

A46 Coventry Junctions (Walsgrave)

Scheme number: TR010066

6.1 Environmental Statement

Chapter 12 - Population and Human Health

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A46 Coventry Junctions (Walsgrave)
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ENVIRONMENTAL STATEMENT
**Chapter 12 - Population and Human
Health**

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12. Population and human health

12.1. Introduction

- 12.1.1. This Chapter presents the information required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) to be provided in the Environmental Statement (ES) to enable the identification and assessment of likely significant effects on population and human health.
- 12.1.2. As part of the Environmental Impact Assessment (EIA) process, this Chapter reports the potential significant effects for population and human health as a result of the Scheme. This assessment includes a review of the existing baseline conditions, consideration of the potential impacts and identification of proportionate mitigation and enhancement.
- 12.1.3. The approach to the assessment is in accordance with the most up to date standard in the Design Manual for Roads and Bridges (DMRB), LA 112 Population and human health (Revision 1) (DMRB LA 112) (Highways England, 2020).
- 12.1.4. ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**) contains a detailed description of the Scheme. The drawings referenced in this Chapter can be found in the ES Figures (**TR010066/APP/6.2**), and the technical appendices referred to in this Chapter are presented in the ES Appendices (**TR010066/APP/6.3**). This Chapter is supported by the following ES Figures (**TR010066/APP/6.2**):
- ES Figure 12.1 Population and human health, land use and accessibility features
 - ES Figure 12.2 Walking, Cycling and Horse-riding (WCH) facilities and survey locations
 - ES Figure 12.3 Design mitigation and enhancement measures
- 12.1.5. Key guidance on health effects identifies that any assessment should aim to predict the health and wellbeing outcomes of the policy or project being assessed. This includes the Institute for Environmental Management & Assessment (IEMA) Health in Environmental Impact Assessment - A Primer for a Proportionate Approach 2017 used within this Chapter.
- 12.1.6. This Chapter reports on the potential impacts of the Scheme on the following sub-topics of land-use and accessibility:
- private property and housing

- community land and assets
- development land and businesses
- agricultural land holdings
- walkers, cyclists and horse-riders (WCH)

12.1.7. The Chapter also reports on the impacts of the Scheme on the health of local communities drawing on the assessments from other ES chapters where relevant.

12.2. Competent expert evidence

12.2.1. The technical lead for the preparation of this Chapter is a suitably qualified Chartered Environmentalist with 20 years' relevant experience of similar projects and impact assessments. The technical lead has a BSc (Hons) in Environmental Geography and is a Full Member of the Institute of Environmental Management and Assessment (IEMA). The technical lead has used their EIA knowledge and professional judgement in identifying the significant impacts associated with the Scheme and provided technical guidance through the assessment process.

12.3. Legislative and policy framework

12.3.1. The main legislative framework relevant to this assessment of population and human health includes the following legislation presented in Table 12-1.

Table 12-1: Summary of main legislation relevant to the environmental impact assessment of population and human health

Legislation or regulation	Summary	How this is addressed in the assessment
The Countryside and Rights of Way Act 2000 (CRoW Act).	<p>The CRoW Act regulates Public Rights of Way (PRoW) and open access land and ensures access to them.</p> <p>Part II of the Act contains provisions designed to reform and improve rights of way in England and Wales. It requires local highway authorities to publish a Rights of Way Improvements Plan, which should be reviewed every 10 years.</p> <p>The Act requires the highway authorities to have regard to the needs of disabled people when undertaking improvements. There is provision in the Act for occupiers of any land to temporarily divert a footpath or bridleway which passes over that land where works are likely to cause danger to users of the right of way.</p>	The effects of the Scheme on PRoW and open access land, which cross land proposed to be occupied by the Scheme either on a temporary or permanent basis, have been considered as part of this assessment presented in section 12.11.
The Environment Act 2021	The Environment Act 2021 provides the framework for environmental protection in the UK, aiming to improve air quality and other environmental pollutions which may have impacts on local human health. There are no specific	The assessment has considered the environmental effects of the Scheme on human health

Legislation or regulation	Summary	How this is addressed in the assessment
	targets derived from the Environment Act 2021 are applicable to this Chapter.	and is presented in section 12.11.
Health and Social Care Act 2012 (as amended by the Health and Care Act 2022)	<p>The Act was introduced following the Health and Social Care Bill 2011 and outlines the Secretary of State's duty to promote and improve the National Health Service (NHS), in pursuit of a number of key aims, which include:</p> <ul style="list-style-type: none"> • an improvement in the quality of services • a reduction in health inequalities • the promotion of autonomy for General Practitioners and health centres • improvements to the treatments and services offered to patients 	This assessment considers potential impacts on health inequalities and access to healthcare services and this is presented in section 12.11.
Agricultural Holdings Act 1986 and Agricultural Tenancies Act 1995	These Acts govern the relationship between agricultural landlords and tenants in England and Wales. They are relevant to this project as they provide the legal framework for any affected tenancy agreements on the impacted farms. The Agricultural Holdings Act 1986 applies to tenancies agreed before September 1, 1995, while the Agricultural Tenancies Act 1995 covers those created after that date. These acts outline the rights and responsibilities of both landlords and tenants, including provisions for rent reviews, succession rights, and compensation for improvements made by tenants.	In the context of this Scheme, these acts may come into play if any of the affected land is subject to agricultural tenancies, potentially influencing compensation arrangements and the rights of tenant farmers. Further information is provided in the Statement of Reasons (TR010066/APP/4.1) and the Book of Reference (TR010066/APP/4.3).

National policy

National Policy Statement for National Networks 2024

- 12.3.2. The National Networks National Policy Statement (NPS NN) 2024 sets out the policy which the Scheme should comply with. It is also the basis for informing a judgement on the impacts of a Scheme, for example whether the Scheme is consistent with the requirements of the NPS NN. Compliance of the Scheme with the NPS NN is detailed within the NPS NN Accordance Table (TR010066/APP/7.2).
- 12.3.3. The requirements of the NPS NN and relevant policies detailed below in relation to assessing and mitigating the impacts of the Scheme on population and human health have been taken account of in this assessment, in order to identify the likely significant effects that the Secretary of State for Transport needs to give due regard to in decision-making. The policies of relevance to population and

human health within the NPS NN, and detail on how they have been addressed in the assessment, are provided below in Table 12-2.

Table 12-2: Summary of NPS NN planning policy relevant to the population and human health assessment

Planning policy	Summary	How this is addressed in the assessment
National Policy Statement for National Networks (NPS NN) 2024	Paragraph 4.57 states that applicants are expected to give consideration to <i>‘expanding active travel, and creating safe and pleasant walking, wheeling and cycling environments’</i> through the design of the Scheme.	The description of the design of the Scheme is presented in ES Chapter 2 (The Scheme) (TR010066/APP/6.1). This assessment considers the impacts of the Scheme on non-motorised users as presented in section 12.11.
	Paragraph 4.59 further states that <i>‘Applicants must show that they have taken all steps that are reasonably required to minimise the risk of death and injury arising from their development, including... contributing to improvements in road safety for pedestrians and cyclists’</i> .	The description of the design of the Scheme is presented in ES Chapter 2 (The Scheme) (TR010066/APP/6.1). This assessment considers the impacts of the Scheme on non-motorised users as presented in section 12.11.
	Paragraph 4.72 states <i>‘enhancement opportunities should be identified by promoting local improvements for active travel and horse-riders driven by the principles of good design to create safe and attractive routes’</i> .	The description of the design of the Scheme is presented in ES Chapter 2 (The Scheme) (TR010066/APP/6.1). The Chapter reports on how the Scheme provides enabling works to facilitate the potential expansion of existing walking and cycling networks to improve connectivity across the A46 by others in line with the future development of the housing allocation. The Chapter also reports on how the Scheme would improve an existing pedestrian crossing facility thereby contributing to an improvement in road safety.
	Paragraph 4.78 states that <i>‘Applicants should demonstrate the following where relevant..... all reasonable opportunities to deliver improvements in</i>	ES Chapter 3 (Assessment of Alternatives) (TR010066/APP/6.1)

Planning policy	Summary	How this is addressed in the assessment
	<i>accessibility on and to the existing national road network should be taken, including improvements for non-motorised users’.</i>	<p>presents the consideration of options that have been considered.</p> <p>This Chapter reports on how the Scheme provides enabling works to facilitate the potential expansion of existing walking and cycling networks to improve connectivity across the A46 by others in line with the future development of the housing allocation.</p> <p>This Chapter also reports on how the Scheme would improve an existing pedestrian crossing facility thereby contributing to an improvement in road safety.</p>
	<i>Paragraph 5.185 states ‘Existing open space, sports and recreational buildings and land should not be developed unless the land is surplus to requirements or the loss would be replaced by equivalent or better provision in terms of quantity, quality and functionality in a suitable and accessible location. Applicants considering proposals which would involve developing such land should have regards to any local authority’s assessment of need for such types of land and buildings’.</i>	The Chapter assesses the impacts on nearby open land (Coombe Abbey Park) as part of the WCH and health assessment as presented in section 12.11.
	<i>Paragraph 5.193 states ‘....Applicants should endeavour to improve networks green infrastructure and other areas of open space, including appropriate access to new coastal access routes, National Trails and other public rights of way’.</i>	The Chapter assesses the impacts on nearby open land (Coombe Abbey Park) and green infrastructure networks as part of the WCH and health assessment as presented in section 12.11.

National Planning Policy Framework

- 12.3.4. The National Planning Policy Framework (NPPF) (December 2023) sets out the Government’s planning policy framework for the whole of England, including the Government’s expectation for content and quality of planning applications and local plan policy. The overall strategic aims of the NPS NN and NPPF are consistent. The NPPF may be an important and relevant matter but does not form the basis for a decision on an NSIP.

- 12.3.5. The NPPF provides a framework within which local authorities and residents can produce local and neighbourhood plans reflecting the needs and priorities of communities.
- 12.3.6. Section 9 encourages developments that provide opportunities for sustainable transport, particularly by giving priority to pedestrian and cycle movements, and providing access to high quality public transport facilities. Section 9 also sets out core planning principles of the NPPF to achieve healthy, inclusive, and safe places by promoting social interaction, ensuring safety and accessibility of public areas and supporting healthy lifestyles. This also includes addressing identified local health and wellbeing needs through provision of safe and accessible green infrastructure.
- 12.3.7. This assessment has taken these principles into account by assessing the impacts of the Scheme on the local population's access to open and green space, and PRow.

Noise Policy Statement for England (Department for Environment, Food and Rural Affairs (Defra), 2010)

- 12.3.8. The Noise Policy Statement for England (NPSE) defines the concept of a significant observed adverse level to inform what is meant by 'significant adverse' effect in noise policy terms. The consideration of significance in the health assessment takes account of policy on what is considered an acceptable level of health protection. Further information is provided in the ES Chapter 11 (Noise and Vibration) (**TR010066/APP/6.1**).

Office for Health Improvement and Disparities Public Health Outcomes Framework (data last updated in 2023)

- 12.3.9. This framework sets out a vision for public health, desired outcomes and the indicators that would help us understand how well public health is being improved and protected. The framework concentrates on two high-level outcomes (healthy life expectancy, and the differences in life expectancy and healthy life expectancy between communities) to be achieved across the public health system, and groups further indicators into four 'domains' that cover the full spectrum of public health. The outcomes reflect a focus not only on how long people live, but on how well they live at all stages of life. This framework has informed the selection of health indicators used in the baseline assessment.

Local policy

- 12.3.10. Local planning policy relating to the population and human health assessment of relevance to the Scheme is outlined below in Table 12-3.

Table 12-3: Summary of local planning policy relevant to population and human health assessment

Planning policy	Summary	How this is addressed in the assessment
Coventry City Council Local Plan (2011 – 2031).	The Local Plan for City of Coventry sets out its blueprint and vision to help re-establish itself as one of the country's top 10 cities, enhance its position at the centre of the Coventry and Warwickshire subregion and contribute towards the West Midlands engine for growth. This includes policies which seek to integrate any new development into existing walking and cycling routes whilst safeguarding the existing routes.	This assessment evaluates the impact of the Scheme on walking and cycling routes and the health of the local population which is presented in section 12.11.
	<p><i>DS4 (Part A) – General Masterplan principles</i></p> <p><i>The following General Principles should be adhered to when master planning any major development proposal:.....</i></p> <p><i>vi. Identify appropriate highway infrastructure along with sustainable transport corridors that include the provision for integrated public transport, cycling and walking which provides excellent connectivity and linkages to within the site itself, the city centre and with the surrounding area and existing networks;.....</i></p> <p><i>xii. Provide fully integrated, accessible and connected multi-functional green and blue infrastructure which forms strategically important links to the surrounding area to provide routes for people and wildlife and open spaces for sports, recreation and play;....</i></p>	<p>The provision of highway infrastructure including space for potential future provision of a walking and cycling route is detailed in ES Chapter 2 (The Scheme) (TR010066/APP/6.1). The Scheme also includes a signalised pedestrian crossing of the B4082 at the Clifford Bridge Road roundabout to facilitate north-south movements to the eastern side of the roundabout for pedestrians.</p> <p>This assessment evaluates the impact of the Scheme on walking and cycling routes which is presented in section 12.11.</p>
	<p><i>Policy HW1: Health Impact Assessments (HIA)</i></p> <p><i>1. All major development proposals will be required to demonstrate that they would have an acceptable impact on health and wellbeing. This should be demonstrated through a:</i></p> <p><i>a. HIA where significant impacts on health and wellbeing would arise from that proposal; or</i></p> <p><i>b. HIA Screening Report which demonstrates that the proposed development would not overall give</i></p>	<p>A health assessment has been undertaken as part of this EIA.</p> <p>This assessment evaluates the impact of the Scheme on the health of the local population which is presented in section 12.11.</p>

Planning policy	Summary	How this is addressed in the assessment
	<p><i>rise to negative impacts in respect of health and wellbeing.</i></p> <p><i>2. All HIAs shall be undertaken in accordance with the Council's HIA Supplementary Planning Document.</i></p> <p><i>3. Where a development has significant negative or positive impacts on health and wellbeing the Council may require applicants to provide for the mitigation or provision of such impacts through planning conditions and/or financial/other contributions secured via planning obligations and/or the Council's CIL Charging Schedule.</i></p>	
	<p><i>Policy GE1 Green Infrastructure</i></p> <p><i>2. New development proposals should make provision for green infrastructure to ensure that such development is integrated into the landscape and contributes to improvements in connectivity and public access, biodiversity, landscape conservation, design, archaeology and recreation.</i></p>	<p>The provision of highway infrastructure including space for potential future provision of a walking and cycling route is detailed in ES Chapter 2 (The Scheme) (TR010066/APP/6.1). The Scheme also includes a signalised pedestrian crossing of the B4082 at the Clifford Bridge Road roundabout to facilitate north-south movements to the eastern side of the roundabout for pedestrians.</p> <p>The retention of Hungerley Hall Farm accommodation overbridge will also allow a future connection into the Coombe Abbey Park if this is progressed by others.</p> <p>This assessment evaluates the impact of the Scheme on walking and cycling routes which is presented in section 12.11.</p>

Planning policy	Summary	How this is addressed in the assessment
	<p>GE2: Green Space</p> <p><i>1. Development involving the loss of green space that is of value for amenity, recreational, outdoor sports and/or community use will not be permitted unless specifically identified as part of a strategic land use allocation, or it can be demonstrated that:</i></p> <p><i>a. An assessment showing there is no longer a demand, or prospect of demand, for the recreational use of the site or any other green space use; or</i></p> <p><i>b. A deficiency would not be created through its loss, measured against the most up-to-date Coventry Green Space standards; or</i></p> <p><i>c. The loss resulting from any proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location of the city.</i></p> <p><i>2. To support the proposed allocations at H2:19 and JE2:4 the following sites are allocated for the provision of new replacement sports pitches: a. Land at Charter Avenue (former Alderman Harris School site). B. Land east of Coundon Wedge Road.</i></p>	<p>A description of the green spaces is presented in section 12.8 and the assessment of the impact of the Scheme on green spaces is presented in section 12.11.</p>
	<p>Policy AC4: Walking and Cycling</p> <p><i>1. Development proposals should incorporate appropriate safe and convenient access to walking and cycling routes. Where these links do not exist, new and upgraded routes will be required and these must appropriately link into established networks to ensure that routes are continuous. The expected type of provision will depend on the scale, use and location of the site. For larger developments, financial contributions may be required to support improved pedestrian and /or cycling routes on the wider network. Further details will be set out in the Coventry Connected SPD.</i></p>	<p>The provision of highway infrastructure including space for potential future provision of a walking and cycling route is detailed in ES Chapter 2 (The Scheme) (TR010066/APP/6.1). The Scheme also includes a signalised pedestrian crossing of the B4082 at the Clifford Bridge Road roundabout to facilitate north-south movements to the eastern side of the roundabout for pedestrians.</p> <p>The retention of Hungerley Hall Farm</p>

Planning policy	Summary	How this is addressed in the assessment
		<p>accommodation overbridge will also allow a future connection into the Coombe Abbey Park if this is progressed by others.</p> <p>This assessment evaluates the impact of the Scheme on walking and cycling routes which is presented in section 12.11.</p>
	<i>Policy EM7 Air Quality</i>	This is discussed in ES Chapter 5 (Air Quality) (TR010066/APP/6.1).
Coventry Health and Wellbeing Strategy (2023-2026)	<p>The Coventry Health and Wellbeing Strategy is the city's high level plan for reducing health inequalities and improving health and wellbeing for Coventry residents.</p> <p>The strategy highlights the '<i>key role that places and communities play in our health</i>', and proposes three strategic ambitions for the health and wellbeing of residents:</p> <ul style="list-style-type: none"> • People are healthier and independent for longer • Children and young people fulfil their potential • People live in connected, safe and sustainable communities <p>The strategy also sets out the following short-term priorities:</p> <ul style="list-style-type: none"> • Loneliness and social isolation • Young people's mental health and wellbeing • Working differently with communities 	This assessment evaluates the impact of the Scheme on the health of the local population which is presented in section 12.11.
Coventry Connected (Transport and Accessibility) SPD (2019).	The SPD provides more detailed and prescriptive guidance on the accessibility policies outlined in Coventry City Council's Local Plan. It provides developers with clear guidance on the application of the Local Plan which should result in the high-quality applications which will deliver developments that support a high-quality transport network. Overall, the objective of this SPD is to ensure that forecast growth in Coventry can be	The overall aim of the Scheme is to alleviate strategic traffic problems and congestion, and associated safety issues, at the existing Walsgrave Junction of the A46 Coventry

Planning policy	Summary	How this is addressed in the assessment
	<p>achieved through a series of developments that support and enhance the city's transport network. This SPD also identifies requirements for cross-boundary planning and delivery with neighbouring local authorities to Coventry City Council.</p>	<p>Eastern bypass and the B4082, east of Walsgrave.</p> <p>This assessment considers the effects of the Scheme on land use, accessibility, development land and businesses (Section 12.11).</p>
Coventry City Council Transport Strategy (2022).	<p>The Strategy has been drawn up to help the city's residents, businesses and visitors travel safely, easily, and sustainably over the coming years ensuring to support a thriving economy and a healthy population. The Strategy sets out the Council's vision to ensure that all parts of the transport system are accessible to everyone and all forms of transport are covered, including walking and cycling. It is fully integrated with the West Midlands Combined Authority's (WMCA) Local Transport Plan, and the two documents together provide the transport policy framework for Coventry.</p> <p>The main objectives with regard to walking and cycling are to further reduce the city's reliance on car travel, by significantly improving conditions to encourage more people to walk and cycle, as well as introducing new forms of micro-mobility. This will be done in an inclusive way, ensuring that areas are designed to be accessible to everyone. A separate, more detailed Local Cycling and Walking Infrastructure Plan (LCWIP) is currently being developed and will provide more details on how these objectives will be achieved.</p> <p>Local to the A46, work is already underway on the next generation of cycleways, which will initially connect the city centre to Coundon and to Binley, but the aim is to introduce dedicated cycleways across the city, to make cycling safer and to ensure that cyclists do not have to share road space with car users on busy routes. Other objectives include pedestrianisation of areas of the City Centre; Liveable neighbourhoods and school streets; and Cycle hire and other forms of micro-mobility.</p>	<p>This assessment has taken these considerations into account in including the identification, assessment and evaluation of existing land uses, the movement of walkers, cyclists and horse riders, and the outcomes of related assessments.</p> <p>The Chapter reports, in Section 12.11 how the delivery of an improved pedestrian crossing facility as part of the Scheme would align with and compliment new facilities to be delivered by the City Council as part of the new cycleway.</p> <p>The Chapter also reports, in Section 12.11 how the Scheme provides enabling works to facilitate a potential connection to the cycleway by others in line with the future development of the housing allocation.</p>
Transport for West Midlands Local Transport Plan 4	The LTP4 covers the period up to 2026 and describes the West Midlands strategy and policy	The overall aim of the Scheme is to alleviate

Planning policy	Summary	How this is addressed in the assessment
(LTP4).	<p>framework for transport. There are nine key objectives of the LTP4 which are:</p> <ul style="list-style-type: none"> • To support growth in wealth creation (GVA) and employment (jobs) in the West Midlands Metropolitan Area, as a prized national economic asset • To support improved levels of economic well-being for people with low incomes in the West Midlands Metropolitan Area to help make it a successful, inclusive, European city region economy • To help meet future housing needs by supporting new housing development in locations deemed appropriate by local planning authorities, following their consideration of sustainable development criteria • To significantly improve the quality of the local environment in the West Midlands Metropolitan Area • To help tackle climate change by ensuring large decreases in greenhouse gas emissions from the West Midlands Metropolitan Area • To significantly increase the amount of active travel in the West Midlands Metropolitan Area • To significantly reduce the number and severity of road traffic casualties in the West Midlands Metropolitan Area • To assist with the reduction of health inequalities in the West Midlands Metropolitan Area • To improve the well-being of socially excluded people. 	<p>strategic traffic problems and congestion, and associated safety issues, at the existing Walsgrave Junction of the A46 Coventry Eastern bypass and the B4082, east of Walsgrave.</p> <p>This assessment considers the effects of the Scheme on land use, accessibility, development land and businesses (Section 12.11).</p>
Rugby Borough Council Local Plan 2011 – 2031	<p>The Local Plan for Rugby Borough Council sets policies and proposals to support the development of the Borough through to 2031. It sets out the long-term spatial vision for how the town and villages in the Borough are planned to develop and change and how this vision will be delivered through a strategy for promoting, distributing, and delivering sustainable development. The Plan includes policies which seek to ensure that any new developments are sustainable and integrate with existing networks and provides good connectivity within the development and to the surrounding areas including any existing walking and cycling routes. The Local Plan also sets out</p>	<p>This health assessment has been undertaken in accordance with Policies HS1-5 and considers the impact of the Scheme on the health of the local communities (Section 12.11).</p>

Planning policy	Summary	How this is addressed in the assessment
	<p>their policy to support healthy, safe and inclusive communities. Their policies are:</p>	
	<p>HS1: Healthy, safe and inclusive communities</p> <p>The potential for creating healthy, safe and inclusive communities will be taken into account when considering all development proposals. Support will be given to proposals which:....</p> <ul style="list-style-type: none"> • Contribute to the development of a high quality, safe and convenient walking and cycling network;..... • Improve the quality and quantity of green infrastructure networks and protect and enhance physical access, including public rights of way to open space; 	<p>The Chapter reports, in Section 12.11 how the delivery of an improved pedestrian crossing facility as part of the Scheme would align with and compliment new facilities to be delivered by the City Council as part of the new cycleway. The Chapter also reports, in Section 12.11 how the Scheme provides enabling works to facilitate a potential connection to the cycleway by others in line with the future development of the housing allocation.</p>
	<p>HS2: Health Impact Assessments</p> <p>Development above the thresholds set out below will need to demonstrate that it would not generate adverse impacts on health and wellbeing:</p> <ul style="list-style-type: none"> • [Non-residential development where the area of development exceeds 1ha...] <p>Where development proposals meet the above criteria, an assessment of potential impacts on health and wellbeing should be demonstrated through:</p> <ul style="list-style-type: none"> • A Health Impact Assessment screening report; and • A full Health Impact Assessment where the screening report identifies that significant impacts on health and wellbeing would arise from the development. <p>Where required, Health Impact Assessments should be prepared in accordance with the advice and best practice for such assessments as</p>	<p>A health assessment has been undertaken as part of this EIA.</p> <p>This assessment evaluates the impact of the Scheme on the health of the local population which is presented in Section 12.11.</p>

Planning policy	Summary	How this is addressed in the assessment
	<p>published by the Department of Health and other agencies, such as the Coventry and Rugby Clinical Commissioning Group, Public Health Warwickshire, University Hospital Coventry NHS Trust.</p> <p>Where it is demonstrated that a development proposal would have a significant adverse impact on wellbeing, the Borough Council may require appropriate mitigation measures through planning conditions, financial or other contributions secured through planning obligations and/or the Council's CIL charging schedule.</p>	
	HS5: Traffic generation and air quality, noise and vibration	<p>The assessment of impacts upon air quality in relation to human beings is presented in section 5.11 of ES Chapter 5 (Air Quality) (TR010066/APP/6.1).</p> <p>The assessment of impacts relation to noise and vibration upon human beings is presented in section 11.11 of ES Chapter 11 (Noise and Vibration) (TR010066/APP/6.1).</p>
Warwickshire's Local Transport Plan 4 (WLTP4)	<p>This was adopted by Warwickshire County Council in July 2023. WLTP4, supports Warwickshire County Council's response to the climate emergency and the county's moves towards Net Zero carbon. It is based around four key themes as follows:</p> <ul style="list-style-type: none"> • Environment – Travel choices which contribute to Carbon Net Zero and leave no negative impacts on our environment. • Wellbeing – A range of transport options which provide safety, comfort and health for users and those affected by transport. • Place – Urban and rural areas, and the connections between them, where transport choices work sustainably with the local environment. 	<p>The overall aim of the Scheme is to alleviate strategic traffic problems and congestion, and associated safety issues, at the existing Walsgrave Junction of the A46 Coventry Eastern bypass and the B4082, east of Walsgrave.</p> <p>This assessment has taken these considerations into account including the identification, assessment and evaluation of existing</p>

Planning policy	Summary	How this is addressed in the assessment
	<ul style="list-style-type: none"> Economy – A modern, flexible economy which is supported and strengthened by transport options. <p>WLTP4 provides a travel choices hierarchy to assist in the delivery of the County's aim of sustainable travel throughout Warwickshire without impacting on economic vitality; Active Travel (e.g., walking, cycling and wheeling) is first in this hierarchy. Active Travel is also one of the key transport strategies identified to deliver changes in travel behavior.</p>	land uses, the movement of WCH, and the outcomes of related assessments (Section 12.11).
Warwickshire Local Cycling and Walking Infrastructure Plan (LCWIP)	<p>This was approved by Cabinet in February 2024 and provides the context and network planning to prioritise a list of walking and cycling routes that should be targeted for improvement in the future.</p> <p>Relevant schemes within the LCWIP include improvements to the surfacing of the bridleway which runs east to west across the A46 (referred to as Cy05 Bridleway Walsgrave – Ansty) and a footway / cycle track link from the same bridleway into the Ansty Park employment area (referred to as Cy01 Ansty Park).</p> <p>A point worthy of note is that the LCWIP identifies the A46 as a physical barrier creating severance with, amongst other things, the employment area of Ansty Park and the Coombe¹ Abbey nature reserve / countryside site.</p>	<p>The Applicant is aware of the relevant walking and cycling schemes in the area, and this assessment has taken these into account.</p> <p>The Chapter reports, in Section 12, on how the Scheme provides enabling works to facilitate the potential expansion of existing walking and cycling networks to improve connectivity across the A46 by others in line with the future development of the housing allocation.</p>

National Highways policy

National Highways Delivery Plan (2020-2025)

12.3.11. The Highways England Delivery Plan sets out the long-term investment plans for the modernisation and renewal of the SRN over the five-year period 2020 to 2025. The Delivery Plan recognises the need for the network to be accessible to everyone, including the walkers, cyclists and horse-riders. As such, it commits to investment for targeted improvements at problem junctions where there are safety issues and at locations where walkers, cyclists and horse-riders need to use the SRN. By working collaboratively with local highway authorities and other providers, it aims to deliver and maintain high-quality, seamless connections between paths and routes. This could include connecting the major road network

¹ Coombe is also spelt as Combe in some databases. For consistency, hereafter the spelling of Coombe will be used.

and local infrastructure, constructing dedicated cycle routes, upgrading crossings or building new ones.

Planning ahead for the SRN – developing the third Road Investment Strategy (RIS) (2025 – 2030).

- 12.3.12. The RIS recognises that different road user groups will have different needs and that people do not interact with the Strategic Road Network (SRN) solely as road users. It has set the objective of responding to the priorities of communities and places, to improve quality of life and to recognise the needs of users making shorter distance journeys on the SRN. As such, National Highways has set a vision for developing high-quality routes physically separated from motorised traffic on the SRN, that would make the journeys of cyclists, pedestrians and equestrians safer. This assessment considers the effects of the Scheme on non-motorised users and the Chapter reports on how the Scheme would improve connectivity and safety for walkers and cyclists.

National Highways Environment Strategy

- 12.3.13. Section 1.3.5.2 states that the National Highways Environment Strategy sets out National Highways' vision that will guide its environmental actions and activities over the next five years. The strategy outlines National Highways' commitment to improving its environmental outcomes. The part of the strategy with particular relevance to this chapter is the 'lever' which focusses on protecting the health, safety and wellbeing of people living within the vicinity of National Highways' Schemes.

National Highways Air Quality Strategy

- 12.3.14. Section 1.3.5.3 of the National Highways Air Quality Strategy sets out National Highways' strategy to improve air quality on and around the strategic network, through to 2021. Air quality is a factor which can impact human health and one which is considered within this Chapter.

National Highways Sustainable Development Strategy

- 12.3.15. Section 1.3.8 sets out the National Highways sustainable development strategy. The strategy states that sustainable development can be put into practice by focusing on the five capitals of sustainability. The pillars of 'human' and 'social' are of relevance to this Chapter.

12.4. Consultation

- 12.4.1. An Environmental Scoping Report (**TR010066/APP/6.8**) was submitted to the Planning Inspectorate in June 2023. A Scoping Opinion (**TR010066/APP/6.9**)

was received in response to the Environmental Scoping Report (2023); the Applicant's responses to the Scoping Opinion are contained in the Scoping Opinion Response, ES Appendix 4.1 (**TR010066/APP/6.3**). This Chapter has been undertaken in compliance with the Planning Inspectorate's Scoping Opinion (**TR010066/APP/6.9**), on behalf of the Secretary of State for Transport.

- 12.4.2. Responses in relation to the statutory consultation undertaken are presented in the Consultation Report (**TR010066/APP/5.2**). Details of how the Applicant has undertaken further engagement with statutory consultees is set out in the Consultation Report (**TR010066/APP/5.1**).
- 12.4.3. In line with the comments received from the Planning Inspectorate, both the PRoW (Farber Road Bridge) and the unnamed footpath mentioned in the Scoping Opinion (**TR010066/APP/6.9**) were scoped into the assessment of impacts to Population and human health (ID 3.8.2 in ES Appendix 4.1 Scoping Opinion Response (**TR010066/APP/6.3**)).

Agricultural land holdings

- 12.4.4. Agricultural surveys and farm questionnaires were undertaken prior to undertaking this assessment to understand the extent to which construction and operation of the Scheme will impact agricultural holdings within the study area. There are two land holdings which were contacted, due to the potentially significant effects of the Scheme: Hungerley Hall Farm (west and east of the existing A46) and Walsgrave Hill Farm Partnership (both east and west of the existing A46). Responses were received from both land holdings and the information used to inform this assessment and referred to in the Consultation Report (**TR010066/APP/5.2**).

Walking, cycling and horse riding

- 12.4.5. A consultation meeting was held on 29 March 2023 with officers responsible for Active Travel at Coventry City Council and Warwickshire County Council to discuss existing conditions for walkers, cyclists and horse riders (WCH) in the vicinity of the evolving Scheme and its potential impacts on WCH. Discussion was also had regarding WCH infrastructure that could potentially be provided by other developments being promoted close to the A46 corridor, however, it was confirmed that no details are currently available for the allocated housing site to the west. Land to the east identified for emerging employment use is not allocated for development in the current Rugby Borough Council Local Plan 2011-2031.
- 12.4.6. Coventry City Council provided an update on progress with implementation of the Binley Cycleway scheme and that consideration was being given to

promoting the Sowe Valley leisure route to PRoW status. Coventry City Council also indicated that surveys of the B4082 link had revealed some pedestrian and cyclist use of this road even though dedicated infrastructure for WCH is not provided. Coventry City Council was not aware of the informal routes around the B4082 link roundabout. Although the land in question is understood to be owned by a third party, it is thought to be maintained by Coventry City Council since the land adjacent is Council parkland.

- 12.4.7. Warwickshire County Council confirmed that the bridleway which crosses the A46 to the north and the connecting permissive route are very well used for pedestrian and cyclist trips between the built-up areas to the west of the A46 and Coombe Abbey Park (the Park), some of which are hospital staff undertaking recreational trips on break periods. Warwickshire County Council also provided an overview of schemes to be delivered via the LCWIP which was approved in February 2024.
- 12.4.8. Both Coventry City Council and Warwickshire County Council expressed the preference for any new WCH infrastructure to be installed as part of the Scheme rather than the Scheme making allowances for the future installation of infrastructure by others. Also, WCH facilities to be provided at the new dumbbell junction should be segregated provision designed to Local Transport Note 1/20 (LTN 1/20) standard incorporating signalised crossings on all arms of the roundabouts. With regard to improving connectivity for WCH in the study area, Coventry City Council and Warwickshire County Council identified the following opportunities for consideration as part of the Scheme:
- a link to the residential area close to Pearl Hyde Community Primary School
 - links to the emerging employment area
 - improved links to Coombe Abbey Park, although acknowledging that:
 - a connection would need to pass through third party land outside of the Order Limits
 - a new link may affect the heronry/SSSI site
 - re-use of the Hungerley Hall Farm accommodation overbridge to provide a WCH crossing of the A46
- 12.4.9. Separate meetings were held with officers from Coventry City Council and Warwickshire County Council on Tuesday 11 July 2023 and Wednesday 12 July 2023, respectively, to discuss the emerging strategy for WCH. In particular, the views of the Councils were sought on the proposal to provide a signalised pedestrian crossing on the eastern arm of Clifford Bridge Road and provide passive provision (i.e., verge widening) to accommodate the potential future provision of a WCH route from Clifford Bridge Road along the B4082 link road by others, across the Hungerley Hall Farm accommodation overbridge and

connecting into Coombe Abbey Park. The rationale being that the Scheme would facilitate the delivery of a WCH route between Clifford Bridge Road and Coombe Abbey Park by others in the future.

12.4.10. The key points from the meeting with Coventry City Council officers are as follows:

- Passive provision for a WCH route between Clifford Bridge Road and Coombe Abbey Park was not supported by the Council. Stated preference was for permanent facilities to be provided.
- An empty widened verge might encourage unauthorised use along the link road, i.e., the public might walk along the widened verge that would lead to nowhere.
- LTN 1/20 cross section widths are preferred.
- Could consideration be given to passive provision between the Hungerley Hall Farm accommodation overbridge and the western dumbbell roundabout, i.e., along the link road.

12.4.11. The key points from the meeting with Warwickshire County Council officers are as follows:

- Passive provision for a WCH route from Clifford Bridge Road to Coombe Abbey Park was not supported by the Council.
- The Council asked if options could be considered to provide a route which runs parallel to the A46 and if options could be considered to connect into the Farber Road bridleway located to the north of the Order Limits. In addition, the Council asked if consideration could be given to providing connections to the industrial park located to the north-east of the Order Limits.
- Warwickshire County Council need to understand the extents and provision of the development being promoted by SEGRO to understand how the Scheme accommodates the potential future development. Warwickshire County Council stated that the infrastructure and facilities to be provided as part of the Scheme should not pre-judge planning for potential developments.
- Warwickshire County Council stated that all funding for improvements as part of its Local Walking and Cycling Infrastructure Plan were targeted at improving facilities for utility trips and not leisure trips. As such, no funding is available for the provision of new or improved WCH routes into Coombe Abbey Park.

12.4.12. A meeting was held with representatives of Coombe Abbey Park (the Park) on 20 July 2023 to obtain the views of the Park on the potential need for an additional crossing of the A46 for pedestrians / cyclists and the provision of

routes into the Park from the west. The key points from the meeting are as follows:

- Regarding routes into the Park from the west, the bridleway and the Centenary Way (the permissive route/long distance walking trail) are well used by walkers and cyclists even though the condition of the permissive route is poor (liable to flooding). The bridge over the ditch into the Park is also in a poor condition.
- The Park indicated that it has a problem with off-road bikes so security on any new route into the Park would be a key issue.
- Conditions for cyclists along the B4027 Brinklow Road were poor due to the lack of dedicated infrastructure. Also, there is no bus stop provision at the entrance to the Park. Any improvements would be well received.
- An additional route across the A46 would be welcomed.
- The Park has an aspiration to open up a circular walk around Coombe Pool so an additional route across the A46 using the Hungerley Hall Farm accommodation overbridge would fit well with this aspiration. However, security would be a key issue for any such route given the existing problem with off road bikes.
- Regarding connecting any new route across the accommodation overbridge into the Park, two options were presented: (i) a route straight across from the accommodation overbridge into the Park to connect to a potential circular route around Coombe Pool; (ii) a connection at the field boundary to existing paths within the Park above the bird hide.
- The Park stated that it has no funding for the provision of an additional walking and cycling route.

12.4.13. A consultation meeting was held on 19 April 2023 with local user groups including the British Horse Society (BHS), Warwickshire, Coventry and Solihull Local Access Forum; and the Rugby Ramblers to discuss the evolving Scheme and its potential impacts on WCH.

12.4.14. The BHS indicated that the bridleway to the north of the Scheme does not have much usage by horses as it is effectively a dead end (not a circular route so horse riders have to come back the way they came). As such, they indicated that if any routes are incorporated into the Scheme, they should link to other routes allowing rides to become circular routes and that any provision should be multi-user and be future proofed for horse riders.

12.4.15. The BHS also indicated that there should be no loss of any PRow and any extensions to existing provision would be welcomed.

12.4.16. All groups indicated that the Scheme should include a link to the University Hospital Coventry as existing conditions make access to the hospital difficult and the Scheme should also include improvements to the River Sowe path network.

- 12.4.17. The user groups highlighted a scheme in Leeds (the East Leeds Orbital Route) that has incorporated multi-user WCH provision along its length which the Scheme should try to emulate.
- 12.4.18. The design, mitigation and enhancement measures incorporated into the Scheme as part of the WCH strategy are set out later in this Chapter.

12.5. Assessment methodology

- 12.5.1. This assessment has been undertaken in accordance with the DMRB LA 112 Population and Human Health Revision 1 (Highways England, 2020).
- 12.5.2. Within DMRB there are two different assessment methods, one for land-use and accessibility, and the other for human health. These are described in further detail in the following sections.

Land-use and accessibility

- 12.5.3. The assessment has focused on those impacts that are likely to have significant effects on land use and accessibility, in accordance with the DMRB LA 112. Significance of effect is determined by considering the sensitivity of the receptor against the anticipated magnitude of the impact on those receptors as a result of the Scheme.
- 12.5.4. The assessment considers both the sensitivity (or value) of the receptor and the magnitude of impact (or change) as a result of the proposals. DMRB LA 112 sets out the criteria for assigning value and identifying change, which are used in this assessment.

Sensitivity

- 12.5.5. The sensitivity of land use and accessibility receptors has been determined using the criteria presented in Table 12-4, as per DMRB LA 112.

Table 12-4 Sensitivity of receptors for population and human health

Receptor value (sensitivity)	Description
Very high	<p>Private property and housing:</p> <ol style="list-style-type: none"> Existing private property or land allocated for housing located in a local authority area where the number of households are expected to increase by >25% by 2041 (ONS data). Existing housing and land allocated for housing (e.g., strategic housing sites) covering >5ha and/or >150 houses. <p>Community land and assets where there is a combination of the following:</p> <ol style="list-style-type: none"> Complete severance between communities and their land / assets, with little / no accessibility provision Alternatives are only available outside the local planning authority area. The level of use is very frequent (daily). The land and assets are used by the majority ($\geq 50\%$) of the community. <p>Development land and businesses:</p> <ol style="list-style-type: none"> Existing employment sites (excluding agriculture) and land allocated for employment (e.g., strategic employment sites) covering >5ha. <p>Agricultural land holdings:</p> <ol style="list-style-type: none"> Areas of land in which the enterprise is wholly reliant on the spatial relationship of land to key agricultural infrastructure. Access between land and key agricultural infrastructure is required on a frequent basis (daily). <p>WCH:</p> <ol style="list-style-type: none"> National trails and routes likely to be used for both commuting and recreation that record frequent (daily) use. Such routes connect communities with employment land uses and other services with a direct and convenient WCH route. Little / no potential for substitution. Routes regularly used by vulnerable travellers such as the elderly, school children and people with disabilities, who could be disproportionately affected by small changes in the baseline due to potentially different needs. Rights of way for WCH crossing roads at-grade with >16,000 vehicles per day.
High	<p>Private property and housing:</p> <ol style="list-style-type: none"> Private property or land allocated for housing located in a local planning authority area where the number of households are expected to increase by 16-25% by 2041 (ONS data). Existing housing and land allocated for housing (e.g., strategic housing sites) covering >1-5ha and/or >30-150 houses. <p>Community land and assets where there is a combination of the following:</p> <ol style="list-style-type: none"> There is substantial severance between community and assets, with limited accessibility provision. Alternative facilities are only available in the wider local planning authority area. The level of use is frequent (weekly). The land and assets are used by the majority ($\geq 50\%$) of the community. <p>Development land and businesses:</p>

Receptor value (sensitivity)	Description
	<p>1) Existing employment sites (excluding agriculture) and land allocated for employment (e.g., strategic employment sites) covering >1 - 5ha.</p> <p>Agricultural land holdings:</p> <p>1) Areas of land in which the enterprise is dependent on the spatial relationship of land to key agricultural infrastructure.</p> <p>2) Access between land and key agricultural infrastructure is required on a frequent basis (weekly).</p> <p>WCH:</p> <p>1) Regional trails and routes (e.g., promoted circular walks) likely to be used for recreation and to a lesser extent commuting, which record frequent (daily) use. Limited potential for substitution.</p> <p>2) Rights of way for WCH crossing roads at-grade with >8,000 - 16,000 vehicles per day.</p>
Medium	<p>Private property and housing:</p> <p>1) Houses or land allocated for housing located in a local authority area where the number of households are expected to increase by >6-15% by 2041 (ONS data).</p> <p>2) Existing housing and land allocated for housing (e.g., strategic housing sites) covering <1ha and / or <30 houses.</p> <p>Community land and assets where there is a combination of the following:</p> <p>1) There is severance between communities and their land / assets but with existing accessibility provision.</p> <p>2) Limited alternative facilities are available at a local level within adjacent communities.</p> <p>3) The level of use is reasonably frequent (monthly).</p> <p>4) The land and assets are used by the majority (>=50%) of the community.</p> <p>Development land and businesses:</p> <p>1) Existing employment sites (excluding agriculture) and land allocated for employment (e.g., strategic employment sites) covering <1ha.</p> <p>Agricultural land holdings:</p> <p>1) Areas of land in which the enterprise is partially dependent on the spatial relationship of land to key agricultural infrastructure.</p> <p>2) Access between land and key agricultural infrastructure is required on a reasonably frequent basis (monthly).</p> <p>WCH:</p> <p>1) PRoW and other routes close to communities which are used for recreational purposes (e.g., dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys.</p> <p>2) Rights of way for WCH crossing roads at-grade with >4,000 – 8,000 vehicles per day.</p>
Low	<p>Private property and housing:</p> <p>1) Proposed development on unallocated sites providing housing with planning permission / in the planning process.</p>

Receptor value (sensitivity)	Description
	<p>Community land and assets where there is a combination of the following:</p> <ol style="list-style-type: none"> 1) Limited existing severance between community and assets, with existing Equality Act 2010 compliant accessibility provision. 2) Alternative facilities are available at a local level within the wider community 3) The level of use is infrequent (monthly or less frequent). 4) The land and assets are used by the minority ($\geq 50\%$) of the community. <p>Development land and businesses:</p> <ol style="list-style-type: none"> 1) Proposed development on unallocated sites providing employment with planning permission / in the planning process. <p>Agricultural land holdings:</p> <ol style="list-style-type: none"> 1) Areas of land which the enterprise is not dependent on the spatial relationship of land to key agricultural infrastructure. 2) Access between land and key agricultural infrastructure is required on an infrequent basis (monthly or less frequent). <p>WCH:</p> <ol style="list-style-type: none"> 1) Routes which have fallen into disuse through past severance, or which are scarcely used because they do not currently offer a meaningful route for either utility or recreational purposes. 2) Rights of way for WCH crossing roads at-grade with $< 4,000$ vehicles per day.
Negligible	<p>Private property and housing:</p> <ol style="list-style-type: none"> 1) N/A. <p>Community land and assets where there is a combination of the following:</p> <ol style="list-style-type: none"> 1) No or limited severance or accessibility issues. 2) Alternative facilities are available within the same community. 3) The level of use is very infrequent (a few occasions yearly). 4) The land and assets are used by a minority ($\geq 50\%$) of the community. <p>Development land and businesses:</p> <ol style="list-style-type: none"> 1) N/A. <p>Agricultural land holdings:</p> <ol style="list-style-type: none"> 1) Areas of land which are infrequently used on a non-commercial basis. <p>WCH:</p> <ol style="list-style-type: none"> 1) N/A.

Source: DMRB LA 112 Table 3.11 Environmental value (sensitivity) and descriptions.

Magnitude of impact

12.5.6. The magnitude of impacts on land use and accessibility has been assessed using the criteria set out in Table 12-5, as per DMRB LA 112.

Table 12-5 Impact magnitude criteria for population and human health receptors

Magnitude of impact (change)	Typical description
Major	<p>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</p> <ol style="list-style-type: none"> 1) Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements. e.g., direct acquisition and demolition of buildings and direct development of land to accommodate highway assets. 2) Introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision. <p>WCH:</p> <ol style="list-style-type: none"> 1) >500m increase (adverse) / decrease (beneficial) in WCH journey length.
Moderate	<p>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</p> <ol style="list-style-type: none"> 1) Partial loss of / damage to key characteristics, features or elements, e.g., partial removal or substantial amendment to access or acquisition of land compromising viability of property, businesses, community assets or agricultural holdings. 2) Introduction (adverse) or removal (beneficial) of severe severance with limited / moderate accessibility provision. <p>WCH:</p> <ol style="list-style-type: none"> 1) >250m - 500m increase (adverse) or decrease (beneficial) in WCH journey length.
Minor	<p>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</p> <ol style="list-style-type: none"> 1) A discernible change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements, e.g., amendment to access or acquisition of land resulting in changes to operating conditions that do not compromise overall viability of property, businesses, community assets or agricultural holdings. 2) Introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision. <p>WCH:</p> <ol style="list-style-type: none"> 1) >50m - 250m increase (adverse) or decrease (beneficial) in WCH journey length.
Negligible	<p>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</p> <ol style="list-style-type: none"> 1) Very minor loss or detrimental alteration to one or more characteristics, features or elements. e.g., acquisition of non-operational land or buildings not directly affecting the viability of property, businesses, community assets or agricultural holdings. 2) Very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision. <p>WCH:</p> <ol style="list-style-type: none"> 1) <50m increase (adverse) or decrease (beneficial) in WCH journey length.
No change	No loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction.

Source: DMRB LA 112 Table 3.12 Magnitude of impact and typical descriptions

Significance of effect

- 12.5.7. The significance of effect for each element of the land use and accessibility sub-topic is derived by combining the assigned value (sensitivity) of the receptor and the magnitude of the change (impact) arising from the Scheme. This is in accordance with the significance matrix set out in DMRB LA 104, Table 3.8.1.
- 12.5.8. Only effects that are moderate or greater are considered significant as per DMRB LA 104.

Human health

- 12.5.9. As per DMRB LA 112, the assessment of human health is qualitative with evidence provided to support conclusions. The assessment considers three aspects of human health:
- health profiles of affected communities
 - health determinants (e.g., noise and air pollution)
 - likely health outcomes.
- 12.5.10. The baseline for health profiles of affected communities is informed by health profile data, and professional judgement including information available, future trends and project experience. During the EIA process, public consultation feedback also further informs the baseline.
- 12.5.11. The health profile of communities within the study area is established based on the likely sensitivity of the population and categorised as (in accordance with DMRB LA 112):
- low
 - medium
 - high
- 12.5.12. Health determinants applicable to the Scheme are identified, from the following:
- the location and type of community, recreational and education facilities and severance/separation of communities from such facilities
 - the location of green/open space and severance/separation of communities from such facilities
 - the location of healthcare facilities and severance/separation of communities from such facilities
 - outline spatial characteristics of the transport network and usage in the area, including the surrounding road network, PRoW (including bridleways), cycle ways, non-designated public routes and public transport routes
 - air quality management areas and ambient air quality

- areas recognised as being sensitive to noise (e.g., noise important areas, noise management areas) and the ambient noise environment
- sources and pathways of potential pollution (e.g., land/water contamination)
- landscape amenity
- safety information associated with the existing affected road network (e.g., numbers of killed and seriously injured)
- where available, information collated from stakeholder consultation

12.5.13. Health determinants are informed by the other relevant environmental factors scoped into the EIA and presented in this ES (**TR010066/APP/6.1**). Pertinent chapters are:

- ES Chapter 5 Air Quality
- ES Chapter 7 Landscape and Visual Effects
- ES Chapter 9 Geology and Soils
- ES Chapter 10 Noise and Vibration

12.5.14. The geographical extent of the impacts are dependent upon the nature and characteristics of the Scheme and identified sensitivity of receptors.

12.5.15. Once the sensitivity of communities and applicable health determinants have been identified, the likely health outcome(s) for the Scheme on the local communities are identified in line with the categories in Table 12-6 below.

Table 12-6 Human health outcome categories

Health outcome category	Health outcome description
Positive	A beneficial health impact is identified
Neutral	No discernible health impact is identified
Negative	An adverse health impact is identified
Uncertain	Where uncertainty exists as to the overall health impact

DMRB LA 112 Table 3.32 Human health outcome categories

12.5.16. As DMRB LA 112 notes at 3.28.1, although the assessment of human health effects describes the likely qualitative health outcomes at this stage, it is not possible to quantify the severity or extent of the effects which give rise to these outcomes. The potential health outcomes during construction and operation are based on broad categories for the qualitative impacts identified in accordance with Table 12-6.

12.6. Assessment assumption and limitations

12.6.1. The assessment has been based on the Scheme description presented in Chapter 2 (The Scheme) of this ES and has taken into account the lateral limits

of deviation illustrated on the Works Plans (**TR010066/APP/2.3**) and vertical limits of deviation secured under Article 7 of the draft DCO (**TR010066/APP/3.1**) to establish a realistic worst-case assessment scenario.

- 12.6.2. The assessment of the potential for significant effects has been carried out for this ES against a benchmark of current baseline conditions within the study area (section 12.7). As with any dataset, these may be subject to change over time, which may influence the findings of the assessment and could lead to the assessment being subject to statistical time lag. The most up to date Census and Office for Health Improvement and Disparities (OHID) data is used to collate the baseline for this assessment and is considered to be the most accurate publicly available data and robust approach in combination with professional judgement.
- 12.6.3. It is assumed that the construction process would not render local properties unusable and that there would be no temporary or permanent displacement of local residents.
- 12.6.4. It is assumed that the satellite construction compound would require temporary land take, but that the land would be reinstated unless used as part of the Scheme. It is assumed that all temporary land take during construction would be reinstated unless used as part of the Scheme.

12.7. Study area

Land-use and accessibility

- 12.7.1. A 500m study area from the Order Limits has been determined using DMRB LA 112. This has been selected as significant effects are unlikely to occur outside of the 500m study area as a result of the Scheme. The study area is shown on ES Figure 12.1 (Population and human health, land use and accessibility features (**TR010066/APP/6.2**)).

Human health

- 12.7.2. The human health assessment for the construction and operational phases has been conducted within the following wards (within Coventry City Council and Rugby Borough Council), which are located within 500m of the Scheme, as shown on ES Figure 12.1 (Population and human health, land use and accessibility features (**TR010066/APP/6.2**)):

- Revel and Binley Woods Ward
- Henley Ward
- Wyken Ward

- 12.7.3. Study areas relating to the other relevant environmental topic chapters that have informed this assessment are described in the respective sections of this ES.

12.8. Baseline conditions

- 12.8.1. The receptors identified in this section are those relevant to the population and human health aspect.

Land-use and accessibility

Private property and housing

- 12.8.2. There are approximately 2,467 residential properties within the study area, recorded on the AddressLayer data. The majority of the residential properties within the study area are located within the City of Coventry's administrative boundary, located to the west of the Scheme in the areas of Walsgrave on Sowe, Wyken and Binley. Most properties are set back from the Scheme boundary, however the closest property to the Scheme is Hungerley Hall Farm, located approximately 67m west of the existing A46 carriageway at its closest point.
- 12.8.3. The Coventry City Council Local Plan 2011-2031 and interactive map show the location and extent of allocated residential development land in Coventry. There is a housing allocation (H2:3 Walsgrave Hill Farm) west of the Scheme. The allocation is for 900 houses and includes retention and enhancement of the setting of listed buildings at Hungerley Hall Farm.
- 12.8.4. The Rugby Borough Council Local Plan 2011-2031 and planning portal show no allocations or relevant planning applications within the study area.
- 12.8.5. As per DMRB LA 112, the ONS projections indicate that the number of households in Coventry and Rugby are expected to increase by 6-15% and therefore the sensitivity of private property and development land in Coventry and Rugby is considered to be **Medium**².

Community land and assets

- 12.8.6. Within the study area, there are the following community assets (as shown on Figure 12.1 (Population and human health, land use and accessibility features (TR010066/APP/6.2)):
- 2 medical facilities, including University Hospital Coventry which includes the Cauldon Centre (approximately 427m west of the existing A46 at its closest point)

² Using Census 2018 household projections for 2041 as a percentage increase from the 2023 household projections

- 5 educational facilities
- 1 leisure facility
- 1 community service

12.8.7. There are the following areas of community land within the study area (as shown on ES Figure 12.1 (Population and human health, land use and accessibility features) (**TR010066/APP/6.2**)):

- Play park located approximately 83m west of the existing A46 at its closest point
- Play park located adjacent to the west of the A46
- Coombe Abbey Park, a 500-acre park open to the public with walking trails, lakes, a restaurant and craft studios is located adjacent to the east of the existing A46 at its closest point
- Stoke Floods Nature Reserve located approximately 770m west of the existing A46 at its closest point

12.8.8. There are no other areas of community land (including village greens or registered common land) within the study area.

12.8.9. As per DMRB LA 112, community land and assets in the study area are considered to be of **Low** sensitivity as there are alternative facilities available at a local level within the wider community, within the City of Coventry.

Development land and businesses

12.8.10. Within the study area (as shown on ES Figure 12.1 (Population and human health, land use and accessibility features) (**TR010066/APP/6.2**)), there are the following commercial and business-related properties:

- 2 offices
- 7 industrial properties
- 7 retail
- 1 hotel / visitor accommodation
- 34 utility-related assets

12.8.11. As described in paragraph 12.8.3, the Coventry City Local Plan and interactive map identifies development land allocation (H2:3 Walsgrave Hill Farm), for 900 houses and associated works.

12.8.12. There are a number of planning applications within the study area shown on the Coventry City Council Planning Register interactive map. Applications which may result in a cumulative effect with the Scheme are identified and assessed in ES Chapter 15 (Combined and Cumulative Effects) (**TR010066/APP/6.1**).

- 12.8.13. As per DMRB LA 112, receptors within the sub-heading of development land and business in the study area are considered to be of **Medium** sensitivity, as there are existing employment sites present.

Agricultural land holdings

- 12.8.14. Agricultural land classification is in accordance with guidelines issued in 1988 by the Ministry of Agriculture, Fisheries and Food (now Defra). Grade 1 (excellent quality), 3a (good quality) and 3b (moderate quality) agricultural land is located within the Order Limits.
- 12.8.15. There are two existing crossings of the A46 within the Order Limits, to access agricultural land.
- 12.8.16. Agricultural surveys and farm questionnaires were undertaken prior to undertaking this assessment to understand the extent to which construction and operation of the Scheme will impact agricultural holdings within the study area. The sensitivity of agricultural land holdings within the study area were determined following the receipt of farm questionnaires and surveys.
- 12.8.17. Defra farming statistics for the West Midlands region indicate that the average farm size is 67ha (Defra, 2024)³. Two farms have been identified as experiencing major disruption from the development. These farms represent sizeable and significant agricultural enterprises at 400ha and 140.5ha, respectively. Regarding livestock numbers, the region holds 69 beef cattle per thousand head (Defra, 2024). One of the impacted farms manages a herd of 700 animals, which represents approximately 1% of the region's beef cattle.
- 12.8.18. A review of the area using Google Earth shows that the farmsteads and major agricultural infrastructure (associated with both farms) are set back from the existing A46. However, both farms operate either side of the A46 which forms a boundary for both farming areas. As a result, any changes to the road layout will have associated impacts on the agricultural holdings. Moreover, whilst specific frequency of use data is not available, farming operations, including access to main yard areas and buildings, as well as cattle management and grazing, therefore require regular access across the A46 via the existing accommodation bridge. The presence of agricultural land on both sides of the A46 indicates the importance of this crossing for the farm's daily operations.
- 12.8.19. Access to Hungerley Hall Farm is gained from the B4082, approximately 230m west of the existing Walsgrave Junction. Farmed land is within 10m of both northbound and southbound carriageways in places. The Hungerley Hall Farm buildings are approximately 67m from the A46 northbound carriageway. The

³ Updated after June survey, 2024.

Hungerley Hall Farm is part of a larger farming enterprise outside of the Order Limits.

12.8.20. Access to Walsgrave Hill Farm is gained from Farber Road, approximately 430m east of the A46 southbound carriageway. Farmed land is less than 10m from both northbound and southbound carriageways in places. Table 12-7 presents the sensitivity of the two aforementioned farm businesses, both of which are owner-occupied, that are impacted by the Scheme. This analysis is largely based on questionnaires completed by the respective farm businesses, or in the case of Walsgrave Hill Farm, the trustees of the partnership.

Table 12-7 Agricultural land holdings within the study area

Farm Name	Holding Type	Tenure	Area Farmed	Enterprises	Sensitivity	Rationale
Hungerley Hall Farm	Arable Pastoral	Ongoing	400ha	Wheat cultivation Beef fattening	High	Daily access to main yard, storage buildings, and cattle housing will be lost. Summer grazing land will be lost and land for crop cultivation will be reduced. Reduction in potential rental income.
Walsgrave Hill Farm Partnership	Arable	Rolling term	140.5ha	Wheat, barley, oat, oilseed & legume cultivation	Medium-High	Loss of productive farmland. Loss of key access points could dramatically impact farm operations.

Farm enterprises – Hungerley Hall Farm

12.8.21. The farm's cropping activities are focused on wheat, with oilseed rape and maize used as break crops. Barley and Spring crops are sometimes used in rotation. Additionally, the land is rented for potatoes on rotation. The area associated with wheat amounts to 40ha, providing a yield of 10+ tonnes per hectare. When utilised, barley yields are 10+ tonnes per hectare, and oilseed rape yields 5+ tonnes per hectare. Maize yields 50+ tonnes per hectare when used. Permanent grassland amounts to 9ha, with 3ha utilised for silage, yielding 25+ tonnes per hectare.

12.8.22. All the farm's activities are eligible for the Basic Payment Scheme (BPS), with the farm also participating in and adhering to Mid-Tier Stewardship.

- 12.8.23. With regards livestock enterprises, the farm maintains 700 beef youngstock aged 12+ months. This beef fattening enterprise on the main farm (approximately 7km north of the existing Walsgrave Junction) often utilises buildings at Hungerley Hall Farm for housing during the winter, with fields used for grazing during the summer. Given the location of these buildings and land, and the scale of the Scheme, the information gained from the farm questionnaires suggests that alternatives may need to be found during construction. Also, the information from the farm questionnaires suggests that, during operation the current buildings may no longer be an option due to their proximity to the Scheme.
- 12.8.24. There are no non-agricultural activities on the farm, however, as a result of the Scheme overall cropping areas will be reduced and cattle summer grazing will be impacted, alongside the potential loss of existing cattle shelters.

Farm enterprises – Walsgrave Hill Farm Partnership

- 12.8.25. Walsgrave Hill Farm Partnership occupies an area of 140.5ha, with the full area licenced for contract farming since August 2017 on a rolling term contract.
- 12.8.26. With regards further environmental components, the soil profile is slightly acidic and clayey, which impacts drainage. Farmland is mostly grade 2 arable land.
- 12.8.27. The farm engages in crop cultivation across a range of cereals, maize, potatoes, pulses and oilseeds. Winter wheat yields 9.8+ tonnes per hectare, with winter barley yielding 8.5+ tonnes per hectare, and winter oats yielding 8.0+ tonnes per hectare. Oil seeds yield 4.2+ tonnes per hectare. Although not planted this harvest year, legumes are sometimes cultivated, as well as potatoes. Both temporary and permanent grasslands, and forage crops, are produced on a licence fee basis.
- 12.8.28. In addition, silage yields approximately 44+ tonnes per hectare.
- 12.8.29. All 140.5 hectares of the farmland is Basic Payment Scheme (BPS) eligible, with the farm partnership aiming to apply to the SFI (Sustainable Farming Incentive) this year. Although the farm does not engage in pastoral farming, Walsgrave Hill Farm House does hold a licence for horses.

Walkers, cyclists and horse-riders *Existing routes and facilities*

- 12.8.30. The existing WCH routes and facilities in the study area are summarised in Table 12.8 and shown in ES Figure 12.2 (Walking, Cycling and Horse-riding (WCH) facilities and survey locations (**TR010066/APP/6.2**)). They comprise

PRoW, (namely footpaths and a bridleway), permissive footpaths, cycle tracks and footways provided as part of the highway network.

Table 12.8 WCH facilities in the study area

Location ref ES Figure 12.2 (TR010066/APP/6.2)	PRoW reference / Permissive route reference / Facility location	Description
1	Clifford Bridge Road, Coventry	A continuous footway with uncontrolled crossings at junctions is provided on the western frontage of Clifford Bridge Road. The footway is typically 2m wide although a section adjacent to the B4082 link road roundabout is locally widened. The footway adjacent to the Tesco roundabout is segregated from the carriageway by a wide verge before re-joining the carriageway edge further to the north. Between the two roundabouts, a link is provided to the leisure footpath that follows the River Sowe.
2	Clifford Bridge Road, Coventry	A continuous footway with uncontrolled crossings at junctions is provided on the eastern frontage of Clifford Bridge Road. The footway is typically 2m wide although a section between the B4082 link road roundabout and the Tesco roundabout is locally widened. To the north of the Tesco roundabout the footway is set back around 30m from the carriageway by a wooded area and continues as a footpath as far as Dorchester Way before returning to run alongside the carriageway as footway.
3	Clifford Bridge Road, Coventry	A segregated cycle track (part of the Binley Cycleway) is provided on the eastern frontage of Clifford Bridge Road between its junction with Ansty Road and a point approximately 90m to the north of its junction with the Tesco roundabout.
4	Tesco roundabout, Clifford Bridge Road, Coventry	A footpath running along the southern side of the supermarket providing links to the adjacent residential area as well as connections to the leisure footpath that runs alongside the River Sowe.
5	Clifford Bridge Road, Coventry	The River Sowe footpath is a leisure route that runs alongside the river. It passes under Clifford Bridge Road providing grade separated pedestrian access to the footway on the western frontage of the carriageway.
6	Clifford Bridge Road/B4082 link road roundabout, Coventry	Two informal paths have been created by local residents in the vicinity of the B4082 link roundabout. These paths pass through the wooded area to the south-east of the roundabout providing a linkage to a footpath which serves the adjacent residential area. This latter footpath facilitates access between Clifford Bridge Road and Brinklow Road as well as the residential area and the footway network immediately adjacent to this route.

Location ref ES Figure 12.2 (TR010066/APP/6.2)	PRoW reference / Permissive route reference / Facility location	Description
7	Brinklow Road, Coventry	A footway is provided along the northern frontage of Brinklow Road which links the residential areas around Clifford Bridge Road to Coombe Abbey Park. The footway is typically 1.5m wide from the point where it passes under the A46 up to the Country Park access some 1.9km to the east beyond which the footway ends.
8	Bridleway 235, Coventry	Bridleway 235, a PRoW, runs from the city/county boundary (as a continuation of PRoW 156/R75x/1 in Warwickshire) in the east to Highbridge (namely the bridge crossing the River Sowe) in the west. The route follows a farm access track and is fronted by farmland. Although not recorded on the Definitive Map, Coventry City Council has confirmed that the section of the route between Highbridge and Farber Road is also a bridleway.
9	Bridleway 156/R75x/1, Warwickshire	Bridleway 156/R75x/1 runs as a continuation of PRoW 235 in Coventry from the county boundary in the west to the junction of PRoW 156/R75b/1 and PRoW 156/R75y/1 in the east, albeit these latter footpaths lie outside of the study area. The route continues along the farm access track and is fronted by farmland.
10	Centenary Way (permissive route), Warwickshire	The Centenary Way Long Distance walking trail is a 159km footpath originating in the Tame Valley and ending in the Ilmington Downs. The route passes close to several major local settlements, including Coventry, Warwick, and Leamington. The route passes through Coombe Abbey Park connecting with Bridleway 156 R75x/1 via a section of permissive route and continues east along the bridleway towards the southern section of Ansty Business Park.
11	Dorchester Way residential area, Coventry	Numerous PRoW are defined under The City of Coventry (Footpath 61A to 214) Modification Order 2003 which cover a series of footpaths that serve the properties in the Dorchester Way residential area.
12	Clifford Bridge Road, Coventry	The City of Coventry (Footpath 61A to 214) Modification Order 2003 covers a series of footpaths that serve the residential properties located to the east and west of Clifford Bridge Road, south of the B4082 link road roundabout.

Future routes and facilities

12.8.31. The final section of Binley Cycleway, which comprises the section of the route on Clifford Bridge Road between the Tesco roundabout and the A4082/A428 junction to the south and west, was due to commence construction in June 2024. Immediately adjacent to the Scheme, the new cycleway, which is being provided by Coventry City Council, would comprise a fully segregated two-way cycle track

running on the western side of Clifford Bridge Road and there would be complementary improvements at the Clifford Bridge Road/B4082 roundabout to maintain a two-lane entry on the northbound approach to the roundabout. The proposals would also include provision of a new signal controlled (Puffin) pedestrian crossing on Clifford Bridge Road to the south of the roundabout. However, it is understood that implementation of the final section of the cycleway is delayed due to a petition objecting to the proposals and local elections. Coventry City Council remains committed to completing the cycleway but cannot give a definitive position on the timeframe for implementation at the time of writing.

- 12.8.32. With regards to future routes and facilities in Rugby, Warwickshire County Council has identified schemes to improve the suitability of the bridleway linking to Farber Road for all users (referred to as Cy05 Bridleway (Walsgrave – Ansty)). In addition, an improved connection into Ansty Park from the bridleway (referred to as Cy01 Ansty Park) is identified as part of its Local Cycling and Walking Infrastructure Plan.

WCH usage surveys

- 12.8.33. To provide an indication of the level of usage of WCH facilities in the vicinity of the Scheme, WCH surveys were undertaken at five locations, as shown on ES Figure 12.2 (Walking, Cycling and Horse-riding (WCH) facilities and survey locations (**TR010066/APP/6.2**)) and listed below:

- Site 1: Clifford Bridge Road / B4082 roundabout
- Site 2: Clifford Bridge Road links to river side path
- Site 3: Clifford Bridge Road / Tesco roundabout
- Site 4: PRow Bridleway and permissive path (Centenary Way) to Coombe Abbey Park)
- Site 5: Brinklow Road / Valencia Road junction

- 12.8.34. In order to decide on the locations for the surveys and the survey period, the study area was reviewed to identify the presence of WCH facilities / routes and key trip generators / local amenities. A site visit was then undertaken to walk all the identified routes, identify missed routes (e.g. informal routes), existing conditions, constraints and opportunities. Discussions were held with the active travel and PRow officers of Coventry City Council and Warwickshire County Council and with local user groups. Key destinations in the area are the nearby high school, the large foodstore on Clifford Bridge Road and Coombe Abbey Park. It was therefore considered that a seven-day survey period (including a weekend) during school term time would provide typical usage data for the routes, namely, the surveys would pick up both utility trips and leisure trips.

Experience of supporting other schemes also played a part in determining these aspects.

12.8.35. The surveys were carried out between 0700 and 1900 hours for seven consecutive days between Wednesday 14 June and Tuesday 20 June 2023, inclusive, using CCTV video cameras. It should be noted that the survey for site 4 comprised three counts to provide usage information for each leg of the route. In the main, the weather during the surveys was dry.

12.8.36. A brief summary of the results for each site is provided below.

Site 1: Clifford Bridge Road / B4082 roundabout

12.8.37. The results show that on a weekday an average total of 796 individual movements were recorded at this survey location. The number of recorded movements reduces by more than half to an average of only 363 movements between Saturday and Sunday. Just over a third (302 movements) are attributed to unaccompanied minors on a weekday, reflecting pupils making their way to and from the nearby high school. Also, there is a notable flow of movements across the B4082 link at the uncontrolled pedestrian crossing point.

Site 2: Clifford Bridge Road links to riverside path network

12.8.38. The results show that on a weekday an average total of 652 individual movements were recorded at this survey location. The number of recorded movements reduces by more than half to an average of only 291 movements between Saturday and Sunday. Just under half (274 movements) are attributed to unaccompanied minors on a weekday, reflecting pupils making their way to and from the nearby high school.

Site 3: Clifford Bridge Road / Tesco roundabout

12.8.39. The results show that on a weekday an average total of 735 individual movements were recorded at this survey location. The number of recorded movements reduces by around a half to an average of only 368 movements between Saturday and Sunday. Just under a third (194 movements) are attributed to unaccompanied minors on a weekday, reflecting pupils making their way to and from the nearby high school. The results also suggest that some WCH users are using the informal paths that lead to the river path to avoid having to cross Clifford Bridge Road at the roundabout.

Site 4: PRow Bridleway / permissive path (Centenary Way) junction

12.8.40. The results show that there is a notable daily flow of pedestrians and cyclists using the bridleway from Farber Road and the permissive path to access

Coombe Abbey Park on both a weekday and on a Saturday and Sunday. On a weekday, an average total of 178 individual movements were recorded for the section of the bridleway to the west of the permissive route whereas only 8 movements were recorded for the section of the bridleway to the east. A total of 104 movements were recorded for the permissive route which suggests that a proportion of users only travel as far as the junction with the permissive route before returning in the direction of Farber Road. On a weekend, an average total of movements for the section of bridleway to the west increases to 240 movements whereas only 18 movements were recorded for the section of bridleway to the east. A total of 175 movements were recorded for the permissive route which again suggests that not all users make their way to Coombe Abbey Park. It is worthy of note that around 20 percent of users recorded in the surveys were cyclists and no equestrians were recorded using the bridleway.

Site 5: Brinklow Road / Valencia Road junction

12.8.41. The results show that on a weekday an average total of 273 individual movements were recorded at this survey location. At the weekend the recorded usage is at a similar level with an average of 269 movements between Saturday and Sunday. The majority of the recorded movements were between Brinklow Road west and Valencia Road for all pedestrian types and there are some movements along Brinklow Road and between Valencia Road and Brinklow Road east. This suggests that there are some walking trips to/from Coombe Abbey Park. In addition, the majority of cyclists travel along Brinklow Road with minimal movements between Brinklow Road and Valencia Road. These cyclists make use of both the footways and carriageway.

12.8.42. The receptors and their respective sensitivity are summarised in Table 12-9 below. The assigned sensitivity has been based on Table 3.11 in DMRB LA 112, professional judgement and experience of undertaking similar assessments for similar schemes.

Table 12-9 Sensitivity of WCH routes to changes in journey length

Receptor	Sensitivity	Reasoning
Footway, western frontage Clifford Bridge Road	Very high	The footway is well used for both commuting and utility trips since it provides a connection between the residential areas to the south of the Clifford Bridge Road/B4082 link road roundabout and the Tesco superstore, the employment area to the west of Clifford Bridge Road and University Hospital Coventry, all of which are located to the north. Some recreational trips are also likely as the footway provides a connection to the leisure footpath that runs alongside the River Sowe. Importantly, the usage surveys confirm that the footway is regularly used by vulnerable travellers with around a third of weekday users being school children (unaccompanied minors) travelling to and from Cauldon Castle School.

Receptor	Sensitivity	Reasoning
Footway, eastern frontage Clifford Bridge Road	Very high	The footway is well used for both commuting and utility trips since it provides a connection between the residential areas to the south of the Clifford Bridge Road/B4082 Link Road roundabout and the Tesco superstore, the employment area to the west of Clifford Bridge Road and University Hospital Coventry, all of which are located to the north. Some recreational trips are also likely as the footway provides connections to the leisure footpath that runs alongside the River Sowe. Importantly, the usage surveys confirm that the footway is regularly used by vulnerable travellers with around a third of weekday users being school children (unaccompanied minors) travelling to and from Cauldon Castle School, a high proportion of which cross the B4082 link road at the uncontrolled pedestrian crossing point.
Binley Cycleway, Clifford Bridge Road	Very high	This section of the segregated cycle track became operational during the second half of 2023. Although no usage information is available for this facility, it is anticipated that the cycle track will be used predominantly for commuting and utility trips along the Clifford Bridge Road corridor. There is no potential for substitution of this facility.
Footpath to south of Tesco superstore	High	Although providing links to adjacent residential areas and the leisure footpath that runs along the River Sowe, this footpath is predominantly used for utility trips by users travelling between the footways on the Clifford Bridge Road corridor and the Tesco superstore. Usage of 144 and 162 movements were recorded on an average weekday and weekend day, respectively. There is limited potential for substitution of this facility.
Leisure footpath alongside River Sowe	Medium	Low level usage for predominantly recreational purposes, e.g., dog walking, was recorded on both weekdays and at weekends.
Informal footpaths, Clifford Bridge Road/B4082 link road roundabout, Coventry	High	Although not formal footpaths and there are alternative routes which can be taken by for users, these two paths are regularly used by vulnerable travellers, namely school children (unaccompanied minors) undertaking trips to and from Cauldon Castle School.
Footway, northern frontage, Brinklow Road, Coventry	High	This footway is used for predominantly recreational trips between the residential areas to the east of A6 and Coombe Abbey Park. There is no potential for substitution of this facility.
Bridleway 235, Coventry	High	This bridleway provides a connection between the residential areas to the west of the A46 and Coombe Abbey Park to the east, in conjunction with the permissive route section of Centenary Way. The bridleway can also be used to access the Ansty Park employment area located to the north-east of the A46 via onward use of bridleway 156/r75X/1. Usage surveys have indicated that this facility is used on a daily basis by both pedestrians and cyclists. There is no potential for substitution of this facility.

Receptor	Sensitivity	Reasoning
Bridleway 156/R75x/1, Warwickshire	High	This bridleway forms the continuation of bridleway 235 and forms a section of Centenary Way. It provides a connection between the residential areas to the west of the A46 and the Ansty Park employment area, although, recorded usages on both weekdays and weekend days is low. There is no potential for substitution of this facility.
Centenary Way (permissive route), Warwickshire	High	This permissive route provides a direct connection into Coombe Abbey Park from bridleways 235 and 156/R75x/1. It is used regularly by pedestrians and cyclists accessing Coombe Abbey Park. There is limited potential for substitution of this facility.
Footpaths in Dorchester Way residential area, Coventry	Medium	These footpaths serve the residential areas for which other routes are available. No usage information is available for these footpaths
Footpaths in residential areas to east and west of Clifford Bridge Road, Coventry	Medium	These footpaths serve the residential areas for which other routes are available. No usage information is available for these footpaths.

Human health

Health profiles of affected communities

Population

12.8.43. There are approximately 6,407 people living in the Revel and Binley Woods Ward (town of Rugby), 21,195 in Henley Ward and 16,898 in Wyken Ward (Coventry City), as noted by the Office for National Statistics (2021), updated 2024. Residential housing is located predominantly to the west of the existing A46.

Health indicators

12.8.44. Table 12-10 presents key health indicators for the wards located wholly or partially within the study area.

Table 12-10 Public health baseline data

Local health indicator	Ward			Regional		England and Wales
	Revel and Binley Woods	Henley	Wyken	Rugby	Coventry	
Census 2021						
Population	6,407	21,195	16,898	114,366	345,328	59,597,546

Local health indicator	Ward			Regional		England and Wales
	Revel and Binley Woods	Henley	Wyken	Rugby	Coventry	
Population aged under 16 (%)	14.4	24	20.2	18.4	19.8	18.5
Population aged 65 and over (%)	29	14.9	17.9	18.2	14.6	18.6
General health - number of people with bad or very bad health	318 5%	1,378 6.5%	839 5%	4,891 4.3%	18,495 5.4%	3,127,013 5.2%
Office for Health Improvement and Disparities- Fingertips- Local Health (England only)						
Emergency hospital admissions for Chronic Obstructive Pulmonary Disease (COPD), standardised admission ratio*	51 (per 100)	184.5 (per 100)	102.3 (per 100)	76.1 (per 100)	124.8 (per 100)	100 (per 100)
Deaths from respiratory disease (as percentage of deaths from all causes, all ages)	10.9%	12.9%	13.3%	11.1%	12.6%	12.9%
Percentage of community with long-term limiting illness or disability	18.6%	20.5%	16.6%	16.1%	17.7%	17.6%
Life expectancy at birth (years) (males)	80.4	76.8	79.2	79.8	78.1	79.5
Life expectancy at birth (years) (females)	83.6	82.1	83.3	83.6	82.1	83.2
Income deprivation (people living in income-deprived households as % of population)	6.1%	22.7%	10.6%	8.7%	15.4%	12.9%

* The source notes that there are concerns about the quality of the data.

12.8.45. Revel and Binley Woods ward has a significantly higher percentage of residents over 65 compared with the region and national average. Henley and Wyken wards have a significantly higher percentage of residents aged under 16 compared with the region and national average. The data therefore indicates that both Henley and Wyken wards have a youthful population.

12.8.46. Henley ward has a notably higher number of people with bad or very bad general health than the national average. Revel and Binley Woods ward and

Wyken ward have a lower number of people with bad or very bad general health compared to the national average.

- 12.8.47. The percentage of deaths from respiratory disease and the percentage of people living with income deprivation is lower than the national average for Revel and Binley ward and for Wyken ward. All other indicators are higher than the national average. For Henley ward, life expectancy for males and females is higher than the national average. All other indicators are lower, except of deaths from respiratory disease which is equal.
- 12.8.48. Overall, the trends in each ward are varied. Income deprivation is lower than national and regional averages for Revel and Binley Woods and Wyken ward, and life expectancy is higher or almost equal to the national averages. However, for Wyken, both deaths from respiratory disease and percentage of the community with a long term limiting illness or disability is higher and for Revel and Binley Woods, the latter is higher. This presents some variation in the health profiles without indicating a clear trend. For Henley, income deprivation is much higher than the regional and national averages, and deaths from respiratory disease, the percentage of the community with a life-long limiting illness or disability and the percentage of the population with bad or very bad general health is higher than the national average. Therefore, for Henley the trend indicates poorer health than the regional and national averages.
- 12.8.49. The sensitivity of communities within Revel and Binley Woods, Henley and Wyken wards are considered to be **Medium**.

Health determinants

- 12.8.50. The health determinant categories as set out in DMRB LA 112 have been used to gather information on the communities of Coventry and Rugby, as presented in Table 12-11. These determinants reflect the physical and social aspects of the environment in which the three wards are situated that contribute towards their health. These health determining factors are therefore used, along with the health profile data, to predict the likely health outcomes of the Scheme on the communities.

Table 12-11 Health determinants for the Coventry and Rugby areas

Health determinant categories	Health determinants identified
The location and type of community, recreational and education facilities	<p>Within the wards of Revel and Binley Woods, Henley and Wyken, there are community, recreational and educational facilities. These facilities consist of schools, retail, and hotels and are listed in the land use and accessibility baseline section of this Chapter (11.7 Baseline conditions).</p> <p>Continuing provision of and access to these facilities during construction and operation have been assessed to determine</p>

Health determinant categories	Health determinants identified
	health outcomes for the population in Revel and Binley Woods, Henley and Wyken wards.
The location of green/ open space	<p>The following areas of green/ open space are located within Revel and Binley Woods, Henley and Wyken wards, within proximity of the Scheme:</p> <ul style="list-style-type: none"> • Coombe Abbey Park, east of the A46 (with a small area within the Order Limits) • Play park to the west of the A46 (Valencia Road), west of the A46 • Play park to the west of the A46 (Hepworth Road), west of the A46 • Field attached to Clifford Bridge Academy School, west of the A46 • Stoke Floods Nature Reserve, west of the A46 <p>Whilst there are some areas of vegetation within the study area such as green verges, there are no other areas identified within the study area for the public to visit for recreational use.</p> <p>Continuing provision of and access to these spaces during construction and operation have been assessed to determine health outcomes for the population in Revel and Binley Woods, Henley and Wyken wards in relation to green/ open space.</p>
The location of healthcare facilities	<p>There are healthcare facilities within the wards of Revel and Binley Woods, Henley and Wyken wards, within proximity of the Scheme, including:</p> <ul style="list-style-type: none"> • University Hospital Coventry, west of the A46 • Woodway Medical Centre, west of the A46 • Forum Health Centre, west of the A46 <p>Continuing provision of and access to these spaces during construction and operation have been assessed to determine health outcomes for the population in Revel and Binley Woods, Henley and Wyken wards in relation to green/ open space.</p>
Outline spatial characteristics of the transport network and usage in the area including the surrounding road network, PRoW, cycle ways, non-designated public routes, and public transport routes	<p>The main routes in Revel and Binley, Henley and Wyken wards are via the M6 from the east and west via the north of the A46, from the M69 from the north of the Scheme and via the A45 from the south of the Scheme.</p> <p>Usage data for the WCH facilities in the vicinity of the Scheme are provided in Table 12.8.</p> <p>Changes to the outline spatial characteristics of the transport network during construction and operation, in relation to impacts on human health have been assessed to determine health outcomes for the populations in Revel and Binley Woods, Henley and Wyken wards.</p>
Air quality management areas (AQMA) and ambient air quality	<p>The baseline conditions at the Scheme and the study area are summarised in ES Chapter 5 (Air Quality) (TR010066/APP/6.1).</p> <p>Sensitive air quality receptors include residential properties and schools, in addition to other community assets.</p> <p>The existing A46 Walsgrave Junction is located on the boundary of the Coventry AQMA, which encompasses all land within the City of Coventry's administrative boundary. The AQMA was</p>

Health determinant categories	Health determinants identified
	<p>declared due to historic exceedances of the annual mean NO₂ objective in the centre of Coventry.</p> <p>Rugby Borough Council have declared a single AQMA in the borough, located across the urban area of Rugby, however this is located 8km to the east of the Order Limits and is unlikely to be adversely affected by the Scheme.</p> <p>Changes to air quality during construction and operation in relation to impacts on human health have been assessed to determine health outcomes for the populations in Revel and Binley Woods, Henley and Wyken wards.</p>
<p>Areas recognised as sensitive to noise, (e.g., noise important areas (NIAs), noise management areas and the ambient noise environment)</p>	<p>The baseline conditions at the Scheme and the study area are summarised in ES Chapter 11 (Noise and Vibration) (TR010066/APP/6.1). Sensitive noise and vibration receptors include residential properties and schools, in addition to other community assets.</p> <p>There are six NIAs within the vicinity of the Scheme:</p> <ul style="list-style-type: none"> • three NIAs situated on the A4600 Antsy Road (IDs 324, 11796 and 14385) • two to the south-west on Brandon Road (ID 330) and Binley Road (ID 11800) • one on the A46 at Binley Junction (ID 14307). <p>Changes to noise and vibration during construction and operation, including changes to tranquillity in relation to impacts on human health have been assessed to determine health outcomes for the populations in Revel and Binley Woods, Henley and Wyken wards.</p>
<p>Sources and pathways of potential pollution (e.g., land/ water contamination)</p>	<p>The baseline conditions at the Scheme and study area are summarised in ES Chapter 9 (Geology and Soils) (TR010066/APP/6.1)</p> <p>Potential risks to road construction and maintenance workers to pollution is considered to be minor adverse.</p> <p>The concentrations of contaminants are at levels considered unlikely to cause risk to human health. Risks to human health for users/ occupiers of the A46 and B4082, and users/ occupiers of adjacent land areas, agricultural fields and paths, and off-site residential receptors is considered to be negligible adverse.</p> <p>There is considered a low likelihood that significant sustained generation of ground gas would occur. Controls and mitigation measures for ground gas in confined spaces are included in the Register of Environmental Actions and Commitments (REAC) which forms Appendix A to the First Iteration EMP (TR010066/APP/6.5).</p> <p>Sources and pathways of potential pollution during construction and operation, where there is the potential to impact human health, have been assessed to determine health outcomes for the populations in Revel and Binley Woods, Henley and Wyken wards.</p>
<p>Landscape amenity</p>	<p>The baseline conditions at the Scheme are summarised in the baseline of ES Chapter 7 (Landscape and Visual Effects) (TR010066/APP/6.1).</p>

Health determinant categories	Health determinants identified
	<p>Residential receptors are generally located west of the existing A46 on the outskirts of Coventry.</p> <p>Views from the residential areas are generally screened by surrounding tree cover, subtle landform undulations and tree cover on their edged limit views out. At most, glimpsed views are likely from some upper storey windows.</p> <p>Changes to landscape amenity during construction and operation, in relation to impacts on human health have been assessed to determine health outcomes for the populations in Revel and Binley Woods, Henley and Wyken wards.</p>
<p>Safety information associated with the existing affected road network (e.g., numbers killed and seriously injured)</p>	<p>Safety is inherent to the project and a reason for the inception of the Scheme as part of the government's Road Investment Strategy (RIS2). A assessment has been undertaken which estimates the improvement to accidents and collisions that is anticipated with the Scheme in place. This is discussed further in the Transport Assessment (TR010066/APP/7.3).</p> <p>Changes to safety during construction and operation, in relation to impacts on human health have been assessed to determine health outcomes for the populations in Revel and Binley Woods, Henley and Wyken wards.</p>

Future baseline

- 12.8.51. The future baseline will likely be characterised by continued population growth within and around the study area as residential development allocations get built out. As indicated by allocations in the Coventry City Council Local Plan (H2:3 Walsgrave Hill Farm) there is clear intent for housing growth in the area, which would likely impact on existing agricultural land use in the future. The likely population growth anticipated for the allocations would also mean a likely increase in walkers and cyclists using the local PRow network.
- 12.8.52. Increasing fuel prices and rate of inflation mean that some people may depend more on public transport, walking and cycling. Similarly local and national level policy aimed at encouraging modal shift towards active travel and public transport may increase dependency on these modes in the mid-to longer term.

12.9. Potential impacts

- 12.9.1. This section identifies potential impacts of the Scheme on land use and accessibility, which may result in significant effects. Although the human health assessment (following DMRB guidance) does not report significant effects, the potential impacts section highlights any impacts which would result in positive, negative neutral or uncertain health outcomes. These are summarised below.
- 12.9.2. There would be no property demolitions as a result of the Scheme.

12.9.3. The construction process would be undertaken in phases, details are provided in ES Chapter 2 (The Scheme) (TR010066/APP/6.1).

Construction

Land use and accessibility

12.9.4. Potential temporary construction impacts on land use and accessibility during the construction phase of the Scheme include the following:

- Increased construction traffic on the A46 and local roads leading to a temporary disruption to access private properties, community assets and businesses as a result of road closures and traffic management
- Temporary closure of the existing uncontrolled pedestrian crossing facility on the B4082 eastern arm of the Clifford Bridge Road roundabout
- Temporary closure of the informal footpaths which pass through the wooded area to the south east of the Clifford Bridge Road roundabout leading to the uncontrolled crossing facility. All other existing WCH routes or facilities are unlikely to be impacted.
- Temporary disruption at Hungerley Hall Farm to crop rotation patterns, potential short-term reduction in cattle herd size, and temporary limitations on straw storage capacity.
- Temporary reductions at Walsgrave Hill Farm Partnership in cereal and oil seed yields due to construction activities and land take.
- Temporary loss of crop revenue at Hungerley Hall Farm, short-term reduction in beef cattle income, and additional costs for temporary alternative cattle housing and feed storage.
- Temporary loss of crop revenue at Walsgrave Hill Farm Partnership.

Impacts upon access in Coombe Abbey Country Park are not anticipated as access is not available to the western side of the park.

Further information on temporary traffic management and road closures are presented on the Outline Traffic Management Plan (TMP) (TR010066/APP/7.5).

Human Health

12.9.5. Potential temporary construction impacts to human health which could occur during construction of the Scheme include:

- Temporary changes in access (by foot, cycle or car) to public transport, community assets including education, open/ green space and healthcare facilities
- Visual effects of new temporary infrastructure (i.e. satellite construction site compound) on sensitive visual receptors
- Effects of noise and vibration from construction plant and vehicles on communities and residential receptors, including effects on tranquillity

- Effects on changes in local air quality (including dust dispersal and deposition and odour) from construction vehicles and activities
- Effects from sources and pathways of potential pollution in relation to contamination during construction

Operation

Land use and accessibility

12.9.6. Potential long-term impacts resulting from the operation of the Scheme on land use and accessibility include the following:

- Changes to access to private properties, community land and assets, and businesses; including some increases in journey lengths.
- Improved provisions for WCH; a new signal-controlled pedestrian crossing on the B4082 eastern arm of the Clifford Bridge Road roundabout. The new controlled crossing will facilitate safe north to south crossing movements of the B4082.
- Permanent changes to land use at Hungerley Hall Farm and Walsgrave Hill Farm Partnership, resulting in long-term adjustments to farm operations and layout.
- Long-term changes to local traffic patterns and volumes due to the new road layout, potentially affecting access to properties, businesses, and community assets.
- Potential long-term economic impacts due to changes in accessibility and viability.
- Permanent changes to the visual landscape and local environment, which may affect property values. These have the potential to have beneficial impacts.
- Potential long-term effects on agricultural productivity due to reduced farm sizes and altered field layouts.
- Changes to noise levels and air quality in the vicinity, which may affect the usefulness of land. These have the potential to have beneficial and adverse impacts.

Human Health

12.9.7. This section presents the potential impacts of the proposals on health determinants and considers their potential to give rise to health effects with a negative, positive neutral or uncertain health outcome, as required in DMRB LA 112 Table 3.32. The nature and scale of predicted impacts has been considered in combination with the sensitivity of the baseline to inform the potential for effects. The judgement on health effects has also taken account of there being an identifiable pathway between the predicted impact on health determinant(s) and any effect on health outcomes.

12.9.8. Potential positive and negative impacts to human health which could occur during the operation of the Scheme include:

- Effects of changes in traffic noise and vibration, and air quality on communities and residential receptors, including effects on tranquillity
- Changes in access (by foot, cycle or car) to public transport, community assets including education, open/ green space and healthcare facilities
- Changes in community severance
- Reduced accident rates and severity on the Scheme

12.10. Design, mitigation and enhancement measures

Design

- 12.10.1. The development of the Scheme design has been an iterative process. The environment team has worked in close collaboration with the infrastructure design team to avoid or reduce environmental impacts through the Scheme design. This is referred to as embedded (or design) mitigation. The principles of the design and mitigation hierarchy outlined in DMRB LA 104 Environmental Assessment and Monitoring have been followed. The first principle being to avoid potential adverse effects, if at all feasible, before seeking to minimise or mitigate for any unavoidable impacts. Embedded mitigation for the Scheme are reported in ES Chapter 2 (The Scheme) (**TR010066/APP/6.1**).
- 12.10.2. Scheme design principles adopted to avoid or prevent adverse environmental effects are set out within the Scheme Design Report (**TR010066/APP/7.4**). This includes general principles and specific commitments that will inform the detailed design of the scheme. ES Chapter 3 (Assessment of Alternatives) details the design alternatives that have been considered, including the environmental factors which have influenced the decision-making.
- 12.10.3. The design, mitigation and enhancement measures that would be provided as part of the Scheme are described below.

Mitigation

- 12.10.4. Mitigation is included in the Register of Environmental Actions and Commitments (REAC) contained within the First Iteration EMP (**TR010066/APP/6.5**). The First Iteration EMP secured through Requirement 1 of the draft DCO will be developed into the Second Iteration EMP for implementation during construction which is secured by Requirement 4 of the draft DCO (**TR010066/APP/3.1**) (Commitment G1 of the REAC, Appendix A of the First Iteration EMP) (**TR010066/APP/6.5**). Further information on the First Iteration EMP is provided within Section 4.8 of ES Chapter 4 (Environmental Assessment Methodology) (**TR010066/APP/6.1**).

Construction

- 12.10.5. This section summarises the mitigation required during the construction of the Scheme. Unless stated all mitigation is considered to be embedded as it follows best practice measures and/or is required to achieve compliance with legislation.
- 12.10.6. Appropriate mitigation measures will be implemented through the First Iteration EMP (**TR010066/APP/6.5**) in accordance with DMRB LA 120 to mitigate air quality, noise, traffic and visual effects. Further information on air quality mitigation measures is presented in section 5.10 of ES Chapter 5 (Air Quality) (**TR010066/APP/6.1**). Details about mitigation measures for noise and vibration are presented in section 11.10 of ES Chapter 11 (Noise and Vibration) (**TR010066/APP/3.1**). Mitigation measures to mitigate visual effects are presented in section 7.10 of ES Chapter 7 (Landscape and Visual Effects) (**TR010066/APP/3.1**).
- 12.10.7. Based upon this population and human health assessment, the following measures are included in the REAC Appendix A within the First Iteration EMP (**TR010066/APP/6.5**):
- Traffic management measures will be put in place as part of the Construction Traffic Management Plan (CTMP), which will be developed from the Outline TMP (**TR010066/APP/7.5**) to ensure disruption is minimised on those travelling between communities and those travelling to facilities and businesses (Commitments G4 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).
 - Measures will also be identified to ensure that access is maintained to private property (Commitment G4 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)), and disruption to critical farming activities is kept to a minimum (Commitment PH1 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).
 - Liaise with bus companies in advance of works so that they plan their services and advise passengers accordingly (Commitment G5 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).
 - Communication with local residents will take place during construction to highlight potential periods of disruption. This will be via newsletters/letter drops, the National Highways Scheme webpage, and an appointed Community Liaison Officer (Commitment G5 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).
 - The National Highways Customer Contact Centre will be available to deal with queries and complaints from the public. An information line will be staffed and a complaint management system in place, used on other major infrastructure projects, to ensure complaints are investigated, action is taken, and the complainant receives a response (Commitment G5 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).

- Where a closure of a WCH route is required, safe and appropriate alternative routes would be provided to ensure access is maintained during construction. The Principal Contractor would agree all temporary diversion routes with the local authority. Appropriate signage for all closures or diversions would be used to provide sufficient notice of such closures or diversions (Commitment G4 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).

12.10.8. The following considerations, relating to agricultural activities, are included within the REAC within the First Iteration EMP (Commitment PH1 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)):

- The construction programme will be developed in consultation with farm owners where practicable to minimise disruption to critical farming activities, such as planting and harvesting periods, and to identify any activities that may disturb livestock. This is considered to be essential mitigation.
- Dust suppression measures will be implemented during construction to minimise impacts on crops and livestock.
- Temporary land-take during construction will be minimised where practicable.
- Any affected farm infrastructure (e.g., fences, gates, utility connections) will be replaced or relocated as appropriate.
- A temporary water drainage strategy will be produced as part of a Water Monitoring and Management Plan, that will be developed during detailed design for the Second Iteration EMP. This will include measures to address field drainage issues if they arise during the construction period, and to prevent flooding to adjacent farmland.

12.10.9. Any issues relating to a claim or compensation matters would be negotiated in accordance with statutory compensation provisions.

Operation

12.10.10. This section provides further details on the mitigation adopted for population and human health for the implementation of the Scheme. Unless stated, all mitigation is considered to be embedded.

- A new signalised pedestrian crossing on the eastern arm of the Clifford Bridge Road roundabout to facilitate north to south movements across the B4082. This is shown on ES Figure 12.3 (Design mitigation and enhancement measures (**TR010066/APP/6.2**)).
- Improved amenity such as appropriate planting. Improvements to amenity would benefit the aesthetic of the area, and consequently benefit wellbeing (Commitment G6 of the REAC, Appendix A of the First Iteration EMP (**TR010066/APP/6.5**)).

- The environmental mitigation areas may, in the long-term, provide additional opportunities for agri-environmental schemes, potentially offsetting some income loss at Hungerley Hall Farm and Walsgrave Hill Farm Partnership. Additionally, increased habitat areas could support beneficial insects for pollination and pest control, ultimately aiding in the long-term health and sustainability of crop operations.
- Much like the effect on Hungerley Hall Farm, the environmental mitigation areas may provide opportunities for agri-environmental schemes for Walsgrave Hill Farm Partnership, potentially offsetting some income loss.
- Increased habitat areas could support beneficial insects for pollination and pest control, ultimately aiding in the long-term health and sustainability of crop operations.

Enhancements

- 12.10.11. The Scheme incorporates enabling works for potential future WCH provision to be provided by others. This includes additional earth works which provides verge widening along the new section of the B4082 link road to accommodate the potential future provision of a segregated walking and cycling route and a section of shared use path by others (to LTN 1/20 standards). The enabling works also include the retention of Hungerley Hall Farm accommodation overbridge which National Highways will continue to maintain.
- 12.10.12. These enabling works have the potential to facilitate a new route from Clifford Bridge Road and the Binley Cycleway (to be delivered by Coventry City Council) to Coombe Abbey Park in the future by others, at a substantially reduced cost and disruption. Such a route would connect with committed and proposed future active travel schemes within Coventry and Warwickshire local authority areas.

12.11. Assessment of likely significant effects

Construction

- 12.11.1. The significance of identified effects after mitigation is outlined below. Impacts of moderate significance or above are considered to be a significant effect.

Land-use and accessibility

- 12.11.2. During construction, some journeys may be temporarily longer or would experience an increase in congestion due to construction traffic and traffic management measures, especially during peak periods. Traffic is likely to increase on construction haul routes between the existing Brinklow Road main site compound and the construction areas. The Scheme will utilise the existing Brinklow Road main site compound and a satellite compound to provide welfare facilities. The Outline TMP (**TR010066/APP/7.5**) defines the measures used to

reduce the impacts from construction traffic, including measures to reduce worker vehicle movements and to reduce HGV movements, particularly at peak periods with an overall aim to keep traffic moving.

- 12.11.3. Temporary land take required for the satellite construction compound and construction activities will be fully reinstated on completion of construction, where not required as part of the permanent Scheme.
- 12.11.4. The A46 would remain mostly open for use during the daytime, therefore disruptions should be minimised and traffic flows on the A46 and other local roads would be maintained, whilst allowing safe working at the interface between the existing road network and the Scheme. Road closures may take place on some evenings and weekends. Whilst there may be some disruption, access will be maintained during the construction period via diversion routes and disruption will be temporary. Therefore, the magnitude of the impact has been assessed as Minor adverse. Effects on access for private property and housing, community land and assets, development land and businesses are therefore assessed as **Slight adverse**.
- 12.11.5. An area of land on the west side of the A46, from north of the existing Walsgrave Junction to where the A46 crosses the River Sowe, has been allocated for development (H2:3) in the Coventry City Council Local Plan 2011 to 2031. There is currently no planning application submitted for this allocation and therefore, there is considered to be no impact on future jobs during construction and operation. The magnitude is considered to be **no change** and the effect has been assessed as **Neutral**.
- 12.11.6. Table 12-12 summarises the assessment of significant effects on private property and housing, community land and assets, development land and businesses during operation.

Table 12-12 Significance of impacts on private property and housing, community land and assets, development land and businesses during construction

Description of impact	Sensitivity	Magnitude of impact	Residual effects
Temporary disruption to access for private property and housing, development land and businesses during construction	Medium	Minor adverse	Slight adverse
Temporary disruption to access for community land and assets, during construction	Low	Minor adverse	Slight adverse
Impact on future jobs from development land in the study area	Medium	No change	Neutral

Agricultural land holdings

Hungerley Hall Farm – land-take

12.11.7. At Hungerley Hall Farm, there would be land take from agricultural land holdings to accommodate the proposed grade-separated junction, the B4082 link road and drainage ponds. This would result in impacts on farm enterprises including loss of arable land and summer grazing fields. Access to all other land at Hungerley Hall Farm will be maintained throughout construction.

12.11.8. Large portions of prime agricultural land will be removed from production during the construction phase. This represents a considerable portion of the farms' arable operation. The following sites fall within the Order Limits:

- 4.6ha (approximately) north of the central farmyard (approximately 4.1ha permanently and 0.5ha temporarily)
- 2.2ha (approximately) from the field south-west of the central farmyard, bordering the B4082 (approximately 2.1ha permanently and 0.1ha temporarily)
- 0.3ha (approximately) from the farmhouse garden
- 5.1ha (approximately) from the field to the east of the A46 (approximately 5.0ha permanently and 0.1ha temporarily)

Hungerley Hall Farm - farming activities

12.11.9. At Hungerley Hall Farm, a range of disruption to daily activities would include:

- Crop rotation patterns will need adjustment on large portions of land to accommodate the construction works.
- The beef cattle operation may need to adjust during the construction phase due to potential impacts on grazing land and housing facilities. The extent of this adjustment will depend on the assessment of the suitability of existing facilities during construction. Compensation matters for this effect, including any necessary temporary arrangement for cattle housing and feeding, will be negotiated in accordance with statutory compensation provisions. Access to one of the straw storage sheds would be impacted by construction works, impacting winter feed and bedding supplies.

Hungerley Hall Farm – access and infrastructure

12.11.10. Housing cattle on-site during construction may not be convenient. The Principal Contractor will develop the construction programme in liaison with the farm owners to minimise any disruption.

12.11.11. The farmhouse, which serves as a source of income through renting, will be affected by noise and interruptions during construction, which may make it difficult to attract tenants and impact the income stream. The effect of the

Scheme on the noise and vibration during construction is reported in the ES Chapter 11 (Noise and Vibration) (TR010066/APP/6.1).

- 12.11.12. The Scheme would permanently impact existing ditches within the Order Limits, the impact of which has been assessed within ES Chapter 13 (Road Drainage and the Water Environment) (TR010066/APP/6.1). A temporary water drainage strategy will be produced as part of a Water Monitoring and Management Plan, and will be developed during detailed design for the Second Iteration EMP. This will include measures to address field drainage issues if they arise during the construction period, and to prevent flooding to adjacent farmland.
- 12.11.13. The Scheme will not impact the utility supplies to Hungerley Hall Farm. Protection measures will be installed during the construction period if required.

Walsgrave Hill Farm Partnership - temporary land-take

- 12.11.14. At Walsgrave Hill Farm Partnership there would be temporary impacts including loss of arable land and loss of rural payments. The Order Limits affect approximately 5.7ha of Walsgrave Hill Farm's land, on either side of the existing A46. The temporary land-take includes valuable arable land used for cereal and oilseed production. This represents about 4.0% of the farm's total 140.5ha operation. The temporary land-take include valuable arable land used for cereal and oilseed production.
- 12.11.15. Furthermore, significant portions of Walsgrave Hill Farm's farmland falls within 250m of the Order Limits: approximately 27.8ha to the west and 31.46ha to the east of the A46. Although not directly acquired, these areas may be indirectly affected by their proximity to the Scheme.

Walsgrave Hill Farm Partnership - farming activities

- 12.11.16. At Walsgrave Hill Farm Partnership, disruptions to operations would include:
- Cereal and oilseed production could see a temporary reduction in total yield. This reduction would be temporary during the construction phase for areas that will be returned, and permanent for areas that will be permanently acquired.
 - Contract farming arrangements may need renegotiation due to reduced acreage. Land currently used for contract farming will be permanently reduced. During the construction phase, additional land will be temporarily unavailable for contract farming. It is currently unknown if additional land that is not affected by the Scheme is available for contract farming to mitigate this loss.

Walsgrave Hill Farm Partnership - access and infrastructure

- 12.11.17. The access to Walsgrave Hill Farm Partnership would not be impacted by the Scheme. No works to Farber Road are proposed.
- 12.11.18. No buildings or fixed equipment of the Walsgrave Hill Farm Partnership would be impacted by the Scheme during construction.
- 12.11.19. The Scheme would permanently impact existing ditches within the Order Limits, the impact of which has been assessed within ES Chapter 13 (Road Drainage and the Water Environment) (**TR010066/APP/6.1**). A temporary water drainage strategy will be produced as part of a Water Monitoring and Management Plan, that will be developed during detailed design for the Second Iteration EMP. This will include measures to address field drainage issues if they arise during the construction period, and to prevent flooding to adjacent farmland.
- 12.11.20. The significance of effects on agricultural land holdings during construction, after mitigation measures have been applied, is summarised in Table 12-13. All effects during construction are considered to be temporary.

Table 12-13 Significance of effects on agricultural land holdings during construction

Description of impact	Sensitivity	Magnitude of impact	Residual effects
Hungerley Hall Farm			
Temporary land-take	High	Moderate	Moderate adverse
Access and infrastructure	High	Major	Very Large adverse
Farming activities	High	Moderate	Moderate adverse
Walsgrave Hill Farm Partnership			
Temporary land-take	High	Minor	Moderate adverse
Access and infrastructure	High	Moderate	Large adverse
Farming activities	High	Minor	Moderate adverse

Walkers, cyclists and horse-riders

- 12.11.21. The Scheme would require the temporary closure of the existing uncontrolled pedestrian crossing facility on the B4082 eastern arm of the Clifford Bridge Road roundabout. During the closure, pedestrians wishing to travel north to south (and vice versa) along the footway on the eastern frontage of Clifford Bridge Road would be required to cross to the footway on the western frontage to complete their journeys. The Scheme would have a negligible impact on users as the diversion route would be approximately 20m longer. However, taking account of the reduced amenity of requiring users following the diversion route to

cross Clifford Bridge Road twice and applying professional judgement, the magnitude of the impact has been increased to **minor**. Effects are therefore assessed as **Moderate adverse** during the temporary construction period.

12.11.22. The Scheme would require the temporary closure of one of the informal footpaths which provide a connection to the existing uncontrolled crossing facility outlined above. The Scheme would have a **negligible** impact on users due to the availability of the alternative informal route. Effects are therefore assessed as **minor adverse**.

12.11.23. Construction of the Scheme would have **no change** on the other WCH facilities identified in Table 12-14. Effects are therefore assessed as **Neutral**.

Table 12-14 Significance of effects on walking, cycling and horse-riding provision during construction

Description of impact	Sensitivity	Magnitude of impact	Residual effects
Temporary closure of the existing uncontrolled pedestrian crossing facility on the B4082 eastern arm of the Clifford Bridge Road roundabout.	Very High	Minor	Moderate adverse
Temporary closure of one of the informal footpaths which provide a connection to an existing uncontrolled crossing facility.	High	Negligible	Minor adverse
Remaining WCH facilities identified in Table 12.8.	Very High - Medium	No change	Neutral

Human health

12.11.24. Temporary changes to the local environment (arising from a combination of noise, air quality, visual, and traffic effects) may potentially result in adverse and beneficial outcomes affecting the amenity and/or health of communities, with appropriate mitigation in place.

12.11.25. The Principal Contractor will be required to put in place measures to minimise noise, dust and visual effects. These mitigation measures are set out in the First Iteration EMP (**TR010066/APP/6.5**) and detailed in the respective chapters in this ES. Further details can be found in ES Chapter 5 (Air Quality), ES Chapter 7 (Landscape and Visual Effects) and ES Chapter 11 (Noise and Vibration) (**TR010066/APP/6.1**).

12.11.26. Effects of construction on human health determinants are described in Table 12-15.

Table 12-15 Residual construction effects on human health

Health Determinant	Predicted impacts on determinants	Health outcome
<p>Access to community, recreation and education facilities</p> <p>Access to green/ open space</p> <p>Access to healthcare facilities</p> <p>Outline spatial characteristics of the transport network and usage in the area including the surrounding road network, PRow, cycle ways, non-designated public routes and public transport routes)</p>	<p>Potential impacts</p> <p>For vehicle users and users of local bus routes, access to community, healthcare, recreation and education facilities may be disrupted and an increase in local traffic resulting in some delays, and route diversions resulting in some increased journey times. Disruption or prevention of access could potentially have negative outcomes for human health.</p> <p>For WCH users, one existing footway will be closed during the construction period (informal footpath providing a connection to an existing uncontrolled crossing facility and the uncontrolled pedestrian crossing facility will also be closed). This may disrupt access for some residents to community, recreation and education facilities.</p> <p>Physical inactivity is a primary contributor to a wide range of chronic diseases including, but not limited to, coronary heart disease, stroke and diabetes. Physical activity is important for the mental health of the population and helps to prevent obesity, therefore any temporary stopping up of paths for WCH users during construction would potentially have negative outcomes for human health.</p> <p>Mitigation</p> <p>For vehicle users and users of local bus routes, access to all facilities will be retained during the construction period via measures detailed in the CTMP. Construction diversion routes used would be clearly signposted and it would be ensured that access is possible at all times during construction, reducing the impact this may have on the facilities and those using them.</p> <p>Diversions have been proposed to ensure WCH paths are maintained throughout the construction period. Diversion routes would be agreed with the local authority and would reduce any adverse effects.</p> <p>Health outcomes</p> <p>It is not predicted that construction works would have a significant effect on human health as a result of changes to the health determinants regarding access and local networks, therefore the health outcome is assessed as neutral.</p>	Neutral
Existing and predicted levels of air pollution	<p>Potential impacts</p> <p>The Scheme has the potential to generate construction dust as a result of construction activities. The Health and Safety Executive states that <i>'Regular breathing of construction dust can cause diseases like lung cancer, asthma, Chronic Obstructive Pulmonary Disease (COPD) and silicosis. Construction workers have a high risk of developing these diseases because many common construction tasks can create high dust levels.'</i></p>	Neutral

Health Determinant	Predicted impacts on determinants	Health outcome
	<p><i>These diseases cause permanent disability and early death. Over 500 construction workers are believed to die from exposure to silica dust every year.'</i></p> <p>ES Chapter 5 (Air Quality) (TR010066/APP/6.1) states that there is the potential for residents and members of the communities to be temporarily affected by dust disturbance during the construction period. The construction phase of the Scheme is identified as causing a 'large' dust risk potential.</p> <p>Mitigation</p> <p>Standard mitigation measures for air quality will be implemented to ensure potential impacts in relation to dust disturbance are non- significant during the construction works. Prior to construction a dust management plan will be developed with measures to monitor the effectiveness of mitigation, as part of the EMP. There will be daily onsite and off-site inspections and a record of complaints/ exception dust events.</p> <p>Health Outcomes</p> <p>With the implementation of mitigation measures to reduce dust generation during construction outlined in ES Chapter 5 (Air Quality) (TR010066/APP/6.1), effects are expected to be non – significant. Therefore, changes to air pollution during construction are anticipated to result in a Neutral health outcome.</p>	
Existing and predicted levels of noise disturbance	<p>Potential impacts</p> <p>The Scheme has the potential to cause increased noise and vibration levels for nearby receptors during construction. The Health and Safety Executive states that <i>"noise is not just a nuisance. It can seriously damage your hearing. Many construction workers suffer from deafness, ringing in their ears and other illness as a result of excessive exposure to noise. Vibrating hand-held power tools or machinery used as a regular part of the job can cause permanent harm. A range of conditions, including vibration white finger, can result from frequent poorly controlled exposure. This is known as hand-arm vibration syndrome (HAVS)."</i></p> <p>ES Chapter 11 (Noise and Vibration) (TR010066/APP/6.1) states that there is potential for construction significant adverse effects due to construction noise and construction traffic.</p> <p>Mitigation</p> <p>Standard mitigation measures for noise and vibration will be implemented to ensure potential impacts in relation to noise disturbance are reduced during the construction works. A refinement of construction activities undertaken at night will be undertaken during detailed design and detailed within the Second Iteration EMP. There will be daily</p>	Negative

Health Determinant	Predicted impacts on determinants	Health outcome
	<p>onsite and off-site inspections and a record of complaints/ exception noise events.</p> <p>Health Outcomes</p> <p>With the implementation of mitigation measures to reduce noise and vibration during construction outlined in ES Chapter 11 (Noise and Vibration) (TR010066/APP/6.1), effects of vibration are expected to be non – significant. However, effects of construction activities and construction noise may result in a significant adverse effect. Therefore, changes to noise and vibration during construction are anticipated to result in an overall Negative health outcome.</p>	
Landscape amenity	<p>Potential impacts</p> <p>During construction, it is anticipated that there would be temporary adverse visual impacts on certain receptors. Impacts would result from the presence of construction activity and machinery, and associated infrastructure and loss of screening vegetation opening up short to medium range views. Key visual receptors which may experience significant effects are:</p> <ul style="list-style-type: none"> • residential receptors on Farber Road, Barrow Close, Dorchester Way and Hungerley Hall Farm • recreational receptors at Coombe Abbey Park including Coombe Pool <p>Users of PRoW in close proximity of the Scheme would experience temporary visual effects. Key visual receptors which may experience significant effects are:</p> <ul style="list-style-type: none"> • Sowe Valley • Dorchester Way Open Space • PRoW no. R75X at Walsgrave Hill <p>Mitigation</p> <p>During construction there will be some visual-related mitigation in place to reduce visual impacts, such as the protection of existing retained vegetation, keeping a well- managed and tidy site, minimising use of lighting at night, the return of temporary land take and carrying out works related to bunds or earthworks early in the construction programme to provide some mitigation screening to the construction activities and vegetation establishment.</p> <p>Health Outcomes</p> <p>Large and moderate adverse impacts are expected during construction. Therefore health outcome is considered to be Negative due to the visual disruption during the construction phase. However,</p>	Negative (temporary)

Health Determinant	Predicted impacts on determinants	Health outcome
	these impacts will be temporary and are not expected continue into operation.	
Sources and pathways of potential pollution (e.g., land/ water contamination)	<p>Potential impacts</p> <p>ES Chapter 9 (Geology and Soils) (TR010066/APP/6.1) has identified potential impacts on human health during construction as a result of increased potential for exposure to contaminated materials. However for users/ occupiers of the A46, users/ occupiers of adjacent land areas and paths, off-site residential receptors and construction workers, levels are likely to be low enough not to cause significant risk and has been classified as negligible.</p> <p>Mitigation</p> <p>Standard mitigation measures will be in place in regard to good practice, such as monitoring of potential ground gases and vapours in confined spaces, use of suitable personal protective equipment (PPE).</p> <p>Health Outcomes</p> <p>Human health risks to users/ occupiers of the A46, users/ occupiers of adjacent land areas and paths, off-site residential receptors and construction workers are anticipated to be Slight adverse during construction once mitigation measures are in place. As this will be temporary and is not regarded as significant, the health outcome has been considered as Neutral.</p>	Neutral
Safety	The construction of the Scheme is not considered to have an impact to the safety of communities or individual residents. Measures are included in the Outline TMP (TR010066/APP/7.5) to address potential safety risks during the construction of the Scheme.	Neutral

Operation

Land-use and accessibility

12.11.27. As noted in ES Chapter 3 (Assessment of Alternatives) (TR010066/APP/6.1), the Scheme objectives relate to improving safety and to support the smooth flow of traffic on the A46, with potentially **significant beneficial** effects in supporting the future economic growth aspirations of the region.

Private property and housing

12.11.28. There are no residential properties which take direct access off the existing A46 within the study area.

- 12.11.29. There would be no permanent property demolition as a result of the Scheme. There would be some land acquired permanently from Hungerley Hall Farm and Walsgrave Hill Farm Partnership, however, both farms would remain in operation after the Scheme is operational. The impact of permanent land take on Hungerley Hall Farm and Walsgrave Hill Farm Partnership in operation is assessed under 'agricultural land holdings'.
- 12.11.30. All private properties would have an access maintained, however, there might be a change in journey length for some properties as a result of the Scheme.
- 12.11.31. There are two main areas of residential properties located in the study area. Residential properties in Coventry are located to the west of the existing Walsgrave Junction; to the north and to the south of the B4082. As access to the A46 is the same for these properties, they have been considered collectively. There is a private property at Walsgrave Hill Farm, located approximately 400m north-east of the footpath overbridge over the A46. This property takes access off a private road, which leads to Coombe Fields Road. To access the A46 via vehicle, residents would access Coombe Fields Road, travel north then west on Central Boulevard to join the A46 via the slip road. The Scheme will not change this access therefore these properties are not considered further in this assessment.
- 12.11.32. Residents to the north and south of the B4082 wanting to travel north on the A46, would be required to undertake a permanent journey length increase for journeys to the northbound carriageway of the A46. This is due to the change in access to the Scheme junction. The access will be via the new section of the B4082 to the western roundabout of the grade separated junction, then north from the roundabout to join the A46 northbound carriageway. To this point of joining the A46 from the beginning of the new section of the B4082, there will be an increase in journey length for vehicles of approximately 0.14km. The magnitude is considered **negligible** due to the length of the change. Effects are therefore assessed as **Neutral**.
- 12.11.33. Residents to the north and south of the B4082 wanting to travel south on the A46, would be required to undertake a permanent journey length increase for journeys to the southbound carriageway of the A46. Rather than access via the B4082 and turn right at the existing Walsgrave Junction, vehicles will be required to take the new section of the B4082 to the western roundabout at the proposed grade separated junction, travel to the eastern roundabout then join the A46 southbound carriageway and travel south to reach the point at which vehicles currently join the A46 using the existing Walsgrave Junction. The increase in journey length to reach this point is approximately 1.7km. The magnitude is considered **minor**. Whilst the change is more than 1km, the safety benefits are

considered to outweigh the change. Effects are therefore assessed as **Slight adverse**.

12.11.34. Access to Hungerley Hall Farm will not change as a result of the Scheme, however an alternative access to the new section of the B4082 leading to the grade separated junction will be included as part of the Scheme. Compared to the existing access there would be a journey length decrease of approximately 570m to reach the A46 northbound carriageway (at the point at which the slip road joins the A46 following the grade separated roundabout). The magnitude is considered **minor** due to the removal of severance, via the provision of an additional access which would decrease journey length. Effects are therefore assessed as **Slight beneficial**.

12.11.35. There would be no impacts to the journey length or access for residents of private properties situated near to and north of University Hospital Coventry as residents will continue to enter the A46 from the M69 roundabout if traveling northbound. However, if residents look to travel southbound on the A46 and not use the M69 roundabout, they can access the A46 via the B4082 and will only be impacted at the point of change.

12.11.36. The significance of effects on private property and housing during operation, are summarised in Table 12-16.

Table 12-16 Significance of effects on private property and housing during operation

Description of impact	Sensitivity	Magnitude of impact	Residual effect
Journey length increase for residents to the north and south of the B4082 travelling north on the A46.	Medium	Negligible	Neutral
Journey length increase for residents to the north and south of the B4082 travelling south on the A46.	Medium	Minor	Slight adverse
Journey length decrease when accessing the A46 northbound from Hungerley Hall Farm	Medium	Minor	Slight beneficial

Community land and assets

12.11.37. The existing A46 experiences congestion during peak hours, creating a degree of severance and accessibility issues for local communities.

12.11.38. There is no community land or assets which take direct access off the existing A46 within the study area.

12.11.39. The change in journey length when accessing the A46 northbound and southbound carriageways would be the same as that described in private

property and housing, as access to the A46 would be the same from community land and assets via the B4082 and existing roundabout. Therefore, whilst the sensitivity is different, the magnitude of change is the same as that described in section 'private property and housing' paragraph 12.11.33.

12.11.40. There would be no impacts to the journey length or access for community land and assets situated near to and north of University Hospital Coventry. Users will continue to enter the A46 from the M69 roundabout if traveling northbound. However, if users look to travel southbound on the A46 and not use the M69 roundabout for entrance, they can access the A46 via the B4082 and will only be impacted at the point of change, as assessed in section 'private property and housing'.

12.11.41. The significance of effects on community land and assets during operation, are summarised in Table 12-17.

Table 12-17 Significance of effects on community land and assets during operation

Description of impact	Sensitivity	Magnitude of impact	Residual effect
Journey length increase when accessing community land and assets to the north and south of the B4082 travelling north on the A46.	Low	Negligible	Neutral
Journey length increase when accessing community land and assets to the north and south of the B4082 travelling south on the A46.	Low	Minor	Slight adverse

Development land and businesses

12.11.42. There are no businesses which take direct access off the existing A46 within the study area.

12.11.43. The existing A46 experiences congestion during peak hours, creating a degree of severance and accessibility issues for local communities.

12.11.44. The change in journey length when accessing the A46 northbound and southbound carriageways would be the same as that described in private property and housing, as access to the A46 would be the same from businesses via the B4082 and existing roundabout. Therefore the magnitude of change is the same as that described in section 'private property and housing'.

12.11.45. There would be no impacts to the journey length or access for businesses situated near to and north of University Hospital Coventry as users will continue to enter the A46 from the M69 roundabout if traveling northbound. However, if users look to travel southbound on the A46 and not use the M69 roundabout,

they can access the A46 via the B4082 and will only be impacted at the point of change, as assessed in section 'private property and housing'.

12.11.46. There would be no impacts to the journey length or access for development land and businesses situated near to and north of University Hospital Coventry. Users will continue to enter the A46 from the M69 roundabout if traveling northbound. However, if users look to travel southbound on the A46 and not use the M69 roundabout for entrance, they can access the A46 via the B4082 and will only be impacted at the point of change, as assessed in section 'private property and housing'.

12.11.47. The significance of effects on development land and businesses during operation are summarised in Table 12-18.

Table 12-18 Significance of effects on development land and businesses during operation

Description of impact	Sensitivity	Magnitude of impact	Residual effect
Journey length increase when accessing businesses to the north and south of the B4082 travelling north on the A46.	Medium	Negligible	Neutral
Journey length increase when accessing businesses to the north and south of the B4082 travelling south on the A46.	Medium	Minor	Slight adverse

Agricultural land holdings

Hungerley Hall Farm - Farming activities

12.11.48. At Hungerley Hall Farm, the suitability of using the existing barns for housing livestock during operation would need to be assessed due to the proximity of the Scheme. This may affect the farm's ability to house its beef cattle operation as it currently does. The structural stability of the buildings will not be affected by the construction and operation of the Scheme.

12.11.49. The farm does not engage in non-agricultural activities. However, the Scheme will result in a reduction in cropping areas and the loss of some summer grazing land for cattle. No buildings will be demolished, and access to Hungerley Hall Farm buildings will be maintained throughout operation.

12.11.50. Hungerley Hall Farm will experience a range of long-term operational changes. There will be some permanent changes to the farm layout, including a new access route to the B4082.

Hungerley Hall Farm - access and infrastructure

12.11.51. The straw sheds will not need to be relocated permanently. However, housing cattle on-site during construction may not be convenient, and it may not be suitable to continue doing so during operation of the Scheme.

12.11.52. The setting of the farmhouse, which serves as a source of income through renting, will be affected by the Scheme. The effect of the Scheme on the farmhouse for operation phases is reported in the ES Chapter 11 (Noise and Vibration) and ES Chapter 7 (Landscape and Visual Effects) (TR010066/APP/6.1).

12.11.53. Access to and use of the main yard area will be available during the operation of the Scheme.

12.11.54. The Scheme would impact existing ditches within the Order Limits, which would be replaced to suit the B4082 link road and associated infrastructure.

12.11.55. The Scheme will not impact the utility supplies to Hungerley Hall Farm. Protection measures will be installed during the construction period if required.

Hungerley Hall Farm - permanent land-take

12.11.56. The Scheme will result in the permanent loss of agricultural land, representing a reduction in the farm's productive arable land due to the following: expanded A46 carriageway and associated infrastructure, the B4082 link road, a detention basin and the area for environmental mitigation.

12.11.57. Hungerley Hall Farm occupies a total of 400ha associated with the business. The following areas of the Order Limits would be permanently acquired by the Applicant:

- 4.1ha (approximately) from the field north of the central farmyard. The remainder of this field is within the 250m of the Order Limit.
- 2.1ha (approximately) from the field south-west of the central farmyard, bordering the B4082. The remainder of this field is within the 100m of the Order Limit.
- 0.3ha from the farmhouse garden
- 5.0ha (approximately) from the field to the east of the A46. The field extends beyond 250m from the Order Limits, with 16.37ha (approximately) within 250m.

12.11.58. Ultimately, large portions of the farm will not be available after completion of the development. This long-term effect, coupled with the disruption caused to remaining land in the short-and medium-term, would result in significant implications for the overall operation of the farm.

Walsgrave Hill Farm Partnership - farming activities

12.11.59. The farm's gross margins will be negatively affected by the new road scheme, leading to a reduction in economies of scale. This is primarily due to the

loss of productive farmland and rural payments, resulting in a financial impact on the farm enterprise.

- 12.11.60. The trustees of the partnership assess the impact of the project development on the farm enterprise as 'moderate'. While the viability of the business is not at risk, it will require significant adjustments in the day-to-day management of the farm to adapt to the changes caused by the Scheme.

Walsgrave Hill Farm Partnership - access and infrastructure

- 12.11.61. The access to Walsgrave Hill Farm Partnership would not be impacted by the Scheme. No works to Farber Road are proposed.
- 12.11.62. No buildings or fixed equipment of the Walsgrave Hill Farm Partnership would be impacted by the Scheme during the operational phase.
- 12.11.63. The Scheme would impact existing ditches within the Order Limits, which would be replaced to suit the grade-separated junction and associated slip roads and infrastructure.

Walsgrave Hill Farm Partnership - permanent land take

- 12.11.64. The Scheme will result in the permanent loss of agricultural land, representing a reduction in the farm's productive arable land due to the following: grade-separated junction, slip roads and associated infrastructure, including a water quality swale.
- 12.11.65. The Walsgrave Hill Farm Partnership occupies a total of 140.5ha associated with the business. The following areas of the Order Limits would be permanently acquired by the Applicant:
- 3.13ha (approximately) from the fields west of the A46. 27.8ha of the remaining fields fall within 250m of the Order Limits.
 - 1.54ha (approximately) from the field east of the A46. 31.46ha of the remaining fields fall within 250m of the Order Limits.
- 12.11.66. The significance of effects on agricultural land holdings during operation are summarised in Table 12-19.

Table 12-19 Significance of effects on agricultural land holdings during operation

Description of impact	Sensitivity	Magnitude of impact	Residual effect
Hungerley Hall Farm			
Farming activities	High	Moderate	Moderate adverse
Access and infrastructure	High	Moderate	Moderate adverse

Description of impact	Sensitivity	Magnitude of impact	Residual effect
Permanent land-take	High	Moderate	Moderate adverse
Walsgrave Hill Farm Partnership			
Farming activities	High	Moderate	Moderate adverse
Access and infrastructure	High	Minor	Moderate adverse
Permanent land-take	High	Minor	Slight adverse

Walkers, Cyclists and Horse-riders

12.11.67. The Scheme would include the provision of a new signalised pedestrian crossing facility on the eastern arm of the Clifford Bridge Road roundabout to facilitate safe north to south movements across the B4082. Although the journey length for users would be unchanged, the improved amenity and potential road safety benefits of providing the crossing would result in a **slight beneficial** effect.

12.11.68. The Scheme includes retention of the Hungerley Hall Farm accommodation overbridge and passive provision (i.e. verge widening of the new B4082). The Scheme does incorporate enabling works for potential future WCH provision to be provided by others. This includes additional earth works which provides verge widening along the new section of the B4082 link road to accommodate the potential future provision of a segregated walking and cycling route and a section of shared use path by others. An assessment of the effects of this potential facility is excluded since it would not be provided by the Applicant.

Human health

12.11.69. The Scheme has the potential to reduce the number of accidents and collisions at the junction bringing potential **significant beneficial** health outcomes.

12.11.70. There is the potential for adverse and beneficial human health outcomes due to changes to amenity (arising from a combination of noise, air quality, visual, and traffic effects) as a result of the operation of the Scheme.

12.11.71. Effects of operation on human health determinants are described in Table 12-20.

Table 12-20 Health outcomes during operation

Health Determinant	Predicted impacts on determinants	Health outcome
Access to community,	Potential impacts	Positive

Health Determinant	Predicted impacts on determinants	Health outcome
recreation and education facilities Access to green/ open space Access to healthcare facilities Outline spatial characteristics of the transport network and usage in the area including the surrounding road network, PRow, cycle ways, non-designated public routes and public transport routes)	<p>During operation, for vehicle users and users of local bus routes, access to community, recreation and education facilities is expected to be improved following the opening of the Scheme. Whilst there will be some increases in vehicle journey lengths, the improvements will lead to safety benefits. There will be a new signalised crossing on the eastern arm of the Clifford Bridge Road roundabout to facilitate safe north to south movements across the B4082 which would not affect journey length for WCH users but increase safety. Impacts are therefore considered to be beneficial.</p> <p>Mitigation</p> <p>During operation, mitigation has not been identified as required.</p> <p>Health outcomes</p> <p>Due to the safety improvements made by the Scheme and the minor increases in vehicle journey length, the health outcome is considered to be Positive.</p>	
Existing and predicted levels of air pollution	<p>Potential impacts</p> <p>Air quality modelling was undertaken of the operational scenario, due to the potential for the Scheme to exceed levels of NO₂ and PM₁₀, to levels harmful to human health. ES Chapter 5 (Air Quality) (TR010066/APP/6.1) states that the air quality modelling undertaken demonstrates that significant effects on human receptors and therefore human health, are not anticipated. The air quality objectives for NO₂ and PM₁₀ are not predicted to be exceeded both without and with the Scheme in the opening year (2028).</p> <p>Mitigation</p> <p>As the levels of NO₂ and PM₁₀ are not considered to significantly impact human health, no mitigation is identified as required.</p> <p>Health Outcomes</p> <p>Changes to air quality during operation are anticipated to result in a Neutral health outcome.</p>	Neutral
Existing and predicted levels of noise pollution Effects on tranquillity in green/ open space	<p>Potential impacts</p> <p>During operation, there are potential effects due to the change in road traffic noise resulting from the Scheme. The effects associated with road traffic noise are not significant for most receptors of the Scheme. For receptors within buildings, there are minor adverse and beneficial impacts in the long term however absolute noise levels remain below the SOAEL, (including residential receptors off Valencia Road) resulting in a minor or negligible not significant effect.</p> <p><i>Changes in tranquillity</i></p> <p>Tranquil environments within green / open space are thought to benefit peoples' health and wellbeing, providing calm spaces in what may be otherwise busy environments. It is therefore important to protect and retain the tranquillity of these spaces.</p>	Neutral

Health Determinant	Predicted impacts on determinants	Health outcome
	<p>During operation, there is the potential for changes in tranquillity at areas of green/ open space. These spaces comprise:</p> <ul style="list-style-type: none"> • Stoke Floods Nature Reserve • Coombe Abbey Park • Play park to the west of the A46 (Valencia Road) • Play park to the west of the A46 (Hepworth Road) • Clifford Bridge Academy School • Footpath to the north of the Scheme (PRoW) • Footpath along the River Sowe (informal path) • Footpath along Smite Brook (informal path) <p>It has been determined that during the long term, for all noted areas of green/ open space, the change in noise level would be less than 2.9 decibels and therefore in line with DMRB LA111, this would be a minor magnitude of impact. However, compared with the long term change without the Scheme in place, there is no change as a result of the Scheme. Therefore it is not considered that there would be changes in noise levels as a result of the Scheme that would affect tranquillity at these receptors. There is a small area close to the road within Coombe Abbey Park with a slightly higher increase in noise levels (3.0- 4.9 dB) however this is to the west of the footpath.</p> <p>Mitigation</p> <p>As the noise level changes are not considered to significantly impact receptors during operation, no mitigation is identified as required.</p> <p>Health outcomes</p> <p>It is not considered that the Scheme would result in significant effects including on tranquillity at areas of green/ open space above the baseline. Therefore residual effects at receptors are considered to be non-significant. The overall health outcome has been classified as Neutral.</p>	
Landscape amenity	<p>Potential impacts</p> <p>There is the potential for significant adverse effects during operation on visual receptors, due to visual changes such as increased extents of highways infrastructure, loss of vegetation screening and residual viability of traffic movements. Residential receptors would comprise:</p> <ul style="list-style-type: none"> • residential receptors on Farber Road, Barrow Close, Dorchester Way and Hungerley Hall Farm • recreational receptors at Coombe Abbey Park including Coombe Pool <p>Users of PRoW in close proximity of the Scheme would experience visual effects. Key visual receptors which may experience significant effects are:</p> <ul style="list-style-type: none"> • Sowe Valley • Dorchester Way Open Space • PRoW no. R75X at Walsgrave Hill <p>Mitigation</p>	<p>Neutral</p> <p>Negative (Hungerley Hall Farm)</p>

Health Determinant	Predicted impacts on determinants	Health outcome
	<p>Overarching landscape mitigation has been recommended to reduce visual impacts from loss of vegetation cover. This includes the reinstatement of roadside vegetation along the A46 and creation of new areas of tree planting. Planting will be enhanced through measures such as consideration of diversity within plant and grass species mixes, building in resilience for climate change.</p> <p>Health Outcomes</p> <p>During the first year following the opening of the Scheme, visual effects are anticipated to be large adverse for most residential receptors. By year 15, the significance of visual effects would reduce to slight beneficial for residents, except for at Hungerley Hall Farm, where effects are anticipated to be moderate adverse.</p> <p>For users of PRoW no. R75X, impacts are anticipated to be large adverse during the opening year, however due to the maturation of planting, effects are anticipated to be slight beneficial during year 15.</p> <p>For users of local footpaths at Sowe Valley and Dorchester Way, effects are anticipated to be varying degrees from minor adverse to neutral at year 1 and year 15.</p> <p>Health outcomes are anticipated to be Neutral for all receptors except for Hungerley Hall Farm, which is anticipated to be Negative.</p>	
Sources and pathways of potential pollution (e.g., land/ water contamination)	<p>Potential impacts</p> <p>ES Chapter 9 (Geology and Soils) (TR010066/APP/6.1) has identified that during operation, negligible adverse impacts are anticipated on users/occupiers of the A46 and B4082, users/occupiers of adjacent land areas; agricultural fields, paths and off-site residential receptors.</p> <p>Concentrations of contaminants and ground gases on the Scheme are at levels unlikely to cause risk to human health.</p> <p>Mitigation</p> <p>No mitigation has been identified as being required.</p> <p>Health Outcomes</p> <p>Human health risks to users/occupiers of the A46 and B4082 are anticipated to be Neutral during operation. For users/occupiers of adjacent land areas; agricultural fields, paths and off-site residential receptors human health risks are anticipated to be slight adverse during operation, due to their high and very high sensitivity. The health outcome has therefore been considered as Neutral.</p>	Neutral
Safety	<p>During operation, the Scheme is not considered to have an impact on the safety of communities or individual residents. The overall aim of the Scheme is to alleviate strategic traffic problems and congestion, and associated safety issues, at the existing Walsgrave Junction of the A46 Coventry Eastern bypass and the B4082, east of Walsgrave.</p> <p>The health outcome has therefore been considered as Positive.</p>	Positive

12.12. Monitoring

- 12.12.1. Monitoring will be undertaken in accordance with the requirements of the First Iteration EMP (**TR010066/APP/6.5**). During the construction phase of works, and in accordance with Requirement 4 of the draft DCO (**TR010066/APP/3.1**) a Second Iteration EMP will secure the monitoring requirements and procedures to reduce or eliminate impacts on the environment.
- 12.12.2. The EMP includes monitoring actions for noise (NV1-3) and air quality (AQ1) in the REAC (Annex A of the First iteration EMP (**TR010066/APP/6.5**)).
- 12.12.3. Once built and operational, the significant effects reported in section 12.11 would be permanent and unchanging, therefore no monitoring would be required.

12.13. Conclusions

- 12.13.1. Overall, impacts on population and human health are predominately non-significant once the Scheme is operational.
- 12.13.2. Potential impacts of the Scheme during construction include disruption to accessing private property and housing, community land and assets and development land and businesses due to road closures and construction traffic, and disruption to WCH route use. A CTMP will be in place to mitigate construction traffic and road closure related impacts.
- 12.13.3. During construction there is anticipated to be Very **Large adverse** effects on Hungerley Hall Farm, in relation to access and infrastructure; and **Moderate adverse** effects on land take and impacts to farming activities. There are also anticipated to be **Large adverse** effects at Walsgrave Hill Farm Partnership in relation to access and infrastructure. For WCH users, the temporary closure of the uncontrolled pedestrian crossing facility on the B4082 eastern arm of the Clifford Bridge Road roundabout would result in **Moderate adverse** effects.
- 12.13.4. During operation there are anticipated to be some changes to access for private property and housing, community land and assets and businesses. This will result in some changes to journey lengths however it is not anticipated that this would be significant.
- 12.13.5. During operation there is anticipated to be **Moderate adverse** effects on Hungerley Hall Farm in relation to farming activities, access and infrastructure and permanent land take. There are anticipated to be **Moderate adverse** effects on Walsgrave Hill Farm Partnership during operation in relation to farming activities, **Moderate adverse** effects to access and infrastructure and **Slight adverse** effects on permanent land take. Some **Slight beneficial** effects at Hungerley Hall Farm and Walsgrave Hill Farm Partnership in relation to

environmental considerations at the farms, such as potential for agri-environmental schemes and increased habitat areas supporting beneficial insects for pollination and pest control. For WCH users, there would be beneficial impacts during operation. The new signalised pedestrian crossing facility on the eastern arm of the Clifford Bridge Round roundabout would provide safety benefits facilitating north to south movement across the B4082, resulting in a beneficial effect.

- 12.13.6. Incorporating mitigation outlined in ES Chapter 5 (Air Quality), ES Chapter 7 (Landscape and Visual Effects), ES Chapter 9 (Geology and Soils), ES Chapter 11 (Noise and Vibration) (**TR010066/APP/6.1**), the majority of health outcomes are deemed to be **Neutral** or **Positive** during construction and operation. The exception is effects due to construction noise and construction traffic which may result in a significant effect and therefore a **Negative** health outcome.

Acronyms

Acronym	Meaning
AADT	Annual average daily traffic
ARG UK	Amphibian and Reptile Group
AQMA	Air quality management area
BHS	British Horse Society
CCC	Coventry City Council
CRoW Act	Countryside and Rights of Way Act
DCO	Development Consent order
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ES	Environmental Statement
IEMA	Institute of Environmental Management and Assessment
LCWIP	Local Cycling and Walking Infrastructure Plan
LTN	Local Transport Note
NN NPS	National Networks National Policy Statement
OHID	Office for Health Improvement and Disparities
PHH	Population and human health
PRoW	Public Right of Way
RIS	Road Investment Strategy
SoS	Secretary of State
SPD	Supplementary Planning Document
SRN	Strategic Road Network
VMS	Variable message sign
WCC	Warwickshire City Council
WCH	Walkers, Cyclists and Horse- Riders

Glossary

Term	Definition
Accessibility	The ability of users to access land, property, infrastructure, businesses and community assets.
Access	The means by which to approach or enter land, property and assets.
Agricultural Land Holdings	Land and associated infrastructure for the purpose of agricultural production, e.g. arable farming, dairy farming etc.
Businesses	Land and buildings for the purpose of commercial/industrial enterprise.
Community	A group of people living in the same place or having a particular characteristic in common.
Community land and assets	Land, buildings and infrastructure providing a service/resource to a community, e.g. open spaces, village greens, village halls, healthcare and education facilities etc.
Development land	Land identified in national or local plans, policies or strategies for development (including intensification of existing uses) and land subject to planning permission.
Health Determinants	Personal, social, economic and environmental factors which determine the health status of individuals and communities.
Human Health	A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity
Health Outcome	The health status of an individual, group or population, attributable to a planned intervention (e.g. a project).
Health profile	Statistical picture of the baseline health conditions and trends within an area. NOTE: A profile can be built up for a variety of scales (e.g. ward, Local Authority or more strategic levels e.g. Local Enterprise Partnerships).
Journey length	Physical length of a journey.
Land-take	Temporary or permanent use of land for a project which takes it from private or public landholdings.
Population	All individuals located in a particular location (this can be local, regional or at a national scale).
Private property and housing	Land, buildings and infrastructure for the purpose of residential use.

Term	Definition
Severance	The extent to which members of communities are able (or not able) to move around their community and access services/facilities.
Strategic housing sites	Large scale sites/land allocated in local planning policy for the provision of residential land use.
Strategic employment sites	Large scale sites/land allocated in local planning policy for the provision of employment land use.

References

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