A57 Link Roads

Local Impact Report

Prepared by
High Peak Borough Council and Derbyshire County Council

Project number: 60635772

14 January 2022

Quality information

Prepared by	Checked by	Verified by	Approved by
Various	[redacted] Graduate Environmental Consultant	[redacted] Associate Director - Planning	[redacted] Associate Director - EIA

Revision History

Revision	Revision date	Details	Authorized	Name	Position
P01	17/12/2021	First full issue		[redacted]	Project Manager
P02	14/01/2022	Final issue		[redacted]	Project Manager

Prepared for:

High Peak Borough Council and Derbyshire County Council

Prepared by:

AECOM Infrastructure & Environment UK Limited
Royal Court, Basil Close
Chesterfield
Derbyshire S41 7SL
United Kingdom

Table of Contents

1. Introduction

Purpose of the Report

1.1 This Local Impact Report (LIR) has been prepared by AECOM Infrastructure and Environment Ltd ('AECOM') on behalf of High Peak Borough Council ('HPBC') and Derbyshire County Council ('DCC') in response to the application for a Development Consent Order (DCO) for the A57 Link Roads scheme ('the scheme'). The applicant for the proposed scheme is National Highways (formerly Highways England) ('the Applicant').

1.2 This LIR has been prepared to the provide details of the likely impact of the scheme on the administrative areas covered by HPBC and DCC ('the authorities'). The structure of the authorities is a two-tier system of local government with HPBC as the lower-tier local authority and DCC as the upper-tier local authority. This arrangement is unlike neighbouring Tameside Metropolitan Borough Council (TMBC) which is a unitary authority with a single tier of local government.

1.3 The LIR also outlines uncertainties and concerns associated with the assessment completed by the Applicant to date.

1.4 This LIR has been prepared with reference to the DCO application documents as available on the Planning Inspectorate website[1] as available at the time of preparation. The LIR does not replicate the Environmental Impact Assessment (EIA), Environmental Statement (ES) as prepared by National Highways, or any assessment previously produced in respect of the application.

The Requirement for the Local Impact Report

1.5 The scheme is identified as a Nationally Significant Infrastructure Project (NSIP) under Section 14(1)(h) and 22(1) of the Planning Act 2008. As the proposed authorised development is an NSIP, consent under the 2008 Act is required (Section 31 of the 2008 Act).

1.6 Under Section 37 of the 2008 Act, an order granting development consent may only be made if application for it is made (through the Planning Inspectorate) to the Secretary of State, therefore a DCO is required to allow the construction of the scheme.

1.7 Under Section 60 of the Planning Act 2008, the Secretary of State must give notice in writing to local authorities within which the scheme is located, inviting them to submit an LIR. This notice was provided to the authorities in the form of the 'Rule 6 Letter'[2] published on 19 h October 2021.

1.8 Local authorities were invited to submit LIRs, should they wish. The Rule Six Letter notes that, "whilst these are voluntary, the Planning Act 2008 provides that if they are provided, they must be considered by the Secretary of State in reaching a decision".

1.9 It is noted that in coming to a decision on the DCO, the Secretary of State must have regard to this LIR (and indeed any submitted by other host or neighbouring authorities).

[1] National Infrastructure Planning website for A57 Link Roads. Available at: [redacted]

[2] Rule 6 Letter - Appointment of the Examining Authority, draft Examination Timetable, invitation to the Preliminary Meeting, notification of an Open Floor Hearing and Procedural Decisions. Available at: [redacted]

Structure of this Report

1.10 This report first provides a description of the site and its surroundings and the details of the proposal within Sections 2 and 3. This is followed by a history of the site which outlines the relevant planning history, and a breakdown of the relevant local and national planning policies in Sections 4 and 5.

1.11 A brief overview of previous comments raised by the authorities can be found in Section 6.

1.12 The report then identifies the potential impacts that will arise from the construction and operation of the scheme, as well as any mitigation measures and opportunities for enhancement. Any uncertainties surrounding the scheme have also been identified. This information is provided for the following topics within Sections 7 to 18:

- traffic and transport;
- air quality;
- cultural heritage;
- landscape and visual;
- biodiversity;
- geology and soils;
- material assets and waste;
- noise and vibration;
- population and health;
- road drainage and the water environment;
- climate; and
- the local economy.

1.13 A summary of the key impacts and areas of concern is provided in Section 19.

2. Site Description and Surroundings

Scheme Location

2.1 The scheme is primarily located within Mottram-in-Longdendale, on the eastern edge of the Manchester conurbation adjacent to and within the settlements of Hattersley, Mottram-in-Longdendale, Hollingworth and Woolley Bridge. The scheme connects the M67 at the west to the A57 Brookfield Road in the east and crosses through surrounding, predominately pasture, agricultural land within the Harrop Edge and Mottram Moor valley sides and within the River Etherow valley.

2.2 The scheme lies predominantly within the administrative boundaries of TMBC, up until to the proposed River Etherow Bridge. To the east of this, the A57 Link Road part of the scheme crosses over the boundary into the administrative area covered by the authorities. A short length of the A57 Link Road and the proposed Woolley Bridge junction are within the authorities' administrative areas.

2.3 The A57 continues south-east through Glossop, a principal market town in the High Peak, located approximately 15 miles east of Manchester and 24 miles west of Sheffield. It has a unique setting with views to the surrounding hills and easy access to the motorway network.

2.4 The A57 corridor is a highly strategic economic corridor for High Peak, containing a number of important employment sites.

Environmental Constraints

2.5 The scheme falls within the transitional zone between the open moorlands of the Dark Peak and Southern Pennines, and the densely populated urban conurbation of Manchester. The scheme also lies within the setting of the Peak District National Park (PDNP).

2.6 Four Air Quality Management Areas (AQMAs) are located within the scheme study area; the Greater Manchester AQMA, the Sheffield Citywide AQMA and two designated by HPBC. HPBC has designated the following AQMAs:

- AQMA No.1: Tintwistle, incorporating the section of Woodhead Road between the Bank Lane / Woodhead Road Junction and the Old Road / Woodhead Road Junction; and
- AQMA No.2: Dinting Vale, incorporating the section between the A626 Glossop Road / A57 Dinting Vale Junction and the A57 Dinting Vale / Dinting Lane.

2.7 There is one Scheduled Monument (Melandra Castle Roman Fort), two Conservation Areas (within Mottram-in-Longdendale and Hadfield), two Grade II* listed buildings and 45 Grade II listed buildings and other non-designated assets, within 500 m of the scheme. Listed buildings within the HPBC area are associated with the Hadfield Conservation Area and Hadfield.

2.8 There is a relatively dense network of public rights of way (PRoW) and recreational routes within the DCO boundary and within the wider study area. This includes the Pennine Bridleway National Trail, which incorporates a section of the Trans-Pennine National Cycle Network (NCN) Route 62. This NCN 62 and the Trans-Pennine Bridleway follow a similar route through the area from Hadfield, running towards Woolley Bridge, towards Gamesley; before they diverge around Gamesley.

2.9 The majority of the scheme is located within Flood Zone 1, however within the HPBC area, the scheme is within areas of Flood Zone 2 and 3 associated with the River Etherow.

2.10 In the Mottram-in-Longdendale area, intersecting the proposed Mottram underpass there is a geological fault trending north-west to south-east.

3. Details of the Proposal

Scheme Description

3.1 The following description is largely taken from the Case for the Scheme [TR010034/APP/7.1][3]. Key features are shown on Plate 3-1 below which has been extracted from Figure 2.2 of the Environmental Statement.

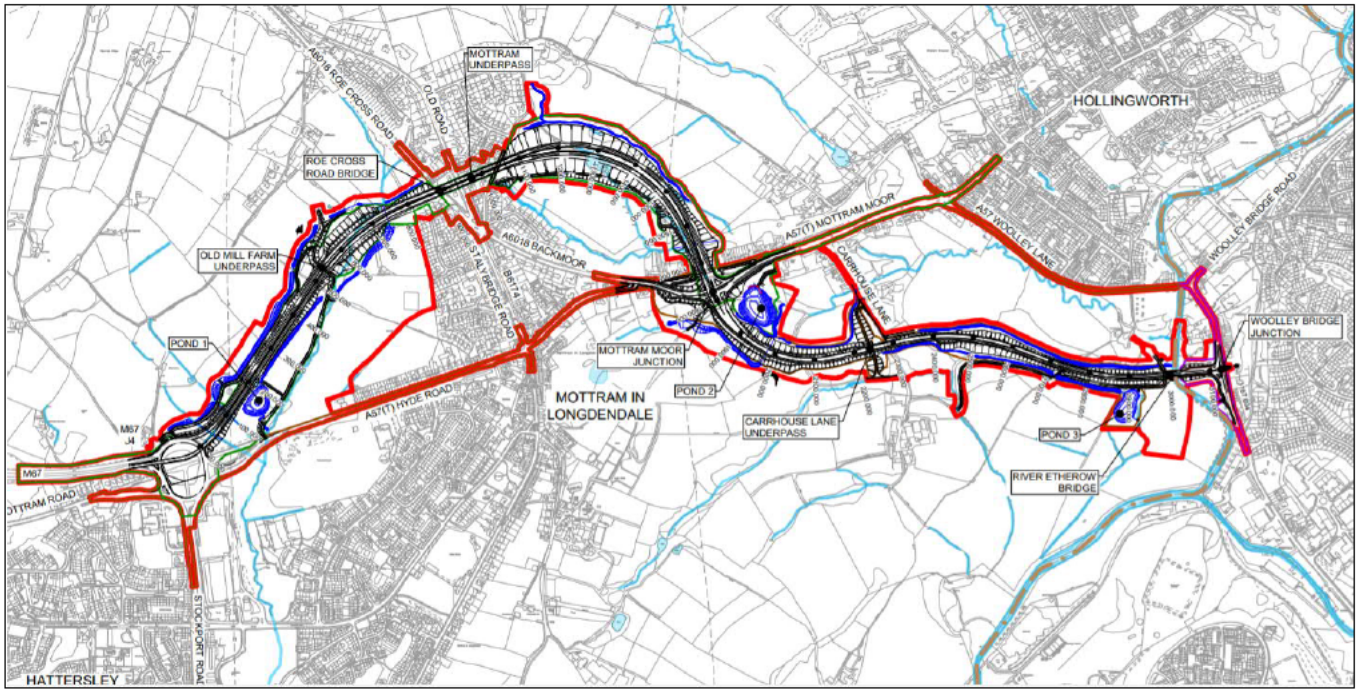


Plate 3-1 General Arrangement Plan Extract (Figure 2.2 of the Environmental Statement)

3.2 The scheme would provide two new link roads:

- The Mottram Moor Link Road - a new dual carriageway from the M67 Junction 4 roundabout to a new junction on the A57(T) at Mottram Moor. This link road would bypass around Mottram-in-Longdendale. This element of the scheme is located entirely within the area of TMBC; and
- A57 Link Road – a new single carriageway link from the A57(T) at Mottram Moor to a new junction on the A57 Woolley Bridge within the boundary of the authorities. This element is partially within the boundaries of TMBC and HPBC (which is encompassed by DCC as the upper tier authority and local highway authority).

Mottram Moor Link Road

3.3 Highway works will focus on a new offline dual carriageway link road (Mottram Moor Link Road) connecting the M67 Junction 4 to A57(T) Mottram Moor Junction.

3.4 The Mottram Moor Link Road would be approximately 1.12 miles (1.8 km) in length, commencing from a new connection at the existing M67 Junction at the junction between the M67 Junction 4 to A57(T) Mottram Moor Junction.

[3] The document references provided in square brackets are those provided by the Applicant. All documents referenced are available on the Planning Inspectorate webpage for the scheme. Case of the Scheme (December 2021). Available at: [redacted]

3.5 The proposed road would then run north east across existing farmland, before entering a cutting and passing under a new overbridge of the A6018 Roe Cross Road. Mottram Moor Link Road would then enter Mottram Underpass, carrying the new road beneath the existing Old Road and Old Hall Lane.

3.6 After exiting Mottram Underpass, the Mottram Moor Link Road would turn southwards as it continues in cutting towards a new traffic signal controlled junction, Mottram Moor Junction, at the intersection with the existing A57 Mottram Moor.

3.7 The Mottram Moor Link Road would require the following elements:

- Additional works across the network to ensure that the scheme operates efficiently under the forecast traffic flows. This includes works to increase capacity at the M67 Junction 4, including provision traffic signal control and a new link through the roundabout to provide a connection from Mottram Moor Link Road onto the westbound carriageway of the M67. Works would also be undertaken to improve facilities for pedestrians and cyclists at the Junction, including new pedestrian and cyclist links and traffic signal-controlled crossing facilities, which connect into the existing PRoW.
- The creation of Mottram Moor Junction, which is a new signalised junction with a separate pedestrian crossing for Walkers, Cyclists and Horse riders (WCH).
- The construction of the following structures:
  - Old Mill Farm Underpass: A new underpass to maintain farm access and provide a safe route for walkers, cyclists and horse riders.
  - Roe Cross Road overbridge: A new bridge to carry Roe Cross Road over Mottram Moor Link Road.
  - Mottram Underpass: A new underpass carrying the link road beneath Old Road, Old Hall Lane and the community of Mottram in Longdendale.

A57 Link Road

3.8 The A57 Link Road section would require the following highway works:

- The creation of the following structures:
  - Carrhouse Farm Underpass: A new underpass to maintain farm access and provide a safe route for walkers and cyclists; and
  - River Etherow Bridge: A new single span bridge, to carry the A57 Link Road across the River Etherow.
- The creation of Woolley Bridge Junction, which would tie the scheme into the A57. It has been designed to accommodate a future housing development and provide crossing facilities for WCHs, which would tie into the Trans-Pennine Trail.

Improvement Works

3.9 The following improvement works would be required for the operation of the scheme:

- Improvement works on the existing A57 Mottram Moor, between the Mottram Moor Junction and the Gun Inn public house. These works will include new cycling facilities and improved pedestrian crossings at the Gun Inn Junction.
- The existing A57 Hyde Road would be de-trunked with sections of this road connected at Mottram Moor Junction, through the use of a junction, to retain access to the existing properties in this area. The de-trunking works would be developed to discourage the use of the A57 Hyde Road. This would include traffic calming measures and a reduction in the speed limit.

Handover and Maintenance

3.10 The Case for the Scheme [TR010034/APP/7.1] notes that National Highways will be the highway authority for the highway to be constructed as part of the scheme.

3.11 However, it should also be noted that the Environmental Statement (ES) Chapter 2 paragraph 2.6.51 [TR010034/APP/6.3] notes that after an initial 5-year period of maintenance, there is an intention to handover acquired land to the various asset owners who operate the road and public rights of way network (National Highways, TMBC and Derbyshire County Council) for future maintenance operations. It is expected that the details of any handover and maintenance requirements will form the contents of the Statements of Common Ground.

4. History of the Site

Relevant Planning History and issues arising

4.1 There is a full planning history in the Case for the Scheme (Section 6) [TR010034/APP/7.1], with the latest version published in December 2021. The planning history is noted to have been prepared in April 2021.

4.2 A proposed housing development at Woolley Bridge, Glossop, is of direct relevance to the scheme as it falls within the red line boundary. Outline planning consent was granted by HPBC for residential development and associated works in January 2019 (ref. HPK/2017/0198)[4]. All matters were reserved apart from access.

4.3 At the request of Highways England (as referred to at the time), condition 5 of the consent states:

> *"5. No development shall take place until a formal agreement has been reached between the developer and Highways England, regarding the location and design of the new access road to the development, so that the access road can be properly modelled and integrated within the proposed development of the new junction planned for Woolley Lane."*

4.4 The condition was duly discharged in May 2020 following engagement with Highways England. Reserved matters approval on the site for 31 dwellings was subsequently approved on 12 March 2021 (ref. HPK/2020/0107)[5].

5. Relevant Planning Policy

National Planning Policy

National Networks National Policy Statement 2014

5.1 The National Networks National Policy Statement (NN NPS) is the primary document that guides decision making for highway DCO projects. It outlines the need for national networks, wider Government policy on the national networks, assessment principles and requirements for the consideration and assessment of generic impacts. The NN NPS is the primary basis for decision making for the scheme, although local policy is also a material consideration.

5.2 The overarching vision and strategic objectives for national networks include:

- networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs;
- networks which support and improve journey quality, reliability and safety;
- networks which support the delivery of environmental goals and the move to a low carbon economy; and
- networks which join up our communities and link effectively to each other.

5.3 Relevant sections relating to this LIR include:

5.4 Paragraph 4.61 which notes that "*the applicant should undertake an objective assessment of the impact of the proposed development on* [road] *safety including the impact of any mitigation measures*."

5.5 Paragraph 5.12 requires that the "*Secretary of State must give air quality considerations substantial weight where, after taking into account mitigation, a project would lead to a significant air quality impact in relation to EIA and / or where they lead to a deterioration in air quality in a zone/agglomeration."*

5.6 Paragraph 5.13 which notes that the Secretary of State should refuse consent where the air quality impacts of the scheme will:

- "*result in a zone/agglomeration which is currently reported as being compliant with the Air Quality Directive becoming non-compliant; or*
- *affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision."*

5.7 Paragraph 5.2.05 notes that "*applicants should consider reasonable opportunities to support other transport modes in developing infrastructure*" and that "*the applicant should provide evidence that … they have used reasonable endeavours to address any existing severance issues that act as a barrier to non-motorised users*."

5.8 Paragraph 5.32 which notes that the "*Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss*."

National Planning Policy Framework 2021

5.9 The National Planning Policy Framework (NPPF) was published to guide decision making on applications consented under the Town and Country Planning Act 1990 but its policies can be important and relevant to decision making on applications consented under the Planning Act 2008. The NN NPS acknowledges in paragraph 1.17 that the overall strategic aims of the NPPF and the NN NPS are consistent but that the two documents have differing, but equally important, roles to play. The NPPF makes clear that it is not intended to contain specific policies for NSIPs and that it is the role of the national policy statements to assume that function, plus provide transport policy, which will guide decision making on NSIPs. There are instances where the NPS directly references the NPPF, or where there NPPF may provide more detail than the NPS.

Transport Policy

Derbyshire Local Transport Plan

5.10 Derbyshire's current Local Transport Plan (LTP3), published in April 2011 sets out a transport vision, goals, and challenges to be tackled and a strategy covering the period 2011 - 2026. LTP3 is over 10 years old and DCC is currently in the process of making a new LTP. Although LTP 4 is in its embryonic stages, DCC's vision seeks to achieve a transport system that is both fair and efficient, promotes healthier lifestyles, safer communities, safeguards and enhances the natural environment and provides better access to jobs and services, whilst also improving choice and accessibility of transport and integrating economic, social, and environmental needs.

5.11 Below are the 5 transport goals with some examples of the underlying transport challenges:

1) Supporting a resilient local economy:

- A reliable and well maintained local transport infrastructure linked to policies and plans to promote sustainable economic growth, and to sources of local housing and labour.
- Rural transport - to support local business, and access to services and employment for residents and visitors.
- Business and commuting journeys - improve reliability and connectivity on key local routes

2) Tackling climate change:

- Reducing greenhouse gas emissions through new technologies and cleaner fuels, energy efficiency measures, and encouraging 'smarter choices' of car sharing, using public transport, cycling, walking, and reducing the desire to travel.
- Predicting and coping with the potential disruption of extreme weather events to the transport network.
- Continuing to raise awareness of the issue of climate change and promote what Derbyshire people, organisations and businesses can do to help.

3) Contributing to better safety, security, and health:

Safety

- Increasingly challenging casualty reduction targets.
- Reducing the risk of death or injury - taking a danger reduction approach so that it's safer to walk, cycle and horse ride.

- Achieving value for money in road engineering and safety-related maintenance schemes.

Security

- Reduce crime, fear of crime and anti-social behaviour on transport networks e.g. small scale lighting improvements, clean up and anti-graffiti measures, and cutting back undergrowth, tree and hedge cutting.
- Identify where small-scale improved street lighting will contribute to a reduction in crime, anti-social behaviour, and fear of crime.

Health

- Work with partners to improve personal health and reduce obesity through encouraging active travel and increased physical activity.
- Behavioural change - encouraging more walking/cycling, use of public transport, car sharing etc., usually referred to as 'Smarter Choices'.
- Revenue funding is required to champion, implement, and monitor Smarter Choices initiatives.

4) Promoting equality of opportunity:

- Provision of transport and services will need to consider the impact of a growing number of older people, particularly in the more rural areas of Derbyshire.
- Provision of transport and services will need to consider disadvantaged groups, such as unemployed and disabled people.
- Provide a network of transport services including public transport, subsidised services, and alternative transport arrangements (see next bullet point).

5) Improving quality of life and promoting a healthy natural environment:

General

- Maintain the transport asset for local travel, to protect sense of place and the natural and historic environment.
- Reduce air pollution.
- Encourage more people to enjoy the natural environment without damaging the natural environment that they are travelling to visit.
- Minimise the impact of transport on tranquillity.
- Minimise the impacts of transport on the natural environment, heritage and landscape.

Biodiversity

- Enhancement of green infrastructure e.g. management of road verge reserves, better connected traffic-free routes.
- Minimise light pollution from transport infrastructure on the landscape.

Population and human health

- Work with local planning authorities to help minimise adverse impacts from new housing.
- Continue to provide public transport facilities to cater for an increasingly older population. Landscape
- Continue to support 'greening' of and sustainable access within the National Forest.

- Minimise the visual impact of transport infrastructure on the landscape e.g. indiscriminate parking in rural areas.
- All new highway development and management should reflect and respond to the landscape character and local distinctiveness.

Cultural heritage

- Minimise the impact of transport infrastructure on the historic environment.
- Good design and material usage (including specialist advisors).

5.12 The plan puts emphasis on supporting a resilient local economy, contributing to better safety, security, and health, and improving quality of life and promoting a healthy natural environment. It aims to achieve longer term benefits for climate change and measures to help people under the equality of opportunity goal.

5.13 The Glossop A57 Link Roads project is identified in Derbyshire's LTP3. It referred to the Longdendale Integrated Transport Strategy (LITS). At this stage of the project TMBC, subject to the outcome of revisions to funding and approval processes, wished to pursue a scheme to address issues around traffic congestion in the Longdendale villages.

5.14 Options for this included the provision of a 'Glossop Spur,' crossing the boundary into Derbyshire, and improvements to public transport networks and services. It was also established that DCC would need to work closely with TMBC to gain a full understanding of likely impacts upon Derbyshire. For example, the importance of undertaking the required statutory Environmental Assessments that was mentioned, which to date, has included a Scoping Report and Scoping Opinion which were published in 2017, followed by the Environmental Statement, published in July 2021. (Derbyshire County Council, 2011).

Longdendale Integrated Transport Strategy (LITS)

5.15 The Longdendale Integrated Transport Strategy[6] (LITS) was prepared by TMBC and also has several relevant transport objectives.

5.16 Any transport strategy that intends to address the key problems and issues within the Longdendale villages should aim to:

- reduce the impact of traffic on air quality;
- reduce delay to traffic on the highway network by reducing congestion;
- reduce journey times on the local bus network and improve the services provided by buses;
- improve the opportunity for increased rail travel by improving access to local rail stations and improving the service provided by trains;
- deliver street scene improvements and introduce improved pedestrian and cycling measures on the highway network;
- reduce the impact of traffic congestion for the benefit of the local and sub-regional economies;
- improve access within Longdendale and locations beyond to services and amenities such as education, employment, health, leisure, and shopping;
- improve road user safety;
- minimise the impact of traffic on the built and natural environments; and

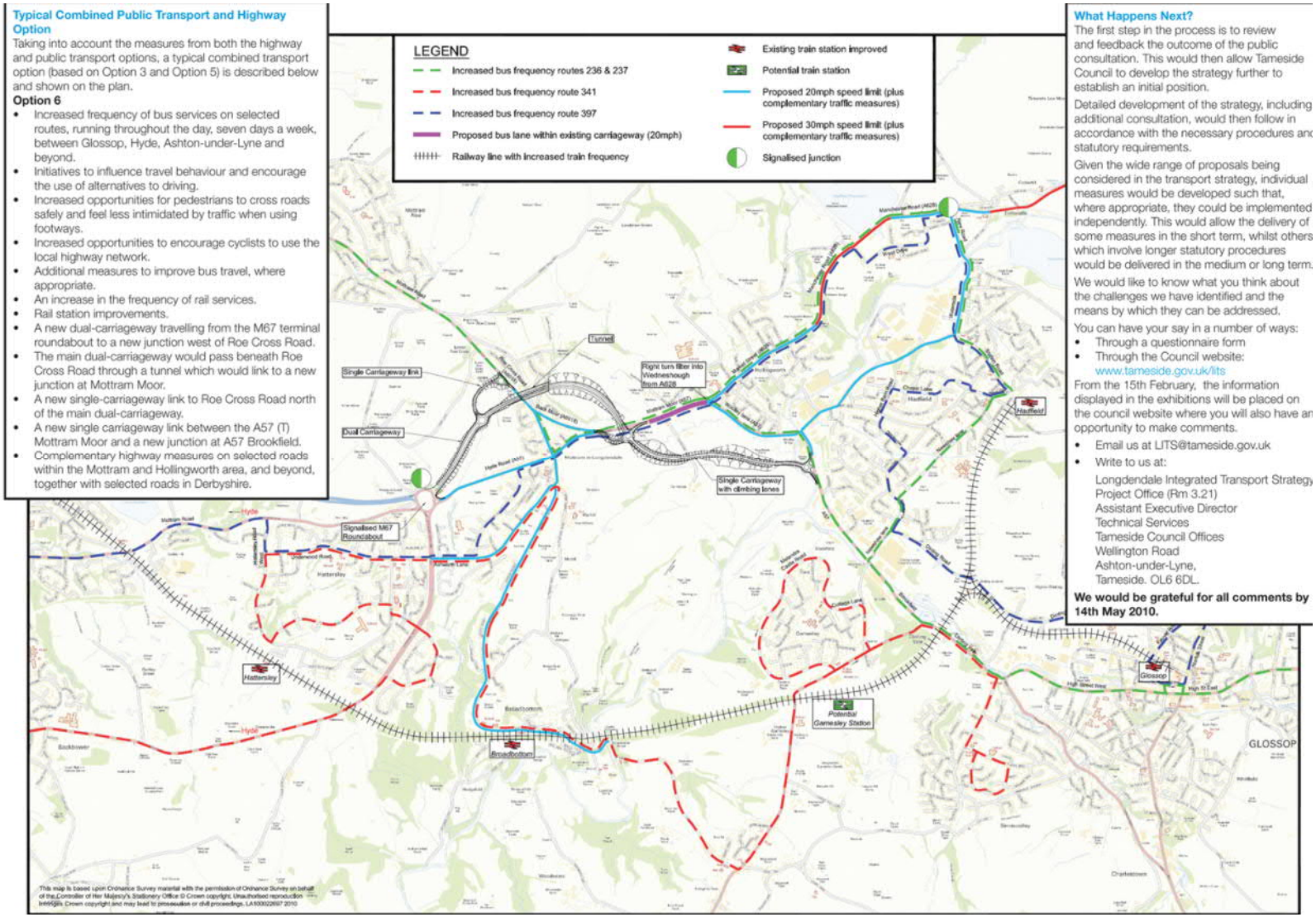
[6] Longdendale Integrated Transport Strategy. Available at: https://www.tameside.gov.uk/TrafficManagement/Longdendale-Integrated-Transport-Strategy

- encourage less car use through education, publicity campaigns, training and ‘soft measures,’ such as walking buses, cycle training and pedestrian safety campaigns.

5.17 Typical Combined Public Transport and Highway Option would see:

- increased frequency of bus services on selected routes, running throughout the day, seven days a week, between Glossop, Hyde, Ashton-under-Lyne and beyond;
- initiatives to influence travel behaviour and encourage the use of alternatives to driving;
- increased opportunities for pedestrians to crossroads safely and feel less intimidated by traffic when using footways;
- increased opportunities to encourage cyclists to use the local highway network;
- additional measures to improve bus travel, where appropriate;
- an increase in the frequency of rail services;
- rail station improvements;
- a new dual carriageway travelling from the M67 terminal roundabout to a new junction west of Roe Cross Road;
- the main dual-carriageway would pass beneath Roe Cross Road through a tunnel which would link to a new junction at Mottram Moor;
- a new single-carriageway link to Roe Cross Road north of the main dual-carriageway;
- a new single carriageway link between the A57 (T) Mottram Moor and a new junction at A57 Brookfield; and
- complementary highway measures on selected roads within the Mottram and Hollingworth area, and beyond, together with selected roads in Derbyshire.

Figure 5-1 Tameside Combined Public Transport and Highway Option



Minerals Policy

Derby and Derbyshire Minerals Local Plan (adopted 2000 and amended in 2002) (saved policies)

5.18 The Minerals Local Plan[7] sets out detailed policies and proposals for mineral working in DCC (outside of the PDNP). The purpose of this plan is to provide for the future supply of minerals, whilst ensuring protection for the environment. The plan is currently being reviewed by DCC and Derby City Council, with a Draft Plan anticipated to be published for consultation in January 2022. Relevant policies include:

5.19 Policy MP16 (Maintenance of Landbanks) looks to ensure that an adequate supply of minerals is kept to meet forecast demands and as such:

"A landbank of permitted reserves for the county's non-energy minerals will be maintained at appropriate levels throughout and at the end of the plan period."

5.20 Policy MP17 (Safeguarding Resources) considers that mineral resources are finite and as such need safeguarding from unnecessary sterilisation. This means that:

"The mineral planning authority will resist proposals for any development which would sterilise or prejudice the future working of important economically workable mineral deposits except where there is an overriding need for the development and where prior extraction of the mineral cannot reasonably be undertaken."

Derby and Derbyshire Waste Local Plan (adopted 2005)

5.21 The purpose of the Waste Local Plan[8] is to explain the situations in which planning permission for waste development will be granted or refused. DCC and Derby City Council have commenced a review of the plan for which it is anticipated that an Issues and Options consultation will be published in spring 2022. Relevant policies include:

5.22 Policy W13 (Sorting of waste before disposal) is in place to ensure that waste that could otherwise be recycled or composted is not taken to landfill in accordance with the waste hierarchy.

"Waste disposal by means of landfill will be permitted only if the applicant has shown that: before disposal of any waste at the site, facilities will be in place for the sorting of all reasonable quantities of recyclable and compostable materials; and the proposed standard of the facilities and method of operation, including the proportions of recyclable and compostable materials to be recovered and the post-sorting management of those materials, are realistic and reasonable in the context of an integrated waste management system."

5.23 Section 7 of the plan provides relevant details on the provision of recycling and composting facilities.

Local Planning Policy

High Peak Adopted Local Plan 2016

5.24 The Local Plan[9] was adopted on 14 April 2016 and sets out HPBC's vision and strategy for the Borough until 2031. The Local Plan sets out the development strategy, strategic and development management policies and land designations for the parts of High Peak that lie outside of the PDNP.

5.25 Relevant policies include:

5.26 Policy S5 (Glossopdale Sub-area Strategy) sets the overarching strategy for the Glossopdale area. It seeks to promote the sustainable growth of Glossopdale whilst promoting and maintaining the distinct identity of its settlements, provide an increasing range of employment opportunities, promote the growth of a sustainable tourist economy and meet the housing needs of the local community.

5.27 Policy S5 also includes the following commitment by the Council insofar as addressing the traffic related issues prevalent on the A57 and A628.

> *"Working with partner organisations and developers to address congestion along the A57 and A628, to improve transport links to surrounding areas and to enable transport improvements and mitigation measures identified the High Peak Transport Study and in the Trans-Pennine Feasibility Study (subject to further consideration). Transport Assessments in support of developments in the Glossopdale area should be scoped with Highways England and the highways authority in order to determine whether the assessment should consider impacts on A57/A628 junction and to identify mitigation measures as appropriate."*

5.28 The scheme within HPBC lies within the Green Belt. Policy EQ4 (Green Belt Development) states that:

> *"The Council will seek to protect the Green Belt and maintain its openness and permanence. The boundaries of the Green Belt are defined on the Policies Map. Within the Green Belt, planning permission will not be granted for development unless it is in accordance with national planning policy."*

5.29 Policy EQ10 (Pollution Control and Unstable Ground) states that:

> *"The Council will protect people and the environment from unsafe, unhealthy and polluted environments."*

5.30 This will be achieved by:

> *"Ensuring developments avoid potential adverse effects and only permitting developments that are deemed (individually or cumulatively) to result in the following types of pollution if any remaining potential adverse effects are mitigated to an acceptable level by other environmental controls or measures included in the proposals. This may be achieved by the imposition of planning conditions or through a planning obligation. The Council will not permit any proposal that has an adverse effect on a European site:*
>
> - *air pollution (including odours or particulate emissions);*
> - *pollution of watercourses (rivers, canals reservoirs, streams, ditches, ponds and wetland areas) or groundwater;*
> - *noise or vibration;*
> - *light intrusion;*

[9] High Peak Adopted Local Plan 2016. Available at: [redacted]

- *land contamination; or*
- *other nuisance, environmental pollution or harm to amenity, health or safety."*

5.31 Policy EQ11 (Flood Risk Management) sets out provisions for developments in areas of flood risk. The scheme is within Flood Zone 2 and 3 within High Peak as identified on the Policies Map.

6. Previous Comments from the Authorities on the Scheme

6.1 This section of the LIR summarises the key themes highlighted by the authorities in responses to previous consultations on the scheme.

6.2 Both authorities have engaged with National Highways throughout the DCO process, including attendance at the stakeholder meetings organised by National Highways. Nevertheless, the authorities have submitted holding objections in response to the public consultations held by National Highways in both 2018[10] and 2020[11]. Fundamentally, the objections were due to the lack of supporting information regarding the traffic and related implications of the scheme.

6.3 DCC fully recognises the impacts of existing traffic flows on the highway network on the A628 and A57, the associated adverse implications for residents of Woolley Bridge in Derbyshire and Mottram Moor in TMBC, and the desire for National Highways to address these issues. However, DCC also has concerns about the wider impacts of the scheme on the highways network, particularly on the A57 through Glossop and the A628 through Tintwistle. The scheme is likely to make journey times through to the Manchester conurbation more attractive, increasing traffic flows on both the A57 through Glossop and the A628 through Tintwistle.

6.4 The joint response made in 2020 in response to the statutory consultation notes the following areas of significant concern:

- the potential for the scheme to result in further traffic congestion in Glossop. Further clarification of the impacts of the traffic lights included in the scheme;
- the impacts of additional traffic on air quality, particularly within the AQMAs on the A628 in Tintwistle and the A57 in Dinting Vale. Detailed consideration for the impacts on air quality in the vicinity of the AQMAs, including the implications for local school children, was noted by the authorities as essential; and
- the impact of journey times, including evidence for shorter journey times between the M67 and Glossop.

6.5 In the Section 56 Representation of 16th September 2021[12] prepared jointly by the authorities, the holding objection was maintained as the Environmental Statement and supporting documents did not address the concerns of the authorities.

6.6 Having reviewed the submission, the authorities identified a number of gaps in the Transport Assessment data and subsequent queries and requests for information were made to National Highways. As noted throughout this LIR, additional information has since been made available by National Highways to enable the authorities to understand these issues more clearly. This information is clearly referenced where it has been used to prepare this LIR.

[10] First Statutory Consultation held 12th February to 25th March 2018.
[11] Second Statutory Consultation held 5th November to 17th December 2020
[12] The Section 56 Representation made on the 16th September 2021 by the authorities can be found here: [redacted]

7. Traffic and Transport Impacts

7.1 The Transport Assessment Report (TAR) [TR010034/APP/7.4] assesses the transport impacts of of the A57 Link Roads scheme in a single, stand-alone report for general consumption. It identifies how the scheme will operate when opened and includes a comparison of the situations with ('Do-Something') and without ('Do-Minimum') the scheme.

Traffic Flows

7.2 Two-way Annual Average Daily Traffic (AADT) flows are forecast to;

- increase on New Road, Hadfield by approximately 50% in the 2025 Do-Something Scenario and 48% in the 2040 Do-Something Scenario compared to the Do-Minimum scenario; and
- increase to the A57 Sheffield Road to the east of Glossop by approximately 38% in both the 2025 Do-Something and 2040 Do-Something scenarios.

7.3 Analysis set out in the Environmental Statement Appendix 2.1 Traffic Data, Dinting and Gamesley, (both located between the scheme and Glossop), with the exception of Glossop Road, will experience a similar level of Annual Average Daily Traffic (AADT) & Annual Average Weekday Traffic (AAWT) flow increase in the Do-Something compared to the Do-Minimum scenario in the future year scenarios depending on routing.

- Two-way AADT flows in comparison to the Do-Minimum scenario are forecast to:
  - increase on the A57 adjacent to Gamesley by 13% in both future year scenarios;
  - increase on Dinting Road in close proximity to Dinting by an average of 48% across the two future year scenarios; and
  - decrease in close proximity to Gamesley along Glossop Road by an average of 5% across the two future year scenarios.

7.4 Due to the link roads created by the scheme, some network capacity will be increased to match this forecast traffic growth. However, none of the additional network capacity is within Derbyshire or High Peak to accommodate the projected increased.

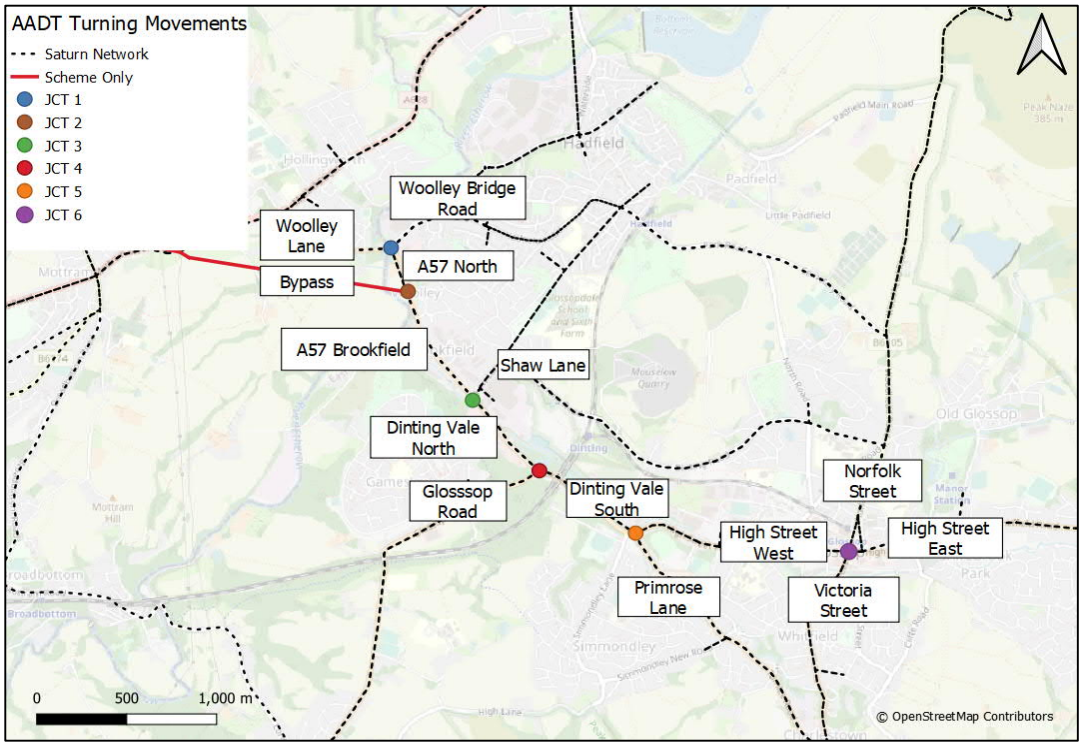
Existing Junction Capacity

7.5 This section sets out the impacts on AADT and Network Peak Hour traffic flows between the 2025 and 2040 future years for the Do-Minimum and Do-Something scenarios at specific junction locations within Glossop.

7.6 The AADT and Network Peak Hour Traffic Surveys was collated by National Highways for six junctions as set out as follows and illustrated in Figure 1:

- Junction 1 – Woolley Lane / Woolley Bridge Road;
- Junction 2 – A57 Bypass / A57 North / A57 Brookfield;
- Junction 3 – A57 Brookfield / Shaw Lane / Dinting Vale North;
- Junction 4 – Dinting Vale North / Glossop Road / Dinting Vale South;
- Junction 5 - Dinting Vale South / Primrose Lane / High Street West; and
- Junction 6 – High Street West / Victoria Street / High Street East / Norfolk Street.

Figure 7-1 Assessed Junction Survey Locations



7.7 Further to this, baseline turning count survey data undertaken in March 2018 comprises several junctions relevant to the future year assessments. These are set out as follows:

- Junction 3 = Baseline Survey Junction 1 - A57 Brookfield / Shaw Lane / Dinting Vale North;
- Junction 4 = Baseline Survey Junction 2 - Dinting Vale North / Glossop Road / Dinting Vale South;
- Junction 5 = Baseline Survey Junction 3 - Dinting Vale South / Primrose Lane / High Street West; and
- Junction 6 = Baseline Survey Junction 6 - High Street West / Victoria Street / High Street East / Norfolk Street.

7.8 The baseline traffic survey locations are used for comparison against the future year scenarios to enable a background comparison of future year growth on the network, thereby assisting the distinction between background growth and direct scheme impacts.

7.9 In addition, 'Volume / Capacity (V/C)' data was provided for the junctions listed above. It is noted that these are from SATURN outputs so not as accurate at an individual junction level as ARCADY / PICADY / LINSIG assessments; however, they do provide useful evidence as to how the proposals will impact on the network.

Junction 1 - Woolley Lane / Woolley Bridge Road

AADT

7.10 Junction 1 is forecast to experience a 45% reduction in AADT traffic due to the scheme in the 2025 Do-Something scenario, and a 43% reduction in the 2040 Do-Something scenario, with the western arm, Woolley Lane, forecast to experience a 90% reduction in flows in the Do-Something scenarios with traffic re-distributed along Woolley Bridge Road. This is due to the scheme bypassing Mottram Moor and Woolley Lane and connecting with Woolley Bridge.

Turning Counts and V/C

7.11 The network peak hour flows at Junction 1 are forecast to reduce between the 2025 Do-Minimum and Do-Something scenarios. The resultant V/C% is overall forecast to reduce by 34% to 15% in the morning peak hour and by 43% to 21% in the evening peak hour.

Junction 2 - A57 Link Road / A57 North / A57 Brookfield

AADT

7.12 Do-Minimum scenario flows are not available, therefore an assessment of % change between 2025 and 2040 Do-Something scenarios has been assessed.

7.13 The scheme is set to generate an AADT flow of 25,150 in 2025 and 27,550 in 2040, with this future year AADT flow forecast to grow by 10% between the two future year Do-Something scenarios. Given the forecast reduction in AADT and turning count flows at Junction 1, it is anticipated that traffic will be redistributed along the A57 Link Road to Junction 2.

Turning Counts & V/C

7.14 The V/C% is forecast to be 39% in the morning peak and 41% in the evening peak for the 2025 Do-Something scenario. The Bypass arm specifically is forecast to operate at 33% and 39% in the morning and evening peak hours respectively, with spare capacity forecast at this junction.

Junction 3 - A57 Brookfield / Shaw Lane / Dinting Vale North

AADT

7.15 The AADT flow at Junction 3 is forecast to increase by 21% in the 2025 Do-Something scenario and by 19% in the 2040 Do-Something scenario. Specifically, the north-western arm, Brookfield, is forecast to increase by the greatest percentage at a total of 33% in 2025 and 26% in 2040.

Turning Counts & V/C

7.16 The peak hour flow at Junction 3 is forecast to increase in both network peak hours; however, the resulting V/C% is set to increase by 12% in the morning peak hour and by 33% in the evening peak hour in the 2025 Do-Something scenario. This increase is forecast to increase the V/C% in the evening peak hour to 101%, hence over capacity.

Junction 4 - Dinting Vale North / Glossop Road / Dinting Vale South

AADT

7.17 The AADT flow at Junction 4 is forecast to increase by 4% in the 2025 Do-Something and 2040 Do-Something scenarios compared to the respective Do Minimums. The change in AADT flows is consistent with a redistribution of traffic along Dinting Vale North and South and away from Glossop Road.

Turning Counts & V/C

7.18 The morning peak hour flows are forecast to increase in the Do-Something scenario, resulting in an increase in V/C% of 7% compared to the Do-Minimum scenario. Evening peak hour flows are both forecast to reduce in the Do-Something scenario, resulting in a 1% reduction in V/C% compared to the Do-Minimum scenario.

7.19 As expected, an increase in peak hour traffic flow is forecast on Dinting Vale North following the introduction of scheme, whereas an overall reduction in peak hour flow is expected on Glossop Road.

Junction 5 - Dinting Vale South / Primrose Lane / High Street West

AADT

7.20 The AADT flow at Junction 5 is forecast to increase by 2% in both the 2025 and 2040 Do-Something scenarios compared to the Do-Minimum scenarios. On the whole, AADT flows are forecast not to change a great deal, with the largest change being an increase in approximately 300-350 vehicles from Primrose Lane to Dinting Vale South in the Do-Something scenarios. This shows that the impact of the scheme on Junction 5 is low.

Turning Counts & V/C

7.21 The morning peak hour flows are forecast to increase with the Do-Something scenario, resulting in an overall increase in V/C% of 6%. However, evening peak hour flows are forecast to decrease, resulting in a decrease in V/C% of 8%. Overall, the junction is forecast to experience an increase in peak hour operate of 2%, a largely negligible increase.

Junction 6 - High Street West / Victoria Street / High Street East / Norfolk Street

AADT

7.22 Junction 6 is forecast to experience in increase in AADT flows of approximately 7% in the 2025 Do-Something scenario and 9% in the 2040 Do-Something scenario. The greatest impact of the scheme is forecast traffic from Norfolk Street the northern arm of the junction, which is forecast to experience a 26% increase in AADT. However, High Street West is forecast to experience a smaller increase of 7% in the 2040 Do-Something and a 4% reduction in the 2025 Do-Something scenario, highlighting a small overall impact on the junction arm in the direction of the scheme.

Turning Counts & V/C

7.23 Junction 6 is forecast to remain largely unchanged in the 2025 Do-Something scenario, with a 0% change in the morning peak hour and a 2% increase in V/C% in the evening peak hour compared to the Do Minimums. Both forecast peak hour flows remain largely unchanged, with the scheme forecast to have an overall negligible impact at this junction.

7.24 Whilst overall performance remains largely unchanged, a redistribution of peak hour traffic sees a reduction in flows on the High Street West and High Street East in both peak hours, with a corresponding increase in flows on the northern and southern arms of the junction.

Summary

7.25 Based on the AADT, Turning Count and 2018 Baseline survey data included as part of this assessment, it is concluded that the scheme will result in an overall increase in vehicular traffic on the highway network, particularly at Junction 3, with smaller increases forecast at Junctions 4 – 6.

7.26 Due to the creation of Junction 2 to serve the scheme, Junction 1 will experience a reduction in traffic flows. The main impact is at Junction 3, where V/C ratios will exceed 100% in the PM peak. Mitigation at this junction should therefore be considered by National Highways to mitigate the impact of the scheme.

Journey Times

7.27 Journey times are forecast to improve between the M67 and Glossop crossroads – a route analysed within the TAR. This route is able to use the entirety of the scheme.

7.28 Journey times are also forecast to improve between Roe Cross and Glossop in some time periods. This route is able to use a single section of the scheme (A57(T) to A57 link road) and as such journey time improvements are not as significant.

7.29 The impact *with* and *without* the scheme on journey times for key routes is shown in Figure 7-2 and Figure 7-3.

7.30 This data is summarised in Table 7-1 and shows that whilst those making longer trips through Glossop that also make use of the new infrastructure will experience journey times benefits, those shorter local trips fully contained within Glossop will see journey time dis-benefits.

7.31 Each of the key routes fully contained within Glossop (Routes 4 / 5, 6 and 8 of Figure 7-2 and 7-3) will experience an increase in journey times of:

- circa two minutes in the PM peak period in both directions; and
- approximately one minute in both the AM and interpeak period, but limited to the eastbound direction in the AM and interpeak period..

Figure 7-2 Journey Time Analysis, additional routes assessed (Do Minimum (DM) and Do Something (DS))

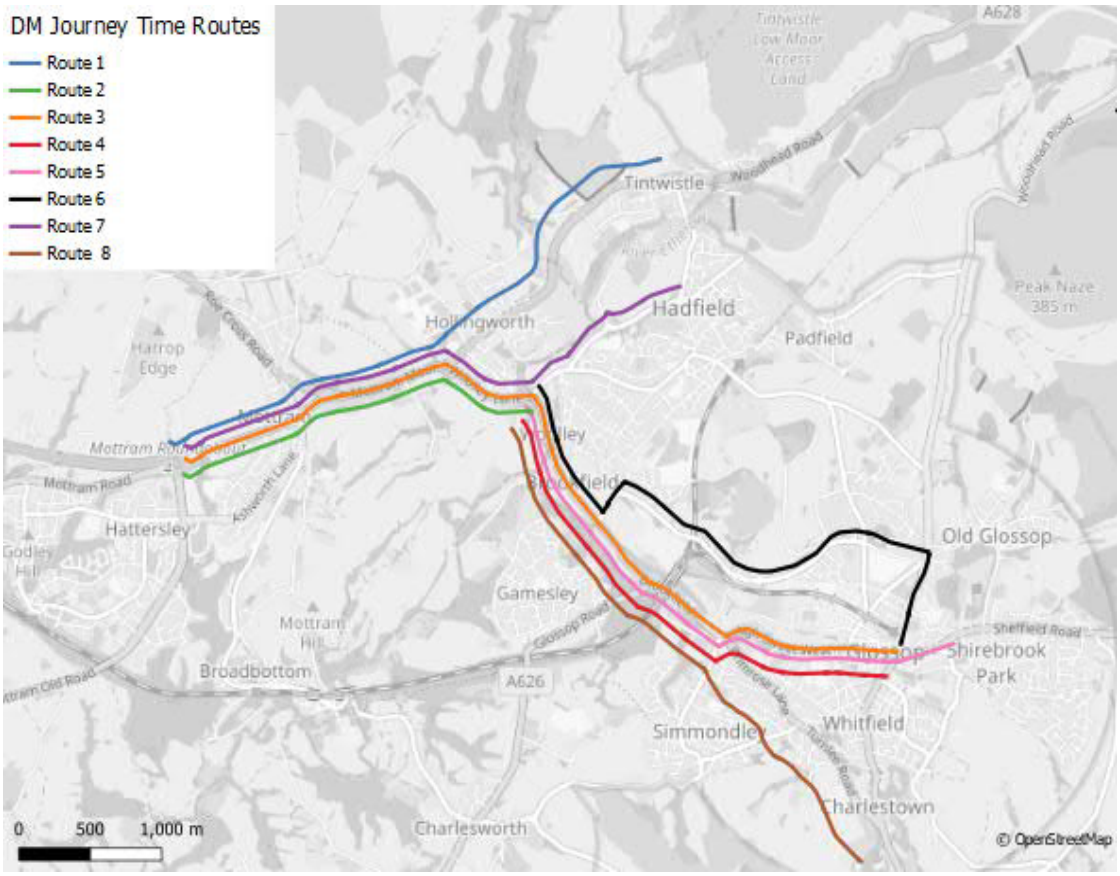


Figure 7-3 Journey Time Analysis, additional routes assessed (Do Something (DS))

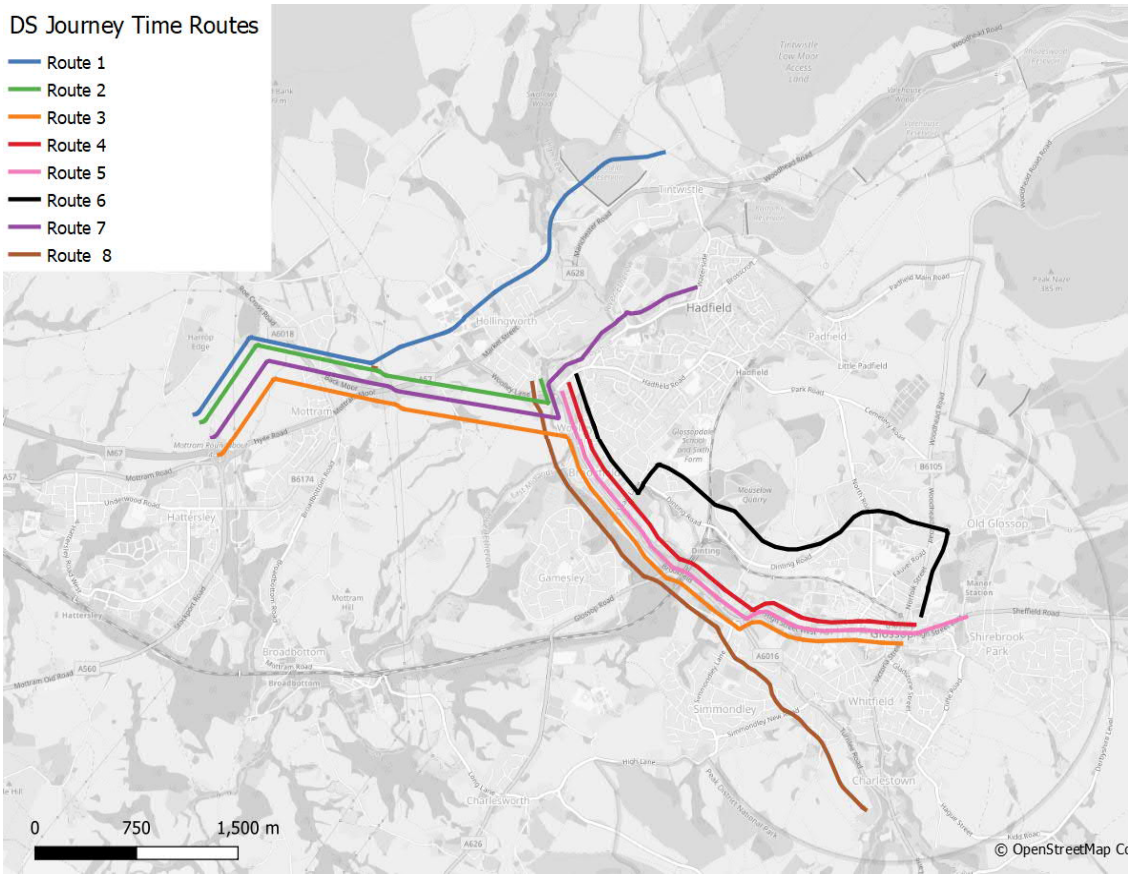


Table 7-1 Journey Time Analysis, additional routes assessed 2025 (Do Minimum, DM and Do Something DS)

Route ID	Route Description	Direction	Total Time (mm:ss)				Total Time (mm:ss)				Total Time (mm:ss)			
			DM	DS	Diff. (DS-DM)	% Diff. (DS-DM)	DM	DS	Diff. (DS-DM)	% Diff. (DS-DM)	DM	DS	Diff. (DS-DM)	% Diff. (DS-DM)
1_EB	M67J4 to Tintwistle A628 / New Road	EB	09:15	07:37	-01:38	-18%	14:00	09:37	-04:23	-31%	12:47	07:48	-04:59	-39%
1_WB	Tintwistle A628 / New Road to M67J4	WB	08:49	07:25	-01:24	-16%	10:40	08:30	-02:10	-20%	08:01	07:42	-00:19	-4%
2_EB	M67J4 to Woolley Bridge Roundabout	EB	07:28	04:14	-03:14	-43%	12:04	04:20	-07:44	-64%	11:19	04:18	-07:01	-62%
2_WB	Woolley Bridge Roundabout to M67J4	WB	06:40	04:40	-02:00	-30%	09:20	04:40	-04:40	-50%	06:33	04:33	-02:00	-31%
3_EB	M67J4 to Glossop Crossroads	EB	15:22	11:36	-03:46	-25%	19:50	11:25	-08:25	-42%	19:20	12:55	-06:25	-33%
3_WB	Glossop Crossroads to M67J4	WB	13:32	10:27	-03:05	-23%	16:24	10:54	-05:30	-34%	13:54	12:22	-01:32	-11%
4_EB	Woolley Bridge Roundabout to Glossop Crossroads	EB	08:02	09:01	00:59	12%	07:52	08:48	00:56	12%	08:11	10:16	02:05	25%
4_WB	Glossop Crossroads to Woolley Bridge Roundabout	WB	06:59	07:26	00:27	6%	07:11	07:55	00:44	10%	07:29	09:28	01:59	27%
5_EB	Woolley Bridge Roundabout to Shirebrook Drive	EB	09:06	10:06	01:00	11%	08:56	09:54	00:58	11%	09:18	11:24	02:06	23%
5_WB	Shirebrook Drive to Woolley Bridge Roundabout	WB	08:19	08:55	00:36	7%	08:31	09:19	00:48	9%	08:54	11:02	02:08	24%
6_EB	Woolley Bridge Roundabout to Glossop Crossroads via Dinting Road	EB	07:28	08:13	00:45	10%	07:17	08:23	01:06	15%	07:29	09:30	02:01	27%
6_WB	Glossop Crossroads to Woolley Bridge Roundabout via Dinting Road	WB	08:18	08:00	-00:18	-4%	07:19	08:14	00:55	13%	07:53	09:17	01:24	18%
7_EB	M67 J4 to Graphite Way	EB	09:15	06:07	-03:08	-34%	13:55	06:14	-07:41	-55%	13:08	06:16	-06:52	-52%
7_WB	Graphite Way to M67 J4	WB	08:34	06:32	-02:02	-24%	11:16	06:36	-04:40	-41%	08:29	06:26	-02:03	-24%
8_EB	Woolley Bridge Roundabout to A624 via Primrose Lane	EB	07:49	08:46	00:57	12%	07:27	08:21	00:54	12%	07:41	09:37	01:56	25%
8_WB	A624 to Woolley Bridge Roundabout via Primrose Lane	WB	06:53	07:29	00:36	9%	07:10	07:50	00:40	9%	07:24	09:21	01:57	26%

Road Safety and Collisions

Accident Rates

7.32 The scheme is expected to result in a small increase in the level of accidents through Glossop and on the A628 east of Tintwistle, as part of an overall increase on the surrounding highway network due to the scheme.

7.33 The scheme is forecast to have the largest impacts on the A57 Snake Pass - situated immediately to the east of Glossop. The A57 Snake Pass has a modelled predicted increase of more than 160 accidents over the 60-year appraisal period as a result of increased traffic flows in the Do Something scenario. This will create negative impacts for journeys eastward to / from Sheffield along the A57 due to the scheme, with an estimated accident impact of approximately -£3.5m along the A57, and approximately -£0.5m to -£1m along Shaw Lane / Dinting Road through Glossop. The TAR notes that measures should be pursued to minimise these negative impacts, but no measures are specified.

Junction Design

7.34 DCC Network Management Officers have been liaising with the National Highways Project Team regarding the proposed design of the new signal-controlled junction on the A57 at Woolley Bridge linking to the single carriageway link road.

7.35 DCC Network Management Officers have expressed some significant concerns about the design of the scheme, particularly the proposed inclusion of two lanes on the new link road that approach the new junction to turn right to head southwards on to the existing A57 which then also has two lanes that merge into one on the A57 after a relatively short distance. DCC consider that such a design raises safety issues with the merging of traffic down to one lane on a relatively short distance of highway.

7.36 National Highways has amended the junction design in the DCO submission so there is now a longer stretch of two lanes heading southwards on the existing A57 before they merge into the single lane. It is National Highways's position that a two-lane design solution is required for capacity reasons.

7.37 With regard to the proposed access to the consented residential scheme to the east of the new junction on the A57, discussions between each of the parties (HPBC, DCC and the Applicant) has established the principle of a mutually acceptable design solution for the junction and approval has now been given for the adoptable estate street, including its link to the new junction. DCC's officers have also been liaising with National Highways' consultants regarding the detailed design, specifications and location of street lighting for the scheme. Discussions regarding detail are on-going although the principle of the design, specification and location of the street lighting for the scheme has been agreed.

8. Air Quality

8.1 The air quality assessment for the scheme is described in Chapter 5 of the ES, with supporting information in Appendices 5.1 to 5.5 and Figures 5.1 to 5.4.

8.2 The chapter provides the assessment of the air quality effects of the scheme based on information available at the Preliminary Design stage. It outlines the air quality study area, methodology for assessment, baseline conditions and the potential impacts associated with the scheme during construction and operation. Where relevant, it identifies mitigation measures to mitigate any potential significant adverse effects.

8.3 Additional mitigation measures are discussed further in Environmental Management Plan (EMP) and Register of Environmental Actions and Commitments (REAC).

Summary of Impacts During Construction

Dust Emissions

8.4 The ES states that there is potential for elevated dust deposition and soiling at properties within 200 m of the construction site boundary, resulting from construction works. The amount and distribution of dust emissions would vary depending on the duration and location of the activity, weather conditions and effectiveness of suppression measures.

8.5 The ES provides a qualitative assessment of the air quality effects from construction in line with the Design Manual for Roads and Bridges (DMRB) LA 105[13]. This takes into account the nature of any proposed construction activities that have the potential to generate dust, and the location of sensitive receptors.

8.6 This assessment identified 1,911 human health receptors sensitive to potential dust effects located up to 200 m from the site boundary. Receptors sensitive to potential dust effects are illustrated in Figure 5.3 in the ES. The assessment concludes that the scheme is a bypass project and therefore is considered to have a ‘large’ dust risk potential. Given that there are sensitive receptors within 50 m of construction activities, the receiving environment is noted to be of ‘high sensitivity’. The overall construction dust risk potential for the scheme is therefore classed as ‘high’.

8.7 The chapter states that mitigation measures to control dust during the construction would be specified within contract documentation, as detailed in the first iteration EMP and REAC prior to construction of the scheme. It is expected that the use of standard industry best practice would mitigate the risk of construction dust impacts in the majority of cases. Such measures are noted to include but would not necessarily be limited to:

- Regular water-spraying and sweeping of unpaved and paved roads to minimise dust and remove mud and debris.
- Using wheel washes, shaker bars and rotating bristles for vehicles leaving the site where appropriate to minimise the amount of mud and debris deposited on the public highway.
- Sheeting vehicles carrying dusty materials to prevent materials being blown from the vehicles whilst traveling.
- Enforcing speed limits for vehicles on unmade surfaces and site haul roads to minimise dust entrainment and dispersion.

[13] Highways England (2019). DMRB LA 105 Air Quality. Available at:

- Ensuring any temporary site roads are no wider than necessary to minimise their surface area.
- Damping down surfaces prior to their being worked.
- Storing dusty materials away from site boundaries and in appropriate containment (e.g. sheeting, sacks, barrels etc.).

8.8 In terms of monitoring, the chapter states that, "if necessary, monitoring parameters and a programme will be established, and the effectiveness of mitigation will be evaluated in line with DMRB LA 105 table 2.108.1."

Construction Traffic

8.9 The duration of the construction phase is expected to last more than 28 months and therefore in accordance with DMRB LA 105, further consideration of the construction phase traffic impacts has been undertaken.

8.10 The expected numbers of vehicle movements, duration of movement and construction vehicles advertised routes were screened against DMRB LA 105 criteria. However, as the criteria was not met, further quantitative assessment was noted to not be required.

8.11 Traffic management is noted to be split into five phases, with each phase lasting approximately 6 months. The chapter notes that no single phase of construction related to traffic management is expected to be in place for more than two years and the location of traffic management measures will change with each phase as the scheme progresses. Therefore, the duration of construction traffic management at any single location will be less than two years. Following guidance, no further quantitative assessment was undertaken.

8.12 The assessment concluded that the effects of construction traffic are temporary and the effects of any changes are unlikely to significantly affect air quality.

Summary of Impacts During Operation

8.13 The ES notes that the operational phase assessment was undertaken following DMRB LA 105 and Defra LAQM.TG(16)[14]. The report confirms that the latest Defra assessment tools and datasets as well as Highways England's speed band emission rates have been used in the assessment.

8.14 The traffic data from the traffic reliability area (TRA) was screened against the DMRB LA 105 screening criteria to define the scheme affected road network (ARN).

8.15 Background concentrations were derived from the Defra background maps. A comparison was undertaken for nitrogen dioxide (NO_2) and particulate matter (PM_{10}) between modelled and monitored concentrations. For both pollutants the mapped estimates are noted to have been within 30% of the monitored concentrations and therefore following the guidance no adjustment was applied.

Public Exposure Assessment

8.16 In accordance with DMRB LA 105, annual mean PM_{10} concentrations were predicted by the Applicant in the base year. As concentrations were below the air quality threshold no opening year assessment for PM_{10} concentrations has been undertaken.

8.17 The ES notes that an assessment of $PM_{2.5}$ concentrations was scoped out of the assessment as the UK is currently meeting its legal requirements for the achievement

[14] Defra (2018). Local Air Quality Management Technical Guidance 16. Available at: [redacted]

of the $PM_{2.5}$ air quality threshold and PM_{10} concentrations can be used to demonstrate that the scheme does not have an impact on the $PM_{2.5}$ air quality threshold.

8.18 The assessment of annual mean NO_2 concentrations was undertaken for the base year, future base year and opening year with and without the scheme in place. Concentrations are noted to have been modelled at 621 human health receptors. The receptors were selected by the Applicant as worse case receptors i.e. those closest to the roads that trigger the traffic change criteria as well as those likely to experience the highest total concentrations in areas where there is the potential for exceedances of air quality thresholds without or with the scheme.

8.19 The results have been verified following the methodology in LAQM.TG(16) (Defra, 2021) and localised model validation zones were used where it was felt by the Applicant to be appropriate. The opening year concentrations were predicted using the Highways England Long Term Trend Euro 6 (LTT_{E6}) projection factors. Analysis of trends in monitored annual mean NO_2 concentrations has been undertaken to confirm the use of the LTT_{E6} projection factors is robust.

8.20 Overall, the assessment predicted exceedances of the annual mean NO_2 objective at 76 receptors in the opening year of the scheme. Of these only one receptor was predicted to experience an increase in concentration. This receptor was located at Dinting Vale junction which was predicted to have a small increase of 1.7 $\mu g/m^3$. This was due to an increase of 2,571 in AADT flows on the A57, as vehicles choose to switch route choice from the A626 Glossop Road to use the A57 north of the Dinting Vale Junction to access the new link roads. This is not sufficiently outweighed by the reduction in traffic on the A626 Glossop Road with the scheme of 868 AADT.

8.21 Elsewhere in Glossop receptors are anticipated to experience an increase in concentration due to an increase in traffic flow on the A57 high street east (+1,068 AADT) and A57 Sheffield road (+1,165 AADT). The increase in traffic on these roads results in an increase in emissions therefore an associated increase in concentrations at adjacent receptors. However, the annual mean NO_2 concentration are predicted to remain below the annual mean NO_2 objective.

Designated Habitats Assessment

8.22 The assessment was undertaken in accordance with DMRB LA 105. Background nitrogen deposition rates and critical loads at each designated site were obtained from the APIS website or in consultation with the project biodiversity expert.

8.23 Four statutory designated sites were located within the study area and 71 non-statutory designated ecological sites.

8.24 At the statutory designated sites transect receptor points at 10 m intervals up to 200 m from the road have been included in the assessment. For all non-statutory sites, a single receptor at the point closest to the road has been included in the assessment. If the results for these single worst-case receptor point suggested further investigation of change in nitrogen deposition was required, additional transect points were added. At non-statutory sites, as a precautionary approach, screening against the DMRB LA 105 designated habitat criteria was undertaken assuming a ‘woodland’ habitat was present as there is a higher conversion rate of NO_2 concentrations to nitrogen deposition for ‘woodland sites’.

8.25 Changes in nitrogen deposition exceeding the DMRB LA 105 designated habitat screening criteria and with a magnitude of change of the nitrogen deposition greater than 0.4 kg N/ha/yr were identified in small areas at the boundary of four non-statutory designated sites of which three were located in HPBC.

8.26 Upon further investigation it was confirmed that at Dark Peak NIA 'woodland' habitat was not present and thus a lower nitrogen deposition conversion factor for a 'grassland' habitat was applied and the designated habit screening criteria is not exceeded.

8.27 The habitats within Melandra Castle and Railway Local Wildlife Site (LWS) are noted to not be considered congruent with the designation of the LWS (consisting of a highly disturbed area with sparse self-seeded young trees and presence of several invasive species).

8.28 At the Shire Hill Ancient Woodland site to the east of Glossop, a 'woodland' habitat sensitive to nitrogen deposition within areas that could be impacted by changes in air quality. The assessment concludes that impacts at this site are not expected to be significant, based on the short duration of the impact and the relatively small area of impact which is considered unlikely to lead to long term perceptible changes of the composition and species richness within the woodland.

Compliance Risk Assessment

8.29 Compliance with the Air Quality Directive has been considered using the principals in the DMRB LA 105. Several PCM model links coincide with the ARN in HPBC.

8.30 There were exceedances of the annual mean NO_2 limit value in 2025 without the scheme at qualifying features adjacent to several links. However, at all these qualifying feature locations concentrations are expected to decrease with the scheme in place, except at A57 Woolley Bridge/Brookfield (see Table 8-1). The following increase is noted:

Table 8-1 Estimate Annual Mean NO2 Results Concentrations (ug/m3) for Compliance Risk Assessment (taken from Table 5-13 of Chapter 5 Air Quality)

PCM Census ID	Location	Receptor ID	2025 DM NO_2	2025 DS NO_2	2025 NO_2 Change	Magnitude of Impact
802006564	A57 Woolley Bridge / Brookfield	PA27	29.5	33.8	4.3	Large Increase

8.31 The assessment notes that the scheme would not result in an increase in concentrations of annual mean NO_2 where there are existing exceedances of the annual mean NO_2 limit value, nor would any new exceedances of the annual mean NO_2 limit value be introduced by the scheme. Consequently, the ES concludes that the scheme is not considered to be a risk to non-compliance with the Air Quality Directive.

Summary

8.32 The assessment concludes that there are not expected to be any significant adverse effects with the scheme for the human health receptors, ecological sites or risk of non-compliance with the Air Quality Directive and so mitigation of the operational impacts for these receptors is not required.

Key Concerns and Uncertainties

8.33 The construction phase dust assessment concludes that the scheme has a 'large' dust risk potential and therefore the sensitivity of the receiving environment is 'high'. According to Table 2.58b of the DMRB LA 105, the sensitivity of the receiving environment is only considered to be 'high' for receptors within 100 m of the works and 'low' for receptors within 100 to 200 m of the works.

8.34 The Melandra Castle and Railway LWS is located within 200 m of the site boundary and has not been considered in the construction dust assessment.

8.35 The assessment of construction phase traffic states that 'expected numbers of construction vehicles' have been screened against the DMRB LA 105 criteria. There is no confirmation that changes in speed bands have been included in the screening exercise. Also, no information is provided in the air quality chapter as to the number of additional construction vehicles predicted to be on the road.

8.36 The chapter describes additional construction vehicles on the road network and the re-routing of existing vehicles due to traffic management measures. Both screening assessments conclude that the DMRB LA 105 criteria was not exceeded; however, confirmation would be required that both additional construction vehicles and traffic management measures were screened together as part of an overall construction phase assessment.

8.37 Monitoring during the construction phase is discussed in paragraph 5.8.1 which states that, if necessary, 'monitoring parameters and a programme will be established.' However, in Section 5.11 Monitoring, it contradicts this and states that 'given the scheme is not expected to have any significant adverse effects on air quality during the construction or operation, no further air quality monitoring is required.' It is recommended that monitoring is discussed with HPBC at high risk sites during the construction phase and that locations of higher risk are identified by the Applicant.

8.38 The chapter states that it is expected that standard industry best practice would mitigate the risk of construction dust in the majority of cases. It is recommended that additional mitigation measures are consulted upon with HPBC and agreed for high-risk areas. The Applicant should identify where these may be.

8.39 Qualifying features for the compliance assessment and receptors considered in the local air quality assessment along the A57 Brookfield are expected to show a large increase in NO2 concentrations in the opening year. The qualifying features for the compliance assessment are not labelled on Figure 5.4.

8.40 The assessment states that the comparison between modelled and monitored for NO_2 and PM_{10} concentrations were within 30% of the monitored concentrations and no adjustment was applied. If background concentrations are underpredicted by up to 30% them the verification factor is likely to be high. This will then affect the results of the assessment.

8.41 Appendix 5.3 to the ES states that the annual mean NO_2 concentrations for the base year have been verified by means of comparison against available ratified monitoring data using three sets of data in the following order of hierarchy;

- Scheme specific 'TPU' survey monitoring with data capture greater than 25% was used in preference to HPBC 2018 survey data;
- HPBC 2018 survey data was used in preference Mottram Moor Link Road survey data (which was projected forward from 2015-2016); and
- MMLR survey data was used in preference to TPU survey data where the data capture for the TPU survey data was 25% or less.

8.42 However, in the Air Quality Baseline report (Appendix 5.4 to the ES) it states that "the 2019 data was bias adjusted and annualised to 2018 to use for model verification" and "…the 2019 survey data was used in preference to the 2018 survey data as the annual data capture was higher and more locations had been included in the survey".

8.43 Therefore, it is unclear what data was used in model verification; annualised 2018 data (>25% data capture) or 2019 data that had been “back annualised” to provide 2018 data. Ideally, a model predictions are verified against actual data collected in the same year (e.g. 2018), as verification against adjusted data and multiple data sources adds further variability that will affect the reliability of the model.

8.44 In the majority of cases, the 2018 “back annualised data (Appendix 5.4 Air Quality Baseline Table A-2: TPU Monitoring Survey 2019 Raw Data) predicted a lower annual average NO_2 concentration than the actual collected 2019 data, indicating that NO_2 levels generally increased between 2018 – 2019, this would appear to conflict with other reports which note a general downward trend annual average NO_2 concentrations. It also does not follow the trend shown by the majority (the exception being HP27) of the HPBC data used in the model validation, which showed a decrease between 2018-2019. This needs to be clarified, as model verification against possibly lower than actual NO_2 levels could ultimately lead to an underprediction by the model.

8.45 The traffic data from the TRA has been screened using the DMRB LA 105 screening criteria. The resultant ARN does not include either the AQMA in Glossop or the AQMA in Tintwistle.

8.46 The traffic model is showing that additional vehicles travelling through Glossop to and from the new link road divert onto Shaw Lane and Dinting Road. The suitability of Shaw Lane and Dinting Road for a diversion of traffic from the main road is questioned, given this route has a higher number of roadside residential receptors. Consideration should also be given to extending the air quality study area into AQMA No.2: Dinting Vale due to the particularly close exposure to emissions from the road in this AQMA. This has previously been requested as an area to be investigated by the authorities.

8.47 It is also not clear if a gradient has been applied to the modelling through Tintwistle on the A628, where it is expected that slow moving HGVs travelling up the gradient contribute a large proportion of emissions to this area.

8.48 The ES concludes that the impact of the scheme is an improvement in air quality for human health receptors and there is not a significant adverse effect due to the scheme. The scheme will result in 66 properties experiencing a large decrease in concentration, none of which appear to be within HPBC. This constitutes a significant beneficial impact for the scheme in terms of air quality.

8.49 The non-statutory designated habitats were modelled at a single receptor points located close to the road. If the results for these single worst-case receptor points suggested further investigation of change in nitrogen deposition was required, additional transect points were added. This is not in accordance with DMRB LA 105, where transect receptor points at 10 m intervals up to 200 m from the road should be modelled for all designated habitats.

8.50 The chapter concludes that the impacts at Shire Hill Ancient Woodland are not significant, based on the short duration of the impact and the relatively small area of impact which is considered unlikely to lead to long term perceptible changes of the composition and species richness within the woodland. Further clarity on ‘short term duration of the impact’ is required on the underlying calculations supporting this position. Ancient Woodland is irreplaceable habitat. As noted in the NN NPS paragraph 5.32, the Secretary of State “*should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland… ...unless the national need for and benefits of the development, in that location, clearly outweigh the loss*.”

9. Cultural Heritage

9.1 Chapter 6 of the ES presents the assessment of effects on cultural heritage in line with DMRB LA 104 Environmental Assessment and Monitoring[15] and DMRB LA 106 Cultural Heritage Assessment[16].

9.2 The chapter provides the assessment of effects on known cultural heritage resources. It outlines the cultural heritage study areas, identifies potential impacts on cultural heritage assets associated with the scheme during construction and operation. Where relevant, it identifies mitigation measures that could be applied to mitigate, and compensate for, potentially significant adverse effects.

9.3 The chapter is supported by Appendix 6-1 Cultural Heritage Desk-Based Assessment, Appendix 6-2 Archaeology Scope of Works and Written Scheme of Investigation, Appendix 6-3 Geophysical Survey Written Scheme of Investigation – supplementary survey, Appendix 6-4 Geophysical survey report November 2020, Appendix 6-5 Geophysical survey report February 2021 and Appendix 6-6 Geoarchaeological Assessment and Deposit Model Report, plus figures.

Summary of Impacts During Construction

9.4 The ES notes that direct physical impacts could occur as a result of construction works. Setting impacts are noted to potentially occur due to the introduction of construction machinery, compounds and vegetation removal with the potential to disrupt the prominence and influence of built heritage within the landscape.

9.5 The direct physical impacts would be permanent. Impacts to setting during construction would generally be temporary, short-term and reversible, with the exception of clearance of vegetation, which would be a medium-term impact due to time required for reinstatement planting to mature.

Designated Assets

9.6 Melandra Castle Roman fort (HA1, also known as Ardotalia) is a scheduled monument situated c. 188 m south of the scheme on a promontory overlooking the River Etherow and was constructed in approximately AD 75. Construction of the new offline bypass connecting the A57(T) Mottram Moor to the A57 Woolley Bridge is noted to be visible within views north and north-east from the monument's western and northern embankments. Construction works would form an intrusive element within the mid ground views of the undulating pastoral landscape within the River Etherow valley. Construction activities are not considered to impact the fort's historic strategic military views across the Longdendale Valley to the east or south-east towards the PDNP's rising moorland slopes, and would not affect understanding or appreciation of the asset's defensive function. Construction would result in a slight adverse, temporary, (not significant) effect on Melandra Castle Roman fort (HA1) as a result of this visual intrusion.

9.7 No impacts on the remaining designated heritage assets relevant to the authorities' area are predicted.

Non-Designated Assets

9.8 Heritage asset 139 appears to be the only heritage asset within the authorities that would be within the red line boundary of scheme. This is the Waterside branch of the Great Central Railway, Dinting. The route of Waterside Branch of the Great Central

[redacted]

Rail line (HA139) passes through the scheme at its eastern end, where the former railway line is crossed by Brookfield Road. The branch line was opened in 1879 to serve the industrial sites on the River Etherow between Tintwistle and Woolley Bridge. The line is currently used as a public footpath and exists as earthworks for parts of its length, retaining its legibility as a linear feature in the landscape. The assessment concludes that as the low value asset is no longer extant, works to the existing highway for construction of scheme would not result in loss of legibility or historic interest.

9.9 No impacts on the remaining non-designated heritage assets relevant to the authorities' area is predicted.

Summary of Impacts During Operation

Designated Assets

9.10 Para 6.7.26 of the Environment Statement explicitly states that 'the new offline bypass connecting the A57(T) Mottram Moor to the A57 Woolley Bridge would be visible within views north and north-east from the monument's western and northern embankments'. The assessment notes a slight adverse, permanent irreversible (not significant) effect on Melandra Castle Roman Fort (HA1) as a result of the introduction of the scheme. The introduction of the new carriageway within the River Etherow valley would form an intrusive element within the fort's northern mid-ground views. The proposal will permanently impact on the setting of the asset through introducing infrastructure elements such as lighting. A sensitive lighting design, false cuttings and landscape planting are proposed to mitigate the impacts.

9.11 There is a reported neutral effect on the Tintwistle Conservation Area (HA155) as a result in a very slight increase in traffic through the conservation area. This effect is not deemed significant.

Non-Designated Assets

9.12 No impacts on the remaining non-designated heritage assets relevant to the authorities' area is predicted.

Mitigation and Enhancement

Embedded Mitigation

9.13 The ES notes that the design is restrained to reduce land take for the DCO boundary. This would reduce the potential to encounter archaeological remains.

9.14 Screening is proposed to be provided during construction to reduce potential for impacts to the setting of designated heritage assets. The retention and protection of existing planting within the DCO boundary is noted as embedded mitigation.

9.15 The design of landscape proposals has focussed on integrating the scheme into the surrounding landscape and reducing visual impacts through screening views of the scheme.

9.16 It is noted that refinement of the siting and design of noise barriers has been undertaken to reduce visual impacts on surrounding heritage assets.

9.17 Lighting is proposed to be restricted to essential areas of the carriageway and be designed to minimise effects on the surrounding landscape.

Essential Mitigation

9.18 A staged programme of archaeological mitigation through archaeological evaluation works undertaken prior to construction. The results of these works would be presented in a proposed Archaeological Fieldwork Strategy which would detail any further mitigation measures required.

Key Concerns and Uncertainties

9.19 On reviewing the DCO submission and the ES that has been submitted, the comments made by DCC that '*appropriate viewpoint photography and visualisation photomontage to show the potential impacts of the development*' have been taken into account. Viewpoint 17 within the Landscape and Visual Impact Assessment has been prepared with an accompanying photomontage.

9.20 A basic historic map regression exercise indicates that the lowland pastoral land, into which the new road is to be inserted, has altered little since the parliamentary enclosures; on the whole it remains interpretable as a historic flood plain at the foot of the castle. DCC therefore, disagree with Para 6.7.8 of the ES, which suggests that the lowland pastoral landscape surrounding the River Etherow is not a key aspect of the asset's setting and that it makes a limited contribution to its setting. DCC consider that the new link road will cause further significant urbanisation of the lowland pastoral landscape directly to the north of what remains of the castle.

9.21 Notwithstanding this, DCC are supportive of the proposed mitigation measures set out in Table 6-5 (on page 41 of Chapter 6 – note that there are two tables labelled Table 6-5 within the document) to help reduce the level of visual impact in the immediate setting of the castle. A significant portion of this mitigation strategy will be reliant on a good landscape design strategy (see Section 10 of this report for comments in relation to the landscape design). DCC are also supportive of any measures to reduce or even eliminate the need for additional street lighting and signage along the route to help further reduce its visual impact.

9.22 It is DCC's opinion that additional information, as previously advised by DCC Development Control Archaeologist during the Statutory Consultation in 2020, should be provided in order to help inform how much *harm* will be done to both Melandra Roman Fort (HA1) and also to inform how best to mitigate the long term visual impacts that will be caused by the road.

9.23 Similarly, as the immediate setting of the castle extends into TMBC, DCC are supportive of any comments their conservation service may wish to make given this overlapping concern in relation Melandra Roman Fort, which is a designation of the highest level of national significance.

10. Landscape and Visual

10.1 Chapter 7 of the ES presents the assessment of landscape and visual effects. The assessment follows technical guidance including GLVIA3[17] and subsequent statement of clarification; TGN 06/19[18] which relates to the production of the accompanying photomontages; DMRB LA 107 Landscape and Visual Effects[19] and LA 104; and Highways England 'The Road to Good Design'[20]. A summary of relevant national and local planning policy and legislation is provided.

10.2 The assessment acknowledges the importance of qualitative, professional judgments in LVIA. Items of particular note to the HPBC study area include 'wider forces for landscape character and visual change' (Section 7.3.9) and consideration of the 'Special Qualities' of the PDNP (Section 7.3.10). Table 7.3 summarises consultation with the PDNP authority, including clarification of the methodology for assessing indirect effects arising from traffic flows, noting that these will be cross-referenced with details within the traffic chapter. This methodology, for both landscape and visual effects, is detailed in paragraphs 7.3.31 to 7.3.45.

10.3 Three viewpoints were selected within HPBC, including Woolley Bridge (VP13). Those at Melandra Fort (VP17) and Brookfield (VP14). VP18 (Arnfield Lane) lies on the HPBC/PDNP authority boundary. Nine indirect viewpoints were selected within the National Park, following agreement with PDNP authority.

Summary of Impacts During Construction

10.4 Effects on landscape and visual receptors during construction are expected to include direct and perceptual changes arising from:

- vegetation clearance resulting in newly exposed views of the wider landscape and the construction activity;
- temporary spoil heaps, material storage, and site compounds;
- the introduction of new structures and/or the changes to existing structures;
- the formation of temporary drainage features within or on the fringes of the construction areas;
- lighting associated with construction and night-time working;
- plant, machinery, HGVs and traffic along the existing A57 corridor; and
- temporary realignments and diversions as part of traffic management operations.

Summary of Impacts During Operation

Landscape

10.5 Effects on landscape during the implementation of the scheme include

- the alteration of the local landscape character affecting the perception of landscape, due to changes to existing landscape elements;
- changed appearance of landform and changes in views due to new earthworks;

[17] Landscape Institute (2013). Guidelines for Landscape and Visual Assessment 3rd Edition.
[18] Landscape Institute (2019). Visual Representation of Development Proposals. Available at: [redacted]
[19] Highways England (2020). DMRB LA 107 Landscape and Visual Effects. Available at: [redacted]
[20] Highways England (2018). The Road to Good Design. Available at: [redacted]

- the addition of new structures including the bridge over the River Etherow;
- introduction of new infrastructure elements that could affect the pattern of the local landscape; and
- the introduction of lighting to previously unlit areas.

Visual

10.6 Effects on visual receptors during the implementation of the scheme include

- change in views as a result of new earthworks;
- the addition of new structures including the bridge over the River Etherow;
- new infrastructure elements that could affect the pattern of the localised landscape;
- the 'opening up' of the views due to vegetation removal; and
- the introduction of lighting to previously unlit areas.

Mitigation and Enhancement

Embedded mitigation

10.7 Embedded mitigation is considered integral to the design of the scheme and is designed to reduce disruption, visual intrusion and to assist in landscape integration. Elements specific to the scheme include:

- minimisation of losses to any existing vegetation not affected by the permanent works;
- reinstation and creation of links to PRoW and footpaths where severance or diversion has resulted from the scheme construction;
- creation of false cuttings to act as a visual barrier and help to integrate the scheme into the existing landscape;
- minimising obtrusive light pollution; and
- alternative design options have been included for earthworks embankments along the A57 Link Road between the Mottram Moor and Woolley Bridge junctions. Profile shapes and habitat created were made more naturalistic to reflect the existing surroundings, and the reduced footprint of the scheme avoids tree removal and ensures future obligations for maintenance during the operation phase are minimised.

Essential Mitigation

10.8 Essential mitigation incorporated to reduce effects which cannot be entirely mitigated by embedded mitigation includes amenity grass planting, woodland planting, linear belts of shrubs and trees, shrubs with intermittent tree planting, scrub planting, native species hedgerows, individual trees, water bodies and associated plants, and noise barrier-built elements.

10.9 All construction mitigation measures would be secured through the EMP and REAC. Detailed landscape design would be undertaken at a later stage.

Enhancement

10.10 No enhancement opportunities relating to landscape and visual effects have been identified at this stage. In line with aims and objective of the Highways England Licence, these will be considered at the detailed design stage.

Summary of Significant Effects

10.11 With reference to HPBC, significance (moderate adverse) landscape effects were identified at Year 1 (winter) for:

- DPWF – Riverside Meadows LCT;
- DWPF – Valley Pastures with Industry LCT; and
- SLLCA 4 Etherow Valley Pasture.

10.12 Landscape effects were not significant at Year 15 (summer).

10.13 Indirect landscape effects on LCA in the PDNP were assessed as not being generally perceptible from the baseline condition.

10.14 Significant (moderate adverse) effects were identified at Year 1 (winter) for three viewpoints within HPDC:

- VP 13 Woolley Bridge;
- VP 14 Trans Pennine Trail, Brookfield (PRoW HP12/175/5); and
- VP 17 Melandra Castle.

10.15 Significant (large and moderate adverse) effects were identified for a number of visual receptors within HPBC during the construction stage and at Year 1 (winter), predominantly along the A57 Brookfield.

10.16 Indirect visual effects on viewpoints in the PDNP were assessed as not being generally perceptible from the baseline condition.

10.17 No significant residual effects were identified for LCA, viewpoints or receptors within the HPDC boundary.

Key Concerns and Uncertainties

10.18 It is considered that the assessment is compliant with guidance published at the time of preparation. The baseline and reporting of effects are comprehensive but proportionate to the scale of the scheme and supported by a clear methodology. This includes consideration of landscape effects by way of a site-specific local landscape character assessment, and detailed evaluation of visual receptors. The reporting was accompanied by photomontages produced to current industry standards. However, it has been noted that the photomontages do not show any vehicles (in particular that for Viewpoint 17, representing the right of way near Melandra Roman Fort). This makes it difficult to distinguish the scheme in the distance, when in reality vehicles and the movement of these would make the scheme more obvious within the landscape.

10.19 The scheme layout drawings are sufficient to allow an understanding of the proposed planting and mitigation of effects. These appear to indicate a suitable level of integration and screening where required, alongside provision of biodiversity and nature conservation value.

10.20 DCC's Landscape Architect has reviewed the DCO submission and considers that he has no substantial comments to add at this stage having been involved in this submission as part of an ongoing process. DCC's Landscape Architect considers that the relevant documents have been referenced as part of the Landscape and Visual Impacts Assessment and that additional viewpoints identified previously as being required, specifically from residential properties at Woolley Bridge and from locations near Melandra Roman Fort, have now been included in the formal assessment.

10.21 However, he has some concerns regarding the Environmental Masterplan where proposed planting appears to map the route of the road rather than responding to the

particular landscape that it passes through and, as a result, could have the effect of drawing attention to the route rather than mitigating any identified adverse effects. Some of the detailed mitigation proposals such as the floodplain compensation and attenuation ponds need to be very carefully detailed if these features in themselves are not to introduce other landscape impacts.

10.22 In relation to the above point by the DCC Landscape Architect, it is acknowledged that the design of elements such as attenuation ponds may be informed by engineering constraints or standards, resulting in features that do not properly respond to the wider landscape context. With reference to HPBC, the attenuation pond and flood compensation close to the River Etherow may be particularly prominent from the Melandra Roman Fort. Attention at the detailed design stage, as noted in the LVIA, would be particularly valuable at this location.

10.23 Further to the above, it is accepted that the proposed planting should respond to the landscape, rather than follow it. However, the nature of the road alignment and the extent of the DCO boundary is such that scope to adequately integrate the route into the small-scale field pattern is difficult and needs to be balanced against the functional need for screening.

10.24 The extensive consultation with the PDNP in relation to indirect effects arising from increased traffic flows is noted. It is also accepted that the objective assessment of these flows with respect to the baseline may be difficult to evaluate. Given the uncertainties in relation to traffic levels, it may be appropriate to revisit, or at least acknowledge, the potential for increased effects on tranquillity, sensory qualities and visual effects on the receptors in question. This may also extend to consider the townscape of Glossop, given the potential impact of increased traffic on some of the key characteristics of the town centre.

11. Biodiversity

11.1 Chapter 8 of the ES presents the assessment of effects on biodiversity in line with DMRB LA 108 Biodiversity[21], plus other relevant DMRB and Chartered Institute of Ecology and Environmental Management (CIEEM) methodologies. A standalone Habitats Regulations Assessment (HRA) has also been provided as part of the DCO submission.

11.2 The chapter is supported by Appendix 8.1 and Appendix 8.3, which are noted to provide a full account of the methodology, baseline conditions and a preliminary assessment of various ecological receptors. The assessment also should be read in conjunction with Chapter 5: Air Quality, Chapter 7: Landscape and visual effects, and Chapter 13: Road Drainage and the water environment.

11.3 There are no statutory or non-statutory designated sites that fall within the DCO boundary.

11.4 There are non-statutory designated sites within the wider study area and HPBC as shown on Figure 8.2 of the ES. Non-statutory designated sites designated by HPBC can be found nearby, with the nearest being Melandra Castle and Railway LWS – approximately 141 m south of the DCO boundary. The ES also considers impacts from nitrogen deposition on an ancient woodland site east of Glossop – Shire Hill Ancient Woodland.

11.5 The Phase 1 Habitat Survey (Figure 8.3) shows the habitat for the part of the scheme within HPBC to be largely improved grassland, and the habitats associated with the River Etherow.

Summary of Impacts During Construction

11.6 There are not expected to be any significant effects on the non-statutory designated sites within HPBC during construction. Habitat lost during construction would be replaced with habitats of higher value, resulting in beneficial effects in the long term.

11.7 There are potential effects noted to the River Etherow resulting from the proposed River Etherow Bridge and bank lowering, including the permanent loss of mature riparian trees and the temporary loss of riparian habitat under the structure. This is expected to result in a slight adverse impact during construction (not significant).

Summary of Impacts During Operation

11.8 An assessment was undertaken to understand the impacts of nitrogen deposition on Melandra Castle and Railway LWS and Shire Hill Ancient Woodland.

11.9 Changes to nitrogen deposition exceeding the DMRB LA 105 designated habitat screening criteria and with a magnitude of change of the nitrogen deposition greater than 0.4 kg N/ha/yr were identified in small areas at the boundary of Melandra Castle and Railway LWS and Shire Hill Ancient Woodland.

11.10 Subsequently, further investigation by the project biodiversity expert working with National Highways was undertaken. Following detailed this, the habitats within the Melandra Castle and Railway LWS were not considered congruent with the designation of the LWS (consisting of a highly disturbed area with sparse self-seeded young trees, and presence of several invasive species). This was noted within Chapter 5: Air Quality of the ES.

[21] Highways England (2020). DMRB LA 108 Biodiversity. Available at:

11.11 After detailed investigation by the project biodiversity expert working with National Highways, impacts at Shire Hill Ancient Woodland were screened out due to this 'affecting a comparatively small area of short duration (<8 years, due to modelled vehicles emissions becoming greener in future)'.

Biodiversity Net Gain

11.12 A biodiversity metric calculation has been undertaken and provided in Appendix 8.1. This notes that the scheme will result in an area-based net unit gain of +21.51 units, or a net gain of 10.77%.

11.13 Habitat creation as a result of the scheme will result in 30.72 linear units, with a post intervention total of 36.14 units. This is a net unit gain of 12.18 units, or a net gain of 50.85% for linear units.

11.14 Habitat creation as a result of the scheme (from river realignment and the creation of a new interceptor channel) results in the delivery of 4.84 river based units (RBU). Enhancements to a retained section of the Hurstclough Brook which will form backwater habitat will result in 2.47 RBU. This gives a post intervention total of 18.54 RBU, or a net change of 2.09%.

Key Concerns and Uncertainties

11.15 As noted in Section 8 of this report, the ES concludes within Chapters 5 and 8 that the impacts at Shire Hill Ancient Woodland are not significant, based on the short duration of the impact and the relatively small area of impact which is considered unlikely to lead to long term perceptible changes of the composition and species richness within the woodland.

11.16 Further clarity on 'short duration of the impact' is required on the underlying calculations supporting this position. Ancient Woodland is irreplaceable habitat. As noted in the NN NPS paragraph 5.32, the Secretary of State "*should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland… ...unless the national need for and benefits of the development, in that location, clearly outweigh the loss*."

12. Geology and Soils

12.1 Chapter 9 of the ES presents the assessment of effects on geology and soils in line with DMRB LA 109 Geology and Soils[22]. A standalone Ground Investigation Report (GIR) has also been provided as part of the DCO submission.

12.2 The ES considers the following receptors: geology, soils to human health, soil resources – agricultural soils, groundwater quality, surface water quality, and hydrogeological regime. There are no BMV soils noted within the DCO Boundary.

Summary of Impacts During Construction

12.3 Potential impacts that occur to the above receptors have been identified as:

- spread or mobilisation of pre-existing contamination;
- pollution due to construction or future activities (storage of fuels, spillage etc);
- exposure to adjacent residents associated with dust migration during earthworks;
- exposure to contaminated soil, ground gas mitigation into confined spaces or groundwater contamination for the future end use;
- migration of contamination through creation of preferential pathways (including piling), surface water run-off (and migration into aquifer) and dewatering (and in turn to surface waters);
- exposure to contaminated surface and groundwater abstracted for use locally; and
- impact on hydrogeological regime though creation of cuttings.

12.4 The most sensitive receptors have been identified as local residents, including schools, within a 250 m radius of the scheme and local private water abstractions within a 1 km radius of the scheme.

12.5 The scheme is expected to result in no significant effects during construction in relation to geology and soils, human health, groundwater and surface water quality, the hydrological regime and soil resource.

Summary of Impacts During Operation

12.6 The scheme is expected to result in no significant effects during operation in relation to geology and soils, human health, groundwater and surface water quality, the hydrological regime and soil resource.

Mitigation and Enhancement

12.7 The scheme has been designed, as far as possible, to avoid and minimise impacts and effects on the geology and soils environment through the following measures:

- sustainable reuse of soils in line with best practices as set out in DEFRA's "Construction Code of Practice for the Sustainable Use of Soils on Construction Sites";
- the EMP provides information on the mitigation and management of environmental effects; and

[22] Highways England (2019). DMRB LA 109 Geology and Soils. Available at:

- a piling risk assessment (PRA) would ensure new structures do not introduction contamination pathways into the underlying aquifer.

Key Concerns and Uncertainties

12.8 There are no concerns or uncertainties in relation to the geology and soils assessment.

13. Material Assets and Waste

13.1 Chapter 10 of the ES presents the assessment of the effects on material assets and waste in line with DMRB LA 110 Material Assets and Waste[23]. This chapter identifies and assesses the likely impacts of material use and waste generation associated with the scheme, during construction, demolition and excavation (CD&E).

Summary of Impacts During Construction

Material Assets

13.2 Throughout the construction phase material assets would be consumed to build the scheme. No MSA's or peat resources would be directly sterilised by the scheme. Taking into consideration a 99% soil reuse rate and a commitment by the Principal Contractors to use aggregate with at least 30% recycled content, the scheme would have a slight adverse (not significant) effect.

Landfill Sites and Waste Management Infrastructure

13.3 Assessment demonstrates that during construction, the effect of material asset use and waste generation is estimated to be slight adverse (not significant).

13.4 This is based on the scheme meeting the following criteria:

- **Material Assets –**
- 1) project achieves 70-99% overall material recovery / recycling (by weight) of non-hazardous CDW to substitute use of primary materials.
- 2) aggregates required to be imported to site comprise re-used/recycled content in line with the relevant regional percentage target.
- **Waste –**
- 1) ≤1% reduction or alteration in the regional capacity of landfill.
- 2) waste infrastructure has sufficient capacity to accommodate waste from a project, without compromising integrity of the receiving infrastructure (design life or capacity) within the region.

13.5 The scheme would have ≤1% reduction in the regional capacity of landfill and the waste infrastructure has sufficient capacity to accommodate waste from the scheme, without compromising integrity of the receiving infrastructure within the region.

Summary of Impacts During Operation

13.6 DMRB LA 110 states that operational activities are those which occur in the opening year. It is considered that very little or no material asset use would take place in this time. Furthermore, it is considered that the opening year would not generate large quantities of waste relative to regional landfill capacity or have an effect on the ability of waste infrastructure to continue to accommodate waste from other sources. Consequently, both material assets and waste assessment have been scoped out of the operational phase.

[23] Highways England (2019). DMRB LA 110 Material Assets and Waste. Available at:

Mitigation and Enhancement

Embedded Mitigation

13.7 Mitigation that follows the waste hierarchy is noted to have been applied during design and would be applied during construction (as committed to by the Principal Contractor). The has/will lead to material asset use and waste generation reduction, reuse, recycling, and recovery. In particular, during construction this includes the application of a Materials Management Plan which would allow onsite reuse of 99% of waste, use of materials with minimum 30% recycled content and recovery of 95% of wastes that are managed offsite.

Enhancement Measures

13.8 The Principal Contractor is exploring opportunities to use modular abutments for the River Etherow bridge and for the use of modular units on the underpass. Both opportunities would be developed further at the detailed design stage, assessment has not been based on these opportunities as they are not committed to at this stage.

13.9 The Principal Contractor has set a stretch target of 40-50% recycled content for the region through working with the supply chain and designing the road surface to best suit recycled content. Discussions would also take place to use reusable packaging and take back unused materials.

Key Concerns and Uncertainties

13.10 Given that the proposal is for a road scheme, in terms of Waste Chapter 10 and the accompanying scoping information it appears to identify key national and local policy drivers, including the waste hierarchy. The waste hierarchy is key as the scheme is likely to involve a large amount of earth works and aggregate and stone excavation and usage as the scheme progresses. As much of this material should be utilised on site and as part of the scheme as possible, the commitment to reusing 99% soil reuse rate. If this is carried out, then only minimal amounts of residual waste should find a route through local waste infrastructure. This is clearly set out as a goal in the supporting documentation, indeed the principal contractor has committed to recycle or recover 95% of waste that leaves the site (section 10.8.8). This should mean that any requirement for finite waste capacity such as landfill is kept to a minimum in line with waste hierarchy and extant Waste Local Plan objectives.

13.11 A key method of reducing the strain on local waste infrastructure for such projects is to employ mobile plant equipment which is particularly ideal for crushing and screening of rock and stone and segregating contaminated soils. It is likely that for a scheme of this magnitude mobile plant will be available but it should be set out that such equipment forms an important part of the waste processing mix as well as for minerals and aggregate working in the construction phase.

13.12 Overall, the scheme and its supporting documentation makes sound provision with regards to waste infrastructure and waste management issues and other than the comments above there are no further comments to add.

14. Noise and Vibration

14.1 Chapter 11 of the ES presents the assessment of noise and vibration effects, based on information available at the preliminary design stage. The chapter outlines the baseline conditions and potential noise and vibration impacts during construction and operation. It also identifies mitigation measures recommended for the identified potentially significant adverse effects of the scheme.

Summary of Impacts During Construction

14.2 As stated in the chapter, demolition and construction activities have the potential to give rise to increases in local noise levels, if not effectively managed. The impact from construction noise levels at any given time during a construction phase is dependent on:

- the construction activities taking place near the sensitive receptor of interest;
- distance from the construction works;
- efficacy of embedded and essential mitigation measures; and
- time periods the works are carried out.

14.3 Although impacts from construction works are temporary and cease once the works are complete, the assessment identifies that some sensitive receptors have the potential to experience high noise levels due to a number of different construction activities over multiple construction phases.

14.4 The assessment includes prediction of construction noise levels for various activities over five phases at a selection of sample receptors across the scheme. A determination of significance is made in the assessment based on information provided by the appointed Principal Contractor regarding the duration and geographical progression of the works.

14.5 Four of the sample construction receptors fall within the HPBC area. Adverse construction noise effects are identified in the assessment at the following sample properties (which are representative of others in the area) in the daytime:

- 18 and 54 Woolley Bridge;
- 48 Lower Barn Road; and
- 7 Springfield Close.

14.6 During the night-time period, adverse construction noise effects are predicted at:

- 18 and 54 Woolley Bridge; and
- 7 Springfield Close.

14.7 Adverse vibration effects are also predicted at 18 and 54 Woolley Bridge.

14.8 No significant adverse effects are predicted in the HPBC area due to duration of the works not exceeding the thresholds set out in DMRB LA 111 Noise and Vibration[24].

14.9 The chapter provides details of both embedded and essential mitigation measures which are summarised in Table 14-1 below. The assessment identifies that to mitigate the construction noise and vibration effects the works would take place during the daytime, with periods of night-time activity limited to traffic management.

[24] Highways England (2020). DMRB LA 111 Noise and Vibration. Available at:

Table 14-1 Embedded and essential mitigation measures- construction

Mitigation Measure	Type of Mitigation
Environmental Management Plan with noise and vibration reduction measures	Embedded
Traffic Management Plan for construction phase	Embedded
Development and implementation of Community Engagement Plan, seeking to provide information about the proposal to a wide audience	Embedded
Proactive stakeholder engagement focused on locations which would be affected most by construction works	Essential
Use of low vibration piling methods where practicable	Essential
Use of temporary environmental noise barriers and using lower working platform heights to maximise benefit of barriers	Essential
Using low noise construction plant and undertaking one noise-generating activity at a time near noise sensitive areas	Essential
Temporary rehousing and/or noise insulation for qualifying dwellings	Essential
Environmental Management Plan with noise and vibration reduction measures	Essential

14.10 However, the assessment identifies that even with appropriate mitigation in place, it may not be possible to eliminate all noise and vibration impacts. Best practice, considerate working hours as well as frequent and open communications with stakeholders are suggested to help to reduce the residual impact of construction noise and vibration. The chapter confirms that during the detailed design stage, the level of noise impacts and effects for human and ecological noise sensitive receptors would be further examined based on a more detailed construction programme.

Summary of Impacts During Operation

14.11 The chapter sets out that the overall operational noise impacts at receptors are determined by road traffic noise modelling and consideration of:

- traffic parameters (flow, speed, and fleet composition);
- proximity to the scheme;
- changes to the horizontal to vertical alignment of any road;
- road surfacing;
- the presence of intervening buildings or structures (including noise barriers)
- topography; and
- ground type.

14.12 Changes to any of these factors can result in increases or decreases in road traffic noise levels at a noise sensitive receptor.

14.13 Once the scheme is operational, the assessment identifies that the noise climate would be permanently affected by changes in vehicle activity, determined by the traffic flows, speeds and fleet composition on the local road network including the scheme itself.

14.14 The assessment shows decreases in road traffic noise along Woolley Lane (just on the HPBC boundary) and increases in road traffic noise along Woolley Bridge, where the scheme joins the A57. In the short-term, the majority of the 600 m calculation area that falls within the HPBC area is predicted to experience negligible/ minor increases with small areas of negligible decrease along Newshaw Lane, minor decreases along the section of Woolley Bridge which is bypassed by the scheme and major decreases along Woolley Lane.

14.15 Similar results are predicted in the long-term with the majority of the 600 m calculation area that falls within the HPBC area predicted to experience negligible increases in road traffic noise level with small areas of negligible decrease along Newshaw Lane, minor decreases along the section of Woolley Bridge which is bypassed by the scheme) and major decreases along Woolley Lane.

14.16 As contained in Table 11.35 'Significance of road traffic noise in the operational phase' of the ES chapter, minor to moderate increases in noise levels in the short-term are predicted at the following properties within HPBC area:

- Spring Tavern, Woolley Bridge
- 8, Woolley Bridge;
- 18, Woolley Bridge;
- 14, Woolley Bridge;
- 54, Woolley Bridge;
- 12, Woolley Bridge;
- 16, Woolley Bridge; and
- Hillside, Woolley Bridge;

14.17 The ES concludes significant adverse effects at these properties listed above as the short-term change and future year change would be greater than 1 dB, with absolute noise levels above the SOAEL.

14.18 The outcomes of the road traffic noise modelling indicate that there are nine dwellings that may be eligible for an offer of noise insulation, including the eight properties listed above, which are within the HPBC area. This is because their predicted noise levels exceed 68 dB $L_{A10,18h}$ and increase by at least 1 dB due to the scheme.

14.19 The ES chapter confirms that no formal offers of noise insulation can be made until after the completion of the statutory processes and the finalisation of the detailed engineering design of the scheme. If any or all of the above dwellings are shown to be eligible in the later design stages, further assessment will be required to determine whether qualifying facades contain rooms with windows or doors where noise insulation would be applicable.

14.20 The chapter provides details of both embedded and essential mitigation measures which have been incorporated into the scheme, as summarised in Table 14-2 below.

Table 14-2 Embedded and essential mitigation measures- operation

Mitigation Measure	Type of Mitigation
Design of proposal to minimise road traffic noise level	Embedded
Low noise road surfacing (except bridges)	Embedded
Routine road maintenance	Embedded

Mitigation Measure	Type of Mitigation
Permanent environmental noise barriers at eastern and western portals of Mottram Underpass, Mottram Moor junction, and along A57 Link Road in proximity to Carrhouse Lane and Tara Brook Farm	Essential

14.21 None of the proposed acoustic barriers are located within HPBC area or intended to mitigate significant adverse noise levels at properties within HPBC area.

Wider study area – operational assessment

14.22 Traffic flows on the A57 Sheffield Road, A57 Woodcock Road, A57 Snake Pass and A57 Snake Road are predicted in the assessment to increase to give a perceptible noise increase in the short-term. However, by the future year the increase is predicted to be reduced to a negligible impact. This road also passes through part of the Dark Peak SSSI, South Pennine Moors SAC and Peak District Moors SPA and crosses the Pennine Way. Therefore, noise levels in these areas near the A57 would perceptibly increase in the short-term, although the assessment states that the impact would be limited to within approximately 10 m of the road.

14.23 In Tintwistle, the assessment identifies that traffic flow increases on New Road and Waterside would lead to perceptible increases in noise in the short-term and long-term. Noise sensitive receptors adjacent to these roads would experience a minor or negligible increase in road traffic noise. Negligible increases were predicted on the A628 Manchester Road and A628 Woodhead Road in the short-term and long-term.

14.24 A summary of the magnitude of impacts for all noise sensitive receptors considered in the wider area are shown in Tables 11-32 and 11-33 in the ES. In both short and long-term, no moderate and major adverse impacts are predicted.

Key Concerns and Uncertainties

14.25 Baseline surveys have been undertaken at nine locations considered representative of noise sensitive receptors across the scheme. To enable the assessment of construction noise, baseline noise levels have been identified at each of the key receptor locations using the baseline noise survey data and Defra strategic noise mapping for locations not covered by the baseline noise survey.

14.26 It is noted that no baseline noise surveys were undertaken with the HPBC area. Table 1-6 ‘Summary of consultation’ of the ES Chapter 1 states ‘*monitoring is only to inform the construction noise assessment rather than operation and the locations proposed are designed to obtain a representative of the baseline noise in areas where construction noise has the potential to be significant*.’ However four sample construction receptors are located within the HPBC area, two of which (18 and 54 Woolley Bridge) have been assigned a SOAEL of 75 dB $L_{Aeq,T}$ for daytime based on the daytime baseline noise levels derived from Defra strategic mapping. It is recommended that further monitoring is undertaken to confirm the existing baseline noise levels as part of the EMP for the scheme to ensure that sensitive receptors in the HPBC area are correctly assigned construction noise limit values.

14.27 The ES states the operational noise assessment has been undertaken in accordance with DMRB LA 111. Appendix 11.4 states that the ‘worst affected façade and floor of the noise sensitive properties was the one where the least beneficial change in noise levels were predicted’. This was the guidance in the now superseded version of DMRB HD 213/11. The guidance in paragraph 3.53 of DMRB LA 111 states the façade used to calculate the noise change shall be chosen as that with the greatest magnitude of noise change. Therefore, clarification is required to confirm the method used to select the façade point used in the assessment.

14.28 Table 11.35 of the ES has been used to identify the number of properties which are predicted to experience significant adverse effects. The total number of properties predicted to experience operational significant adverse effects within the HPBC area is not clear.

14.29 With regards to the operational wider study area, it is not clear where the ‘perceptible’ increases in road traffic noise are located or if any of these fall within the HPBC area. There is no assessment or statement within the ES regarding whether any of these perceptible increases in the wider study area are classified as significant effects.

14.30 The limitations and assumptions listed in Section 11.4 of the ES chapter seem reasonable and appropriate.

14.31 It is noted that the titles on Figures 11.12 and 11.13 are incorrect. The title for Figure 11.12 is assumed to be DSFY-DMOY and Figure 11.13 would be DMFY-DMOY.

15. Population and Health

15.1 Chapter 12 of the ES presents the assessment of population and health effects in line with DMRB LA 112 Population and Human Health[25]. Whilst the main impacts of the scheme are outside of the HPBC area, many HPBC residents will use rights of way and community facilities within the TMBC area and beyond.

Summary of Impacts During Construction

Land Use and Accessibility

15.2 Construction has the potential to impact private property and housing through:

- temporary disruption to access for 4236 properties (considered to be all properties within 500 m of the DCO Boundary). This is predicted to result in a moderate adverse, temporary (significant) effect; and
- a small reduction of housing numbers within the local housing market is predicted due to settlement of non-local construction workforce. This is predicted to result in a slight adverse, permanent (not significant) effect.

15.3 Construction has the potential to impact community land and assets through amenity impacts on the public open space recreation and leisure time activities, resulting in a slight adverse, temporary (not significant) effect.

15.4 Construction has the potential to impact development land and business through:

- temporary disruptions to access and trading conditions and loss of amenity at commercial/industrial premises within the study area, resulting in a slight adverse, temporary (not significant) effect; and
- changes to trading conditions and impacts on local businesses and job market resulting from the introduction of a workforce of approximately 200 to 270 at peak, resulting in a slight beneficial, temporary (not significant) effect.

15.5 There are no commercial/industrial premises within both the DCO boundary and HPBC.

15.6 During construction, the proposed works have the potential to impact agricultural land holdings through:

- permanent acquisition of 24 ha of agricultural land;
- temporary acquisition of 8.3 ha of Farm Holding A, in order to enable creation of a site compound, resulting in a moderate (significant) effect; and
- height reduction of around 2 ha of Farm Holding F in order to provide flood compensation, resulting in a moderate (significant) effect.

15.7 During construction, the proposed works have the potential to impact walkers, cyclists and horse riders through:

- temporary loss, closure or diversion of PRoWS within the DCO boundary, resulting in a moderate adverse, temporary (significant) effect;
- temporary disruptions to access, thoroughfare and connectivity to other active travel provisions within the DCO boundary, resulting in a minor adverse, temporary (not significant) effect;

[25] Highways England (2020). DMRB LA 112 Population and Human Health. Available at:

- thoroughfare and connectivity disruptions to approximately 123 walking and cycling routes, resulting in a slight adverse, temporary (not significant) effect; and
- increased footfall on unimpeded active travel provisions in the study area as a result of diversions.

Human Health

15.8 The ES concludes there are multiple negative health outcomes as a result of construction. These include:

- Increased emissions of dust, noise and vibration and pollution to soil and water, resulting in an adverse impact on health and wellbeing and a negative health outcome.
- Changes to the landscape, landform and presence of construction works and lighting resulting in adverse impacts on health and wellbeing and a negative health outcome.
- Severance in access to these areas and some of the surrounding areas, temporary impacts to roads, areas of public open space, PRoW, footpaths and access to local facilities, resulting in adverse impacts on health and wellbeing and a negative health outcome.

15.9 The Environmental Management Plan (EMP) would include measures to avoid, minimise and reduce impacts negative impacts during the construction phase which reflect best practice. In addition, a Community Engagement Plan is being prepared, outlining the methods in which the local and surrounding community will be engaged during construction of the scheme.

Summary of Impacts During Operation

15.10 Operation of the scheme has positive, neutral and negative health outcomes on the aspects considered in the ES. A summary of the outcomes is considered in Table 12.26 of the ES and are considered in this section of the LIR.

Land Use and Accessibility

15.11 No significant adverse effect is identified during operation of the scheme.

15.12 It is noted that the scheme will bring benefits to the road network, including future proofing congestion release, which will support and facilitate development growth in High Peak.

Rights of Way / access

15.13 All WCH provision on the existing A57(T) and A57 would be maintained with possible improvements that would be agreed with the relevant local highway authorities. Any cycle lanes delivered by the scheme would be designed for future cycle lane connectivity along the de-trunked corridor.

15.14 A combined footway and cycleway along the new A57 Link Road between Mottram Moor and Woolley Bridge, creating a route to link Mottram to the Trans Pennine Trail (National Cycle Network route 62).

15.15 Moderate beneficial effects are predicted within the ES for the walking, cycling and horse-riding network, which is significant. Although not considered by the Applicant, Glossopdale would experience additional benefits if the scheme were to deliver safer active travel routes through the key industrial estates and for key school routes. This is not part of the current design but this would deliver further health benefits for the local Glossopdale population.

Human Health

15.16 In the view of the Applicant based on their study area, during operation, no significant effects are predicted for any of the wider determinants of health for land use and accessibility. In relation to Human Health, negative health outcomes can be expected in the case of the route of new road infrastructure, though it is noted that this should be seen in the wider context of the new road reducing congestion in Mottram and creating a safer environment for pedestrians etc.

Key Concerns and Uncertainties

15.17 The methodology of the chapter reflects the requirements of DMRB LA 112 as required. The study areas for Land Use and Accessibility and Human Health effects are deemed appropriate. In addition, the assessment refers to and incorporates the study areas of other environmental disciplines which the assessment of human health impacts draws upon.

15.18 The proposed new A57 Junction scheme at Woolley Bridge is located in close proximity to the Trans-Pennine Trail. This is located a short distance to the south and east of the junction scheme, which runs both to the south-west and east of A57 and it is linked by an existing level crossing. It is noted that the new junction scheme does not impact directly on the Trail. However, opportunities to link the new highway scheme with the Trail should be maximised as part of the design solution.

15.19 In this respect, it is noted and welcomed that the layout and design plan that have been submitted in support of the planning application (2.4 Streets, Rights of Way and Access Plans) indicates that a new footpath and cycleway would be provided on the western side of the A57 from a point south of the new junction that would also run the entire length of the new link road heading west to link with the new crossroads scheme at Mottram. Whilst this is welcomed and supported it is not clear from the consultation documentation in the ES whether the new footpath and cycleway would also be designed to facilitate use by horse riders as a bridleway. If not, DCC would wish to see this included in the design of the scheme so that it would facilitate linkages between the scheme and the Trans-Pennine Trail for walking, cycling and horse-riding as part of a multi-user network.

15.20 In the context of the above, from the layout plans submitted, it is welcomed that DCC's comments on the PEIR have now been taken into account in the design of scheme and it would appear that the proposed stretch of new footpath and cycleway on the western side of the A57 now extends southwards along the western side of the existing A57 and links directly with the Trans-Pennine Trail which emerges from alongside the River Etherow further to the south of the new junction. It is important that the new footpath and cycleway connects directly with the Trail at this location to facilitate higher levels of linkage for walking and cycling between the scheme and wider footpath and cycle network.

15.21 The increased capacity for east – west trips between Manchester and Sheffield along the A57 through Glossop will lead to greater traffic flows through Glossop, and may increase congestion issues within Glossop and surrounding local areas. Related issues such as severance are not examined for this area. This is something that should be considered by the Applicant to understand if Glossopdale residents could experience an impact from severance. This should consider key locations that rely on safe road crossing such as the secondary school in Hadfield, Dinting Railway Station and Glossop High Street where shops rely on safe pedestrian road crossing points. Severance has the potential to affect local shopping habits and therefore the local economy.

16. Road Drainage and the Water Environment

16.1 Chapter 13 of the ES presents the assessment of effects on the water environment in line with DMRB LA 113 Road Drainage and the Water Environment[26]. A standalone Flood Risk Assessment has also been provided as part of the DCO submission.

16.2 The assessment considers impacts to surface water features and flood risk predominantly associated with the creation of surface-borne pollutants, works within surface water features, surface water runoff and works within areas identified to be at risk of flooding. The impact assessment considers surface water quality, hydromorphology, flood risk and groundwater separately.

16.3 The main waterbodies within the HPBC and the study area are the Etherow (Woodhead Res. To Glossop Bk.), Glossop Brook (Long Clough to Etherow) and Etherow (Glossop Brook to Goyt).

Summary of Impacts During Construction

Water Quality

16.4 There is potential for impacts to water quality from the works to watercourses as a result of construction vehicle movements and associated oil/ fuel runoff. The most severe effect of construction on any receptor for water quality is slight adverse (not significant). Therefore, there are no residual significant effects for any receptor for water quality during construction.

Hydromorphology

16.5 Construction activities have the potential to affect watercourse conveyance and fluvial processes. The construction of the clear-span structure over the River Etherow is considered to have a slight adverse residual significance of effect. The abutments of the bridge would be within the riparian zone. Earthworks would be required to improve the existing channel capacity and provide additional storage capacity on the floodplain.

16.6 There is no direct impact expected to the Glossop Brook.

Flood Risk

16.7 Temporary structures in watercourses, works in the floodplain, excavation/ earthworks, drainage and increased areas of impermeable surfaces have the potential to affect watercourse conveyance, flood risk and flow pathways.

16.8 Works at the proposed River Etherow crossing lies within Flood Zone 3 and will be at risk during construction. The works have the potential to interrupt flood pathways and conveyance. Throughout the duration of the works there is expected to be localised risk to the construction site and activity, but this risk does not impact properties outside of the construction boundary. The works are considered to have a moderate adverse effect, though this effect is considered to be short-term during the construction activity programme.

16.9 A slight adverse impact is predicted in the report on the Glossop Brook due to a change in floodplain functionality and as a result of works at proposed River Etherow crossing. This is noted to be mitigated through careful programming of works here so as not to increase risk to others, however during construction there would be a

[26] Highways England (2020). DMRB LA 113 Road Drainage and the Water Environment. Available at: [redacted]

localised risk of flooding to the construction site whilst works take place in the immediate vicinity of the water receptor.

Groundwater

16.10 Impacts to groundwater include the same potential impacts as for surface water as well as effects relating to temporary dewatering, construction of deep foundations and road runoff. These have the potential to effect groundwater levels, flow pathways and groundwater quality.

16.11 There are no residual significant effects reported during construction for any groundwater receptor.

Summary of Impacts During Operation

Water Quality

16.12 The potential operational impacts to water quality relate to the accidental spillage and runoff of hydrocarbons/oils/other chemicals which have the potential to affect water quality and ecological quality. These impacts include chemically impairing the biological functions of freshwater fish and reducing the habitat availability for aquatic flora and fauna.

16.13 The most severe effect of operation on any receptor for water quality is slight adverse (not significant). Therefore, there are no residual significant effects for any receptor for water quality during operation.

Hydromorphology

16.14 The potential operational impacts to hydromorphology cover permanent works to watercourses and drainage discharge to watercourses which may cause alteration of natural fluvial processes. The potential impacts include barriers to flow which alter erosional or depositional processes, altering of the natural hydrological regime causing instability, and altered flow regimes caused by watercourse realignment.

16.15 The permanent presence of the clear-span structure over the River Etherow and associated works is considered to have a slight adverse residual significance of effect.

16.16 There is no direct impact expected to the Glossop Brook.

Flood Risk

16.17 The potential operational impacts to flood risk cover permanent works to culverts/ bridges, drainage and increases in impermeable surface areas which have the potential to affect watercourse hydraulics and flood risk.

16.18 The permanent presence of the clear-span structure over the River Etherow is predicted to result in a slight adverse residual significance of effect. The flood alleviation measures are predicted to provide a betterment at the Woolley Bridge Junction with new compensatory flood storage. This increase in flood storage results in an increased maximum flood extent. The changes in floodplain functionality and in-channel conveyance result from construction of embankment associated with new road alignment.

16.19 This is similar for the Glossop Brook, as a change in floodplain functionality is expected as a result of works at proposed River Etherow crossing.

16.20 It is also noted that there is potential for increased groundwater flood risk ‘up gradient of longitudinal below ground structures’. This is expected to be mitigated through

additional ground investigation, hydrogeological risk assessment and design of the structures to allow groundwater flow across them if required.

Groundwater

16.21 The potential operational impacts to groundwater cover the permanent effect of subsurface structures on groundwater flow and accidental spillages and drainage to groundwater.

16.22 There are no residual significant effects reported during operation for any groundwater receptor.

Mitigation and Enhancement

16.23 The ES assumes a series of embedded mitigation and best practice measures into the magnitude of impact for each potential effect for both the construction and operation phases of the scheme.

16.24 A comprehensive list of mitigation is provided within the ES for the construction period. No enhancement measures are noted within the ES. It is noted that ordinary watercourse consents will be sought from HPBC.

Key Concerns and Uncertainties

16.25 DCC's Flood Team Officers have reviewed the ES and consider at this stage that they are not able to fully comment on the flood risk implications of the scheme as there is no drainage strategy available to assess. Officers will therefore provide more comprehensive comments later on in the DCO process.

17. Climate

17.1 Chapter 14 of the ES presents the assessment of climate effects in line with DMRB LA 114 Climate[27]. The potential effects of the scheme on climate, in particular the magnitude of greenhouse gases (GHGs) emissions emitted during both construction and operation and the vulnerability of the scheme to climate change are considered.

Summary of Impacts During Construction

Effects of Construction on Climate Change

17.2 The construction stage of the scheme would have an adverse effect on the climate as it would give rise to emissions from material production, transportation to site and onsite construction activities. This would have the effect of releasing an additional 38,970 tCO_2e into the atmosphere.

Vulnerability of the scheme to Climate Change

17.3 The scheme's construction is not expected to be so far in the future that the climate will notably change prior to construction and therefore climate change is not expected to impact construction.

17.4 Extreme weather events may potentially impact construction, these would be managed through the First Iteration Environmental Management Plan.

Summary of Impacts During Operation

Effects of Operation on Climate Change

17.5 The operational stage of the scheme would give rise to emissions from road users and operational energy use. During the opening and design years the scheme will cause an increase in operational emission of 5,323 tCO_2e and 6,893 tCO_2e respectively.

17.6 The scheme is likely to contribute 116,332 tCO_2e to the UK's Carbon Budgets across the period 2023-37, compared with the Do-Minimum scenario. The (net) contribution of the scheme to the fourth Carbon Budget period is forecast to be 55,253 tCO_2e (equivalent to 0.0028% of that budget), including construction and operational phase emissions.

17.7 The contribution of the scheme to the fifth Carbon Budget would be 29,231 tCO_2e (equivalent to 0.0017% of that budget), from operational emissions.

17.8 The contribution of the scheme to the sixth Carbon Budget would be 31,848 tCO2e (equivalent to 0.0033% of that budget).

17.9 The report concludes that the scheme is unlikely to cause significant effects on climate, or significantly affect the UK's ability to meet its emissions reduction targets. It is considered that this magnitude of emissions from the scheme will not materially impact the Government's ability to meet the budget, and therefore will not have a significant effect on climate.

Vulnerability of the Scheme to Climate Change

17.10 The assessment finds that the scheme could be vulnerable to operational impacts linked to these changes in the climate. Mitigation measures that either avoid these impacts, minimises them or reduces their consequences are presented in the

[27] Highways England (2021). DMRB LA 114 Climate. Available at:

assessment. After consideration of this mitigation none of the potential climate vulnerability effects are found to be significant

17.11 The report notes in paragraph 14.10.3 that in future, air quality impacts caused in part by vehicle emissions enabled by the scheme will be intensified as hotter summers brought on by climate change will increase the formation of ground-level ozone, which is a dangerous air pollutant. A detailed assessment of air quality impacts is provided in the Air Quality although it is noted that air quality modelling undertaken to date does not account for expected climate changes that will intensify air quality impacts in the future. The assessment notes that these impacts will likely be offset by the predicted future fleet wide shift toward electric and hybrid vehicles.

Mitigation and Enhancement

17.12 Embedded mitigation proposed as part of the scheme includes:

- modification of the design through the Preliminary Design process to remove new infrastructure and reduce the volume of materials required;
- commitment to reuse over 99% of excavated soils onsite, reducing the quantity of materials to be managed or disposed of;
- off-site manufacturing of materials which will minimise the generation of waste, and opportunities for potential re-use and recycling of all material assets and waste will be promoted. Standard materials have been specified to increase the likelihood they can be sourced locally and reduce transport emissions;
- traffic management measures laid out in within the Traffic Management Plan would result in smoother traffic flow, reducing congestion and GHG emissions;
- the addition of signals and land widening within the circulatory carriageway to reduction congestion and consequently emissions; and
- incorporation of energy efficient LED lighting and reduction in the extent of proposed lighting to reduce emissions from electricity emissions.

17.13 Essential mitigation has or will include:

- the selection of materials for pavements that require less compaction, to reduce emissions from construction plant;
- management of plant emissions through specified plant operator efficiency requirements. These requirements would be set at pre-construction stage and would be implemented via the Environmental Management Plan (EMP); and
- where feasible, electric and hybrid vehicles and plant will be used.

Enhancement

17.14 The appointed Principal Contractor has committed to a stretch target of 40-50% recycled content target, through working with the supply chain and designing the road surface to best suit recycled content.

17.15 The EMP and REAC include a commitment for local procurement options to be investigated as the preferred strategy for the scheme.

17.16 Electricity from renewable sources is noted be used where viable.

Key Concerns and Uncertainties

17.17 DCC's Climate Change Officer has reviewed the Climate Change Chapter of the ES. There are several outstanding concerns as noted in this section.

17.18 There is a lack of reference to, and acknowledgement of, the Government's strategic priorities of reducing emissions, and increasing modal shift to active travel. Segregated cycling routes are proposed as part of the scheme, which are welcomed but the scheme does not seem to contribute enough to creating a network of cycleways and footways that would encourage active travel and reduce the reliance on vehicle use.

17.19 Within the 'Design, mitigation and enhancement measures' of the Climate Change Chapter (Chapter 14), the assessment does not take account of any potential opportunities for renewable energy installations and generation within the DCO boundary, which seems like a missed opportunity to explore options. Furthermore, there does not appear to be any mention of electric vehicle charging infrastructure and it is considered that there may be an opportunity for EV Rapid Hubs to be located along any proposed route or within the locale. The authorities would welcome further discussions as to how the local EV network could be improved to actively seek to address the increase in road user carbon that is predicted.

17.20 This section also does not make reference to measures around habitat creation and protection, which would have benefits from a carbon offsetting/sequestration, and also climate change adaptation point of view.

17.21 Emissions from short- and long-term land use change have not been included in the assessment, with the justification being that *'a proportionate approach shall be applied to calculating and reporting GHG emissions from changes in land use and forestry (i.e. reporting only where there is likely to be a substantial change)'.* The carbon (and wider sustainability) impact of land use change can be significant over the life-time of a scheme, such as through soil disturbance, and loss of vegetation and biomass.

17.22 Assumptions have been made over where construction materials will be sourced from and how they will be transported to site, using an approximate worst-case distance of 100 km by HGV. This means that the assessment is likely to lead to an overestimation in construction emissions and not provide a true picture of the likely impact.

17.23 Vehicle emission factors take account of Department for Transport fleet projections including conventional vehicles (petrol and diesel) as well as hybrid and electric vehicles, but do not take account of Government commitments to changes in fleet makeup, for example the phasing out of conventional fuel cars and vans by 2030. This means that the assessment is likely to lead to an overestimation in operational emissions and not provide a true picture of the likely impact.

17.24 The assessment around road user impacts and traffic numbers does not appear to take into account changes to travel and work patterns brought about by the COVID-19 pandemic over the past 18 months, some of which are likely to be sustained in the long term, leading to more home working and flexi-time travel, but also a generally lower use of public transport.

17.25 The air quality assessment does not include an analysis of the impact of climate change on air quality. Vehicle emissions will be intensified as hotter summers will increase the formation of ground-level ozone, which is a dangerous air pollutant. The statement given that these types of impacts will likely be offset by the predicted future fleet wide shift toward electric and hybrid vehicles does not have any sound evidence to back it up.

17.26 The climate assessment does not consider the cumulative climate change effects of the scheme in conjunction with other road schemes which are being brought forward

as part of the second Road Investment Strategy[28]. Notably this aspect was the focus of a recent judicial review for the A38 Derby Junctions scheme, also promoted by National Highways, which saw the DCO for that scheme being quashed in July 2021.

17.27 HPBC declared a climate emergency[29] in 2019. The scheme would not support the Council's aim of net zero by 2030.

[28] Road Investment Strategy 2: 2020-2025. Available at:

18. The Local Economy

Summary of Impacts During Construction

Employment

18.1 The ES Chapter 12: Population and Health indicates that approximately 200 jobs will be created during the construction phase of the development, increasing to 270 jobs at peak of construction. This will be a boost to the local economy with the potential that some local residents could fill these positions. The Applicant has assessed these from a health perspective, indicating a positive health benefit as a result of the increase economic opportunities and consequent reduction in stress.

18.2 Mitigation linked to the creation of jobs includes the appointed Principal Contractor who would be anticipated to seek to use local suppliers and employ a local workforce for the construction phase, wherever possible. It is unclear if this will be or has been made part of the tender processes, by encouraging or assessing the amount of local suppliers or local workforce that will be utilised by the prospective contractors or sub-contractors when tendering for the scheme. It is understood that the main contract for the construction work has already been tendered, so it is unclear if the use of the local workforce was included in the tender process, and whether the Principal Contractor will be taking this approach. HPBC would encourage the use of job fairs for entry-level positions and early engagement with Job Centre Plus, plus early advertising of sub-contracting opportunities to enable small-medium sized companies to bid for appropriate packages.

18.3 The Applicant also indicates a Community Engagement Plan will be used, outlining the methods in which the local and surrounding community will be engaged during construction of the scheme including contact details for key site management.

Development land and business

18.4 Commercial premises are also considered in the ES, but again only from a health impact perspective rather than considering the socio-economic impact. The Applicant assesses the potential health outcomes from the loss of property and permanent displacement of businesses and their workers (specifically the commercial / industrial premises within the DCO boundary).

18.5 Other local business impact from a health perspective includes disruption to access, potential severance and loss of amenity for 12 other local commercial premises at the Roe Cross Industrial Estate and Hattersley Industrial Estate.

18.6 There could also be health impacts from disruptions to access, potential severance and loss of amenity for 415 commercial premises in the wider study area. The breakdown between premises in TMBC and HPBC is not stated.

Summary of Impacts During Operation

18.7 The health assessment in the DCO considers there is likely to be a positive health outcome on development land and business. Operational activities are not anticipated to have significant effects on development land and business beyond that which is identified in other disciplines. Amenity impacts as a result of construction activities would all be alleviated on completion of the scheme.

18.8 There may be some direct and indirect effects on businesses and the job market within the study area due to improved connectivity, reduced congestion, reduced and more reliable journey times, and overall improvements to access with subsequent benefits to human health and wellbeing through reduction in stress.

Key Concerns and Uncertainties

18.9 One shortcoming of the assessment is a lack of specific focus on the socio-economic, or local economy, impacts of the scheme. Instead of a dedicated chapter it only views this from a health perspective. This methodology means that the economic impacts of the chapter are not clearly assessed.

18.10 Because of this limitation of a lack of sufficient economic focus, a formal economic baseline is not included in the chapter. Some focus is placed on local businesses / commercial in the baseline, where the potential number of premises is identified. These include 16 commercial / industrial premises within the DCO boundary, 278 premises within 250 m of the DCO boundary, 137 between 250 m and 500 m of the DCO boundary, and a total 431 premises in the study area.

18.11 The receptors of employment and development land, and business are assessed in the Chapter 12: Population and Health, however only from a health impact perspective. It only considers the health benefits of such receptors, such as the creation of employment. 'Development land and business' and 'agricultural land holdings' receptors are also included in the impact assessment, recognising the potential impacts during the construction and operation periods. But again the impact is only considered from a health perspective, leaving a gap in understanding of what the socio-economic impact of these effects are.

18.12 The impact on 'access, potential severance and loss of amenity' is also acknowledged, but these are mainly viewed from 'health and wellbeing' outcomes from such disruptions, rather than how that could impact from a 'local economy' or socio-economic perspective.

18.13 The assessment assumptions made in section 12.4 appear reasonable. These focus on the use of Census 2011 data in the absence of more recent Census data (undertaken in 2021 but not anticipated to be made available this year).

18.14 Embedded mitigation proposed for local economy impacts includes the use of a Community Engagement Plan, outlining the methods in which the local and surrounding community will be engaged during construction of the scheme including contact details for key site management. Other detailed embedded mitigation is also proposed. No additional 'essential mitigation' is proposed for any of the development land and business impacts.

Existing key businesses along the A57 and for their growth plans

18.15 The Applicant highlights that businesses could be negatively impacted by the construction of the scheme. This is anticipated to include businesses along the A57 into Glossop. The growth plans of specific businesses are not included in the ES, but the businesses that could suffer the worst impacts (including demolition) would expected to have their growth plans affected.

18.16 The Applicant highlights that businesses could be positively impacted by the operation of the scheme, notably from improved journey times on longer journeys to/ from Greater Manchester, a key aim of the scheme. This could benefit businesses that rely on this connection for their operation. However, the scheme will create some disparity between inward and outward bound travel times for local businesses, which is not fully taken into account by the Applicant. Traffic modelling of the scheme indicates it will result in improvements in travel time to the motorway network, but 10-12% worse travel times from Graphite Way to Glossop. This could have negative implications on businesses and growth plans in terms of economic impact and land value/attractiveness of identified employment sites. This is not clearly reflected in the assessment in the ES.

Land values / commercial property rental values at strategic employment sites along the A57

18.17 The scheme could have a positive impact on land values. As indicated in the ES, the Applicant states that the development could improve connectivity, reduce congestion, provide reduced and more reliable journey times (as stated by the Applicant), and provide overall improvements to access.

18.18 However, it should be noted that journey times will increase for local trips which could impact local businesses. This is not clearly taken into account in the ES where the positive impact on businesses is mainly linked to reduced journey times. In reality, this could disproportionality affect some smaller businesses that rely on local journeys to operate.

Existing areas of underutilised economic development potential along the A57 corridor

18.19 Areas with development potential could also be supported. The operation of the scheme would be expected to support the unlocking of areas with underutilised economic development potential. Some of these underutilised potential development sites are highlighted by HPBC in the emerging Gateway to Glossop Masterplan. The ES indicates that journey times to motorway connections are reduced, which could help make local development sites more attractive to potential investors. However, there is the consideration of the increase in congestion in the Glossopdale area which could impact the view of some potential investors if businesses are to be adversely affected by this congestion.

18.20 By reducing journey times from sites in Glossopdale to Greater Manchester these sites could be made more attractive to potential investors or developers. Though this is balanced with a likely increase in congestion on a local basis, which could impact the attractiveness of the sites if the businesses rely on local travel within Glossopdale.

Viability of delivering residential and employment development sites allocated in Glossopdale through the High Peak Local Plan

18.21 There is only one allocated employment site in Glossopdale in the HPBC Adopted Local Plan. This site is located at Wren's Nest Road, which is less that one mile west of Glossop Town Centre. It is strategically located close to Glossop Brook Business Park with a number of industrial users. Wren Nest Road which is accessed via the A57. The site is currently undeveloped. The site could support multiple industrial units of differing sizes to support the gap in the market of small units in the Glossop market. Further development of the site would potentially need the addition of a new access road onto Wren Nest Road and other supporting infrastructure services for the site.

18.22 The Graphite Trade Park in Glossop is also not fully developed, meaning that it could be a development location that could also benefit from the improved road infrastructure proposed by the scheme.

18.23 The ES highlights the potential benefits of the A57 Link Roads development on development land and businesses. The ES highlights potential improvements in connectivity, reduced congestion, reduced and more reliable journey times, and overall improvements to access. The ES does not go into specific sites but it is anticipated that Glossopdale businesses would benefit from these proposed improvements, dependent on their operational need. It follows that any development at the Wren Nest Road site could also benefit from the development. This has the potential to make it a more attractive option for developers, helping to release the site's potential economic benefits. However, there is a need to consider possible 'business out-migration' both during works and the longer-term operation of the

proposed scheme. There is the potential that perceived and actual disturbance caused during construction could encourage businesses nearing end of lease terms to relocate. This may also encourage businesses in the Hadfield area (that require local trips to Glossop and onwards to Sheffield) to choose to disinvest in the town due to the increase in congestion. This could result in local job losses but would need further analysis or modelling from the Applicant to be able to fully assess this risk.

Impact on the vitality of Glossop and Hadfield town centres

18.24 The scheme also has the potential to benefit the vitality of local town centres. The two town centres in the Glossopdale area are Glossop and Hadfield town centres. Based on the expected reduction in journey times to the motorway that the scheme aims to achieve, the town centres could experience a positive impact for visitors to the centres.

18.25 However, if the scheme does generate additional local congestion, this has the potential to dissuade local residents from using the town centres. Additionally, there is the potential that easier motorway access for residents could lead to more residents travelling into Greater Manchester rather than the town centres, potentially affecting the vitality of these centres.

The Emerging Gateway to Glossop Masterplan

18.26 The emerging Gateway to Glossop Masterplan has considered key sites that are reliant on key transport arteries being improved by the scheme. These sites included:

- **Etherow Industrial Park, Waterside Hadfield** is made up of three key sites that support a large amount of employment at its existing industrial units: Etherow Industrial Park; Waterside Hadfield; and Graphite (Rossington Park). There are multiple industrial-focused companies currently located at the site, which has a strong strategic location close to the A628 between Tintwistle and Hadfield. There are a combination of large and small industrial units at the site, which are connected to the A628 through Tintwistle. The owner of the site has also advertised its development potential in commercial adverts.
- **Wren Nest Road** as noted above, is located less than one mile to the west of Glossop town centre and can be accessed off High Street West (A57) via Glossop Brook Road. The site is allocated as Employment Land in the 2016 HPBC Adopted Local Plan (the only such allocation in Glossopdale), though is currently undeveloped. It is strategically located close to Glossop Brook Business Park with a number of industrial users. Wren Nest Road which is accessed via the A57. The site could support multiple industrial units of differing sizes to support the gap in the market of small units in the Glossop market. Further development of the site would potentially need the addition of a new access road onto Wren Nest Road and other supporting infrastructure services for the site.
- **Dinting Vale Industrial Estate** The site is located in a strategic position between Glossop and the A628, on Dinting Vale road, providing strong connections to Greater Manchester and Yorkshire. The site currently has underutilised land that is used as outdoor storage space – this could better support employment through development. Development could complement the existing range of units at the site which include commercial, industrial, and logistics units.
- The **former Riverside Inn site** has development potential and is located at a strategic point on the road network through Glossopdale from Greater Manchester. The A57 travels past the currently-vacant site at the roundabout linking Woolley Lane and Woolley Road. There is the potential to create a gateway to Glossopdale with a distinctive building contributing to the local

economy through housing and retail space. Development at the site could support a ground-floor retail or café unit to maximise the potential of the site.

18.27 It is estimated that the emerging Gateway to Glossop Masterplan could create up to an estimated 22,900 sqm of commercial space for the Glossopdale economy. This would be made up of 220 sqm of retail/ commercial space at the Riverside Inn site, over 15,000 sqm at Waterside Hadfield, 3,350 sqm at Dinting Vale Industrial Estate, and around 4,000 sqm at Wren Nest Road. These developments combined could support an estimated 373 jobs in the Glossopdale area, a beneficial boost to the local economy. These jobs could generate an annual benefit of £14.8m of Gross Value Added (GVA), including £11.6m in the local economy. The masterplan could also generate an estimated £364,600 of annual business rates, indicating the potential impact of helping enable this development.

18.28 These are sites that could be supported to development by the opportunities presented by the A57 Link Roads scheme. The main roads used to access the development sites, from Greater Manchester, would benefit in the reduction of congestion. The ES recognises that without the improvements that the scheme will bring, the road network will become highly congested resulting in considerable delays as a result of planned residential developments in proximity to the scheme. Therefore, the scheme presents a beneficial impact and opportunity to support and facilitate development growth that otherwise may not be realised without these transport improvements.

18.29 However the impact of the A57 Link Roads scheme on the potential development sites are less certain when local congestion is considered. If businesses looking to locate at these sites rely on local travel rather than travel into Greater Manchester, then they could be affected by the increase in local congestion. Whether additional local congestion would be enough to dissuade potential businesses is unclear, as they may view the improved motorway connection as a larger benefit.

19. Summary Comments on the Draft Development Consent Order Application

Uncertainties and Concerns

19.1 A summary of the key uncertainties which the authorities have highlighted is provided in this section. These are summarised as:

- **Junction capacity assessment.** The Volume over Capacity (V/C) results are showing that the A57 / Shaw Lane junction would operate above capacity with the scheme. This will cause delays to local trips that do not travel far enough to use the new infrastructure. As such, this local impact should be investigated further by specific analysis and mitigation at the A57 / Shaw Lane junction.
- **Accident rate on A57 Snake Pass.** The accident rate on the A57 Snake Pass is predicted to increase and create negative impacts for journeys eastward to / from Sheffield along the A57 due to the scheme. The TAR notes that measures should be pursued to minimise these negative impacts, but no measures are specified. DCC request clarification on the impacts of future trans-Pennine traffic and mitigation suggestions.
- **Safety of junction / merge design of the new junction at Woolley Bridge**. DCC would prefer to see a more conventional one lane design solution for traffic turning right off the new road to head south towards Glossop, particularly if the County Council is being requested to adopt the new junction following completion of the scheme. It is assumed this will be explored with the Applicant through the Statements of Common Ground.
- **Network Management.** Should the scheme be consented by the Secretary of State, DCC understands that National Highways will require the DCC as the local Highway Authority, to adopt the new junction following completion of the scheme. DCC also understands that National Highways will require TMBC to adopt the new bridge crossing of the River Etherow to the west of the new signal-controlled junction. These requirements will need to be set out clearly within the DCO and within the Statement of Common Ground between DCC and National Highways so that future maintenance liabilities are clearly understood by all parties.
- **Modelling of the impacts on AQMA No. 1 Tintwistle.** It is not clear if a gradient has been applied to the modelling through Tintwistle on the A628, where it is expected that slow moving HGVs travelling up the gradient contribute a large proportion of emissions to this area.
- **Assessment of effects on AQMA No.2 Dinting Vale.** The air quality study area does not currently include the A57 Dinting Vale and AQMA No.2 as the air quality criteria within DMRB LA 105 were not met. As this is in close proximity to the affected road network and is covered by an AQMA, it has previously been requested by the authorities that the study area include this area.
- **Diversion of traffic onto Shaw Lane and Dinting Road.** In the traffic model vehicles are shown to divert from the A57 Dinting Vale onto Shaw Lane and Dinting Road. It is not clear if the criteria for an increase in HGVs is met on these roads. The underlying assumptions that have been made in the traffic modelling to create this diversion route are also not clear. The diversion route, whilst not within an AQMA, is adjacent to a higher number of residential receptors than the A57 Dinting Vale.
- **Severance and safety for non-motorised users.** The increase in traffic and congestion through Glossop could pose a safety concern in relation to key

school walking routes and affect shopping habits within the town centre – potentially affecting town centre vitality. This is not considered in the ES.

- **Local economy disbenefits.** The economic impacts should be considered (both positive and negative) on a range of businesses and the consequences that this could have for local economy (jobs, Gross Value Added and employment land values). The impact on the town centre as a 'place' and retail/leisure destination should also be considered.
- **Effects on Shire Hill Ancient Woodland.** The ES concludes that the impacts at Shire Hill Ancient Woodland are not significant based on the short duration of the impact and the relatively small area of impact. Further clarity on 'short term duration of the impact' is required on the underlying calculations supporting this position. Ancient Woodland is irreplaceable habitat. As noted in the National Planning Policy Statement for National Networks paragraph 5.32, the Secretary of State "*should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland… ...unless the national need for and benefits of the development, in that location, clearly outweigh the loss*."
- **Public transport impacts.** The increased local journey times would likely affect the timing and reliability of public transport services. This may lead to a decreased desirability to use these services. However, the impact of the scheme on this is not clear.
- **Climate change impacts.** The climate assessment does not consider the cumulative climate change effects of the scheme in conjunction with other road schemes which are being brought forward as part of the second Road Investment Strategy. HPBC declared a climate emergency in 2019 which the scheme would not support the aim of achieving net zero by 2030.

Local Enhancement Opportunities

19.2 In line with policy in the HPBC Adopted Local Plan, the design is looking to minimise the impact on areas of importance for nature conservation and landscape value. The scheme should also ensure there is suitable mitigation for a net gain in biodiversity and the creation of ecological networks. HPBC would welcome the opportunity to discuss the delivery of local enhancement through the scheme or National Highways Designated Funds.

19.3 This would also align with the aspirations of the emerging Gateway to Glossop Masterplan which encourages:

- provision of gateway features for positive 'first impressions' at key entrances or junctions;
- creation of features including gritstone for walls, bridges and buildings; use of drystone walls or mixed species hedges rather than fencing; and native species that also provide biodiversity and habitat benefits;
- enhancement of walking and cycling corridors, creating legible, attractive, welcoming routes and 'walkable' communities;
- provision of accessible green spaces; and
- management plans for woodland and grasslands, to enhance biodiversity value and; along with access and interpretation that encourages residents to experience nature.

19.4 The scheme should also be seen as an opportunity to facilitate an improved local public transport service.

19.5 Similarly, the authorities would also welcome further discussions as to how the local Electric Vehicle network could be improved to actively seek to address the increase in road user carbon that is predicted.

Active Travel

19.6 There is a need for further consideration of the impacts on active modes and public transport networks within and around Glossop. These may include:

- the creation of new and improvements to existing walking and cycling routes, to improve car-free access and encourage active travel. This would assist in facilitating residents to use active modes as to avoid congestion. Consideration should be given to linking any new routes to key destinations such as employment areas and shopping areas; and
- the creation of continuous walking or cycling routes along Dinting Vale, alongside the Glossop Brook;

19.7 However, without careful design, any such schemes could further negatively impact the increased traffic flow & congestion created by the scheme by making it harder for vehicles to travel through Glossop.

AECOM Infrastructure & Environment UK Limited
Royal Court, Basil Close
Chesterfield
Derbyshire S41 7SL
United Kingdom

[redacted]