any noticeable effect on the driving experience.

*Impact Significance*

- 16.2.52 Significance of impacts on views from the road was determined through consideration of both the sensitivity of receptors and the magnitude of change as a result of the proposed scheme. Significance is defined as being Negligible, Slight, Moderate or Substantial, as well as being either adverse or beneficial as shown in Table 16.9. Where an impact of Moderate significance or greater is identified, this is considered to be a significant impact in the context of the EIA Regulations.

**Table 16.9: Impact Significance Criteria for View from the Road**

Impact	Typical Criteria
Substantial	A major deterioration or improvement in views from the road. Adverse: The project would cause major deterioration to views, or loss of views from the road where travellers currently experience extensive views of a high-quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest. Beneficial: The project would lead to a major improvement in a view where travellers would experience new extensive views of a high-quality landscape, area of unique landscape character, or a varied sequence of prominent features of particular interest.
Moderate	A notable deterioration or improvement in views from the road. Adverse: The project would cause a notable deterioration to, or loss of views from the road where travellers currently experience partial/intermittent views of a high-quality landscape (or extensive views of a medium quality landscape), area of unique/ distinctive landscape character, or features of interest. Beneficial: The proposals would cause a notable improvement to views from the road where travellers would experience new partial/ intermittent views of a high-quality landscape (or extensive views of a medium quality landscape), area of unique/distinctive landscape character, or features of interest.
Slight	Minor deterioration or improvement in views from the road. Adverse: The project would cause limited deterioration to, or loss of views from the road where travellers currently experience views of low quality landscape/unremarkable or degraded landscape character or has heavily restricted views/ no view of surrounding landscape regardless of quality. Beneficial: The project would cause limited improvement to views from the road where the traveller would experience new views of unremarkable landscape, or has heavily restricted views/ no view of surrounding landscape regardless of quality.
Negligible	No discernible deterioration or improvement in views from the road.

16.2.53 In terms of view from the road, mitigation is predominantly incorporated into the design of the proposed scheme (through refinement of the alignment, earthworks, and landscape planting) and therefore potential changes to views from the road before mitigation are not considered in the assessment. However, because planting mitigation proposals are not considered to be fully effective during the winter of the opening year, as it takes time for the planting to become established, this period can be considered similar to a scenario without mitigation planting. Therefore, 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)**

Introduction

16.2.54 For the purposes of this 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.

16.2.55 The three main components of driver stress are frustration, fear of a potential accident and uncertainty of the route which is being followed (Highways Agency et al.1993b). 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.
- Fear of a 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 the 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 turning and junctions may not be seen in advance.

16.2.56 Views from a road (refer to paragraph 16.2.39 to 16.2.53) may potentially help to alleviate driver stress. Conversely, where views from a road are restricted by new construction, this may create monotonous conditions for the driver. However, in accordance with DMRB methodology, views from the road are not considered in the driver stress assessment.

Study Area

16.2.57 The study area for the driver stress is the same as that for View from the Road (refer to paragraph 16.2.44).

Baseline Conditions and Impact Assessment

16.2.58 Driver stress has been assessed in accordance with DMRB Volume 11, Section 3, Part 9 (Vehicle Travellers) (Highways Agency et al. 1993b), using a three-point descriptive scale of high, moderate and low rather than assigning significance. This assessment is based on the Moray Firth Transport Model (MFTM) that forecasts demand to estimate 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.

16.2.59 Driver stress during construction was based on traffic volumes for the opening year (2022) and assumes one lane in each direction will be in operation and vehicle speed will be restricted to 40mph on the carriageway and 30mph where the proposed scheme links to the Inverness Retail and Business Park. 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 (2037).

16.2.60 Tables 16.10 and 16.11 present the DMRB guidance 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 16.10: Driver Stress Levels on Single Carriageways**

Average peak hourly flow per lane (flow units/hour)*	Average journey speed km/h		
	Under 50	50-70	Over 70
Under 600	high**	moderate	low
600 to 800	high	moderate	moderate
Over 800	high	high	high

**Table 16.11: Driver Stress Levels on Dual Carriageways**

Average peak hourly flow per lane (flow units/hour)*	Average journey speed km/h		
	Under 60	60-80	Over 80
Under 1200	high **	moderate	low
1200 to 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.

16.2.61 Forecast traffic composition and speeds, used as the basis for the numerical assessment of driver stress, were derived from the MFTM. This utilises the forecast demands for the first year of the full programme operation (2022) and the design year (2037). This is the version of the traffic model being used for the DMRB Stage 3 assessment of the proposed scheme. Driver stress was considered taking into account the relative change in traffic levels for the design year (2037), either with (Do-Something)

or without (Do-Minimum) the proposed scheme. As noted in Chapter 4 (The Proposed Scheme) the traffic data used represents a worst-case scenario in terms of traffic numbers.

#### **Limitations to Assessment**

- 16.2.62 The journey length assessments in this chapter rely on the accuracy of the baseline data provided by consultees in relation to the lengths of paths, for example The Highland Council supplied the GIS shapefiles for the core paths in the study area.
- 16.2.63 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.
- 16.2.64 The locations of temporary construction activities are not fully known at this stage and therefore the assessment of construction impacts of the proposed scheme was based on the information provided in Chapter 4 (The Proposed Scheme).

### **16.3 Baseline Conditions**

#### **Non-motorised Users (NMUs)**

- 16.3.1 The paths used by NMUs within the study area are described in this section and are listed in Table 16.12 and are also shown on Figure 16.1.

#### Core Paths

- 16.3.2 Core paths may include the following: public rights of way, footpaths, tracks, cycle tracks, paths which are, or may be, covered by path agreements or path orders under the Land Reform (Scotland) Act 2003 (Sections 20 and 21), waterways, or other means by which persons may cross land. The core path network is meant to cater for all types of users including walkers, cyclists, horse riders and people with disabilities, and is a key part of outdoor access provision.
- 16.3.3 The Highland Council set out the following criteria for designating a path as a core path as stated in the Inverness and Nairn Core Path Plan (The Highland Council 2011):
- linking settlements;
  - access to places on interest;
  - multi-use potential;
  - access to facilities;
  - assist land management;
  - safe and fit for purpose;
  - consistent with access strategy;
  - close to where people live; and
  - links and supports the wider (path) networks.
- 16.3.4 As set out in paragraph 16.1.10, local authorities have a duty to prepare a Core Paths Plan under the Land Reform (Scotland) Act 2003. In establishing the Core Paths Plan, consideration of likely usage and desirability of paths is balanced with landowner interests. The local authority responsible for access within the study area is The Highland Council.
- 16.3.5 The Highland Council Core Paths Plan was adopted in September 2011 (The Highland Council 2011). This plan aims to satisfy the basic needs of local people and visitors for general access and recreation whilst providing links to the wider path network throughout. There is a total of seven core paths in the



study area, as shown on Figure 16.1. Photographs 16.1 to 16.4 show a selection of the core paths in the study area.

**Photograph 16.1: Core Path IN19.16 west of the A9**



**Photograph 16.2: Core Path IN08.10 looking south-east**



**Photograph 16.3: Core path IN19.16: Stepped path to A9 and Raigmore Interchange underpass**



**Photograph 16.4: Core path IN08.31, identified as impassable during site visit**





Public Rights of Way

- 16.3.6 A public Right of Way (RoW) 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). Public rights of way vary from long hill routes (often historical drove or kirk roads) to local routes and short cuts to shops, schools and other local amenities.
- 16.3.7 ScotWays maintains the National Catalogue Rights of Way (CROW), in partnership with SNH. In addition, many local authorities also have their own 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 as asserted.
- 16.3.8 Access along public rights of way is protected by the Countryside (Scotland) Act 1967, Section 46, requiring the local authority to *'assert, protect and keep open and free from obstruction or encroachment any public rights of way.'* Diversions can be considered if the proposed diversion is deemed suitable by the planning authority.
- 16.3.9 There are two paths designated as public rights of way in the study area as shown in Photographs 16.5 and 16.6.

**Photograph 16.5: RoW 1 from B9006 Culloden Road**



**Photograph 16.6: RoW 2 at Resaurie Railway underbridge**



Local Paths

- 16.3.10 Unlike core paths and public rights of way, local paths hold no statutory designation. However, they are considered important by The Highland Council in providing access for NMUs. Local paths can be pavements adjacent to roads or off-road paths. Within the study area, these are predominantly found within and between residential areas, or on route to retail or industrial areas. Photographs 16.7 to 16.11 show a selection of the local paths in the study area.



**Photograph 16.7: LP5 from the Drumrosach overbridge looking towards the Inverness Retail and Business Park**





**Photograph 16.8: LP7 adjacent to the A9, west of the Inverness Campus**



**Photograph 16.9: LP3 on C1032 Barn Church road towards the A96 Smithton Junction**



**Photograph 16.10: LP9 looking north on the A96 Carriageway**



**Photo 16.11: Crossing of the A9 at the Raigmore Interchange connecting LP9 and IN19.16**

### National and Regional Cycle Routes

- 16.3.11 The National Cycle Network is a UK network of cycle routes (national or regional) and was created by Sustrans. The routes are a combination of pedestrian routes, disused railways, minor roads, canal towpaths and traffic calmed routes. National Cycle Routes (NCNs) and Regional Cycle Routes (RCRs) can also be designated as core paths or public rights of way.

- 16.3.12 There is one National Cycle Route (NCN 1) within the study area (shown on Figure 16.1 and Photograph 16.12). It intersects the study area, west to east, along the B9006 Culloden Road and U1058 Caulfield Road North.



**Photograph 16.12: Section of the NCN 1 on U1058 Caulfield Road North**

#### Provision for Equestrians

- 16.3.13 There is currently no formal provision for equestrians within the study area. Consultation with the British Horse Society during DMRB Stage 2 confirmed there was limited equine activity within the study area. However, the Society advised that equestrians are known to cross the A96 at-grade where the trunk road meets Core Path IN08.10. During operation, equestrians will be redirected to cross the A96 dual carriageway at the A96 Smithton Junction as there will be no crossing provision of the dual carriageway where IN08.10 intersects it. No further information on equestrian use of NMU routes within the study area has been received following consultation with the British Horse Society as part of this DMRB Stage 3 assessment.

#### NMU Routes forming part of A96

- 16.3.14 The existence of the A96 dual carriageway route, including any mitigation as specified in the A96 Dualling Inverness to Nairn (including Nairn Bypass) Environmental Statement (Jacobs 2016) is considered as part of the baseline for this assessment.
- 16.3.15 As part of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme, a shared-use NMU facility will provide a connection between Inverness and Nairn, with at-grade crossings of side roads where required along the route. Within the study area for the proposed scheme this shared-use facility relates to LP6, LP8 and LP10.

**Table 16.12: NMU Route Network Within the Study Area**

Path	Designation	Main Users*	Baseline Summary	Baseline journey length (m)	Baseline Amenity	Sensitivity as a NMU route
IN08.10	Core Path	Pedestrians Cyclists	Path follows Ashton Farm access track approximately 330m east of the Inverness Retail and Business Park roundabout, connecting the A96 with the U1058 Caulfield Road North. It is a key route linking the residential areas of Smithton and Cradlehall with the Inverness Retail and Business Park and the Moray Firth.	1,520	The core path is an access track for residents at Ashton Farm and Ashton Farm Cottages. It varies between dirt track and paved surface and is not lit. It prohibits through access for non-farm vehicles.	High
IN08.11	Core Path	Pedestrians Cyclists	Path provides access to Cradlehall housing estate from U1058 Caulfield Road North. Cradlehall nursing home is to the east of the of the path when it emerges through the forested area.	100	Path is a compacted dirt surface through a forested area and is not lit. It is not wide enough to allow for vehicular movement.	High
IN08.23	Core Path	Pedestrians Cyclists	Path is parallel to the Moray Firth, stretching from Milton of Culloden to the Inverness Retail and Business Park.	2,000	Path is an unlit, paved surfaced along the beach front and has views across the Moray Firth.	High
IN08.30	Core Path	Pedestrians Cyclists	Path to the north of the A96, approximately 300m east of the Inverness Retail and Business Park roundabout. The paths run through the farm at Seafield, before crossing under the Aberdeen to Inverness Railway Line. Links to IN08.23 to provide access to the Moray Firth.	300	The path was identified as overgrown and impassable on the site visit.	High
IN08.31	Core Path	N/A	On the Core Paths Plan, the path appears to start from U1058 Caulfield Road North and then go along the Scretan Burn. Not possible to view on site visit as path was inaccessible due to locked gate and overgrown vegetation.	300	Upon inspection during the site visit, this path is inaccessible due to a locked gate and overgrown vegetation.	High
IN19.15	Core Path	Pedestrians	Path follows the northern edge of Raigmore Hospital. Path provides a link west from IN19.16 towards Churchill Road and Raigmore primary school.	200	Path is lit, with a paved surface and is bordered by trees.	High
IN19.16	Core Path	Pedestrians	Path connects Beechwood Business Park with Raigmore Interchange, to the east of Raigmore Hospital. Path also provides access to a small park and community centre at Raigmore. Links to LP7 to provide access to Inverness Campus (via the Golden Bridge) and links to LP9 at the Raigmore Interchange to provide access to the Inverness Retail and Business Park.	900	Path is a narrow, unlit, stone slab surface.	High
LP1	Local Path	Pedestrians	This path is a shared-use facility that provides a route along the B9006 Culloden Road. The path ends where the U1058 Caulfield Road North intersects with the B9006 Culloden Road. The path provides access to NCN 1/LP11.	1,590	Path is on the pavement adjacent to the B9006 Culloden Road and is lit by street lights. Views are limited by residential properties on both sides of the street.	Medium



Path	Designation	Main Users*	Baseline Summary	Baseline journey length (m)	Baseline Amenity	Sensitivity as a NMU route
LP2	Local Path	Pedestrians	This path is a pedestrian footway adjacent to an access road from U1058 Caulfield Road North to Inverness Campus.	330	The path is paved and unlit. It has views to the north across an open field. Traffic volumes are low on the road.	Medium
LP3	Local Path	Pedestrians Cyclists	This path is a shared-use facility that runs parallel to C1032 Barn Church Road connecting Smithton to the Smithton Junction south roundabout which forms part of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme. The path connects to LP8 (part of the segregated NMU facility on the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme) and will tie-in to the proposed scheme at its northern extent.	1,770	The path is adjacent to the C1032 Barn Church Road that was upgraded to dual carriageway and completed in early 2019. The path is a tarmac surface with a segregation strip from the edge of the road and is lit. Views are limited by vegetation on both sides of the carriageway and the raised carriageway of the A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme and associated junctions.	Medium
LP4	Local Path	Pedestrians Cyclists	This path is a shared-use facility that runs adjacent to the B8092 Sir Walter Scott Drive past Beechwood Business Park and across the A9 on the Inshes Overbridge on the B9006 Culloden Road. For part of its length the path also forms part of NCN 1. Path links to LP5 and LP7 which provide access to Inverness Campus and Inverness Retail and Business Park.	1,180	The path runs on the pavement adjacent to the B8092 Walter Scott Drive and the B9006 Culloden Road. It is a tarmac surface, lit path alongside busy roads.	Medium
LP5	Local Path	Pedestrians Cyclists	Path is a lit, surfaced, shared-use facility that runs from the U1058 Caulfield Road North towards the Highland Main Line Railway. At the railway it crosses the Drumrosach overbridge and heads north-west towards the Inverness Retail and Business Park.	1,240	At its southern extent, LP5 is adjacent to U1058 Caulfield Road North, which is a quiet road with a 30mph speed limit. Once it separates from Caulfield Road North, it is mainly in open rural land, providing open views across the study area in all directions and towards the Moray Firth.	Medium
LP7	Local path	Pedestrians Cyclists	Path runs from the B9006 Culloden Road around the western edge of the Inverness Campus. The path connects to the pedestrian A9 overbridge (Golden Bridge) at the north-west of the Inverness Campus linking to IN19.16. In the south it connects to LP4 and NCN 1 on B9006 Culloden Road.	1,240	The path is a compacted type 1 surface. It is part of the Inverness Campus path network. It is not lit and is bordered by vegetation to its west, screening views of the A9. To the east the Inverness Campus is visible.	Medium
LP9	Local Path	Pedestrians Cyclists	The path runs adjacent to the westbound carriageway of the A96 from the entrance to the Inverness Retail and Business Park. It links to IN19.16 at the Raigmore Interchange.	890	The path is lit, has a paved surface and is adjacent to the busy A96. There is no barrier separating the path from the carriageway. Views are limited by the carriageway to the north and trees to the south.	Medium

Path	Designation	Main Users*	Baseline Summary	Baseline journey length (m)	Baseline Amenity	Sensitivity as a NMU route
NCN 1/LP11	National Cycle Network Route 1, includes an 85m section designated as public Right of Way underneath the Highland Main Line railway along U1058 Caulfield Road North.	Cyclists	The cycle route traverses the study area, west to east, along the B9006 Culloden Road connecting to U1058 Caulfield Road North. It is a shared-use path adjacent to the road up to the Cradlehall area where it then joins the road. The route is used by cyclists travelling towards the Inverness Campus (via LP7 and LP2) from east and west. The route links up with many of the other paths in the area, allowing cyclists to get to the Cradlehall Business Park, Inverness Retail and Business Park (via LP5), Seafield (IN08.10) and Beechwood Business Park (via RoW 1).	2,580	A shared-use path adjacent to the road up until the Cradlehall area, where it then joins the road. The views vary along the route from residential estates in the west areas to open farmland as it moves north-east through the study area.	High
RoW 1	Right of Way	Pedestrians Cyclists	Right of Way provides access from Beechwood Business Park to the B9006 Culloden Road.	80	Path is a compacted surface through a small forested area and is unlit. It is accessible for cyclists and pedestrians and has concrete bollards to block vehicle traffic. It is bordered by vegetation so there are limited views. The southern extent of the path, on B9006 Culloden Road, is next to a busy single carriageway.	Medium
RoW 2	Right of Way	Pedestrians Cyclists	The RoW forms part of U1058 Caulfield Road North, running below the Highland Main Line Railway. It forms part of NCN 1.	85	The path is unlit, with a paved surface. There is a barrier in place to prevent vehicle traffic passing through resulting in low anticipated traffic levels. The route is bordered by steep banks and vegetation on both sides preventing views.	High
Paths within Inverness Campus	Wider Network	Pedestrians Cyclists	A network of paths within the university campus to allow students and staff to move around the campus buildings. Provides access to the A9 pedestrian overbridge (Golden Bridge) and Highland Main line Railway Drumrosach overbridge (LP5).	n/a	Paths are lit, traffic free around the campus. The area is dominated by university buildings, restricting views.	Medium
<b>NMU routes embedded in A96 Dualling Inverness to Nairn (including Nairn Bypass) scheme design</b>						
LP6	Local Path	Pedestrians Cyclists	Path is a segregated shared-use facility adjacent to the eastbound A96 from the proposed Smithton Junction towards Allanfeearn.	1,940	The path is adjacent to the eastbound carriageway of the A96 resulting in high traffic levels travelling at the national speed limit. Views are limited in all directions by vegetated embankments.	Medium
LP8	Local Path	Pedestrians Cyclists	Path is a shared-use facility adjacent to the access road for Ashton Farm from Smithton Junction south roundabout. This connection provides a link to core path IN08.10 and the Inverness Retail and Business Park.	945	The path is adjacent to a new access road for the Ashton Farm Access track. Views from this path would be limited by the A96 carriageway to the north and the proposed scheme to the south.	Medium

Path	Designation	Main Users*	Baseline Summary	Baseline journey length (m)	Baseline Amenity	Sensitivity as a NMU route
LP10	Local Path	Pedestrians Cyclists	The path is adjacent to the connecting road between the two roundabouts at the Smithton Junction. Path provides access between LP3/LP8 and LP6 and onto the NMU facility that is part of the A96 Dualling Inverness to Nairn scheme.	365	The path is beneath the raised dualled A96 and is adjacent to the connecting road between the Smithton Junction roundabouts. Views are limited by the junction infrastructure.  The path would be adjacent to the entry and exit slip roads to the dualled A96, so heavy traffic flow would be expected in the vicinity. NMUs using this path would be required to cross the entry and exit roads to the roundabout to traverse the junction. The junctions crossing points are expected to be non-signalised crossings with dropped kerbs.	Medium
NMU Facility	Shared-use local path	Pedestrians Cyclists	Shared-use facility incorporated adjacent to entire length of the A96 carriageway, connecting Inverness and Nairn.	Approximately 30km	The path is adjacent to the dual carriageway but is grade-separated, providing a safe NMU route.	High

\* Although predominant users of the paths are identified, it should be noted that access may not be limited to a single user group taking cognisance of the Land Reform (Scotland) Act 2003.

Public Transport

16.3.16 Table 16.13 provides details of bus services currently operating within the study area, correct as of March 2019.

**Table 16.13: Bus Services Currently Operating Within the Study Area (Stagecoach 2018)**

Service No.	Operator	Origin	Destination	Frequency (Daily Service)*
1	Stagecoach	Union Street	Milton of Leys Primary School	2 services per hour between 05:10 and 07:00. Then 4 services per hour in each direction (Mon-Sun).
2	Stagecoach	Craig Dunain	Culloden	2 services per hour between 05:50 and 07:50. Then every 20 minutes in each direction (Mon-Sun).
3	Stagecoach	Craig Dunain	Culloden	3 services per hour in each direction (Mon-Sat). 2 per hour on Sundays.
4	Stagecoach	South Kessock	Milton of Leys Circular	2 services per hour in each direction (Mon-Sat).
5	Stagecoach	Queensgate	Ardersier High Street	4 services per hour in each direction (Mon-Sat).
5	Transport for Tongue	Inverness (Tesco retail park)	Talmine	1 Service per month on last Saturday of month.
S5	D & E Coaches	Inverness (Henderson Drive)	Culloden Academy	3 Morning services on school days only.
8	Stagecoach	Raigmore Estate	Dalneigh Circular	2 services per hour in each direction (Mon-Sat). 1 per hour on Sundays.
10	Stagecoach	Inverness Bus Station	Aberdeen	1 service per hour until 08:00, then every 30 minutes in each direction (Mon-Sun).
11	Stagecoach	Nairn	Inverness Bus Station	1 service per hour in each direction (Mon-Sat).
S21	D & E Coaches	Inshes Tesco	Culloden Academy	1 morning and 1 afternoon service on school days only.
25	Stagecoach	Inverness Bus Station	Inverness	1 service per hour (Mon-Sat) then 1 service every 2 hours on Sundays.
26	Stagecoach	Inverness Bus Station	Cromarty	2 services per hour (Mon-Sat). 1 service every 2 hours (Sun).
34	Stagecoach	Inverness Bus Station	Aviemore	2 services daily in each direction (Mon-Thur).
35	Stagecoach	Inverness Bus Station	Newtonmore	2 services daily (Mon-Fri) and once on a Saturday.
61	D & E Coaches	Inverness (Henderson Drive)	Ullapool	2 daily services (Mon-Fri).
103	Stagecoach	Inverness Campus	Inverness Culloden Academy	1 service daily during term time.
104	Stagecoach	Milton of Leys Primary School	Millburn Academy	1 service daily in each direction on schooldays only.
112	Stagecoach	Inverness Bus Station	Tomatin	1 service daily on school days only in each direction.
113	Stagecoach	Inverness Bus Station	Garbole	3 services daily from Inverness and 5 from Garbole on school days only in each direction.
228	Fishers Tours	Arbroath	Inverness	1 service on Thursdays fortnightly
244	Fishers Tours	Forfar	Inverness	1 service on Thursdays fortnightly
252	D & E Coaches	Inverness (Henderson Drive)	Cawdor	4 services daily
267	Fishers Tours	Cupar	Inverness	1 service on Fridays fortnightly

Service No.	Operator	Origin	Destination	Frequency (Daily Service)*
300A	D & E Coaches	Carsegate Road B&M	Meallmore Lodge	4 services daily
301	D & E Coaches	Whitebridge	Inverness Raigmore Hospital	5 services daily (Mon-Fri). Once on Sat.
303	D & E Coaches	Whitebridge	Inverness Raigmore Hospital	2 services daily in each direction only on school days.
304	D & E Coaches	Inverness (Henderson Drive)	Tomich	1 service on school days in each direction.
410	D & E Coaches	Cromarty	Inverness (Croy Ardcroy Road)	1 evening service (Mon-Sat) in each direction.
919	Stagecoach	Inverness Campus	Fort William Bus Station	2 services daily from Inverness Campus. 5 services daily from Inverness Bus Station

16.3.17 There are 32 bus stops located within the 500m study area as shown on Figure 16.1.



**Photograph 16.13: Two Bus stops on the Inverness Campus Access Road (LP2)**

16.3.18 There are no railway stations within the study area. The nearest station is Inverness Railway Station, located approximately 2.6km west of the proposed scheme.

### **Vehicle Travellers**

#### View from the Road

16.3.19 The following section provides a summary of the view experienced by travellers on the existing A9 and the likely views predicted to occur from the A96. Chapter 10 (Visual) and Figures 10.5 to 10.11 provide a detailed assessment of views of the proposed scheme from viewpoints along the route.

16.3.20 The existing journey is made via the existing A9 and the A96. Both the A9 and the A96 pass through the Inverness Urban Fringe and Culloden Local Landscape Character Area (LLCA). The A96 passes through the Enclosed Farmed Landscapes LLCA as it extends to the east as shown on Figure 9.1. A detailed description of the landscape baseline of the area is provided in Chapter 9 (Landscape).

- 16.3.21 The Inverness Urban Fringe and Culloden LLCA is a settled landscape of low to medium sensitivity and low to medium scenic quality, comprising a mix of housing, commercial, industrial and educational developments. In contrast, the Enclosed Farmed Landscapes LLCA is a rural landscape characterised principally by large scale fields (both arable and pastoral), however it too is of low to medium sensitivity and of low to medium scenic quality. For both northbound and southbound journeys, opportunities for open views from within both LLCAs tend to be limited, largely due to the presence of roadside planting and earthworks which tend to result in the views experienced by road users being intermittent or restricted in nature. Where open views do occur, they tend to be experienced in a northbound direction only, in the vicinity of Inshes, where the relative height of the carriageway allows for long distance, more scenic views across Inverness towards the Northern Highlands and the Black Isle.
- 16.3.22 Due to the generally restricted or intermittent nature of both northbound and southbound views, the visibility of landmark or prominent features is generally limited. Where views of a more open nature are possible, i.e. northbound at Inshes, Raigmore Hospital comprises the principal landmark feature.

Driver Stress

- 16.3.23 Current levels of driver stress for roads assessed in line with DMRB guidance within the study area are shown in Table 16.14. Driver stress is based on average peak hourly flow (flow units/hour) for at least 1km of a route in accordance with the methodology set out in DMRB Volume 11, Section 3, Part 9 (Highways Agency et al. 1993b).

**Table 16.14: Driver Stress Levels on Existing Road Network**

Link	Direction	Road class	Average peak hourly flow per lane (flow units/hour)	Average vehicle speed (km/h)	Driver stress
A9 South of Raigmore	Northbound	Dual carriageway	1,007	110	Low
	Southbound		918	108	Low
A96	Eastbound	Dual carriageway	1,738	67	High
	Westbound		1,716	56	High
C1032 Barn Church Road	Eastbound	Dual carriageway	811	69	Moderate
	Westbound		815	85	Low
B9006 Culloden Road	Eastbound	Single carriageway	688	48	High
	Westbound		913	45	High

**16.4 Potential Impacts**

- 16.4.1 This section describes the potential impacts of the proposed scheme on NMUs and vehicle travellers.
- 16.4.2 The proposed scheme assessed within this chapter is the result of an iterative design process which incorporates provision for enhancing and maintaining NMU journeys and considers the objectives for access provision as set out in the Inverness East Development Brief (The Highland Council 2018). As such, the proposed scheme includes embedded mitigation in the form of crossing points, footpaths and careful consideration of the route alignment and formation of earthworks (refer to Chapter 9: Landscape). Further details of embedded mitigation are provided in Section 16.5 (Mitigation) and in paragraph 16.4.5.
- 16.4.3 The potential impacts identified in this section are those that remain following the incorporation of embedded mitigation and for which specific mitigation measures to further reduce impacts (such as signage) are identified in Section 16.5 (Mitigation). Potential impacts on amenity value are based on the worst-case scenario, i.e. winter year of opening. Following establishment of mitigation planting, amenity impacts for some NMU routes are expected to reduce and these are discussed in Section 16.6 (Residual Impacts).



- 16.4.4 The locations of the potential impacts are described with reference to the 'links' of the proposed scheme as shown on Figure 4.1 (accompanies Chapter 4: The Proposed Scheme). For ease of reference the links are described as follows:
- Link 1: Culloden Road to Cradlehall Roundabout;
  - Link 2: Cradlehall Roundabout to Eastfield Way Roundabout;
  - Link 3: Eastfield Way Roundabout to Inverness Retail and Business Park;
  - Link 4: Eastfield Way Roundabout to Smithton Junction; and
  - Link 5: Cradlehall Roundabout to Inverness Campus.
  - Link 6: Castlehill Road Tie-in.
- 16.4.5 The proposed scheme design incorporates embedded mitigation such as provision of footpaths/cycleways. Embedded mitigation for road travellers comprises careful consideration of the route alignment, the form and extents of earthworks along the length of the scheme including those associated with junctions and the location of Sustainable Drainage System (SuDS) features. Embedded mitigation forming part of the proposed scheme (as shown on Figure 16.2) specifically related to provision for NMUs comprises:
- Provision of a shared-use facility adjacent to both the north and southbound carriageways for NMUs on Links 1, 2 and 4, and on the eastbound carriageway for NMUs on Link 5. It will comprise of a 0.5m segregated strip and a 2.5m wide path. The NMU facility will tie-in with the existing LP3 on C1032 Barn Church Road, LP8 and LP10.
  - To maintain continuity and provide a safe crossing facility for NMUs using Core Path IN08.10, an at-grade crossing will be provided at the location where the Core Path crosses the proposed scheme.
  - A new NMU link south of the Eastfield Way Roundabout that will descend from road level on the embankment, to provide a grade-separated crossing underneath the proposed scheme and run adjacent to the Highland Main Line Railway, tying into the existing Drumrosach railway overbridge at the Inverness Campus.
  - Provision of a 2m wide footway on either side of the carriageway that links the Eastfield Way Roundabout to the Inverness Retail and Business park (Link 3). A 3.5m wide cycleway will also be incorporated adjacent to the westbound carriageway, separated by a 0.6m segregation strip.
  - Continuity of NCN 1 will be maintained at U1058 Caulfield Road North. It will tie into the proposed scheme at Cradlehall Roundabout and cyclists will be directed north of Cradlehall Roundabout to cross at the dropped kerbs. A signalised at-grade crossing of the carriageway is proposed just north of the Cradlehall Roundabout to provide safe NMU crossing for users travelling to the Inverness Campus. Due to the design detail at DMRB Stage 3 the exact locations of these have not been confirmed.
- 16.4.6 The proposed Inshes overbridge will be wide enough to incorporate future NMU provision that is 2.5m wide with a 0.5m wide segregation strip.
- 16.4.7 The potential impacts reported in this section are assessed in the context of the existing land use as defined in Chapter 5 (Overview of Assessment). It is acknowledged that land use in the area will evolve overtime with cognisance of the aspirations of the local development plan, and in the future the proposed scheme would be located within a landscape which has undergone substantial change; the existing land (mainly agricultural land) becoming urbanised as a result of a series of proposed mixed use developments. In this situation, it is expected that the potential impacts reported in this section would alter but it is not possible to predict to exactly what degree.
- 16.4.8 The potential cumulative impacts of the proposed scheme in-combination with other committed/reasonably foreseeable developments are assessed in Chapter 19 (Assessment of Cumulative Effects).

**Non-Motorised Users (NMUs)**

16.4.9 This section describes the potential impacts identified as significant for NMUs according to the criteria set out in Section 16.2 (Methodology). Full details of the potential impacts on NMUs are described in Appendix A16.1 (Impact Assessment for NMU Routes and Access to Outdoor Areas).

Footpaths/Cycleways and Other Routes

*Construction*

16.4.10 During construction of the proposed scheme, disruption of NMUs using paths within the immediate vicinity is anticipated due to temporary severance and diversions. Most of the paths identified as being affected by construction activities are those that traverse the proposed scheme or roads connecting to the proposed scheme as listed below:

- IN08.10;
- LP1;
- LP2;
- LP3;
- LP4;
- LP5
- LP8; and
- NCN 1/LP11.

16.4.11 During the construction phase, NMUs have the potential to be disrupted by:

- temporary diversion of paths and cycleways which may increase journey times;
- removal of existing at-grade crossings;
- 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;
- impacts on the amenity value of that path and cycle network due to noise, dust and visual intrusion of the works which could lead to temporary severance where construction works disrupt or deter NMUs from using paths and residents from accessing local facilities; and
- disruption of local bus services, for example, changes in journey times.

16.4.12 The above potential impacts are described in general terms as they would depend on the detail and phasing of activities undertaken by the contractor which are not available at this time. The temporary disturbance impacts on NMUs during construction are of Moderate to Substantial significance in accordance with Table 16.4.

*Operation*

16.4.13 The needs of NMUs have been considered during the development of the proposed scheme with various features incorporated into the design to maintain and improve NMU routes (refer to paragraph 16.4.5).

16.4.14 Potential significant impacts on journey length and amenity value are detailed in Table 16.15 and Table 16.16 and summarised in Table 16.17. Full assessment results for journey lengths and amenity value are provided in Appendix A16.1 (Impact Assessment for NMU Routes and Access to Outdoor Areas) and are shown on Figure 16.2.

16.4.15 Potential impacts on NMUs with regards to changes in noise as a result of the proposed scheme are reported in Table 16.16 in terms of magnitude in line with the assessment methodology in Chapter 8 (Noise and Vibration).

**Table 16.15: Potential Significant Impacts on Journey Length During Operation**

Journey Length Assessment (JLA) ref.	NMU route	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
1	LP5	Local Path	Severance of path/increase in journey length	The path will be severed by the proposed scheme at approximate ch175 of Link 1 and ch225 of Link 5. NMUs travelling between B9006 Culloden Road and the Inverness Retail and Business Park will be redirected along the proposed shared-use facility on Link 5 towards the Inverness Campus, then head north and east to re-join LP5 south of the Drumrosach overbridge.	540	1,230	+650	medium	high	Moderate/ Substantial

**Table 16.16: Potential Significant Changes in Amenity Value During Operation**

NMU route	Route type	Potential impacts on safety resulting from changes in traffic flows	Potential change			Significance (Amenity Value)
			Visual	Air Quality	Noise***	
IN08.10	Core Path	An at-grade crossing will be provided as part of the proposed scheme where the existing path would be severed. This will enable NMUs travelling along IN08.10 to safely cross the proposed scheme.	moderate/substantial* (moderate**)	not significant	minor <sup>ST</sup> (minor <sup>LT</sup> )	Moderate
LP2	Local Path	This path will be severed by the proposed scheme and NMUs will be directed to use the segregated, shared-use facility as part of the proposed scheme. No adverse impacts on NMU safety are anticipated as a result of the proposed scheme.	moderate/substantial* (moderate**)	not significant	minor <sup>ST</sup> (negligible <sup>LT</sup> )	Moderate
LP5	Local Path	This path will be severed by the proposed scheme and NMUs will be directed to use the segregated, shared-use facility as part of the proposed scheme. No adverse impacts on NMU safety are anticipated as a result of the proposed scheme.	moderate/substantial* (moderate**)	not significant	minor <sup>ST</sup> (minor <sup>LT</sup> )	Moderate

\* The visual impact (Chapter 10: Visual) based on the worst-case scenario, i.e. winter year of opening (2022).

\*\* The visual impact (Chapter 10: Visual) based on the potential impact summer 15yrs (2037) once landscape planting has established.

\*\*\* Potential impacts on amenity value from a change in perceptible noise is based on magnitude of impact as opposed to a significance in accordance with Chapter 8 (Noise and Vibration). The magnitude of the noise impact is based on the worst-case scenario, i.e. magnitude of change in the short-term (ST) (year of opening (2022)) and long term (LT) (future assessment year 2037).

- 16.4.16 Table 16.17 provides a summary of the overall potential impacts on paths where potential significant impacts on either journey length or amenity value were identified in Table 16.15 or 16.16 respectively. As set out in paragraph 16.2.33, potential impacts on journey length and amenity value are considered together using professional judgement to determine overall potential impacts on NMU routes.
- 16.4.17 A slight increase in journey length of 9 metres is expected due to the realignment of core path IN08.10 and provision of a safe, at-grade crossing facility for NMUs using this path. Significant impacts for NMUs using this core path are anticipated in the vicinity of the proposed scheme due to additional noise and visual impact of the carriageway.

**Table 16.17: Summary of Potential Significant Impacts on NMU Routes (Without Non-Embedded Mitigation) During Operation**

NMU route	Potential Impact		
	Journey length (km)	Amenity value	Overall
IN08.10	Slight	Moderate	Moderate
LP2	Slight	Moderate	Moderate
LP5	Moderate/Substantial	Moderate	Moderate

Public Transport

*Construction*

- 16.4.18 There are 32 bus stops as shown on Figure 16.1 and several bus services currently operate within the study area as listed in Table 16.13. During the construction phase, there is potential for disruption to bus services as a result of traffic management and road closures surrounding the proposed scheme however this is anticipated to be short-term and not significant.
- 16.4.19 Train services may be disrupted during construction due to activities associated with construction of the bridge structures across the railway line. This would depend upon the schedule and length of works to construct the structure, however this is anticipated to be short-term and not significant.

*Operation*

- 16.4.20 There is no provision for additional bus stops within the proposed scheme design and its utilisation for public transport is unknown at this stage. There are no changes to bus stop locations or access to bus stops anticipated on roads in the vicinity of the proposed scheme.

**Vehicle Travellers**

View from the Road

*Construction*

- 16.4.21 Adverse impacts are anticipated to vehicle travellers using the local road network as a result of the visual impact of construction work, including the works themselves and the associated traffic management temporary signage. The following aspects of the construction phase would have a short-term, non-significant direct impact on views from the road:
- lorries moving construction machinery and materials to the site;
  - heavy machinery and plant operating on-site;
  - exposed bare earth and earthwork cuttings;
  - stockpiles of construction materials;
  - temporary welfare structures and site offices during construction;
  - works associated with bridge construction; and

- traffic management measures.

*Operation*

16.4.22 Potential long-term direct impacts on drivers' views from the proposed scheme during operation are described below and are considered adverse unless otherwise stated. The significance of potential impacts is as reported for winter in the year of opening in Section 16.6 (Residual Impacts). The majority of impacts would be caused as a result of one or more of the following:

- loss of existing vegetation an open, agricultural land along the proposed scheme corridor;
- changed appearance of the landform along the road corridor as a result of earthworks within the rural landscape;
- existence of new road infrastructure and railway overbridge on the new proposed scheme and upgrade of linking roads; and
- introduction of SuDS ponds, basins and swales along the route.

16.4.23 The potential impacts on views from the road in the absence of mitigation measures (aside from those 'embedded' within the proposed scheme) are essentially similar to residual impacts for the winter year of opening before mitigation planting has become established. These impacts are reported in Section 16.6 (Residual Impacts).

Driver Stress

*Construction*

16.4.24 Taking cognisance of DMRB Volume 11, Section 3, Part 9 (Highways Agency et al. 1993a) driver stress during construction has been assessed. For the purposes of assessment, traffic flows during construction have been taken to be the same as those modelled for the opening year (2022).

16.4.25 The construction of the proposed scheme could contribute to increased driver stress compared to existing levels due to increased journey times as a result of temporary diversions and/or slower journey times due to traffic management measures in place. This potential increase is anticipated to be temporary and limited to the construction phase.

*Operation*

16.4.26 In the absence of the proposed scheme (Do-Minimum scenario), driver stress is predicted to increase by 2037 (design year) due to traffic growth as shown in Table 16.19.

**Table 16.19: Driver Stress in Do-Minimum (Design Year – 2037), Predicted Future Baseline Without the Proposed Scheme**

Link Description	Direction	Road class	Average peak hourly flow per lane (flow units/hour)	Average vehicle speed (km/h)	Driver Stress
A9 south of Raigmore Interchange	Northbound	Dual Carriageway	1,447	105	Moderate
	Southbound	Dual Carriageway	1,380	97	Moderate
A96	Eastbound	Dual Carriageway	2,772	63	High
	Westbound	Dual Carriageway	2,311	64	High
C1032 Barn Church Road	Eastbound	Dual Carriageway	787	58	Moderate
	Westbound	Dual Carriageway	1,066	61	Moderate
B9006	Eastbound	Single Carriageway	907	50	High

Culloden Road	Westbound	Single Carriageway	1,274	45	High
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16.4.27 The Moray Firth Transport Model was used to calculate a worst-case scenario for traffic volumes and speeds with the proposed scheme in place (Do-Something design year of 2037). As shown in Table 16.20, driver stress for the proposed scheme is anticipated to be high in accordance with DMRB methodology. This is primarily due to the low traffic speeds resulting from the 40mph speed limit and the two roundabouts introduced by the proposed scheme. No change in driver stress is anticipated for the other roads assessed in this chapter.

**Table 16.20: Driver Stress in Do-Something (Design Year – 2037), Predicted Future Baseline with the Proposed Scheme**

Link Description	Direction	Road class	Average peak hourly flow per lane (flow units/hour)	Average vehicle speed (km/h)	Driver Stress
The proposed scheme (excluding the A9 southbound lane gain/lane drop)	Northbound	Single Carriageway	775	45	High
	Southbound	Single Carriageway	1,037	54	High
A9 South of the Raigmore Interchange	Northbound	Dual Carriageway	1,275	85	Moderate
	Southbound	Dual Carriageway	1,264	92	Moderate
A96	Eastbound	Dual Carriageway	2,770	55	High
	Westbound	Dual Carriageway	2,590	65	High
C1032 Barn Church Road	Eastbound	Dual Carriageway	1,052	56	Moderate
	Westbound	Dual Carriageway	1,314	71	Moderate
B9006 Culloden Road	Eastbound	Single Carriageway	923	47	High
	Westbound	Single Carriageway	1,376	47	High

16.4.28 It is considered that aspects of the design including appropriate signage may contribute to alleviating driver stress during operation by achieving high levels of operational reliability and resilience to minimise potential future periods of maintenance and subsequent driver frustration.

## **16.5 Mitigation**

16.5.1 The development of proposed mitigation is based on the approach set out in Planning Advice Note (PAN) 1/2013: Environmental Impact Assessment (Scottish Government 2017), and to meet the legislative requirements of the Equality Act 2010 and the Land Reform Act (Scotland) 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, underpass or access point forms part of the proposed scheme, the requirements of the Equality Act 2010 were taken into account and



any potential barriers to disabled users, such as gradient, verge width, radius of bends and surface material were considered in the scheme design.

- 16.5.2 To supplement the mitigation provided for NMUs, mitigation for other environmental impacts would in some instances have additional benefits of improving conditions for NMUs, such as proposed landscape planting to provide screening (Chapter 9: Landscape) as well as measures employed to manage potential air quality and noise impacts (Chapter 7: Air Quality and Chapter 8: Noise and Vibration). As reported in Chapter 9 (Landscape) planting would be monitored for a minimum of five years after construction with annual replacement of any failed planting with stock of a suitable age so as to achieve full establishment and the required level of mitigation/impact reduction by summer 15 years after opening.

**Embedded Mitigation**

- 16.5.3 As noted in Section 16.4 (Potential Impacts) and Chapter 5 (Overview of Assessment Process) the proposed scheme design incorporates embedded mitigation such as provision of footpaths/cycleways, and careful consideration of the route alignment and formation of earthworks (further details provided in paragraph 16.4.5).

**Standard Mitigation**

- 16.5.4 Standard mitigation to mitigate potential impacts on NMUs and vehicle travellers (including driver stress) during construction are set out in Table 16.21.

**Table 16.21: Standard Mitigation – All Travellers**

Mitigation Item	Description
<b>Standard Construction Mitigation</b>	
AT-01	The construction programme will minimise the length of closures or restrictions of access for NMUs as far as reasonably practicable.
AT-02	Where practicable, temporary diversion routes and/or assisted crossings will be provided to maintain safe access for NMUs throughout the construction works. Any closure or re-routing of routes used by NMUs will take cognisance of the 'Roads for All: Good Practice Guides for Roads' (Transport Scotland 2013). These will be agreed in advance with the relevant local authorities and will be clearly indicated with signage as appropriate.
AT-03	In consultation with the relevant Roads Authority and public and public transport operator, bus stops affected by the works will be relocated safely with a safe access route provided for NMUs.
AT-04	The contractor will produce a traffic management plan that will include measures to avoid or reduce disruption to the road traffic, and in accordance with the Traffic Signs Manual (Department of Transport 2009).
AT-05	Reasonable precautions will be taken by the contractor to avoid or reduce road closures except in exceptional circumstances and for closures which are pre-approved by Transport Scotland and The Highland Council.
AT-06	Road diversions will be clearly indicated with road markings and signage as appropriate. Any closures will be notified in advance through road signage and appropriate signage will be provided for the duration of the closure.
AT-07	Appropriate lighting will be provided during any necessary night-time working, taking into account potential ecology and landscape mitigation (E-06 and LV-05 respectively).
AT-08	Access for NMUs will be maintained and improved in accordance with the following principles: <ul style="list-style-type: none"> <li>• The requirements of the Equality Act 2010 and Roads for All: Good Practice Guides for Roads (Transport Scotland 2013) shall be incorporated into the proposed scheme wherever practicable; e.g. any bridges, ramps or footpaths will not present potential barriers to disables people such as the gradient or surfacing.</li> <li>• Surfacing of any new paths including alongside roads will be considered on a case by case basis, taking into account factors such safety, the type of user and should comply with current standards.</li> <li>• Safety of any new paths will be considered in accordance with the outcomes of the road restraints risk assessment process and may require provision of barriers.</li> <li>• New cycleways/footpaths will be constructed with frost resistant materials to reduce the effects of degradation.</li> </ul>

## Specific Mitigation

### NMUs

16.5.5 Specific mitigation proposals for the proposed scheme are outlined in Table 16.22.

**Table 16.22: Specific Mitigation - All Travellers**

Mitigation Item	Location (Path ref)	User	Proposed Mitigation Description
<b>AT-09</b>	LP2, LP5 and NCN 1/LP11	Pedestrians and Cyclists	New signage to direct NMUs travelling along LP2, LP5 and NCN 1/LP11, to the proposed shared-use facilities at Cradlehall Roundabout and to Link 6.

### View from the Road

16.5.6 Impacts on views from the road can be reduced by the implementation of mitigation measures employed to reduce visual impacts. These are detailed in Chapter 9 (Landscape) and shown on Figure 9.5, as well as being considered in Section 16.6 (Residual Impacts), where applicable.

16.5.7 A number of the proposed measures to mitigate landscape, visual and other ecological impacts, would also have an influence on the nature and extent of views from the road. These include the planting of trees and other vegetation to screen views of the road and associated traffic from visually sensitive receptors such as nearby residents or to provide landscape and ecological mitigation.

16.5.8 In addition, landscape mitigation measures have been developed to consider the nature and sequence of views which would be experienced by travellers on the proposed scheme.

## **16.6 Residual Impacts**

16.6.1 The residual impacts are those impacts that remain following the implementation of the proposed mitigation measures and are described in this section. As set out in Section 16.4 (Potential Impacts) potential impacts on amenity for some NMU routes are expected to reduce following the establishment of planting. This section therefore considers the mitigating effects of planting and presents residual impacts based on summer 15 years after opening.

### **NMUs**

#### Footpaths/Cycleways and Other Routes

##### *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 due to temporary diversions to NMU routes during construction and during installation and demolition of structures or blasting operations. In addition, there are expected to be temporary amenity impacts in the vicinity of construction activities as a result of temporary views of construction activities, decreased air quality and/or increased noise (refer to Chapter 7: Air Quality, Chapter 8: Noise and Vibration and Chapter 10: Visual respectively).

16.6.3 Following implementation of the proposed construction mitigation, it is expected that residual impacts on NMUs during the construction of the proposed scheme will be temporary, but significant (Moderate to Substantial) for NMUs using:

- Core Path IN08.10 and Local Paths 2, 4, 5 and 8 and NCN 1/LP11 due to potential diversion lengths and impacts on amenity value; and
- Local Paths 1, and 3, due to impacts on amenity value only.

*Operation*

- 16.6.4 Taking into account mitigation measures, significant residual impacts (Moderate) are anticipated for three NMU routes (IN08.10, LP2 and LP5). This takes into account the Moderate/Substantial impacts for NMUs using LP5 as a result of an increase in journey length due to severance and diversion, and the Moderate impacts on amenity value for NMUs using paths IN08.10, LP2 and LP5 due to the closer proximity of the proposed scheme and subsequent noise and visual impacts.

Public Transport

*Construction*

- 16.6.5 No significant residual impacts on public transport are anticipated during construction.

*Operation*

- 16.6.6 No significant residual impacts on public transport are anticipated during operation.

**Vehicle Travellers**

View from the Road

- 16.6.7 The following section provides the assessment of residual impacts on the View from the Road in the winter of the year of opening following the implementation of the proposed mitigation measures. This section also describes the significance of the impacts in the summer after 15 years to provide an indication of how the establishment of mitigation planting would reduce the impacts or alter the nature of views.

Views from the Proposed Scheme

Inverness Urban Fringe and Culloden LLCA (Proposed Inshes Overbridge)

*Description of Predicted Views*

- 16.6.8 The view from the road travelling both eastbound and westbound would remain largely unchanged from that experienced by travellers on the existing bridge.

*Magnitude of Change and Significance of Impact*

- 16.6.9 During the winter of the year of opening the magnitude of change would be considered to be low and the significance of impact would be considered to be Slight (direct, adverse). The magnitude of change would remain low and the significance of impact would reduce to Negligible (direct, adverse) by the summer 15 years after opening following the establishment of mitigation planting.

Description of Predicted Eastbound Views

*Enclosed Farmed Landscapes LLCA (ch0 of Link 1 to ch1113 of Link 4)*

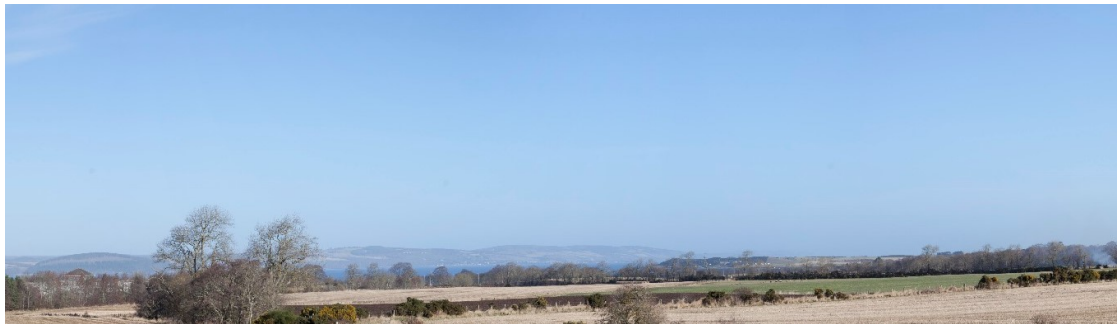
- 16.6.10 In the winter of the year of opening travellers would initially travel along the former alignment of U1058 Caulfield Road North prior to travelling on a more northerly alignment as the proposed scheme crosses farmland. The slightly elevated nature of the embanked carriageway would initially afford relatively open views to the north and north-west across the Inverness Campus and surrounding farmland with glimpses of the Black Isle and Moray Firth (refer to Photograph 16.15). To the east and north-east, views would be limited to shorter distances with views towards Cradlehall.
- 16.6.11 As the proposed scheme begins to climb in order to cross the Highland Main Line railway northbound drivers would begin to experience broader, longer distance views, particularly to the north and north-east as a result of the elevation of the road (refer to Photograph 16.16). Views would be most

extensive and open where the carriageway crosses the railway line (ch420 of Link 2) reducing as the alignment reaches the Eastfield Way Roundabout at ch644 of Link 2. East of the Eastfield Way Roundabout, from ch0 to ch1113 of Link 4, road users would experience relatively open views across farmland, with views across the A96 to the ridgeline of the Black Isle to the north, occasionally framed by blocks of woodland. To the north-east and east road users would experience views towards the woodland associated with Stratton in addition to views of the northern edge of Smithton to the east.

- 16.6.12 In the summer, 15 years after opening, views from the road would become more intermittent in nature, reduced by the establishment of roadside planting, however views from the road of the wider area would still be possible.



Photograph 16.15: View looking north-east along proposed alignment (south-east of Ashton Farm)



Photograph 16.16: Indicative view looking north-east from the existing pedestrian crossing of the Highland Main Line Railway

*Magnitude of Change and Significance of Impact*

- 16.6.13 During the winter of the year of opening the magnitude of change would be considered to be high and the significance of impact would be considered to be Moderate/Major (direct, beneficial). By the summer 15 years after opening following the establishment of mitigation planting, the magnitude of change would reduce to medium and the significance of impact would reduce to Slight/Moderate (direct, beneficial).

Description of Westbound Views

*Enclosed Farmed Landscapes LLCA (ch1113 of Link 4 to ch0 of Link 1)*

- 16.6.14 Leaving the proposed A96 Smithton Junction, and passing through the woodland planting at Stratton, in the winter year of opening, travellers would experience open views to the north, west and south across an agricultural landscape. To the south views would extend to Cradlehall and Westhill. Views to the west would extend towards Inverness (refer to Photograph 16.17). To the north, views would extend towards the Moray Firth and the Black Isle, however views would be partially screened by mature trees lining the route of the A96.
- 16.6.15 Views to the south, west and north would continue to be relatively open, being most extensive where the proposed scheme crosses the Highland Main Line railway, the elevated nature of the bridge allowing for longer distance views (refer to Photograph 16.18). As the proposed scheme descends

from the bridge, views from the road would begin to become foreshortened to short to medium distances, views extending towards Castlehill to the south and the Inverness Campus.

- 16.6.16 In the summer, 15 years after opening, views from the road would become more intermittent in nature, reduced by the establishment of roadside planting, however views from the road of the wider area would still be possible.



Photograph 16.17: View looking south-west along proposed alignment (south east of Ashton Farm)



Photograph 16.18: Indicative view looking south from the existing pedestrian crossing of the Highland Main Line Railway at the Drumrosach overbridge

*Magnitude of Change and Significance of Impact*

- 16.6.17 During the winter of the year of opening the magnitude of change would be considered to be high and the significance of impact would be considered to be Moderate/Major (direct, beneficial). By the summer 15 years after opening following the establishment of mitigation planting, the magnitude of change would reduce to medium and the significance of impact would reduce to Slight/Moderate (direct, beneficial).
- 16.6.18 Table 16.23 provides a summary of the assessment, taking into account the sensitivity and scenic quality of both LLCAs.

**Table 16.23: Summary of Assessment of Residual Impacts on View from the Road During Operation**

LLCA	Sensitivity	Scenic Quality	Winter, Year of Opening		Summer, 15 Years after Opening	
			Magnitude of Change	Significance of Impact	Magnitude of Change	Significance of Impact
<b>Eastbound Views</b>						
Inverness Urban Fringe and Culloden (Proposed Inshes Overbridge)	Low to Medium	Low to Medium	Low	Slight (direct, adverse)	Low	Negligible (direct, adverse)
Enclosed Farmed Landscapes	Low to Medium	Low to Medium	High	Moderate/ Major (direct, beneficial)	Medium	Slight/ Moderate (direct, beneficial)
<b>Westbound Views</b>						



LLCA	Sensitivity	Scenic Quality	Winter, Year of Opening		Summer, 15 Years after Opening	
			Magnitude of Change	Significance of Impact	Magnitude of Change	Significance of Impact
Enclosed Farmed Landscapes	Low to Medium	Low to Medium	High	Moderate/ Major (direct, beneficial)	Medium	Slight/ Moderate (direct, beneficial)
Inverness Urban Fringe and Culloden (Proposed Inshes Overbridge)	Low to Medium	Low to Medium	Low	Slight (direct, adverse)	Low	Negligible (direct, adverse)

## 16.7 Statement of Significance

### Non-Motorised Users (NMUs)

- 16.7.1 With the proposed scheme in place, and taking into account mitigation described in Section 16.5, Moderate to Substantial temporary significant impacts during construction are anticipated for six NMU routes (Core Path IN08.10 and Local Paths 2, 4, 5 and 8 and NCN 1/LP11) due to a change in journey length resulting from diversions. Temporary significant residual impacts are anticipated for eight NMU routes (Core Path IN08.10 and Local Paths 1, 2, 3, 4, 5 and 8 and NCN 1/LP11) due to a decrease in amenity value from construction activities in close proximity to the paths.
- 16.7.2 With the proposed scheme in place, and taking into account mitigation described in Section 16.5, significant residual impacts (Moderate) are anticipated for three NMU routes (IN08.10, LP2 and LP5). As stated in Table 16.15, NMUs using LP5 are anticipated to experience significant impacts (Moderate/Substantial) on journey length due to severance and diversion. NMUs using Paths IN08.10, LP2 and LP5 are anticipated to experience significant impacts on amenity value (Moderate) due to the closer proximity of the proposed scheme and subsequent noise and visual impacts.
- 16.7.3 There are no significant residual impacts on public transport during construction or operation as a result of the proposed scheme.

### Vehicle Travellers

#### View from the Road

- 16.7.4 As stated in Table 16.23, following the establishment of mitigation planting, direct impacts of Negligible adverse (Inverness Urban Fringe and Culloden LLCA) and Slight/Moderate beneficial (Enclosed Farmed Landscapes LLCA) significance are anticipated. These are both considered to be non-significant impacts.

#### Driver Stress

- 16.7.5 Driver stress is assessed using a three-point descriptive scale of high, moderate and low rather than assigning significance. In accordance with DMRB assessment methodology, with the proposed scheme in place it is predicted that driver stress would be High for travellers on the proposed scheme, and would range between High and Moderate for travellers on the surrounding road network. However, it is considered that other aspects of the design including appropriate signage may contribute to reducing driver stress during operation by achieving high levels of operational reliability and reducing driver frustration.

## 16.8 References

### Reports and Documents

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### **EU Directives and National Legislation**

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