

A303 Amesbury to Berwick Down

TR010025

6.3 Environmental Statement Appendices

Appendix 13.2 Human Health

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

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13.1 Introduction

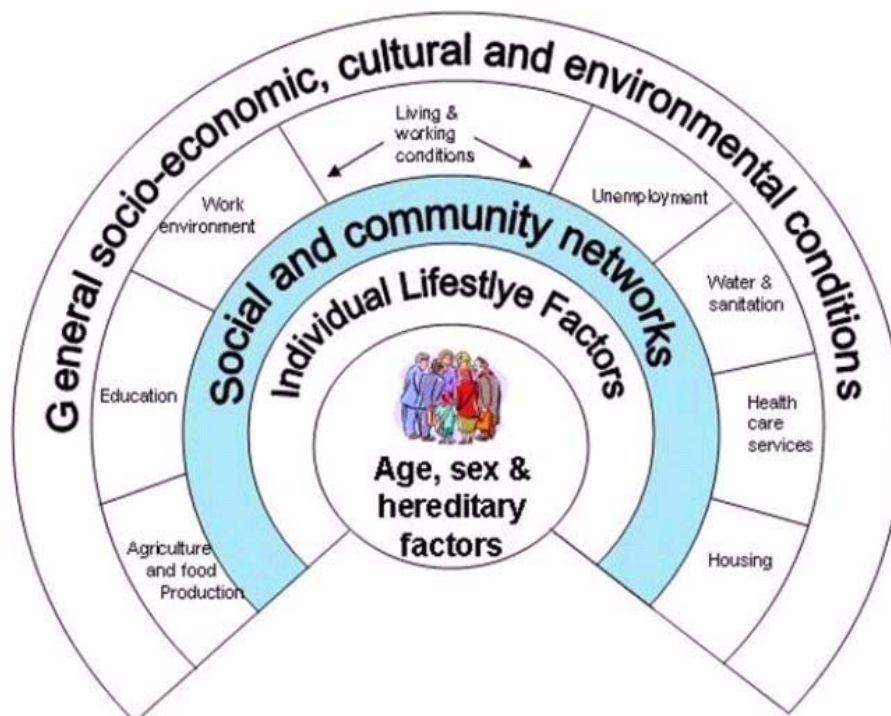
13.1.1 This Appendix provides additional detail to the methodology for the assessment of effects on human health set out within Chapter 13: People and Communities of this Environmental Statement (ES). A full analysis of the Scheme's impact on the determinants of health is presented in support of the assessment of human health detailed at Section 13.9 of the ES.

13.2 Methodology

13.2.1 Factors that have the most significant influence on the health of a population are called 'determinants of health'; these include an individual's genetics and their lifestyle, the surrounding environment, as well as policy, cultural and societal issues. The interrelationship between these factors is shown in Plate 13.1.1.

13.2.2 Within a population there can also be health 'inequalities'. The WHO defines these as "differences in health status or in the distribution of health determinants between different population groups. For example, differences in mobility between elderly people and younger populations or differences in mortality rates between people from different social classes" (Ref .1). This cumulative assessment of human health effects has taken account of these factors and considered how the Scheme may influence the physical and mental health wellbeing of local residents and inhabitants of the study area.

Plate 13.1.1: The Wider Determinants of Health



Source: World Health Organisation (Ref. 1.1)

13.2.3 Table 13.1.2 below, sets out the health determinants identified as being relevant to the Scheme together with the key potential health impacts associated with each.

Table 13.2.1: Human Health Determinants

Health Determinant	Potential Health Impact
Access to healthcare services and other social infrastructure	Strong, vibrant, sustainable and cohesive communities require good quality, accessible public services and infrastructure. Access to social infrastructure and other services is a key component of Lifetime Neighbourhoods. Encouraging the use of local services is influenced by accessibility, in terms of transport and access into a building, and the range and quality of services offered. Access to good quality health and social care, education (primary, secondary and post-19) and community facilities has a direct positive effect on human health. Opportunities for the community to participate in the planning of these services has the potential to impact positively on mental health and wellbeing and can lead to greater community cohesion.
Access to open space and nature	Providing secure, convenient and attractive open/green space can lead to more physical activity and reduce levels of heart disease, strokes and other ill-health problems that are associated with both sedentary occupations and stressful lifestyles. There is growing evidence that access to parks and open spaces and nature can help to maintain or improve mental health. The patterns of physical activity established in childhood are perceived to be a key determinant of adult behaviour; a growing number of children are missing out on regular exercise, and an increasing number of children are being diagnosed as obese. Access to play spaces, community or sport facilities such as sport pitches can encourage physical activity. There is a strong correlation between the quality of open space and the frequency of use for physical activity, social interaction or relaxation.
Air quality, noise and neighbourhood amenity	The quality of the local environment can have a significant impact on physical and mental health. Pollution caused by construction, traffic and commercial activity can result in poor air quality, noise nuisance and vibration. Poor air quality is linked to incidence of chronic lung disease (chronic bronchitis or emphysema) and heart conditions and asthma levels of among children. Noise pollution can have a detrimental impact on health resulting in sleep disturbance, cardiovascular and psycho-physiological effects. Good design and the separation of land uses can lessen noise impacts.
Accessibility and active travel	Convenient access to a range of services and facilities minimises the need to travel and provides greater opportunities for social interaction. Buildings and spaces that are easily accessible and safe also encourage all groups, including older people and people with a disability, to use them. Discouraging car use and providing opportunities for walking and cycling can increase physical activity and help prevent chronic diseases, reduce risk of premature death and improve mental health.
Access to work and training	Employment and income is a key determinant of health and wellbeing. Unemployment generally leads to poverty, illness and a reduction in personal and social esteem. Works aids recovery from physical and mental illnesses.

Health Determinant	Potential Health Impact
Social cohesion and neighbourhoods	Friendship and supportive networks in a community can help to reduce depression and levels of chronic illness as well as speed recovery after illness and improve wellbeing. Fragmentation of social structures can lead to communities demarcated by socio-economic status, age and/or ethnicity, which can lead to isolation, insecurity and a lack of cohesion. Voluntary and community groups, properly supported, can help to build up networks for people who are isolated and disconnected, and to provide meaningful interaction to improve mental wellbeing. Lifetime Neighbourhoods places the design criteria of Lifetime Homes into a wider context. It encourages planners to help create environments that people of all ages and abilities can access and enjoy, and to facilitate communities that people can participate in, interact and feel safe.
Climate change	There is a clear link between climate change and health. The available literature is clear that local areas should prioritise policies and interventions that 'reduce both health inequalities and mitigate climate change' because of the likelihood that people with the poorest health would be hit hardest by the impacts of climate change. Planning is at the forefront of both trying to reduce carbon emissions and to adapt urban environments to cope with higher temperatures, more uncertain rainfall, and more extreme weather events and their impacts such as flooding. Poorly designed homes can lead to fuel poverty in winter and overheating in summer contributing to excess winter and summer deaths. Developments that take advantage of sunlight, tree planting and accessible green/brown roofs also have the potential to contribute towards the mental wellbeing of residents.

13.2.4 The following health and well-being determinants have been excluded from the qualitative assessment of the potential effects as they are not considered to be capable of being influenced by the Scheme:

- a) Housing quality and design;
- b) Crime reduction and community safety;
- c) Access to healthy food; and
- d) Minimising the use of resources (considered within Chapter 12 Materials).

13.3 **Assessment of Potential Human Health Effects**

13.3.1 The tables below set out in detail the assessment of the potential human health impacts and effects associated with the proposed Scheme during the construction and operational phases supplementary to the assessment presented in Chapter 13 of the ES.

Table 13.2.2: Access to Healthcare Services and other Social Infrastructure

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal retain or re-provide existing social infrastructure?	No	The Scheme would not have an impact on the provision of existing health or social care services, or influence the demand for and/or capacity of public services.	During construction: N/A During operation: N/A	N/A
Does the proposal assess the impact on healthcare services?	Yes	<p>The Scheme would not have an impact on the provision of existing health or social care services, or influence the demand for and/or capacity of public services.</p> <p>As set out in the People and Communities Chapter (Section 13.9), the realignment of A303 north of Winterbourne Stoke and the provision of a grade-separated junction at the A303 West of Longbarrow Roundabout will reduce severance experienced by residents when accessing healthcare facilities in Amesbury. Improved access to healthcare is an essential component of creating sustainable, healthy communities.</p>	During construction: N/A During operation: +	N/A
Does the proposal include the provision or replacement of a healthcare facility and does the facility meet NHS requirements?	No	The Scheme does not include the provision of healthcare facilities.	During construction: N/A During operation: N/A	N/A

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal assess the capacity, location and accessibility of other social infrastructure, e.g. schools, social care and community facilities?	Yes	<p>The Scheme would not have an impact on the provision of existing schools, social care and community facilities.</p> <p>During periods of the construction phase, eastbound and westbound A303 traffic will be restricted. In addition, areas beneath the Eastern Bridge and Western Bridge of the Countess Roundabout will be temporarily closed. However, diversions/other relevant access points will be provided where required. With these mitigation measures, traffic impacts on local community assets resulting from the scheme construction are anticipated to be minimised.</p> <p>During the operational phase, entry to the A303 from Amesbury Road, Allington Track and Byway AMES2 will be closed permanently. However, the scheme would improve connectivity to community facilities located in Amesbury with the surrounding settlements, particularly Winterbourne Stoke. This would occur through anticipated relief from community severance which is currently experienced.</p>	<p>During construction: 0 During operation: +</p>	Implementation of suitable mitigation measures.
Does the proposal explore opportunities for shared community use and co-location of services?	No	The Scheme does not include or require the provision of community facilities.	<p>During construction: N/A During operation: N/A</p>	N/A
Does the proposal contribute to meeting primary, secondary and post 19 education needs?	No	The Scheme does not include or require the provision of education facilities.	<p>During construction: N/A During operation: N/A</p>	N/A

Table 13.2.3: Access to Open Space and Nature

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal retain and enhance existing open and natural spaces?	Yes	<p>During construction, traffic management areas, temporary working and storage areas, material stockpiles, haul roads and provision for site compounds are expected. Existing open and natural spaces will be retained and remain usable during construction with amenity of users remaining largely unchanged.</p> <p>During operation, the new 'green bridges' would connect existing natural spaces and allow the movement of wildlife, maintain existing agricultural access and provide crossings for existing and new bridleways and public footpaths. In addition, a new 'green' byway will be created through the WHS along the route of the existing A303. The removal of the surface section of the A303 through the WHS and the relocation of much of this section of road into tunnel and deep cutting would significantly reduce road traffic noise levels in the vicinity of Stonehenge and much of this part of the WHS. Access to the natural space in this location will be directly enhanced through the provision of this route, and its connections with existing routes and other new routes within the Scheme to the west. Improved access to the entrance to Parsonage Down NNR would also arise.</p> <p>An area of informal public open space located adjacent to byway AMES1 and Allington Track would be permanently required for the construction and operation of the Scheme. However replacement open space</p>	<p>During construction: 0 During operation: +</p>	<p>Implementation of suitable mitigation measures such as diversions to access routes during construction where required.</p>

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		<p>which is equivalent to or greater in size than the area required would be provided prior to construction. The replacement open space would be adjacent to where the existing area is located.</p>		
<p>In areas of deficiency, does the proposal provide new open or natural space, or improve access to existing spaces?</p>	<p>Yes</p>	<p>During periods of the construction phase, eastbound and westbound A303 traffic will be restricted. In addition, areas beneath the Eastern Bridge and Western Bridge of the Countess Roundabout will be temporarily closed. However, diversions/other relevant access points will be provided where required to maintain accessibility.</p> <p>During operation, the new 'green bridges' would connect existing natural spaces and allow the movement of wildlife, maintain existing agricultural access and provide crossings for existing and new bridleways and public footpaths. In addition, a new 'green' byway will be created through the WHS along the route of the existing A303. Provision is also made within the Scheme to maintain the existing function of the PRowS with suitably located overbridges.</p> <p>The Scheme also includes the provision of a new NMU route along the detrunked/downgraded A303 west of Winterbourne Stoke running through to the Longbarrow Junction. A further NMU route extending to the north and south of the junction along the existing A360 will also be constructed. The new NMU routes will improve accessibility and connectivity for communities including Winterbourne Stoke</p>	<p>During construction: 0 During operation: +</p>	<p>Implementation of suitable mitigation measures such as diversions to access routes during construction where required.</p>

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		and Amesbury. Such provision would also increase opportunities for physical activity.		
Does the proposal provide a range of play spaces for children and young people?	No	The Scheme does not provide play spaces for children and young people.	During construction: N/A During operation: N/A	None required.
Does the proposal provide links between open and natural spaces and the public realm?	Yes	During construction, changes to journey times, local travel patterns, and certainty of route for NMUs will arise from the temporary closures and diversions of PRowWs through direct land take and provision of access routes required for the construction of the Scheme. However, diversions/other relevant access points will be provided which will mitigate any potential impact on routes linking open and natural space. During operation, the new 'green bridges' would connect existing natural spaces and allow the movement of wildlife, maintain existing agricultural access and provide crossings for existing and new bridleways and public footpaths. In addition, new 'green' NMU routes will be created through the WHS along the route of the existing A303 and A360. Provision is also made within the Scheme to maintain the existing function of the PRowWs with suitably located overbridges.	During construction: 0 During operation: +	Implementation of suitable mitigation measures such as diversions to access routes during construction where required.
Are the open and natural spaces welcoming, safe and accessible for all?	No	The Scheme does not provide new open and natural spaces.	During construction: N/A During operation: N/A	N/A
Does the proposal set out	Yes	The proposed Scheme includes the provision of	During construction:	Continuous maintenance of

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
how new open space will be managed and maintained?		new NMU routes which will be managed and maintained by HE.	N/A During operation: +	new and existing NMU routes by HE and responsible bodies.

Table 13.2.4: Air Quality, Noise and Neighbourhood Amenity

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal minimise construction impacts such as dust, noise, vibration and odours?	Yes	<p>Residents of the ward of Amesbury West are considered to experience existing poor levels of health as identified by indicators, most notably that the proportion of the population with a general health classification of '<i>bad or very bad</i>' is greater than the average for England and the number of people aged over 65 is also higher than recorded nationally. These residents are therefore considered most susceptible to such effects from the perspective of human health.</p> <p>The assessment of effects undertaken in respect of construction noise conclude that there is a risk that significant adverse effects experienced by residents of some properties due to construction impacts. The site clearance works and earthworks have been identified as the construction activities with the greatest potential to generate noise. The temporary effects on receptors due to fugitive emissions of dust are assessed to be not significant.</p> <p>Any effects would be managed through the use of best practicable means included in the OEMP and the use of mitigation measures as outlined in the air quality and noise and vibration chapters (Section</p>	During construction: 0 During operation: N/A	Implementation of mitigation measures outlined in Sections 5.8 and 9.8 of the ES.

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
		5.8 and Section 9.8 of the ES respectively).		
Does the proposal minimise air pollution caused by traffic and energy facilities?	Yes	<p>The air quality chapter (Section 5.6 of the ES) identifies the existing air quality conditions in the area.</p> <p>Residents of the ward of Amesbury West are considered to experience existing poor levels of health as identified by indicators in Section 13.6 of the people and communities chapter. These residents are considered most susceptible to such effects from the perspective of human health.</p> <p>During construction, emissions from HGVs and traffic management effects are assessed to be not significant. Any impacts would be managed through the use of best practicable means included in the OEMP and the use of mitigation measures,</p> <p>During operation, the Scheme would cause a redistribution of traffic on the local highway network, resulting in a decrease in traffic flows at some junctions and an increase at other junctions. Changes to the A303 arising from the Scheme will result in reduced journey times and congestion, which in turn reduces air pollution. There is thus the potential for a positive effect overall on human health of residents in the study area to arise from the Scheme owing to improved air quality.</p>	<p>During construction: 0</p> <p>During operation: +</p>	Implementation of mitigation measures outlined in Section 5.8 of the ES.
Does the proposal minimise noise pollution caused by	Yes	The noise and vibration assessment (Section 9.6 of the ES) identifies the existing noise conditions in the area. Residents of the ward of Amesbury West	<p>During construction: 0</p> <p>During operation: +</p>	Implementation of mitigation measures outlined in Section 9.8 of the ES.

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>traffic and commercial uses?</p>		<p>are considered to experience existing poor levels of health as identified by indicators in Section 13.6 of the people and communities' chapter.</p> <p>During construction, the Scheme would result in some temporary noise effects which would be significant at some receptors including in Amesbury West.</p> <p>However, these impacts would be managed using best practicable means included in the OEMP and the use of mitigation measures as outlined in the noise and vibration chapter (Section 9.8).</p> <p>Once operational the Scheme would result in both significant beneficial and adverse permanent traffic noise effects. Beneficial effects would be experienced in Winterbourne Stoke, along the B390 and at Stonehenge Cottages due to reduced traffic flows, with adverse effects experienced at Foredown House in Winterbourne Stoke and on High Street and Church Street and around Countess Roundabout due to increased noise from traffic. The removal of the surface section of the A303 through the WHS and the relocation of much of this section of road into tunnel and deep cutting would reduce road traffic noise levels in the vicinity of Stonehenge and much of this part of the WHS. There is thus predicted to be a positive effect overall on human health of residents in the study area to arise from the Scheme in regard to traffic and commercial uses.</p>		

Table 13.2.5: Accessibility and Active Travel

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal prioritise and encourage walking (such as through shared spaces)?</p>	<p>Yes</p>	<p>During construction, changes to journey times, local travel patterns, and certainty of route for NMUs will arise from the temporary closures and diversions of PRoWs through direct land take and provision of access routes required for the construction of the Scheme. However, diversions/other relevant access points are to be provided which will mitigate any potential impact on NMu routes.</p> <p>The proposed construction of new 'green bridges' northwest of Scotland Lodge Farm, east of Winterbourne Stoke and over the Longbarrow Junction will connect to new and existing NMu routes to provide additional opportunity for recreational walking journeys in the local area.</p> <p>During operation, the provision a tunnel in the Stonehenge WHS and the downgrading the existing A303 in this location would provide additional opportunity for recreational walking journeys for residents of Winterbourne Stoke, Shrewton and other villages in the River Till valley.</p>	<p>During construction: 0 During operation: +</p>	<p>Implementation of suitable mitigation measures such as diversions to access routes during construction where required.</p>

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal prioritise and encourage cycling (for example by providing secure cycle parking and cycle lanes)?	Yes	<p>During construction, temporary closure and diversion of some PRowS are expected. However, diversions/other relevant access points are anticipated to be provided.</p> <p>During the operational phase, the scheme would provide shared cycleways to encourage cycling. New cycleways are proposed on the northern side of new A303 alignment to the west of Winterbourne Stoke to Yarnbury Castle (new restricted byway) and east from Winterbourne Stoke to the new Longbarrow Junction (new bridleway). The proposed cycleways also link into the new NMU routes and 'green' restricted byway.</p>	<p>During construction: 0 During operation: +</p>	Implementation of suitable mitigation measures such as diversions to NMU routes during construction where required.

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal connect public realm and internal routes to local and strategic cycle and walking networks?</p>	<p>Yes</p>	<p>During construction, temporary closure and diversion of some PRowS are expected. However, diversions/other relevant access points are anticipated to be provided.</p> <p>The construction of new 'green bridges' northwest of Scotland Lodge Farm, east of Winterbourne Stoke and over the Longbarrow junction will provide opportunity for recreational journeys within and across the Stonehenge WHS and partly facilitating improved pedestrian and cycling journeys in the local area.</p> <p>During operation, the provision a tunnel in the Stonehenge WHS and the downgrading the existing A303 in this location would reduce severance and provide additional opportunity for recreational activities for residents of Winterbourne Stoke, Shrewton and other villages in the River Till valley.</p> <p>In addition, the provision of a new cycle route between Winterbourne Stoke and Amesbury will provide a connection to Route 45 of the National Cycle Network.</p>	<p>During construction: 0 During operation: +</p>	<p>Implementation of suitable mitigation measures such as diversions to access or NMU routes during construction where required.</p>

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal include traffic management and calming measures to help reduce and minimize road injuries?</p>	<p>Yes</p>	<p>Construction traffic impacts will be minimised through the OEMP and associated traffic management plans. The construction contractor would liaise with Wiltshire Council and the police to agree and implement a Traffic Management Plan. Mitigation to minimise vehicular user severance on the highway network, where reasonable and practicable, includes the implementation of a phased construction programme, and may include intelligent transport systems to implement variable speed limits and lane control and variable message signs.</p> <p>Appropriate mechanisms to communicate with local residents would be set up to highlight potential periods of disruption (for example, web-based, newsletters, newspapers, radio announcements etc.) and an appropriate communication strategy will be developed.</p> <p>The Scheme's highway design is based on good practice, as embodied in the Design Manual for Roads and Bridges (DMRB). Verges, both inside and outside of the tunnel, have been designed to accommodate emergency walkways, signs, vehicle restraint systems, communication equipment and laybys as required.</p>	<p>During construction: 0 During operation: +</p>	<p>As part of the design process, appropriate safety measures have been included on approach roads to the route.</p>

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Is the proposal well connected to public transport, local services and facilities?	Yes	<p>During construction, there may be temporary diversions or delays which may affect the bus routes in the local area and the access to local facilities.</p> <p>The construction of new 'green bridges' northwest of Scotland Lodge Farm, east of Winterbourne Stoke and over the Longbarrow Junction will connect to new and existing NMU routes. These routes will improve connectivity to community resources for residents of Winterbourne Stoke.</p> <p>During operation, the provision of a tunnel in the Stonehenge WHS and the downgrading the existing A303 in this location would reduce severance for residents of Winterbourne Stoke, Shrewton and other villages in the River Till valley accessing community services in Amesbury and Larkhill.</p> <p>As set out in Section 13.9, changes to the A303 arising from the Scheme and will result in reduced journey times, improved condition of the road network. Improved route certainty will improve the provision of public transport services.</p>	<p>During construction: 0 During operation: +</p>	<p>Implementation of suitable mitigation measures such as diversions to roads or NMU routes during construction where required.</p>
Does the proposal seek to reduce car use by reducing car parking provision, supported by the controlled parking zones, car clubs and travel plans measures?	No	N/A	<p>During construction: N/A During operation: N/A</p>	N/A

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal allow people with mobility problems or a disability to access buildings and places?</p>	<p>Yes</p>	<p>During construction, temporary diversions and closures to PRowS and footpaths may have a differential impact on people with mobility issues and footpaths that have a higher use of groups with protected characteristics. However, diversions/other relevant access points are anticipated to be provided.</p> <p>During operation, new NMU facilities will improve connectivity for pedestrians and cyclists between local settlements as well as increasing opportunities for active travel for all including health benefits. This is a beneficial impact that can be shared by groups with protected characteristics including children, young people, older people and people with disabilities.</p>	<p>During construction: 0 During operation: +</p>	<p>Implementation of suitable mitigation measures such as diversions to roads or NMU routes during construction where required.</p>

Table 13.2.6: Access to Work and Training

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal provide access to local employment and training opportunities, including temporary construction and permanent end-use jobs?	Yes	<p>The construction phase of the proposed scheme is anticipated to provide net additional employment opportunities associated with the construction activities.</p> <p>No direct impacts on employment are expected as a result of the operation of the Scheme. However, the operation of the Scheme may improve accessibility to local employment and training opportunities with indirect benefits on mental health and well-being.</p>	<p>During construction: +</p> <p>During operation: +</p>	A local employment and procurement policy would help to ensure that recruitment involving contractors during the construction stage and businesses during the operation stage where applicable is inclusive and that opportunities are available to all protected characteristic groups. This should include a requirement for contractors to adhere to national or local schemes to promote employment amongst under-represented protected characteristic groups, e.g. the Disability Two Ticks scheme.
Does the proposal provide childcare facilities?	No	The Scheme given its nature does not include the provision of childcare facilities.	<p>During construction: N/A</p> <p>During operation: N/A</p>	None required.
Does the proposal include managed and affordable workspace for local businesses?	No	The Scheme given its nature does not include the provision of workspace for local businesses.	<p>During construction: N/A</p> <p>During operation: N/A</p>	None required.

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal include opportunities for work for local people via local procurement arrangements?	Yes	The construction phase of the Scheme is anticipated to provide net additional employment opportunities.	During construction: + During operation: N/A	A local employment and procurement policy would help to ensure that recruitment involving contractors during the construction stage and businesses at the operation stage is inclusive and that opportunities are available to all protected characteristic groups. This should include a requirement for contractors to adhere to national or local schemes to promote employment amongst under-represented protected characteristic groups, e.g. the Disability Two Ticks scheme.

Table 13.2.7: Social Cohesion and Lifetime Neighbourhoods

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
<p>Does the proposal connect with existing communities, i.e. layout and movement which avoids physical barriers and severance and land uses and spaces which encourage social interaction?</p>	<p>Yes</p>	<p>As part of the ES, the people and communities assessment (Section 13.9 of the ES) assesses the impact of the Scheme on community severance.</p> <p>During the construction phase, temporary severance issues may occur due to disruption to existing road usage. However, these impacts may be mitigated through the provision of diversions and other relevant access points.</p> <p>During the operational phase, the scheme would reduce community severance along eight of the road sections along the Scheme or surrounding roads (Table 13.25). However, the Scheme will cause new severance to be created between communities in four road sections (Table 13.25 of the ES). In addition, downgrading of the existing A303 carriageway to form a restricted byway would remove the existing severance across the central part of the WHS and allow opportunities to open up the WHS landscape for increased public access using public rights of way. This would represent a substantial benefit. However, levels of social interaction can be influenced by a number of other factors, such as the availability and quality of community facilities, open and play space.</p>	<p>During construction: 0 During operation: +</p>	<p>None required.</p>
<p>Does the proposal include a mix of uses and a range of community facilities?</p>	<p>No</p>	<p>The Scheme does not include the provision of community facilities as not required.</p>	<p>During construction: N/A During operation: N/A</p>	<p>N/A</p>

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal provide opportunities for the voluntary and community sectors?	No	The Scheme does not provide direct opportunities for the voluntary and community sectors.	During construction: N/A During operation: N/A	N/A
Does the proposal address the six key components of Lifetime Neighbourhoods?	Yes	The Scheme has the potential to address the 'Built Environment' component of Lifetime Neighbourhoods. Street design and road maintenance has been found to be crucial to old people's ability and confidence in going outside.	During construction: N/A During operation: +	N/A

Table 13.2.8: Climate Change

Assessment Criteria	Relevance to Scheme	Details and Evidence	Potential Health Impact	Further Action or Mitigation Recommended
Does the proposal incorporate renewable energy?	No	The Scheme does not incorporate renewable energy.	During construction: N/A During operation: N/A	Renewable energy creation and/or low carbon transportation options will be implemented where relevant.
Does the proposal ensure that buildings and public spaces are designed to respond to winter and summer temperatures, ie ventilation, shading and landscaping?	Yes	As part of the ES, the climate assessment (Section 14.9) assesses the climate impacts of the scheme. During the operation phase in respect of climate change resilience the Scheme may be vulnerable to a range of potentially significant impacts. As identified in Chapter 14, based on the mitigation built into the design and assumed management practices, UKCP09 climate change projections, information from other environmental disciplines, and details on scheme design, none of the potential impacts identified will be significant (and are therefore classed as non-significant).	During construction: N/A During operation: +	Resilient design measures will be implemented where relevant.
Does the proposal incorporate sustainable urban drainage techniques?	Yes	The operational phase is likely to result in polluted runoff and accidental pollution. The mitigation embedded into the drainage design of the Scheme would prevent or mitigate for any pollution incidents, the measures incorporated are stated in Chapter 11: Road Drainage and Water Environment, the Drainage Strategy and the OEMP.	During construction: N/A During operation: 0	Implementation of appropriate mitigation measures and on-going maintenance.

13.4 References

Ref 13.1.1: World Health Organisation, (2006). Constitution of the World Health Organisation.

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