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Figure 15.1
Figure 15.2

Health and wellbeing Study Area
Open Spaces and Physical Activity

Version history

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15. Health and Wellbeing

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15. Health and Wellbeing

15.1 Introduction

15.1.1 This chapter presents the assessment of the likely effects of the Yorkshire Green Energy Enablement Project (referred to as ‘the Project’ or ‘Yorkshire GREEN’ throughout this chapter) with respect to health and wellbeing; defined by the World Health Organisation (WHO) as “*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*”¹. Likely effects include access to healthcare facilities, access to open space and neighbourhood amenity. It should be read in conjunction with the Project description provided in **Chapter 3: Description of the Project, Volume 5, Document 5.2.3** and with respect to relevant parts of the following chapters:

- **Chapter 6: Landscape and Visual Amenity, Volume 5, Document 5.2.6**
- **Chapter 12: Traffic and Transport, Volume 5, Document 5.2.12;**
- **Chapter 13: Air Quality, Volume 5, Document 5.2.13;**
- **Chapter 14: Noise and Vibration, Volume 5, Document 5.2.14;** and
- **Chapter 16: Socio-economics, Volume 5, Document 5.2.16.**

15.1.2 This chapter describes:

- the legislation, policy and technical guidance that has informed the assessment (**Section 15.2**);
- consultation and engagement that has been undertaken and how comments from consultees relating to health and wellbeing have been addressed (**Section 15.3**);
- the methods used for baseline data gathering (**Section 15.4**);
- overall baseline (**Section 15.5**);
- embedded environmental measures relevant to health and wellbeing (**Section 15.6**);
- the scope of the assessment for health and wellbeing (**Section 15.7**);
- the methods used for the assessment (**Section 15.8**);
- the assessment of health and wellbeing effects (**Section 15.9**);
- assessment of cumulative (inter-project) effects (**Section 15.10**); and
- a summary of the significance conclusions (**Section 15.11**).

¹ World Health Organisation (2021). Constitution of the World Health Organisation. (online) (Accessed August 2022).

Project overview

15.1.3 The Project is divided into six sections for ease of reference as indicated in **Figure 1.2, Volume 5, Document 5.4.1**. In summary the Project comprises the following new infrastructure within the Order Limits.

- Section B (North-west of York Area):
 - Shipton North and South 400kV cable sealing end compounds (CSECs) and 230m of cabling;
 - the 2.8km YN 400kV overhead line (north of proposed Overton Substation);
 - Overton 400/275kV Substation; and
 - two new sections of 275kV overhead line south of Overton Substation: the XC 275 kV overhead line to the south-west (2.1km) and the SP 275kV overhead line to the south-east (1.5km);
- Section D: Tadcaster Tee West and East 275kV CSECs; and 350m of cabling; and
- Section F: Monk Fryston 400kV Substation (adjacent to the existing substation).

15.1.4 Works to existing infrastructure within the Order Limits would comprise:

- Section A (Osbalwick Substation): Minor works at Osbalwick Substation comprising the installation of a new circuit breaker and isolator along with associated cabling, removal and replacement of one gantry and works to one existing pylon. All substation works would be within existing operational land.
- Section B (North-west of York Area): Reconductoring of 2.4km of the 2TW/YR 400kV overhead line and replacement of one pylon. A mixture of decommissioning, replacement and realignment of 5km of the existing XCP 275kV Poppleton to Monk Fryston overhead line between Moor Monkton and Skelton. To the south and south-east of Moor Monkton the existing overhead line would be realigned up to 230m south from the current overhead line and the closest pylon to Moor Monkton (340m south-east) would be permanently removed. A 2.35km section of this existing overhead line permanently removed between the East Coast Mainline (ECML) Railway and Woodhouse Farm to the north of Overton.
- Section C (Moor Monkton to Tadcaster): Works proposed to the existing 275kV Poppleton to Monk Fryston (XC) overhead line comprise replacing existing overhead line conductors, replacement of pylon fittings, strengthening of steelwork and works to pylon foundations.
- Section D (Tadcaster Area): Replacement of one pylon on the Tadcaster Tee to Knaresborough (XD) 275kV overhead line route.
- Section E (Tadcaster to Monk Fryston). Works proposed to the existing 275kV Poppleton to Monk Fryston (XC) overhead line comprise replacing existing overhead line conductors, replacement of pylon fittings, strengthening of steelwork and works to pylon foundations.
- Section F (Monk Fryston Area): Reconfiguration of the existing XC Poppleton to Monk Fryston overhead line at its southern end to connect into the new substation at Monk Fryston; Reconfiguration of the Monk Fryston to Eggborough 400kV 4YS overhead line to connect into the new substation at Monk Fryston.

15.1.5 Please refer to **Chapter 3: Description of the Project, Volume 5, Document 5.2.3** for more detailed information on the different components of the Project.

Limitations and assumptions

- 15.1.6 This chapter reports on findings of the assessment of the effects of the Project with respect to health and wellbeing.
- 15.1.7 The assessment of the health and wellbeing effects has been carried out against a benchmark of current population, health and socio-economic baseline conditions prevailing around the Project, as far as is possible within the limitations of such datasets and in consideration of future changes to these conditions.
- 15.1.8 Baseline data is subject to a time lag between collection and publication. As with any dataset, these conditions may be subject to change over time which may influence the findings of the assessment.
- 15.1.9 Given the lack of clear industry-recognised methodology in the assessment of health effects in EIA, particularly in respect of significance, the assessment presented in this chapter is qualitative and is based on the framework provided by the Healthy Urban Development Unit (HUDU)/NHS Planning for Health Rapid HIA Toolkit⁴.

15.2 Relevant legislation, planning policy and technical guidance

15.2.1 This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to health and wellbeing. Further information on policies relevant to the Project is provided in **Chapter 5: Legislation and Policy Overview, Volume 5, Document 5.2.5**.

Legislation

15.2.2 A summary of the relevant legislation is set out in **Table 15-1**.

Table 15-1 – Legislation relevant to the health and wellbeing assessment

Legislation	Legislative Context
The Health and Social Care Act 2012 ²	<p>Outlines the Secretary of State’s duty to promote and improve the 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 GPs and health centres; and• Improvements to the treatments and services offered to patients. <p>The Act addresses the regulation of the NHS at a national and local level, and also introduced changes</p>

² UK Government (2012). Health and Social Care Act 2012. (Online) Available at: <https://www.legislation.gov.uk/ukpga/2012/7/contents/enacted> (Accessed 31 October 2022).

Legislation

Legislative Context

such as the abolition of NHS Trusts, support for the production of Joint Strategic Needs Assessments (JSNA), and establishment of Health and Wellbeing boards at a local authority level. These boards have been established for the purpose of advancing the health and wellbeing of people within each local authority area and will aim to “*encourage persons who arrange for the provision of any health or social care services in that area to work in an integrated manner*”.

Health and Care Act 2022³

In April 2022, the Government passed a new Health and Care Act 2022. The new Act proposes new health reforms in England, removes existing competition rules and formalises Integrated Care Systems (ICS). It also grants the health secretary authority over the health service.

The Secretary of State for health has increased power to direct the NHS, create new NHS trusts, intervene in local service reconfiguration and amend or abolish arm’s length bodies. There will also be a new duty for the Secretary of State to publish a report at least once every five years on workforce planning.

Planning policy

15.2.3 A summary of the relevant national and local planning policy is set out in **Table 15-2**. In September 2021, the Department of Business, Energy and Industrial Strategy (BEIS) consulted upon a review of energy National Policy Statements (NPS) with consultation closing on 29 November 2021. The energy NPS’ were reviewed to reflect the policies and broader strategic approach set out in the ‘Energy White Paper, Powering our net zero future’ published by BEIS in December 2020⁴, and ensure a planning framework was in place to support the infrastructure requirement for the transition to net zero. There are no substantive changes with regard to health and wellbeing within those draft Energy NPS’ which are considered to be relevant to the Project.

³ UK Government (2022). Health and Care Act 2022. (Online) Available at: <https://www.legislation.gov.uk/ukpga/2022/31/contents/enacted> (Accessed 31 October 2022).

⁴ HUDU (2019). Planning for Health Rapid HIA Tool, Fourth Edition. (online) (Accessed August 2022).

Table 15-2 – Planning policy relevant to the health and wellbeing assessment

Policy	Policy Context
National planning policy	
Overarching National Policy Statement for Energy (EN-1) ⁵	<p>Paragraphs 4.13.1 to 4.13.5 and Section 5.10: Land Use</p> <p>Sets out requirements for the assessment of health and wellbeing effects of energy projects that fall within the scope of the National Policy Statement.</p> <p>The method of assessment is detailed in Section 15.8.</p>
National Policy Statement for Electricity Networks Infrastructure (EN-5) ⁶	<p>Section 2.10: Electric and Magnetic Fields (EMFs)</p> <p>Sets out additional technology-specific considerations for electricity networks beyond those described in NPS EN-1.</p> <p>It identifies that EMFs can have both direct and indirect effects on human health.</p> <p>EMF effects have been scoped out of the assessment in this chapter. Information on why EMF effects have been scoped out of the assessment is included in Chapter 4: Approach to Preparing the ES, Volume 5, Document 5.2.4, specifically Section 4.11 with this being considered where relevant in this chapter. However, this policy requirement has also been addressed in a separate technical note on EMF provided in support of the DCO application (Volume 6, Document 6.3).</p>
National Planning Policy Framework (NPPF) ⁷	<p>The NPPF sets out various policies with respect to the health objectives of the planning system.</p> <p>Chapter 8 states planning should aim to support healthy and safe communities as part of creating sustainable development.</p> <p>The key theme relating to health and its wider determinants emphasises the importance of encouraging “<i>strong, vibrant and healthy communities</i>” by creating a good quality-built environment with accessible local services that reflect community needs and support wellbeing.</p>

⁵ Department of Energy and Climate Change (DECC), (2011). National Policy Statement for Energy (EN-1). (online) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf (Accessed August 2022).

⁶ DECC, (2011). Electricity Networks Infrastructure (EN-5). (online) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47858/1942-national-policy-statement-electricity-networks.pdf (Accessed August 2022).

⁷ Ministry of Housing, Communities and Local Government (MHCLG), (2021). National Planning Policy Framework. (online) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004408/NPPF_JULY_2021.pdf (Accessed August 2022).

Policy	Policy Context
Local planning policy	This policy requirement is addressed in Section 15.7 (Scope of the assessment), Section 15.8 (Assessment methodology), and Section 15.9 (Assessment of health and wellbeing effects).
Harrogate District Local Plan, 2014-2035 ⁸	<p>Policy HP3: Local Distinctiveness Development should incorporate high quality building, urban and landscape design that protects, enhances or reinforces features that contribute to local distinctiveness.</p> <p>Policy HP4: Protecting Amenity Developments should be designed to ensure that they will not result in significant adverse impacts on the amenity of occupiers and neighbours.</p> <p>Policy HP5: Public Rights of Way Ensures the protection of public rights of way so that the routes and their existing recreational and amenity value are not undermined by new development.</p> <p>Policy HP6: Protection of Existing Sport, Open Space and Recreation Facilities Ensures the protection of existing outdoor public and private sport, open space and recreational facilities.</p> <p>Policy HP8: Protection and Enhancement of Community Facilities Ensures the protection of land or premises currently or last in community use (including community/village halls, schools, colleges, nurseries, places of worship, health services, care homes, libraries, public houses, and village shops or post offices that cater for day-to-day needs in rural communities).</p> <p>Policy NE4: Landscape Character Proposals that will protect, enhance or restore the landscape character of Harrogate district for its own intrinsic beauty and for its benefit to the economic, environmental and social well-being of the district will be supported.</p> <p>Policy NE5: Green and Blue Infrastructure Ensures the protection and enhancement of the social, environmental and economic benefits of existing green infrastructure features and/or seeks the incorporation of new green infrastructure features within their design.</p>

⁸ Harrogate District Council, (2020). Harrogate Local Plan. (online) Available at: <https://www.harrogate.gov.uk/planning-policy-guidance/harrogate-district-local-plan-2014-2035> (Accessed August 2022).

Policy	Policy Context
Hambleton Local Plan 2022 ⁹	<p>Policy S1: Sustainable Development Principles Seeks to ensure that developments make a positive contribution towards the sustainability of communities, enhance the environment and adapt to and mitigate the impact of climate change.</p> <p>Policy E1: Design All developments should be of a high quality, integrating successfully with their surroundings in terms of form and function, reinforcing local distinctiveness and helping to create a strong sense of place.</p> <p>Policy E2: Amenity All proposals will be expected to provide and maintain a high standard of amenity for all users and occupiers, including both future occupants and users of the proposed development as well as existing occupants and users of neighbouring land and buildings, in particular those in residential use.</p> <p>Policy IC3: Open space, sport and recreation Seeks to protect and enhance open space, Local Green Space and sport and recreational facilities in order to support the health and well-being of local communities.</p> <p>Policy IC4: Community Facilities Proposals that provide for new or enhanced community facilities will be supported if the proposed facility will be accessible to the community it is intended to serve and the development would not detract from the character of the local area.</p>
Leeds City Council Saved Unitary Development Plan Review, 2006 ¹⁰	<p>Policy N43: Informal outdoor recreation Supports proposals for informal outdoor recreation and sports facilities provision in the countryside.</p> <p>Policy LT6b: Waterways and public rights of way Seeks where appropriate to secure footpath access and public rights of way, having regard to public safety and nature conservation interests.</p>
Leeds Core Strategy, 2019 ¹¹	Policy P9: Community facilities and other services

⁹ Hambleton District Council (2022). Hambleton Local Plan 2022. (online) Available at: <https://www.hambleton.gov.uk/downloads/file/2745/hambleton-local-plan-final-february-2022> (Accessed August 2022).

¹⁰ Leeds City Council, (2006). Unitary Development Plan Review 2006. (online) Available at: https://www.leeds.gov.uk/docs/FPI_UDP_001%20Volumen%201%20Written%20Statement.pdf (Accessed August 2022).

¹¹ Leeds City Council, (2019). Core Strategy (as amended by the Core Strategy Selective Review 2019). (online) Available at: <https://www.leeds.gov.uk/Local%20Plans/Adopted%20Core%20Strategy/Consolidated%20Core%20Strategy%20with%20CSSR%20Policies%20Sept%202019.pdf> (Accessed August 2022).

Policy	Policy Context
Saved Policies of the York Local Plan, 2005 ¹²	<p>States the importance of access to local community facilities and services, such as education, training, places of worship, health, sport and recreation and community centres, to be important to the health and wellbeing of a neighbourhood. These should be accessible by foot, cycling, or by public transport in the interests of sustainability and health and wellbeing.</p> <p>Policy G1: Enhancing and extending green infrastructure Green Infrastructure/corridor function of the land should be retained and improved. Opportunities should be taken to protect and enhance the Public Rights of Way (PRoW) network through avoiding unnecessary diversions and by adding new links.</p>
City of York draft Local Plan – Publication Draft, 2018 ¹³	<p>Policy GP7: Open Space Development on open space will only be permitted where: a) there will be no detrimental effect on local amenity or nature conservation; and b) compensatory provision of an equivalent size and standard is provided by the applicant in the immediate vicinity of the site proposed for development.</p> <p>Policy T2a: Existing Pedestrian/Cycle Networks States that development proposals should enhance existing pedestrian and cycle networks or other rights of way.</p> <p>Policy DP2: Sustainable Development Sustainable Development can be defined as ‘<i>meeting the needs of the present without compromising the ability of future generations to meet their own needs</i>’. As indicated in the NPPF⁷, the purpose of the planning system is to contribute to the achievement of sustainable development.</p> <p>Development should meet a series of sustainable development principles which include ‘creating a prosperous city for all’ which includes supporting strategic employment locations and protecting and enhancing the visitor economy.</p> <p>Policy DP3: Sustainable Communities Development should contribute towards sustainable communities by following principles such as respecting</p>

¹² York City Council, (2005). York Local Plan (saved policies). (online) Available at: <https://www.york.gov.uk/downloads/file/2808/the-local-plan-2005-main-document> (Accessed August 2022).

¹³ York City Council, (2018). York draft Local Plan. Publication draft (February 2018). (online) Available at: <https://www.york.gov.uk/downloads/file/1314/cd001-city-of-york-local-plan-publication-draft-regulation-19-consultation-february-2018-> (Accessed August 2022).

Policy	Policy Context
Upper Poppleton and Nether Poppleton Neighbourhood Plan, 2016-2036 ¹⁴	<p>the historic character and appearance of the green spaces landscapes.</p> <p>Policy HW1: Protecting Existing Facilities</p> <p>The Council will work with local communities and voluntary sector organisations to help preserve and re-use existing community assets.</p> <p>Section 6: Health and Wellbeing</p> <p>With regards to health and wellbeing, the draft Local Plan sets out the Council's ambition to help create happy, healthy and resilient communities and for all residents to have the best possible physical and mental health throughout the course of their lives.</p>
Selby District Local Plan, 2005 ¹⁵	<p>Policy PNP 2: Green Infrastructure</p> <p>Supports developments that safeguard and enhance the green infrastructure within and surrounding Upper Poppleton and Nether Poppleton.</p> <p>Policy PNP 5: Cycle and Pedestrian Access</p> <p>Improved and extended cycle and pedestrian access to and from the village in relation to Manor Academy, local villages and the city will be supported.</p>
Selby District Core Strategy Local Plan, 2013 ¹⁶	<p>Policy Planning Strategy 2.1: Promotion of Sustainable Development</p> <p>To ensure an adequate supply of suitable land for employment, housing and other purposes whilst safeguarding environmental and natural resources from inappropriate development. To facilitate economic recovery and diversification in a way which enhances environmental quality.</p>
Selby District Core Strategy Local Plan, 2013 ¹⁶	<p>Policy SP1: Presumption in Favour of Sustainable Development</p> <p>When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development</p>

¹⁴ Nether with Upper Poppleton Neighbourhood Plan Committee, (2016). Upper Poppleton and Nether Poppleton Neighbourhood Plan 2016-2036. (online) Available at: <https://www.york.gov.uk/downloads/file/2830/upper-and-nether-poppleton-neighbourhood-plan-adopted-version-october-2017-> (Accessed August 2022).

¹⁵ Selby District Council, (2005). Selby District Local Plan (saved policies). (online) Available at: <https://www.selby.gov.uk/selby-district-local-plan-sdlp-2005> (Accessed August 2022).

¹⁶ Selby District Council, (2013). Selby District Core Strategy Local Plan. (online) Available at: https://www.selby.gov.uk/sites/default/files/Documents/CS_Adoption_Ver_OCT_2013_REDUCED.pdf (Accessed August 2022).

Policy	Policy Context
Selby Draft Local Plan - Preferred options, 2021 ¹⁷	<p>that improves the economic, social and environmental conditions in the area.</p> <p>Policy SP12: Access to Services, Community Facilities, and Infrastructure</p> <p>In all circumstances opportunities to protect, enhance and better join up existing Green Infrastructure, as well as creating new Green Infrastructure will be strongly encouraged, in addition to the incorporation of other measures to mitigate or minimise the consequences of development.</p> <p>Policy SP18: Protecting and Enhancing the Environment</p> <p>Development proposals are encouraged to contribute to the District's Green Infrastructure, consequently providing accessible opportunities to improve the health and wellbeing of the community.</p>
North Yorkshire Joint Health and Well-Being Strategy, 2015-2020 ¹⁸	<p>Policy SP1: Presumption in Favour of Sustainable Development</p> <p>When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF⁷. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.</p> <p>The Joint Health and Well-Being Strategy is a shared agreement between organisations that are represented on the Health and Well-Being Board. These include local authorities, Clinical Commissioning Groups and National Health Service (NHS) England.</p> <p>It is based on five key themes: Connected Communities; Start Well; Live Well; Age Well; and Dying Well.</p> <p>The overall outcome of the Strategy is for North Yorkshire to be a place where communities flourish, people shape services and have control of their lives.</p>
North Yorkshire Joint Strategic Needs Assessment, 2019 ¹⁹	<p>The core aim of North Yorkshire's Joint Strategic Needs Assessment (JSNA) is to improve the public's health and reduce inequalities across the whole County.</p>

¹⁷ Selby District Council, (2021). Selby Draft Local Plan - Preferred options January 2021. (online) Available at:

https://www.selby.gov.uk/sites/default/files/Local_Plan_PREFERRED_Options_29-01-2021_Web%20Version%29.pdf (Accessed August 2022).

¹⁸ North Yorkshire Health and Wellbeing Board, (2015). North Yorkshire Joint Health and Well-Being Strategy 2015-2020. (online) (Accessed August 2022).

¹⁹ North Yorkshire Health and Wellbeing Board (undated). North Yorkshire Joint Strategic Needs Assessment. (online) (Accessed August 2022).

Policy	Policy Context
	The JSNA provides topic based interactive documents as well as an annual update of core data and summary reports for each local authority and clinical commissioning groups (CCGs). The latest reports were produced in October 2019.
Leeds Joint Health and Wellbeing Strategy, 2016-2021 ²⁰	<p>The Leeds Joint Health and Wellbeing Strategy sets out a vision for Leeds to be a healthy and caring City for all ages.</p> <p>Key outcomes of this approach are for people who are the poorest, to have improved health the fastest, with an overarching desire to reduce the differences in life expectancy between communities.</p>
York's Joint Health and Wellbeing Strategy, 2017-2022 ²¹	<p>The York Joint Health and Wellbeing Strategy is based on four key themes: Mental Health and Wellbeing; Starting and Growing Well; Living and Working Well; and Ageing Well.</p> <p>In order to deliver this Strategy, the Health and Wellbeing Board will need to transform the way in which they work - with individuals, with communities, and within the Board.</p>

Technical guidance

15.2.4 A summary of the technical guidance for health and wellbeing is given in **Table 15-3**.

Table 15-3 – Technical guidance relevant to the health and wellbeing assessment

Technical Guidance Document	Context
Ministry for Housing, Communities and Local Government (MHCLG) (2019) Planning Practice Guidance (PPG) ²²	<p>The PPG provides a web-based resource in support of the NPPF⁷ and the section on Healthy and Safe Communities offers guidance on health and wellbeing in planning and planning obligations. It covers both:</p> <ul style="list-style-type: none"> • The role of health and wellbeing in planning; and • The links between health and wellbeing and planning. <p>The PPG suggests that Local Authority planners should consult with the Director of Public Health on mitigation measures for any planning applications that are likely to have a significant impact on the health and wellbeing of the local population or particular groups. A health impact</p>

²⁰ Leeds Health and Wellbeing Board, (2016). Leeds Joint Health and Wellbeing Strategy 2016-2021. (online) (Accessed August 2022).

²¹ York Health and Wellbeing Board, (2017). York's Joint Health and Wellbeing Strategy 2017-2022. (online) Available at: <https://www.york.gov.uk/downloads/file/1103/joint-health-and-wellbeing-strategy-2017-to-2022> (Accessed August 2022).

²² MHCLG, (2019). Planning Practice Guidance. (online) Available at: <https://www.gov.uk/government/collections/planning-practice-guidance> (Accessed August 2022).

Technical Guidance Document Context

assessment is a useful tool to use when assessing expected significant effects.

Public Health England (2019) The Public Health England Strategy, 2020 to 2025²³

The strategy sets out how Public Health England (now UK Health Security Agency (UKHSA)) will work to improve public health and reduce health inequalities.

The key objectives for the period to 2025 include improved governance and embedding universal approaches on all programmes across Public Health England to support decision making.

Institute of Health Equality (2010) Fair Society, Healthy Lives: The Marmot Review. Strategic review of health inequalities in England post-2010²⁴

This Review provides guidance on decision-making to reduce health inequality in the context of health inequality in England.

The report argues that serious avoidable health inequalities exist across England and shows these inequalities to be determined by a wide range of socio-economic factors. Health is linked to both individuals and communities.

Institute of Health Equality (2020) Health inequality in England: The Marmot Review 10 years on. (2020)²⁵

The Marmot Review 10 Years On report published in February 2020, strengthens the argument provided in the Marmot Review, showing that health inequalities in England are increasing. Social and ethnic inequalities in health should be addressed to ensure better health outcomes for all. The report makes the case for a multi-disciplinary approach to achieve a reduction in health inequalities, which integrates health policies with housing, economic development and transport policies.

Institute of Health Equality (2020) Build Back Fairer: The COVID-19 Marmot Review²⁶

An update to the Marmot Review 10 Years On report, Build Back Fairer: The COVID-19 Marmot Review, was published in December 2020 to investigate how the pandemic has affected health inequalities in England.

The COVID-19 pandemic has exposed and amplified the inequalities highlighted in the Marmot Review 10 Years On report. The report points out that the economic harm caused by measures to control the virus also risks

²³ Public Health England, (2019). PHE Strategy 2020 to 2025. (online) Available at: <https://www.gov.uk/government/publications/phe-strategy-2020-to-2025> (Accessed August 2022).

²⁴ Institute of Health Equity, (2010). Fair Society, Healthy Lives, The Marmot Review. (online) (Accessed August 2022).

²⁵ Institute of Health Equity, (2020). Health Equity in England: The Marmot Review 10 Years on. (online) (Accessed August 2022).

²⁶ Institute of Health Equity, (2020). Build Back Fairer: The COVID-19 Marmot Review. The Pandemic, Socioeconomic and Health Inequalities in England. (online) (Accessed August 2022).

Technical Guidance Document	Context
Institute for Environmental Management and Assessment's (IEMA's) (2017) Health in Environmental Impact Assessment: A Primer for a Proportionate Approach ²⁷	causing further damage to health and widening of health inequalities. This guidance proposes ways in which health and wellbeing can be assessed as part of an EIA.
Wales Health Impact Assessment Support Unit (2017) Wales Health Impact Assessment Support Unit ²⁸	Whilst the Project is located within England, the Wales Health Impact Assessment Support Unit (WHIASU) does provide a good array of guidance and resources on how health and well-being of a population may be affected by an action, such as a development proposal. Consideration has been given to the Health and Well-being checklist to help with the identification of which health determinants are relevant.
Highways England (2019) Design Manual for Roads and Bridges (DMRB) ²⁹	Document LA112 – Population and Human Health sets out requirements for assessing and reporting the environmental effects on population and health from construction, operation and maintenance of highways projects. It provides a methodological framework for the assessment of human health effects in respect of linear infrastructure projects that goes beyond other guidance in detail. It has therefore been used to inform the proposed health and wellbeing assessment.

15.3 Consultation and engagement

Overview

15.3.1 The assessment has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in **Chapter 4: Approach to Preparing the ES, Volume 5, Document 5.2.4.**

²⁷ Cave, B. Fothergill, J., Pyper, R., Gibson, G. and Saunders, P., (2017). Health in Environmental Impact Assessment: A Primer for a Proportionate Approach. Ben Cave Associates Ltd, IEMA and the Faculty of Public Health. (online) Available at: [REDACTED] (Accessed August 2022).

²⁸ Wales Health Impact Assessment Support Unit, (2012); Health Impact Assessment A Practise Guide. (online) (Accessed August 2022).

²⁹ Highways England, (2019). Design Manual for Roads and Bridges. (online) (Accessed August 2022).

Scoping Opinion

15.3.2 A Scoping Opinion was adopted by the Secretary of State for BEIS, administered by the Planning Inspectorate, on 28 April 2021. A summary of the relevant responses received in the Scoping Opinion in relation to Health and Wellbeing and confirmation of how these have been addressed within the assessment to date is presented in **Table 15-4**.

Table 15-4 – Summary of EIA Scoping Opinion responses for health and wellbeing

Consultee	Consideration	How addressed in this ES
Planning Inspectorate	The ES should ensure that significant effects on health receptors associated with changes in water quality or flood risk are assessed. However, the ES should avoid duplication of assessment and, where relevant, the Health and Wellbeing aspect chapter should cross refer to information contained in other ES aspect chapters e.g. Hydrology.	Consideration has been given to the assessment findings of Chapter 9: Hydrology and Flood Risk, Volume 5, Document 5.2.9 . A full assessment of changes in water quality and flood risk is provided in that chapter.
Planning Inspectorate	The ES should ensure that significant effects on health receptors associated with changes to residual soil contamination and accumulation of ground gas are assessed. However, the ES should avoid duplication of assessment, and, where relevant, the Health and Wellbeing aspect chapter should cross refer to information contained in other aspect chapters e.g. Geology and Hydrogeology.	Consideration has been given to the assessment findings of Chapter 10: Geology and Hydrogeology, Volume 5, Document 5.2.10 . A full assessment of changes to residual soil contamination and accumulation of ground gas is provided in that chapter.
Planning Inspectorate	On the basis that the Proposed Development will comply, as a minimum, with relevant EMF guidelines in all of its operations and will include a separate document with comprehensive information as described in section 17.4 of the Scoping Report to demonstrate that the Proposed Development will not give rise to likely significant effects in respect of EMF, the Inspectorate agrees that this matter can be scoped out of the ES.	Comment noted. Information on why EMF effects have been scoped out of the assessment is included in Chapter 4: Approach to Preparing the ES, Volume 5, Document 5.2.4 , specifically Section 4.11 with this being considered where relevant in this chapter. A separate report on EMF effects (see Volume 6, Document 6.2) has been prepared.
Planning Inspectorate	The ES should include reference to the North Yorkshire JSNA, which provides district profiles and Clinical Commissioning Group (CCG) profiles.	Comment noted. The chapter includes reference to the JSNA ¹⁸ .
Planning Inspectorate	The ES should include a description of the baseline conditions for mental health or otherwise explain the basis on which this matter will be assessed.	Comment noted. The chapter includes a description of the baseline conditions for mental health in Section 15.5 .

Consultee	Consideration	How addressed in this ES
Planning Inspectorate	The ES should clearly explain the approach to identification of receptors and their geographical extent, including for the different aspects that could affect health and wellbeing, as well as how vulnerable groups have been identified and any variation in the approach to assessment for those groups.	Comment noted. This is clarified in this chapter in Section 15.4 .
Planning Inspectorate	It is therefore proposed that the Health and Wellbeing chapter of the ES will describe the outcomes using the criteria set out in the Healthy Urban Development Unit (HUDU), which include "Positive", "Neutral", "Negative" and "Uncertain." The ES should make clear when applying the criteria whether the effect is deemed to be significant in terms of the EIA Regulations and whether mitigation is required.	Comment noted. The HUDU criteria will be used in the ES. However, it is not possible to robustly identify whether health effects or outcomes are significant or not significant, as there is no guidance which provides a justified definition of significance for health effects. More detail is provided in Section 15.8 . Requirements for mitigation will be identified.
Planning Inspectorate	The ES should clarify whether the same assessment methodology will be used to assess effects on mental health and wellbeing and vulnerable groups or set out the assessment methodology where this differs.	Comment noted. This has been clarified in this chapter in Section 15.4 .
Hambleton District Council	Health Impacts. Matters pertaining to health perceptions appear to have been overlooked. There remains public concern about high voltage overhead cables owing to perceptions of the health impact. Whether or not Electro-magnetic (EM) radiation has a health impact, there is clearly potential for a mental health impact resulting from a fear of impact.	Comment noted. EMF effects have been scoped out of the ES as discussed in Chapter 4: Approach to Preparing the ES, Volume 5, Document 5.2.4 . A separate report on EMF effects (see Volume 6, Document 6.3) has been prepared. However, health perception is covered under amenity impacts in this chapter.
North Yorkshire County Council	Section 15 related to Health and Wellbeing. We would recommend the inclusion of the North Yorkshire JSNA in table 15.1 as this provides both district profiles and CCG profiles. The rest of it seems very thorough and relates to relevant strategies etc. We also like the proposed assessment and consultation approach outlined.	Comment noted. This chapter includes reference to the North Yorkshire JSNA ¹⁹ in Section 15.2 .
Public Health England	We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the Environmental Statement (ES).	Comment noted. These are included in this chapter. No further action required.

Consultee	Consideration	How addressed in this ES
	<p>We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.</p>	
Public Health England	<p>In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. The attached appendix summarises our requirements and recommendations regarding the content of and methodology used in preparing the ES. Please note that where impacts relating to health and/or further assessments are scoped out, promoters should fully explain and justify this within the submitted documentation.</p>	<p>Comment noted. The suggested methodology has been reviewed and incorporated into the methodology in this chapter, where appropriate. Justification for effects scoped out of the health and wellbeing assessment is provided in Table 15-21.</p>
Public Health England	<p>We note that the applicant is planning on considering possible health impacts of Electric and Magnetic Fields (EMF) in their assessment.</p>	<p>EMF effects have been scoped out of the ES with information to explain why included in Chapter 4: Approach to Preparing the ES, Volume 5, Document 5.2.4, specifically Section 4.11 of this report. A separate report on EMF effects (see Volume 6, Document 6.3) has been prepared. 15.9</p>
Public Health England	<p>We request that the ES clarifies this and if necessary, the proposer should confirm either that the proposed development does not impact any receptors from potential sources of EMF; or ensure that an adequate assessment of the possible impacts is undertaken and included in the ES.</p>	<p>As above. No further action required.</p>
Public Health England	<p>This section of our scoping response identifies the wider determinants of health and wellbeing we expect the ES to address, to demonstrate whether they are likely to give rise to significant effects. We have focused our approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy</p>	<p>Comment noted and considered throughout this chapter. The health determinants considered when assessing the likely impacts of the Project are listed in Section 15.7, and comprise consideration of Access, Traffic</p>

Consultee	Consideration	How addressed in this ES
	Statements. The four themes are: Access, Traffic and Transport, Socioeconomic, Land Use.	and Transport, Socio-economics and Land Use.
Public Health England	The scoping report references the broad definition of health proposed by the World Health Organisation (WHO) and includes reference to any mental health and wellbeing. We welcome the inclusion of mental wellbeing, being fundamental to achieving a healthy, resilient and thriving population. It underpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. The baseline health and inequalities data (Table 15.4) does not, however, contain data regarding local mental health and wellbeing.	Comment noted. This chapter includes a description of the baseline conditions for mental health (see Section 15.5).
Public Health England	The ES should reference the methodology used to complete assessments for the effects on mental health and wellbeing and baseline data. The Mental Well-being Impact Assessment (MWIA), could be used as a methodology. The assessment should identify vulnerable populations and provide clear mitigation strategies that are adequately linked to any local services or assets.	Comment noted. The mental health baseline is included in this chapter. The method for assessing mental health and wellbeing has been clarified in Section 15.4 . Potentially vulnerable populations have been identified in Section 15.5 and considered throughout this chapter.
Public Health England	An approach to the identification of vulnerable populations was provided as part of the health baseline data. The impacts on health and wellbeing and health inequalities of the scheme may have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics.	As above. No further action required.
Public Health England	The ES should continue the initial identification of baseline data encompassing deprivation, demographics and other socio-economic factors. The environmental statement should identify, as far as possible, the presence and effects on vulnerable populations. The Wales HIA Support Unit provides guidance of the potential populations to be regarded as vulnerable.	As above. The Wales HIA Support Unit guidance was reviewed and relevant guidance is included in this chapter.
Skelton Parish Council	Very little is mentioned with respect to the impact on the health and wellbeing of people from the effects of Electro Magnetic [sic] Fields (EMF) and the potential long-term health	EMF effects have been scoped out of the ES as discussed in Chapter 4: Approach to Preparing the ES, Volume 5,

Consultee	Consideration	How addressed in this ES
Skelton Parish Council	<p>effects. There is a wealth of information pertaining to this in respect to the siting of overhead High Voltage Power Lines (OHHVPL). In general, the locating of these lines less than 400m distance from villages and residents leads to health and welfare impacts on people. Moreover, the greater the voltage and amps conducted, the greater the field being generated and consequently the impact on people and wildlife increases.</p> <p>As current understanding in respect to substation notes finds that a minimum safety distance of 1/4 mile (1,320 feet) might be considered prudent. For individuals with EMF hypersensitivity or other serious health issues a much greater safety distance is needed. The Council could find no mention of Health and welfare as a primary consideration in the Environmental Impact Assessment Scoping Report and only a scant mention of (EMF) being expressed in one section listed below. Given that this should be a primary concern for any project at the inception phase, then we would have expected a greater emphasis being placed on the safety to people.</p>	<p>Document 5.2.4 specifically Section 4.11 of this report. A separate report on EMF effects (see Volume 6, Document 6.3) has been prepared. Considerations of health perceptions are included in the assessment of amenity effects in Section 15.9.</p> <p>As above. No further action required.</p>

Statutory Consultation

- 15.3.3 Statutory Consultation took place between 28 October and 9 December 2021 in accordance with the Planning Act 2008 (the Act). Prescribed and non-prescribed consultees and members of the public were included in the consultation. Various methods of consultation and engagement were used in accordance with the Statement of Community Consultation (SoCC) including letters, website, public exhibitions, publicity and advertising in newspapers and webinar briefings.
- 15.3.4 National Grid Electricity Transmission plc (“National Grid”) prepared a Preliminary Environmental Information Report (PEIR) which was publicised at this consultation stage. National Grid sought feedback on the environmental information presented in that report. Feedback received during statutory consultation was considered by National Grid and incorporated where relevant in the design of the Project and its assessment and presentation in this ES.
- 15.3.5 A summary of the relevant responses received in response to statutory consultation is presented in **Table 15-5**. Statutory consultation representations and National Grid’s responses is provided in **Volume 6, Document 6.1 (Consultation Report)**.

Table 15-5 – Summary of statutory consultation responses and technical engagement

Consultee	Comments and consideration	How addressed in this ES
Monk Fryston Parish Council	Concerned about, “the effect of electric and magnetic fields (EMFs) on children. The proposed area is near two primary schools in Fairburn, Burton Salmon and Monk Fryston.”	A separate report on EMF effects (see Volume 6, Document 6.3) has been prepared.
UKHSA	UKHSA and OHID [Office for Health Improvement and Disparities] have considered the submitted documentation and can confirm that we are satisfied with the approach taken in preparing the preliminary environmental information report. We note that the promoter has scoped out electromagnetic fields, as the Project will be designed in accordance with NPS EN-5 and current public exposure guidelines, but that a compliance report will be submitted to support the DCO submission. We look forward to considering this when it’s available.	A separate report on EMF effects (see Volume 6, Document 6.3) has been prepared.
Overton Parish Council	It is not helpful to rate [the] health of [the] workforce above that of your [residents] in the PEIR. They will be paid, residents will not.	An assessment of health and wellbeing effects is provided in Section 15.9 which considers effects on the health of both the construction workforce and local residents as outlined in Table 15-20 .

15.4 Data gathering methodology

Study Area

- 15.4.1 This section presents the Study Area for health and wellbeing. A wide definition of the spatial area for consideration for the health assessment applies which includes the Order Limits (see **Figure 1.2, Volume 5, Document 5.4.1**). It also includes the surrounding areas based on administrative boundaries to align with how the Government publishes official data and with the boundaries of health service planning areas, which are typically at borough-level (see **Figure 15.1, Volume 5, Document 5.4.15**). Study Areas defined by other topics for each environmental aspect of relevance to health and wellbeing are also relevant in the assessment where effects are identified that inform the health and wellbeing assessment (for example air quality, noise and transport) and are as set out in the relevant chapters of this ES.
- 15.4.2 The immediate Zone of Influence (Zol) of the Project is identified as the wards which fall within the Order Limits. The wider Zol is identified as being the districts through which the Project passes. These are identified in the following section.

Health and wellbeing profile baseline Study Area

- 15.4.3 The Study Area for the health and wellbeing profile baseline is influenced by the availability of relevant publicly available data which is collected at different scales of administrative geography.
- 15.4.4 The baseline Study Areas includes national (England and Wales), regional (Yorkshire and Humber), County (North Yorkshire County Council), and district level (Harrogate Borough Council (Harrogate), Hambleton District Council (Hambleton), Leeds City Council (Leeds), York City Council (York), and Selby District Council (Selby)). In addition, the health and wellbeing baseline includes, where data is available and relevant, profile information from the local wards closest to the Project.
- 15.4.5 Dependent on the human health indicator being analysed, ward level data has been sourced for either 2011 Census or 2018 electoral wards. Whilst the geographic extents of the 2011 Census and 2018 electoral wards differ, both types of wards provide an indication of local health in proximity to the Project and are therefore considered suitable for assessing the existing baseline conditions for health and wellbeing.
- 15.4.6 The 2011 Census wards which fall within the Order Limits of the Project include:
- Harrogate Borough Council: Ribston; Marston Moor; and Ouseburn.
 - Hambleton District Council: Shipton; Easingwold; and Huby and Sutton.
 - Leeds City Council: Wetherby.
 - City of York Council: Rural West York; Haxby and Wigginton; Osbaldwick; and Skelton, Rawcliffe and Clifton Without.
 - Selby District Council: Tadcaster East; Tadcaster West; Appleton Roebuck; Sherburn in Elmet; Saxton and Ulleskelf; Fairburn with Brotherton; and Monk Fryston and South Milford.
- 15.4.7 The 2018 electoral wards which fall within the draft Order Limits of the Project include:
- Harrogate Borough Council: Marston Moor; and Ouseburn.
 - Hambleton District Council: Easingwold; and Huby.
 - Leeds City Council: Wetherby.
 - City of York Council: Rural West York; Haxby and Wigginton; Osbaldwick and Derwent; and Hull Road.
 - Selby District Council: Tadcaster; Appleton Roebuck and Church Fenton; Sherburn in Elmet; South Milford; Byram and Brotherton; and Monk Fryston.

Health and wellbeing assessment Study Area

- 15.4.8 The Study Areas for aspects of relevance to the health and wellbeing assessment are influenced by the geographic extent of the relevant technical topics. For example, potential effects on health and wellbeing related to noise are likely to be experienced close to the source, whereas health and wellbeing effects related to socio-economic factors such as employment opportunities would be expected to be experienced over a larger area. The impact of the Project on existing health services is assessed in line with the scale at which services are planned. The assessment refers to the spatial areas identified by the relevant environmental aspect assessments. These are set out in this ES.

Desk study

15.4.9 A summary of the organisations that have supplied data, together with the nature of that data is outlined in **Table 15-6**.

Table 15-6 – Data sources used to inform the health and wellbeing assessment

Organisation	Data Source	Data Provided
Office for National Statistics (ONS)	Mid-year sub-national population estimate data (2020-based) (2021) ³⁰	Information on population estimates and growth projections in the Study Area.
	Population Estimates (2020-based) (2021) ³¹	Data on the ethnic profile of the population in the Study Area.
	2011 Census Data ³²³³	Data on economic activity and qualification attainments.
	Annual Population Survey (2021) ³⁴	
	Claimant Count (2022) ³⁵	Data on out-of-work benefit claimant counts.
NHS Choices	NHS Choices website ³⁶	Health services and patient list size data.
Sports England	Active Lives Survey ³⁷	Data on the engagement in, and attitudes to, sport and physical activity.
Public Health England	Health Profiles (2020) ³⁸	Health outcomes of the population in the Study Area.
	Mental Health and Wellbeing JSNA (2022) ³⁹	Mental health outcomes of the population in the Study Area.
		Deaths by cause, disease prevalence data.

³⁰ ONS, (2021). Mid-Year Population Estimates 2020. (Online) (Accessed August 2022).

³¹ ONS, (2021). Population estimates - local authority based by five-year age band. (Online) (Accessed August 2022).

³² ONS, (2012). Census 2011. (Online) (Accessed August 2022).

³³ Census 2011 still represents the latest data where it has been considered as only the first results from Census 2021 are available.

³⁴ ONS, (2021). Annual Population Survey. (Online) (Accessed August 2022).

³⁵ ONS, (2022). Claimant Count. (Online) (Accessed August 2022).

³⁶ NHS (2022). NHS Choices website. (online). (Accessed August 2022).

³⁷ Sports England (2022). Active Lives website. (online) (Accessed August 2022).

³⁸ PHE, (2020). Health Profiles. (Online) (Accessed August 2022).

³⁹ PHE, (2022). Mental Health and Wellbeing JSNA. (Online) (Accessed August 2022).

Organisation	Data Source	Data Provided
Ministry of Housing, Communities and Local Government	Index of Multiple Deprivation (2019) ⁴⁰	Data on relative deprivation of the population in the Study Area.
North Yorkshire Health and Wellbeing Board	North Yorkshire Joint Strategic Needs Assessment (2015) ⁴¹	North Yorkshire health profile and priorities, including Hambleton, Harrogate and Selby Districts.
Leeds Health and Wellbeing Board	Leeds Joint Strategic Needs Assessment (2018) ⁴²	Leeds health profile and health priorities.
York Health and Wellbeing Board	York Joint Strategic Needs Assessment (2017) ⁴³	York health profile and health priorities.

Survey work

15.4.10 No survey work was required to undertake the assessment, reflecting the assessment guidance outlined in **Section 15.2**.

15.5 Overall baseline

Current baseline

15.5.1 This section sets out a summary of the key relevant baseline data covering the Study Areas, which has been identified through a desktop study.

Health and wellbeing profile – community health profile

Population and Demographics

15.5.2 The Project is located in the Yorkshire and Humber region, which has an estimated population of 5,526,350⁴⁴. The Study Area and its immediate surroundings are predominantly farmland, with nearby villages including Tadcaster, Monk Fryston, South Milford, Nether Poppleton, Skelton, Shipton-by-Beningbrough and Wigginton. In addition, the Project includes works in the east of the City of York, at Osbaldwick Substation.

⁴⁰ MHCLG, (2019). English Indices of Deprivation 2019. (Online) (Accessed August 2022).

⁴¹ North Yorkshire Health and Wellbeing Board, (2015). North Yorkshire Joint Health and Well-Being Strategy 2015-2020. (Online) (Accessed August 2022).

⁴² Leeds Health and Wellbeing Board, (2018). Leeds Joint Strategic Needs Assessment 2018-2023. (Online) (Accessed August 2022).

⁴³ York Health and Wellbeing Board, (2017). York's Joint Health and Wellbeing Strategy 2017-2022. (Online) (Accessed August 2022).

⁴⁴ ONS, (2021). Population estimates – local authority based by single year age 2020. (online) (Accessed August 2022).

- 15.5.3 In 2015, Harrogate was estimated to have a population of 157,016, with its population declining year on year since 2011⁴⁵. However, as of 2016, this population decline has reversed, with it being estimated that Harrogate had a population of 159,800 in 2016⁴⁶ and 161,500 in 2020⁴⁷. The percentage of Harrogate's population aged between 16-64 (58.6%) is lower but not too dissimilar from the Yorkshire and Humber region (62.1%) and England and Wales (62.4%).
- 15.5.4 Hambleton sits within North Yorkshire County Council. Hambleton was estimated to have a population of 91,600⁹ in 2019 which rose to 91,900 in 2020⁴⁸. In 2020, 57.5% (52,800) of Hambleton's population was aged between 16-64, which is lower than both Yorkshire and Humber (62.1%) and England and Wales (62.4%).
- 15.5.5 The 2011 census identified that the population of Leeds was 751,500 and has risen since then with the population in 2020 estimated to be 798,800⁴⁹. The percentage of Leeds's population aged between 16-64 is 65.2%, which is higher than both Yorkshire and Humber (62.1%) and England and Wales (62.4%).
- 15.5.6 York sits within North Yorkshire County Council. The 2011 Census indicated that York had a population of 198,051 people and this was estimated to rise to 208,367 people in 2016¹³. York's population has continued to grow with the population estimated to be 211,000⁵⁰ in 2020, of which 66.1% is aged between 16-64 years old.
- 15.5.7 Selby sits within North Yorkshire County Council. In 2013, it was estimated that the total population of Selby was 82,200¹⁶. It was estimated that the population would rise to 86,667 in 2016, with population growth centred mainly around the key market towns of Selby, Tadcaster and Sherburn-in-Elmet⁵¹. However, by 2020, Selby's population had increased to 91,700⁵². Approximately 61.1% of the population is aged between 16-64 years old, which is lower than both Yorkshire and Humber (62.1%) and England and Wales (62.4%).

Ethnicity

Data from the 2011 Census, which is the most recent data source available, shows the population proportion by ethnicity for each local authority and selected wards within the human health baseline Study Area and wider area comparators. This data is presented in **Table 15-7** and **Table 15-8**.

⁴⁵ DATA North Yorkshire (2022). District Population. (Online) (Accessed August 2022)

⁴⁶ DATA North Yorkshire (2022). District population estimates by 5-year age band. (Online) (Accessed August 2022)

⁴⁷ NOMIS (2022). Local Market Profile – Harrogate. (Online) (Accessed August 2022)

⁴⁸ NOMIS (2022). Local Authority Profile – Hambleton. (Online) (Accessed August 2022)

⁴⁹ NOMIS (2022). Local Authority Profile – Leeds. (Online) (Accessed August 2022)

⁵⁰ NOMIS (2022). Local Authority Profile – York. (Online) (Accessed August 2022)

⁵¹ Selby District Council (2019). Selby District Local Plan Authority Monitoring Report 2017-2018. (Online) Available at: <https://www.selby.gov.uk/authority-monitoring-report-and-infrastructure-funding-statement> (Accessed August 2022)

⁵² NOMIS (2022). Local Market Profile – Selby. (Online) (Accessed August 2022)

Table 15-7 – Ethnicity by local authority and wider comparators

	Harrogate District Council	Hambleton District Council	Leeds City Council	City of York Council	Selby District Council	North Yorkshire and Humber	England and Wales
White	96.3%	98.3%	85.1%	94.3%	98.4%	88.8%	86.0%
Mixed/ Multiple Ethnic Group	1.1%	0.7%	2.6%	1.2%	0.8%	1.6%	2.2%
Asian/ Asian British	1.5%	0.7%	7.8%	3.4%	0.6%	7.3%	7.5%
Black/ African/ Caribbean/ Black British	0.7%	0.2%	3.4%	0.6%	0.3%	1.5%	3.3%
Other	0.3%	0.1%	1.1%	0.5%	0.0%	0.8%	1.0%

Table 15-8 – Ethnicity by ward

Borough	Ward	White	Mixed/ Multiple Ethnic Group	Asian/ Asian British	Black/ African/ Caribbean/ Black British	Other
Harrogate	Ribston	98.3%	0.6%	0.7%	0.2%	0.2%
	Ouseburn	92.7%	0.9%	5.6%	0.4%	0.5%
	Marston Moor	98.8%	0.7%	0.2%	0.2%	0.1%
Hambleton	Shipton	98.7%	0.3%	0.5%	0.4%	0.1%
	Easingwold	98.9%	0.5%	0.5%	0.0%	0.1%
	Huby and Sutton	98.7%	0.6%	0.6%	0.1%	0.1%
Leeds	Wetherby	97.3%	1.0%	1.2%	0.3%	0.2%
York	Rural West York	97.6%	0.9%	1.0%	0.4%	0.1%
	Haxby and Wigginton	98.2%	0.6%	0.9%	0.2%	0.1%

Borough	Ward	White	Mixed/ Multiple Ethnic Group	Asian/ Asian British	Black/ African/ Caribbean/ Black British	Other
	Osbalwick	95.2%	1.0%	2.7%	0.2%	0.9%
	Skelton, Rawcliffe and Clifton Without	95.9%	1.1%	2.4%	0.4%	0.3%
Selby	Tadcaster East	97.6%	0.9%	0.7%	0.8%	0.0%
	Tadcaster West	98.4%	0.4%	0.4%	0.8%	0.0%
	Appleton Roebuck	97.4%	0.9%	1.0%	0.8%	0.0%
	Sherburn in Elmet	98.5%	0.7%	0.5%	0.2%	0.0%
	Saxton and Ulleskelf	98.8%	0.5%	0.6%	0.0%	0.1%
	Fairburn with Brotherton	98.6%	0.6%	0.3%	0.5%	0.0%
	Monk Fryston and South Milford	97.8%	0.5%	0.6%	0.9%	0.2%

15.5.8 The population within the human health baseline Study Area is shown to be mostly White, with the Asian/Asian British population being the second largest ethnic group by population proportion. Selby, Hambleton, Harrogate and York are less ethnically diverse than England and Wales, while Leeds is more diverse. All wards within the Study Area are less ethnically diverse than England and Wales.

Childhood Obesity

15.5.9 Data from Public Health England for the year 2019/20 shows that the prevalence of obesity in children (aged 10-11 years) is better in Harrogate (17.2%) and Hambleton (17.6%), and slightly better in Selby (20.7%) and Leeds (20.8%) compared to North Yorkshire and Humber (21.9%) and the national average (21.0%). However, York (22.1%) has worse prevalence compared to the national (England) average (21.0%).

15.5.10 The prevalence of childhood obesity in the 2018 electoral wards within the Study Area aligns with the data at the local authority level and hence is mostly below the national average. These are shown in **Table 15-13**.

Long-term illness or disability

- 15.5.11 Data from the 2011 Census, which is the most recent data source available, shows that the four local authorities within the human health baseline Study Area had significantly lower proportions of residents whose daily activities were limited by a long-term health problem or disability compared to wider geographic comparators. The proportion of the population whose daily activities were limited by a long-term illness or disability in Selby (7.2%), Hambleton (7.1%), Harrogate (6.6%), Leeds (7.9%), and York (6.6%) was lower than the proportion across England and Wales (8.5%).
- 15.5.12 Out of all 2011 Census wards within the Study Area, Easingwold (Selby) had the highest proportion of residents whose daily activities were limited by a long-term health problem or disability (8.5%) which is the same as the England and Wales average (8.5%).

Self-assessment of health

- 15.5.13 Data from the 2011 Census, which is the most recent data source available, shows that lower proportions of the populations within Selby, Hambleton, Harrogate, Leeds, and York reported their health as being 'bad' or 'very bad' when compared to wider areas and England and Wales. Data from the 2011 Census also shows that a higher proportion of people within the human health baseline Study Area believed they were in 'good' or 'very good' health compared to the national comparator; Selby (82.7%), Hambleton (83.1%), Harrogate (84.4%), Leeds (81.9%), and York (83.9%) compared to 81.2% across England and Wales.
- 15.5.14 Out of all 2011 Census wards within the Study Area, Fairburn with Brotherton (Selby) had the highest proportion of residents that believed they were living in 'bad' or 'very bad' health (7.0%), which was higher than the average for England and Wales (5.6%).

Life expectancy

- 15.5.15 Based on Public Health England's Local Authority Health Profiles³⁸, male life expectancy in the health and wellbeing baseline Study Area is 80.2 years in Selby, 81.3 years in Hambleton, 80.9 years in Harrogate, 77.8 years in Leeds, and 79.9 years in York. This is higher in all areas, except Harrogate, compared to the average for England and Wales of 79.4 years.
- 15.5.16 Female life expectancy in the Study Area is 83.9 years in Selby, 84.8 years in Hambleton, 85.1 years in Harrogate, 81.8 years in Leeds, and 83.6 years in York. This is higher in all areas, except Leeds, compared to the average for England and Wales of 83.1 years.

Economic Activity

- 15.5.17 Data from the Annual Population Survey³⁴ and ONS Out-of-Work Benefits Claimant Count³⁵ has been collated to provide an analysis of economic activity in the Study Area.
- 15.5.18 In Harrogate, 80.2% of the working age population is economically active, which is above the national (England) average of 78.4% and the Yorkshire and Humber regional average economic activity of 77.4%⁵³. As of June 2022, approximately 1.8% of its working age population are in receipt of out of work benefits, which is considerably lower than both the Yorkshire and Humber region (4.1%) and England (3.8%).

⁵³ Nomis (2021). Labour Market Profile, Harrogate. (Online) (Accessed August 2022).

15.5.19 Hambleton has a highly economically active population, with 84.9% of people of working age being classified as economically active in 2021, in comparison to the Yorkshire and Humber region (77.4%) and England (78.4%) during 2021⁵⁴. In June 2022 the number of claimants of out of work benefits within Hambleton (1.6%) was considerably lower than that recorded for the Yorkshire and Humber region (4.1%) and England (3.8%).

15.5.20 Approximately 77.0% of Leeds working age population are economically active, which is lower than the Yorkshire and Humber region (77.4%) and England (78.4%)⁵⁵. In June 2022, Leeds recorded a slightly higher level of out of work benefit usage (4.4%) compared to the regional (4.1%) and England average (3.8%).

15.5.21 In York, 82.1%⁵⁶ of the population is economically active and there is a low claimant rate of out of work benefits at 1.8%. Similarly, in Selby, 78.7%⁵⁷ of the population is economically active and there is a low uptake of out of work benefits at 2.3%.

Qualifications

15.5.22 Data from the Annual Population Survey³⁵ has been collated to provide an analysis of qualifications attainment across the Study Area between January 2021 and December 2021 as shown in **Table 15-9**.

15.5.23 This shows that within the Study Area levels of qualifications attainment are above regional and national averages at all levels i.e. National Vocational Qualification (NVQ)1 and above, and higher. This is with the exception of Selby, where levels of qualifications attainment are below both regional and national averages at all levels. In addition, it is noted that the proportion of Hambleton's population that has a NVQ4 and above qualification is higher than the regional average but lower than the average for England.

Table 15-9 – Qualifications profile of the population

Qualification Level	Harrogate District Council	Hambleton District Council	Leeds City Council	City of York Council	Selby District Council	North Yorks. and Humber	England
NVQ4 and above	50.1%	40.7%	45.8%	59.3%	44.4%	38.0%	42.9%
NVQ3 and above	75.1%	66.4%	65.0%	74.8%	59.8%	58.2%	61.2%
NVQ2 and above	89.9%	86.9%	79.0%	87.9%	73.5%	76.4%	78.0%
NVQ1 and above	95.7%	93.9%	88.0%	93.0%	84.5%	86.5%	87.7%
Other qualifications	2.2%	*	5.5%	3.3%	5.4%	5.7%	5.9%

⁵⁴ Nomis, (2021). Labour Market Profile, Hambleton. (Online) (Accessed August 2022).

⁵⁵ Nomis, (2021). Labour Market Profile, Leeds. (Online) (Accessed August 2022).

⁵⁶ Nomis, (2021). Labour Market Profile, York. (Online) (Accessed August 2022).

⁵⁷ Nomis, (2021). Labour Market Profile, Selby. (Online) (Accessed August 2022).

Qualification Level	Harrogate District Council	Hambleton District Council	Leeds City Council	City of York Council	Selby District Council	North Yorks. and Humber	England
No qualifications	2.1%	4.3%	6.6%	3.7%	10.1%	7.8%	6.5%

* Sample size too small for reliable estimate.

Deprivation

15.5.24 The Government's Index of Multiple Deprivation (2019)⁵⁸ measures deprivation in England across seven different domains which combine to create an overall index.

15.5.25 According to the English Indices of Deprivation, in 2019 Harrogate was ranked 278th out of 317 local authorities in England (where 1 is the most deprived). Only 2% of the Lower Layer Super Output Areas (LSOAs) in the district are in the 30% most deprived, which is lower than the proportion for the Yorkshire and Humber region (40.0%). With respect to the health and disability deprivation, 3% of LSOAs in the district are in the 30% most deprived, which is lower than the proportion for the Yorkshire and Humber region (44.0%).

15.5.26 Hambleton was ranked 255th out of 317 local authorities in 2019. Only 3.8% of the LSOAs in the district are in the 30% most deprived, which is lower than the regional average (40.0%). For deprivation measured by health and disability, 1.9% of LSOAs in the district are in the 30% most deprived, notably lower than the regional average.

15.5.27 Leeds was ranked 92nd out of 317 local authorities in 2019. 42.3% of the LSOAs in the district are in the 30% most deprived, which is higher than the proportion for the Yorkshire and Humber region (40.0%). With respect to health and disability deprivation, 45.6% of LSOAs in the district are in the 30% most deprived, which is higher than the regional average.

15.5.28 York was ranked 275th out of 317 local authorities in 2019. 16% of the LSOAs in the district are in the 30% most deprived, which is lower than the proportion for the Yorkshire and Humber region (40.0%). Regarding health and disability deprivation, 5.8% of LSOAs in the district are in the 30% most deprived, which is again lower than the regional average.

15.5.29 Selby was ranked the 252nd most deprived local authority in England. Only 2% of the LSOAs in the district are in the top 30% most deprived in England, which is lower than the proportion for the Yorkshire and Humber region (19.3%). With respect to health and disability deprivation, 6.0% of LSOAs in the district are in the 30% most deprived, which is lower than the proportion for the Yorkshire and Humber region (44.0%).

15.5.30 **Table 15-10** shows that areas within the Study Area perform considerably better than the regional average on deprivation as well as the health deprivation and disability deprivation domain. Leeds however is performing slightly worse than the regional average on all indicators considered.

⁵⁸ MHCLG, (2019). English Indices of Deprivation 2019. (online) Available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019> (Accessed August 2022).

Table 15-10 – English Index of Deprivation

	Harrogate District Council	Hambleton District Council	Leeds City Council	City of York Council	Selby District Council	North Yorks. and Humber
Rank (of 317, where 1 is most deprived)	278 th	255 th	92 nd	275 th	252 nd	*
LSOAs within the 30% most deprived	2.0%	3.8%	42.3%	16.0%	2.0%	40.0%
Health Deprivation and Disability Domain - LSOAs within the 30% most deprived	2.0%	1.9%	45.6%	5.8%	6.0%	44.0%

* North Yorkshire and Humber is not ranked as it is not a Local Authority area.

Mental health

15.5.31 Mental health and well-being profiles produced by Public Health England provide a summary of the mental health of people within local authority areas and a comparison of local mental health with average values for all areas of England³⁹. Mental health profiles for 2018/19 have been obtained from the NHS North Yorkshire Clinical Commissioning Group (CCG) JSNA Report and are provided in **Table 15-11**.

15.5.32 The proportion of the population aged 16 and over with mental health disorders in local authorities within the Study Area is below the average for England (16.9%) with the exception of Leeds (18.2%). This is similar for the population aged 65 and over; all local authorities within the Study Area do better than the national average (10.2%) with the exception of Leeds (10.8%).

15.5.33 The rate of Employment and Support Allowance (ESA) claimants for mental and behavioural disorders reflect this trend as well as the level of deprivation identified within the Study Area. All local authorities within the Study Area do significantly better than the national average (27.3 per 1,000), with the exception of Leeds (33.4 per 1,000). The best performing authority within the Study Area is Hambleton with a rate of 13.2 per 1,000.

Health and Wellbeing

15.5.34 **Table 15-11** provides a profile of health and wellbeing in the area surrounding the Project, focusing on key indicators identified by Public Health England³⁸ and supplemented by ONS data^{32 34} at local authority level including a comparison of these to regional and England and Wales averages.

Table 15-11 – Health and wellbeing profile

Indicator	Harrogate District Council	Hambleton District Council	Leeds City Council	City of York Council	Selby District Council	North Yorkshire County	Yorkshire and Humber	England and Wales
Working age population (16-64) (2019/20)	58.6%	57.5%	65.2%	66.1%	61.1%	58.4%	62.1%	62.4%
Economically active population (2019/20)	80.2%	84.9%	77.0%	82.1%	78.7%	80.8%	77.4%	78.4%
Long-term illness or disability (2011)	6.6%	7.1%	7.9%	6.6%	7.2%	7.6%	9.1%	8.5%
Population in bad and very bad health (2011)	3.8%	4.3%	5.4%	4.1%	4.6%	4.6%	6.0%	5.6%
Obese adults (aged 18+) (2020/21)	59.4%	64.1%	63.6%	63.6%	66.3%	61.4%	66.5%	63.5%
Obese children (Year 6) (2019/20)	17.2%	17.6%	20.8%	22.1%	20.7%	18.5%	21.9%	21.0%
Physically active adults (2020/21)	73.9%	69.5%	71.1%	69.3%	66.1%	70.0%	65.2%	65.9%
Hospital admissions for alcohol related conditions (2018/19)*	691	612	649	713	629	679	729	664
Life expectancy at birth for males (2018-20) (years)	80.9	81.3	77.8	79.9	80.2	80.4	78.4	79.4
Life expectancy at birth for females	85.1	84.8	81.8	83.6	83.9	84.3	82.2	83.1

Indicator	Harrogate District Council	Hambleton District Council	Leeds City Council	City of York Council	Selby District Council	North Yorkshire County	Yorkshire and Humber	England and Wales
(2018-20) (years)								
Under 75 mortality rate from cardiovascular diseases (2017/19)*	53.1	53.0	82.3	65.9	58.6	59.0	80.2	70.4
Under 75 mortality rate from cancer (2017/19)*	115.9	111.1	146.5	132.2	117.9	117.0	137.5	129.2
Population aged 16 and over estimated to have any common mental health disorder (2017)	13.0%	13.0%	18.2%	14.8%	14.2%	14.1%	17.6%	16.9%
Population aged 65 and over estimated to have any common mental health disorder (2017)	8.5%	8.5%	10.8%	8.8%	8.9%	9.2%	10.7%	10.2%
ESA Claimants with mental and behavioural disorders: rate per 1,000 working age population (2018)	17.1	13.2	33.4	17.6	17.1	18.9	31.4	27.3

* Directly standardised rate - per 100,000

Table 15-12 – 2011 Census wards community health profile statistics

Borough	Ward	Proportion of population limited by a long-term health problem or disability (2011)	General self-health classification - bad or very bad (2011)	General self-health classification - good or very good (2011)
Harrogate	Ribston	7.5%	4.3%	83.4%
	Marston Moor	3.9%	2.4%	87.1%
	Ouseburn	5.1%	2.4%	88.2%
Hambleton	Shipton	5.8%	2.5%	88.8%
	Easingwold	9.1%	5.5%	80.7%
	Huby and Sutton	5.2%	3.6%	85.6%
Leeds	Wetherby	6.8%	4.3%	83.0%
York	Rural West York	5.5%	3.0%	86.4%
	Haxby and Wigginton	7.2%	4.0%	82.3%
	Osbalwick	6.4%	4.0%	83.0%
	Skelton, Rawcliffe and Clifton Without	5.6%	3.4%	85.5%
Selby	Tadcaster East	6.4%	4.3%	83.1%
	Tadcaster West	8.1%	4.4%	80.6%
	Appleton Roebuck	4.6%	2.6%	87.8%
	Sherburn in Elmet	7.3%	4.8%	82.3%
	Saxton and Ulleskelf	4.5%	2.5%	87.6%
	Fairburn with Brotherton	10.2%	7.0%	78.0%
	Monk Fryston and South Milford	4.0%	2.5%	87.7%

Table 15-13 – 2018 Electoral wards community health profile statistics

Borough	Ward	Population (2020)	Population aged under 16 (2020)	Population aged over 65 (2020)	Prevalence of childhood obesity (age 10-11 years) (2019/20)
Harrogate	Marston Moor	3,841	17.9%	22.4%	16.4%
	Ouseburn	5,502	21.3%	18.2%	15.5%
Hambleton	Easingwold	10,574	16.7%	24.7%	11.9%
	Huby	3,661	16.2%	26.9%	13.8%
Leeds	Wetherby	20,567	16.6%	28.2%	11.8%
York	Rural West York	7,857	17.3%	25.9%	14.9%
	Haxby and Wigginton	11,769	15.7%	32.6%	12.6%
	Osbaldwick and Derwent	8,426	16.6%	25.8%	15.3%
	Hull Road	15,147	9.9%	8.7%	24.2%
Selby	Tadcaster	7,526	17.4%	23.2%	14.8%
	Appleton, Roebuck and Church Fenton	6,314	21.2%	18.0%	12.1%
	Sherburn in Elmet	8,069	19.8%	17.5%	17.0%
	South Milford	2,860	20.1%	17.9%	17.0%
	Byram and Brotherton	3,052	16.7%	22.4%	12.8%
	Monk Fryston	3,061	16.8%	21.1%	14.2%

Health and Wellbeing – determinants of health

15.5.35 Further determinants of health are outlined below including access to recreational facilities, air quality, noise sensitivity, landscape amenity and road safety information.

Access to open space and physical activity

15.5.36 There are several publicly accessible open spaces within the Study Area. These open spaces are identified in **Table 15-14**, along with each space’s respective typology, nearest section of the Project (see **Chapter 3: Description of the Project, Volume 5, Document 5.2.3**), on-site facilities and existing access points.

Table 15-14 – Open space and on-site facilities for physical activity

Name	Type	Section of the Project	On-site facilities	Access
John Jeffery Playing Field	Playing field	Section B – North west of York	Children's play facilities including slide and swings and green gym equipment	Mill Lane, Wigginton
Moorlands Woodland Nature Reserve	Nature reserve	Section B – North west of York	Large nature reserve	Moor Lane, Skelton
Overton Wood	Woodland	Section B – North-West of York	Large woodland, including walk paths	Overton Grange
Redhouse Wood	Woodland	Section B – North-West of York	Large woodland, including walk paths	Hall Lane, Moor Monkton
Smaws Wood	Woodland	Section C – Moor Monkton to Tadcaster	Woodland	Tadcaster
Bullen Wood	Woodland	Section E – Tadcaster to Monk Fryston	Woodland	Saxton, Tadcaster
Castle Hill Wood	Woodland	Section E – Tadcaster to Monk Fryston	Woodland	Saxton, Tadcaster
Huddleston Old Wood	Woodland	Section E – Tadcaster to Monk Fryston	Woodland	Newthorpe, Sherburn in Elmet
YWT Sherburn Willows Nature Reserve	Nature reserve	Section E – Tadcaster to Monk Fryston	Large nature reserve	Sherburn in Elmet
River Ouse	Waterway	Section B – North west of York	Recreational boating, angling	Various

15.5.37 In addition to the publicly accessible open spaces identified in **Table 15-14**, the Study Area is serviced by a comprehensive network of PRoW as well as several National Cycle Routes (NCR).

15.5.38 NCR 65 runs from the seaside town of Hornsea to Middlesbrough via Hull, Selby, York and Easingwold. NCR 66 connects Greater Manchester to Yorkshire, via Bradford, Leeds, York, Beverley, and Kingston upon Hull.

- 15.5.39 NCR 665 currently runs from the north-west to Newton Kyme, and then starts again to the north-west of Tadcaster. Work is ongoing to join these two sections up, which will create a link across Section C – Moor Monkton to Tadcaster.
- 15.5.40 The spatial distribution of publicly accessible open spaces and NCRs within the Study Area is shown on **Figure 15.2, Volume 5, Document 5.4.15**.
- 15.5.41 Based on data collected by the Active Lives Survey³⁷, the proportion of the population within the Study Area who reported to cycle for travel and walk for leisure within the last year (November 2020/21) is available in **Table 15-15**.
- 15.5.42 The data shows a high propensity of residents in the local area walk for leisure and use local PRowS. The proportion of residents within the Study Area that stated they walk for leisure is higher than the average in England. On the other hand, residents of the Study Area cycle less than the average in England, with the exception of York (22.1%) and Harrogate (13.9%) where the proportion of residents who stated to cycle in the past year is higher than the national average (12.2%).

Table 15-15 –Participation in the last year by activity

	Cycling for travel	Walking for leisure
Harrogate District Council	13.9%	86.3%
Hambleton District Council	7.4%	87.1%
Leeds City Council	8.6%	83.5%
City of York Council	22.1%	84.4%
Selby District Council	7.5%	86.3%
North Yorkshire County	8.7%	85.6%
Yorkshire and Humber Region	9.0%	81.1%
England	12.2%	82.1%

Access to healthcare facilities and other social infrastructure

- 15.5.43 Within the Study Area, 32 facilities have been identified as healthcare facilities and social infrastructure. The assets comprise of six education facilities (including a campus of York University), five health facilities, six religious facilities, five care homes and ten further community facilities.
- 15.5.44 Healthcare facilities and social infrastructure within the Study Area are identified in **Table 15-16**, along with their respective typology, nearest section of the Project and existing access points.

Table 15-16 – Healthcare facilities and other social infrastructure

Name	Type	Section of the Project	Access
Poppleton's Millennium Garden and Pond	Religious facility	Section B – North west of York	Church Lane, Poppleton
Roseville Care Homes – Limetree House	Care Home	Section B – North west of York	Main Street, Upper Poppleton
York Hospital	Hospital	Section B – North west of York	Clifton, York
St Giles, Skelton	Religious facility	Section B – North west of York	The Green, Skelton
Skelton Village Hall	Community facility	Section B – North west of York	Brecksfield, Skelton
Forest of Galtres Golf Club	Golf club	Section B – North west of York	Skelton Lane, Skelton
York Medical Group at Skelton	Surgery	Section B – North west of York	St Giles Road, Skelton
Wigginton Primary School	Primary school	Section B – North west of York	Westfield Lane, Wigginton
Skelton Primary School	Primary school	Section B – North west of York	Backsfield, Skelton
John Jeffery Community Pavilion and Playing Field	Community facility	Section B – North west of York	Mill Lane, Wigginton
Toulston Polo Club	Polo Club	Section C – Moor Monkton to Tadcaster	Toulston, Tadcaster
Tadcaster Grammar School	Grammar School	Section C – Moor Monkton to Tadcaster	Toulston, Tadcaster
Tadcaster Leisure Centre	Leisure Centre	Section C – Moor Monkton to Tadcaster	Station Road, Tadcaster
Tadcaster Community Swimming Pool	Leisure Centre	Section C – Moor Monkton to Tadcaster	Westgate, Tadcaster
Kelcbar Centre	Community facility	Section C – Moor Monkton to Tadcaster	Kelcbar Close, Tadcaster
Tadcaster Medical Centre	Surgery	Section D – The Tadcaster Area	Crab Garth, Tadcaster

Name	Type	Section of the Project	Access
Blossom Home Care	Care Home	Section C – Moor Monkton to Tadcaster	Station Road, Tadcaster
Guardian Care and Support	Care Home	Section C – Moor Monkton to Tadcaster	Bridge Street, Tadcaster
Tadcaster Methodist Church	Religious facility	Section C – Moor Monkton to Tadcaster	High Street, Tadcaster
St Joseph's Catholic Church	Religious facility	Section C – Moor Monkton to Tadcaster	St Joseph's Street, Tadcaster
St Mary's Church, Tadcaster	Religious facility	Section C – Moor Monkton to Tadcaster	Kirkgate, Tadcaster
Grove House Community Centre	Community facility	Section E – Tadcaster to Monk Fryston	South Milford
South Milford Surgery	Surgery	Section E – Tadcaster to Monk Fryston	High Street, South Milford
Monk Fryston Surgery	Surgery	Section F – Monk Fryston Substation Area	Main Street, Monk Fryston
Monk Fryston and Hillam Community Centre	Community facility	Section F – Monk Fryston Substation Area	Old Vicarage Lane, Monk Fryston
Hanover Housing Association Ltd	Care Home	Section F – Monk Fryston Substation Area	Chapel Street, Hillam
St Wilfrid's Church	Religious facility	Section F – Monk Fryston Substation Area	Church Lane, Monk Fryston
Monk Fryston Church of England Primary School	Primary School	Section F – Monk Fryston Substation Area	Chestnut Green, Monk Fryston
South Milford Primary School	Primary School	Section E – Tadcaster to Monk Fryston	Sand Lane, South Milford
York Sport Village	Fitness Centre	Section A – Osbaldwick Substation	Heslington, York
University of York, Campus East	University campus	Section A – Osbaldwick Substation	Heslington, York
Grimston Court Residential Care Home	Care Home	Section A – Osbaldwick Substation	Hull Road, Grimston

15.5.45 Schools, as a minimum, are generally used five days per week (Monday-Friday) by local communities. A school year is 39 weeks in England; however, school facilities can serve several purposes outside of child education, meaning that use can occur outside of usual periods.

15.5.46 The surgeries and medical centres identified within the Study Area are open from Monday to Friday and provide General Practitioner (GP) and health services to the local communities. **Table 15-17** presents baseline information on these practices from NHS General Practice Workforce data⁵⁹. At these four practices there are 43.97 full-time equivalent (FTE) GPs and an average of 1,703 patients per GP (FTE). This is lower than the benchmark recommended list size of 1,800 patients per GP⁶⁰ indicating there is some capacity for new patients at local practices.

Table 15-17 – GP Practices within the Study Area

Name	Section of the Project	Number of GPs (FTE)	Currently accepting new patients?	Average patients per GP
York Medical Group at Skelton*	Section B – North west of York	25.25	Yes	1,744
Tadcaster Medical Centre	Section D – The Tadcaster Area	5.95	Yes	1,528
South Milford Surgery	Section E – Tadcaster to Monk Fryston	5.25	Yes	1,972
Monk Fryston Surgery	Section F – Monk Fryston Substation Area	7.53	Yes	1,520
All GP Surgeries		43.97		1,703

*GP and patient data is for the York Medical Group, data for the Skelton practice is not available.

15.5.47 Across the NHS’s Humber and North Yorkshire, and West Yorkshire Integrated Care Boards (ICBs), which include the local authority areas of Hambleton, Harrogate, Selby, York and Leeds, there are currently 4,401,035 registered patients and 2,533 FTE GPs. This equates to 1,737 patients per GP (FTE). This is lower than the benchmark recommended list size of 1,800 patients per GP⁶⁰ indicating there is some capacity for new patients within the NHS’s Humber and North Yorkshire, and West Yorkshire ICBs.

⁵⁹ NHS (2022). NHS General Practice Workforce – 31 July 2022. (Online) (Accessed August 2022)

⁶⁰ As set out in guidance by the Royal College of General Practitioners (Royal College of General Practitioners (2005), Information Paper).

- 15.5.48 In addition, York Hospital, a National Health Service (NHS) teaching hospital managed by the York Teaching Hospital NHS Foundation Trust which includes an urgent care centre which is open every day, is also within the Study Area.
- 15.5.49 The religious facilities within the Study Area are all for Christian worship and are mostly open for Sunday services and some evening services during the week. Religious facilities however can serve as venues for other community functions.
- 15.5.50 There are no existing accessibility restrictions or severance issues for the existing healthcare facilities and other social infrastructure.

Air quality

- 15.5.51 The main pollutant of concern in the human health Study Area is nitrogen dioxide (NO₂), the primary source of which is road traffic emissions. All local authorities within the health and wellbeing Study Area, except Hambleton District Council, declared an Air Quality Management Area (AQMA) relating to NO₂. The AQMAs declared by the Local Authorities fall outside the Order Limits.
- 15.5.52 The Air Quality assessment presented in **Chapter 13: Air Quality, Volume 5, Document 5.2.13** considers dust deposition and emissions of PM₁₀. There are no monitoring locations of PM₁₀ within the Study Area. In the absence of monitoring locations, background concentrations for PM₁₀ have been sourced from Defra UK Air Information Resource (UK-air)⁶¹ The estimated concentration range of PM₁₀ within the Study Area is 13.0-14.7 (µg m⁻³⁶²).
- 15.5.53 Further information can be found in **Chapter 13: Air Quality, Volume 5, Document 5.2.13**.

Noise and vibration sensitivity

- 15.5.54 Sensitivity to noise needs to be considered during both the construction and operational phases of the Project.
- 15.5.55 Potentially sensitive noise receptors include residential properties across the Study Area, as well as businesses and community facilities. Due to the rural nature of the Study Area, the baseline ambient noise levels are generally of a low magnitude except where close to major roads.
- 15.5.56 The baseline ambient noise conditions in the North west of York Area are influenced by road traffic noise from the A19 and the A1237 and train movements on the East Coast Main Line (ECML) railway with contributions from traffic on local roads and trains on the York – Leeds railway line. Given the area's predominantly agricultural land uses few other sources of ambient noise are likely to be present.
- 15.5.57 The baseline ambient noise conditions in the Tadcaster Area are influenced by a combination of road traffic noise sources including: the A59; the A1237; the A19 and rail noise from the ECML railway with contributions from the local road network. Road traffic noise from the A1(M) and M1 motorways is likely to be dominant. For the receptors further east, road traffic noise contributions from the A162 may dominate baseline ambient conditions.

⁶¹ Defra (2021). Background mapping data for local authorities. (Online) Available at: <https://uk-air.defra.gov.uk/data/laqm-background-home> (Accessed August 2022).

⁶² Micrograms of gaseous pollutant per cubic meter of ambient air.

15.5.58 The baseline ambient noise environment in the vicinity of the Monk Fryston Substation Area is likely to be influenced by the following noise sources:

- Road traffic noise from the A1(M), A63 and A162;
- Noise related to mineral extraction activities from the quarry on Betteras Hill Road (including heavy vehicles on local roads); and
- Operational noise from the existing Monk Fryston Substation.

15.5.59 Further information on the noise baseline and assessment can be found in the Baseline Noise Monitoring Report, presented within **Appendix 14A, Volume 5, Document 5.3.14A**; and **Chapter 14: Noise and Vibration, Volume 5, Document 5.2.14**.

Landscape amenity

15.5.60 The landscape character of the North west of York area is dominated by medium to large scale arable fields on low lying land. Woodland is infrequent, being typically small-scale blocks at the corner of fields and, occasionally, as narrow belts along watercourses.

15.5.61 The area is crossed by several transport routes. The A19 passes through the centre of the proposed YN 400kV overhead line corridor and connects the settlements of Skelton to the south and Shipton by Beningbrough to the north. Running broadly parallel with and south of the A19 is the ECML railway, typically slightly elevated above the surrounding landscape. Overton Road, which accommodates National Cycle Network 65, and Stripe Lane both pass through the Order Limits south of the proposed Overton Substation, connecting scattered farmsteads and linking to the A19.

15.5.62 The landscape character of the Tadcaster area is dominated by gently undulating arable farmland.

15.5.63 The location of the proposed Monk Fryston Substation is approximately 1.5km to the west of Monk Fryston and Hillam and lies adjacent to the north and eastern boundary of the existing substation on agricultural land.

15.5.64 There are no national landscape designations in the Landscape and Visual Impact Assessment (LVIA) Study Area. The closest national designation is the Howardian Hills Area of Outstanding Natural Beauty (AONB), located over 10km to the north of the Project at the closest point. In addition to the separation distance, there are existing overhead lines on steel lattice pylons, between the Project and the edge of the AONB near Easingwold.

15.5.65 Further information on the Landscape and Visual baseline and preliminary assessment can be found in **Chapter 6: Landscape and Visual Amenity, Volume 5, Document 5.2.6**.

Future baseline

15.5.66 The socio-economic and health profile in the Study Area can be expected to change during the construction of the Project. The population of Yorkshire and the Humber region is expected to grow by 2.7% to mid-2028⁶³. At district level, in the same

⁶³ ONS, (2020). Population projections - local authority based by single year of age. (online) (Accessed August 2022).

timeframe, the population is expected to grow by approximately 6.3% in Selby, 2.0% in Leeds, 1.4% in York, 0.6% in Hambleton, and -0.2% in Harrogate.

15.5.67 The expected population growth will increase demand for social infrastructure and potentially recreational routes in the Study Area. However, it is expected that planning policy will continue to ensure that there is sufficient investment in the necessary services and infrastructure to accommodate this population increase. Therefore, it is not expected that there will be any perceptible changes to the health and wellbeing of local communities and the Project should be assessed against current baseline conditions and policies.

15.6 Embedded environmental measures

15.6.1 A range of environmental measures have been embedded into the Project as outlined in **Chapter 3: Description of the Project, Volume 5, Document 5.2.3. Table 15-18** outlines how these embedded measures influence the health and wellbeing assessment.

Table 15-18 – Summary of the embedded environmental measures

Receptor	Potential changes and effects	Embedded measures	Compliance mechanism
Construction			
Health of local residents, business owners and employees, workers in the local economy and visitors	All potential impacts arising from the Project as listed here.	Develop and implement a stakeholder communications plan that includes community engagement before work commences on-site.	Code of Construction Practice (CoCP), Appendix 3B, Document 5.3.3B secured via DCO requirement 5.
Health of local residents, business owners and employees, workers in the local economy and visitors	Increased dust emissions, potential adverse effects from construction noise, visual impacts and likely adverse effects on the health of local receptors	CoCP will implement dust management measures (see Chapter 13: Air Quality, Volume 5, Document 5.2.13).	CoCP, Document 5.3.3B secured via DCO requirement 5.
Health of users of local PRoWs	Potential impacts on the health of users of existing PRoW	Signage and/or temporary public PRoW /PRoW/footpath diversions will be provided during construction.	Public Rights of Way Management Plan (PRoWMP), Appendix 3G, Document 5.3.3G

Receptor	Potential changes and effects	Embedded measures	Compliance mechanism
			secured by DCO requirement 5.
Health of users of local and strategic roads and associated receptors	Increased traffic in settlements and villages resulting in potential impacts on the health of users	The proposed HGV routing during the construction period to individual accesses has been developed to avoid major settlements such as Sherburn in Elmet, South Milford, Micklefield, Saxton, Bramham, Clifford, Boston Spa, Tadcaster Centre, Healaugh, Tockwith, Long Marston, Rufforth, Askham, Angram, Nether Poppleton, Central York and Haxby. This measure would limit the impacts of the Project in local villages and settlements.	Construction Traffic Management Plan (CTMP), Appendix 3F, Document 5.3.3F secured by DCO requirement 5.
Health of users of local PRowS	Delays to users of local PRow resulting in potential health impacts	PRowS that cross the various overhead line routes will be managed or diverted over the shortest distance possible with potential to provide adjacent crossings.	PRowWMP, Document 5.3.3G secured by DCO requirement 5.
Health of users of local network	Access to the local highways network resulting in potential health impacts	Construction accesses will be provided with visibility splays designed to DMRB design standards as agreed with the relevant highways authorities. This will provide for safe accesses where construction vehicles can access the highways network in a safe way which should reduce the risk of accidents related to the Project.	CTMP, Document 5.3.3F , DCO requirement 5 and 3, Works Plans (DCO Article 48)
Health of users of local Roads	Access to the local highways network resulting in potential health impacts	Permanent accesses required for the Project will be designed to DMRB design standards. This measure will allow for a safe and formal access to be provided to the highways network to permanent infrastructure.	CTMP, Document 5.3.3F secured by DCO requirement 5, and Works Plans (DCO Article 48).
Operation			
Health of local residents, business owners and	Potential adverse effects from the operation of the Project	Locating the proposed substations, associated infrastructure, CSECs and new and realigned sections of overhead line away from sensitive receptors where possible, to	Limits of Deviation (DCO Article 5)

Receptor	Potential changes and effects	Embedded measures	Compliance mechanism
employees, workers in the local economy and visitors		minimise the potential adverse effects on health and wellbeing.	

15.7 Scope of the assessment

The Project

15.7.1 All aspects of the Project are included in the scope of the health and wellbeing chapter.

Spatial scope

15.7.2 The spatial scope of the assessment of health and wellbeing covers the area of the Project contained within the Order Limits, together with the Zols that have formed the basis of the Study Area described in **Section 15.4**.

Temporal scope

15.7.3 With the exception of the assessment of impacts on access to work and the impacts on local health services and other social infrastructure, the temporal scope of the assessment of health and wellbeing is consistent with the period over which the Project would be carried out (details provided in **Chapter 3: Description of the Project, Volume 5, Document 5.2.3**) and therefore covers the construction and operational phases as detailed below.

15.7.4 The assessment of the impacts on access to work and the impacts on local health services and other social infrastructure will only cover the construction phase of the Project, which extends over a 4.5 year period from 2024 to 2028, with some elements of the Project being operational from 2027.

15.7.5 The Project is expected to have a life span of more than 80 years. If decommissioning is required at this point in time, then activities and effects associated with the decommissioning phase are expected to be of a similar level to those during the construction phase works, albeit with a lesser duration of two years, and with the removal of visible infrastructure, effects would reduce over the course of that period. Therefore, the likely significance of effects relating to the construction phase assessment would be applicable to the decommissioning phase and decommissioning effects are not discussed further in this chapter.

Potential receptors

15.7.6 The health and wellbeing receptors that have been identified as being potentially subject to effects are summarised in **Table 15-19**.

Table 15-19 – Health and wellbeing receptors subject to potential effects

Receptor	Reason for consideration
Local residents, business owners and employees, workers in the local economy, visitors using the local transport network, and the capacity of local health services.	Potential health effects associated with socio-economic effects.
Local residents, workers and visitors, and the capacity of local health services.	Potential health effects associated with socio-economic, transport, noise and vibration, landscape and visual, air quality, and recreation effects associated with the construction of the Project.
Local residents, workers and visitors, and the capacity of local health services.	Potential health effects associated with socio-economic, transport, noise and vibration, landscape and visual, air quality and recreation effects associated with the operation of the Project.

Health Determinants

- 15.7.7 This chapter considers how the Project could impact on health outcomes and the promotion of healthy lifestyles in order to reduce health inequalities in the Study Area. The scope of the assessment has been established by identifying the likely health determinants and possible pathways between a health influence and a receptor (an affected individual or community).
- 15.7.8 This qualitative assessment of human health effects considers the following health and well-being determinants⁶⁴ of relevance:
- Access to healthcare services and other social infrastructure (including primary and secondary schools);
 - Access to open space and nature;
 - Air quality, noise and neighbourhood amenity;
 - Accessibility and active travel;
 - Crime reduction and community safety;
 - Access to work and training; and
 - Social cohesion and neighbourhoods.
- 15.7.9 These health determinants are considered when assessing the likely impacts of the Project.

⁶⁴ A comprehensive set of human health and well-being determinants is listed in the HUDU Rapid HIA Tool Fourth Edition 2019 which is generally considered as a best practice tool to use when undertaking health and well-being impact assessments.

Likely effects

15.7.10 The likely effects on health and wellbeing receptors which have been taken forward for detailed assessment are summarised in **Table 15-20**.

Table 15-20 – Health and wellbeing receptors scoped in for further assessment

Receptor	Health determinant	Likely effects
Construction workforce.	Access to work and training.	Increased employment and training opportunities.
Local residents accessing existing health services and other social infrastructure.	Access to healthcare services and other social infrastructure.	Increase in population including demographic change, potential increase in demand for accommodation and community services including health services.
Local residents, and workers and visitors in communities close to the construction sites and exposed to amenity effects (e.g. noise, construction traffic, air quality and visual intrusion).	Air quality, noise and neighbourhood amenity. Social cohesion and neighbourhoods. Crime reduction and community safety.	Potential amenity effects (e.g. noise, construction traffic, air quality and visual intrusion) which could impact on the mental and physical health of people living or working in local communities as well as visitors, including impacts on community cohesion due to severance and/or impacts to the local communities' quality of life.
Users of affected recreational routes and amenity areas including open spaces and nature, public rights of way, local community services and social infrastructure.	Access to open space and nature. Air quality, noise and neighbourhood amenity. Accessibility and active travel.	Potential severance impacts (temporary diversion or closures) on walkers, cyclists and horse-riders in accessing recreational routes and amenity areas including open spaces and nature, public rights of way, local community services and social infrastructure.
Local residents, workers from communities close to the Project as well as visitors exposed to permanent amenity effects (e.g. visual, noise or maintenance traffic during operation).	Access to open space and nature. Air quality, noise and neighbourhood amenity. Accessibility and active travel. Social cohesion and neighbourhoods. Crime reduction and community safety.	Potential amenity effects (e.g. visual, noise or maintenance traffic during operation) which could impact on the mental and physical health of people living or working in local communities, including impacts on community cohesion due to severance and/or impacts to the local communities' quality of life.

15.7.11 As explained above, due to the broad nature of the determinants of health, the comprehensive assessment of the health effects of the Project presented in this chapter

considers the environmental effects identified by other environmental aspects that could impact health and wellbeing.

15.7.12 The receptors/effects detailed in **Table 15-21** were scoped out from being subject to further assessment because no adverse effects were considered likely.

Table 15-21 – Summary of effects scoped out of the health and wellbeing assessment

Receptors/potential effects	Justification
Health and wellbeing effects relating to the water environment	These are covered within Chapter 9: Hydrology, Volume 5, Document 5.2.9 which considers the potential impacts on water resources supporting human health and economic activity that may arise from the construction and operation of the Project. No additional assessment of effects on health and wellbeing will be required and health effects associated with hydrology are scoped out of the health and wellbeing chapter.
Health and wellbeing effects relating to geology, hydrogeology and soil	These are covered within Chapter 10: Geology and Hydrogeology, Volume 5, Document 5.2.10 , which considers the potential impacts on groundwater, land contamination and ground instability receptors (e.g. human health, buildings) that may arise from the construction and operation of the Project. No additional assessment of effects on health and wellbeing has been carried out and health effects associated with geology, hydrogeology and soil are scoped out of the health and wellbeing chapter.

15.8 Assessment methodology

- 15.8.1 The generic project-wide approach to the assessment methodology is set out in **Chapter 4: Approach to Preparing the ES, Volume 5, Document 5.2.4**. However, whilst this has informed the approach that has been used in this health and wellbeing assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this health and wellbeing assessment.
- 15.8.2 There is no recognised or consolidated methodology or practice for the assessment of effects on health and wellbeing. Best practice principles are provided in NHS England’s HUDU’s HIA Toolkit 2019⁴ which forms the basis of the approach adopted to assess impacts on health and wellbeing in this chapter. In addition, consideration has been given to the Health and Wellbeing checklist of the WHIASU²⁸ to help with the identification of which health determinants are relevant.
- 15.8.3 Whilst not providing definitive guidance, the IEMA’s Health in Environmental Impact Assessment: A Primer for a Proportionate Approach²⁷ discusses ways in which human

health can be assessed as part of an EIA. In addition, National Highways' Document LA112 – Population and Human Health²⁹ sets out requirements for assessing and reporting the environmental effects on population and health which are applicable to infrastructure and provides guidance which is relevant to the Project.

15.8.4 As such, the impacts of the Project on health and wellbeing have been assessed qualitatively using professional judgement and best practice in line with this guidance.

Assessing the outcomes for public health and wellbeing

15.8.5 As noted in **Section 15.1**, the WHO defines health as “*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*”¹. Consequently, public health encompasses general well-being, not just the absence of illness. Some effects are direct and obvious, others are indirect and some may be synergistic, with different types of impact acting in combination.

15.8.6 The assessment has considered the following determinants when assessing the impacts of the Project on health and wellbeing:

- **Social and economic factors** – such as poverty, economic activity and unemployment and deprivation levels which influence and strongly determine health status;
- **Environmental factors** – such as air quality and the quality of the built environment which influence health and provide opportunities for health improvements;
- **Lifestyle factors** – such as physical activity levels, smoking, diet, alcohol consumption and sexual behaviour which can significantly influence health outcomes; and
- **Accessibility to services and infrastructure** – such as access to health services, education, social services, transport services and leisure facilities which influence the health of a population.

15.8.7 Health and wellbeing perceptions and impacts to the mental health of local residents which may result from changes to neighbourhood amenity have been taken into account throughout the assessment.

15.8.8 A qualitative assessment of land take and changes to accessibility has been carried out. This considers disruption to the ability of users to undertake recreational activities within areas of open space due to construction activities. This includes an assessment of the availability of alternative open spaces, the remaining amount of space which will be available for users to undertake recreational activities and the potential for amenity effects on users of open spaces or recreational facilities.

15.8.9 The health and wellbeing assessment is a qualitative rather than quantitative assessment due to the diverse nature of health determinants and health outcomes which are assessed. Although this chapter describes the likely qualitative health impacts, it is not possible to quantify the severity or extent of the effects. The methodology set out in the HUDU Toolkit does not include a temporal scale of considerations of the effects. It does not provide a methodology for assessing the significance of outcomes or effects and as such none is proposed here. Instead, the potential health effects during construction and operation are described using the criteria provided in the HUDU Toolkit, which are outlined in **Table 15-22**.

Table 15-22 – Health and wellbeing impact categories

Impact Category	Impact Symbol	Description
Positive	+	A beneficial impact is identified.
Neutral	0	No discernible health impact is identified.
Negative	-	An adverse impact is identified.
Uncertain	?	Where uncertainty exists as to the overall impact.

Mitigation and residual effects

- 15.8.10 The health and wellbeing assessment reports on the likely effects of the Project taking into account the implementation of embedded mitigation measures and additional mitigation measures.
- 15.8.11 This chapter sets out a high-level summary of proposed measures (see **Section 15.6**), which will evolve through the refinement of the design of the Project.
- 15.8.12 Reflecting the multi-disciplinary nature of health and wellbeing impacts, the Applicant will take a health-conscious approach considering health and wellbeing issues and opportunities when planning the design and implementation of the Project.

15.9 Assessment of health and wellbeing effects

- 15.9.1 The predicted construction and operational effects of the Project on the health and wellbeing receptors identified in this assessment are considered in further detail in the sections below including explanation of any receptors scoped out from further assessment.
- 15.9.2 Effects on the amenity of local residents and the local community due to visual impacts (**Chapter 6: Landscape and Visual Amenity, Volume 5, Document 5.2.6**), traffic (**Chapter 12: Traffic and Transport, Volume 5, Document 5.2.12**), air quality (**Chapter 13: Air Quality, Volume 5, Document 5.2.13**), noise and vibration (**Chapter 14: Noise and Vibration, Volume 5, Document 5.2.14**), and socio-economic impacts (**Chapter 16: Socio-economics, Volume 5, Document 5.2.16**) are not included in this chapter as they are assessed in those chapters respectively with relevant findings cross referenced in this assessment.

Construction

Access to work and training

- 15.9.3 **Chapter 16 Socio-economics, Volume 5, Document 5.2.16** estimates that there would be an average of 103 construction workers on the Project at any one time. Previous projects indicate that these workers would be split between around 15% from the local area, defined as the local authorities of North Yorkshire County Council, Harrogate Borough Council, Hambleton District Council, City of York Council, Leeds City Council and Selby District Council, and 85% who would travel into the area from elsewhere. This would equate to an average of 19 local workers and 88 non-local workers. For those workers who would travel into the area, the Applicant estimates that

they would each spend £60-70 per day on accommodation, food and other local services. For the main construction period (42 months), this would generate approximately £5,720 per day to the local economy, or at least £1.49m per year or £5.2m over this period in total⁶⁵. Given the size of the local economies (for example, the tourism economy in 2021 on its own was valued at £457m in the Harrogate district), £1.49m a year and the support of 19 local jobs is considered to be a negligible, beneficial magnitude of effect. Therefore, the impact of the Project on access to work and training as a determinant of health and wellbeing is assessed as **neutral**.

15.9.4 Further detail on labour numbers and the sourcing of contractors and plant will only be confirmed once tendering and the award of contracts has taken place, so the above information is based on National Grid's previous experience of similar projects.

Access to healthcare services and other social infrastructure

15.9.5 It is estimated that there would be an average of 103 construction workers on the Project at any one time. It is estimated that 19 of these workers would already live in the local area, meaning 88 non-local workers would move to the local area as a result of the Project.

15.9.6 The non-local workers would require accommodation in the local area, and this demand would be serviced from hotels/B&Bs, camping and caravan sites and short term let properties. It is estimated that the breakdown of accommodations is of the order of:

- 50%: camping and caravan sites;
- 20%: short-term lets;
- 20%: hotels / B&Bs; and
- 10% travel into the area from home.

15.9.7 This would see an average requirement of:

- 44 camping and caravan bedspaces;
- 18 short-term let bedspaces; and
- 18 hotel/B&B bedspaces.

15.9.8 **Chapter 16: Socio-economics, Volume 5, Document 5.2.16** assesses that the average requirement from the Project of 80 bedspaces would be easily accommodated into the areas of Hambleton, Harrogate, Leeds, Selby, and York without displacing bedspace for tourist requirements. As such, the impact of the Project on access to accommodation as a determinant of health and wellbeing is assessed to be **neutral**.

15.9.9 There are currently 1,703 patients per GP (FTE) at the four practices identified within the Study Area. Assuming that the 88 construction workers moving into the local area to take up jobs associated with the construction of the Project require primary healthcare services from the four practices identified within the Study Area (a worst case scenario), the ratio of GPs (FTE) to patients would rise to 1:1,705. As the estimated construction workforce required for the Project would not increase the ratio of GPs (FTE) to patients to greater than the recommended ratio of 1:1,800, the impact of the Project on access to healthcare facilities as a determinant of health and wellbeing is assessed to be **neutral**.

⁶⁵ Based on £65 per day spend over a 5-day working work.

15.9.10 Other social infrastructure in the study area which workers might utilise includes six religious facilities and ten further community facilities. The nature of these services is such that any additional demand generated by workers is likely to be low relative to any capacity considerations. Therefore, the impact of the Project on access to other social infrastructure as a determinant of health and wellbeing is assessed as **neutral**.

Changes in severance and accessibility to healthcare services and other social infrastructure

15.9.11 During construction, there is the potential for journey times and access to be temporarily affected by an increase in the number of HGVs or employee vehicles on the road and temporary traffic management at certain locations. These have the potential to lead to temporary delays and temporarily reduce or potentially sever access to local health services and other social infrastructure.

15.9.12 Wetherby Road (A659) provides links from Tadcaster north-west towards Boston Spa. Construction of the Project would cause an increase of HGVs such that it would cause some severance associated with delays experienced to journeys along this route (see **Chapter 12: Traffic and Transport, Volume 5, Document 5.2.12** for further details). There are several social infrastructure and community facilities in Tadcaster, including primary and secondary schools, leisure centres and a GP surgery which are likely to be used primarily by residents in Tadcaster. Taking an alternative route along Toulston Lane would increase car journey times by approximately 5 minutes.

15.9.13 The presence of this additional traffic is not likely to affect local residents' ability to access these facilities. The existing road network is expected to remain within operating capacity at all times during the construction period and there are not expected to be any considerable changes in journey time for existing users of any of the strategic roads in the Study Area. There are expected to be a maximum of additional one construction HGVs per hour (two movements) using the A659. **Chapter 12: Traffic and Transport, Volume 5, Document 5.2.12** assesses the impact of these additional HGVs as **negligible**. Therefore, the potential health and wellbeing impact on access to healthcare services and social infrastructure during the construction period is assessed overall to be **neutral**.

Accessibility and active travel

15.9.14 Maintaining a safe and secure environment during construction is important to ensure the wellbeing of inhabitants and local residents. Being able to enjoy where a person lives is important to facilitate social interaction and cohesion, without feeling threatened by traffic or an insecure environment.

15.9.15 The Project seeks to manage construction traffic flows through best practice to help reduce and minimise road injuries. Details of the construction access strategy are available in the CTMP (see **Appendix 5.3.3F, Volume 5, Document 5.3.3F**).

15.9.16 During construction of the Project, there is the potential for temporary closures or diversions of active travel routes such as PRowS and cycle routes.

15.9.17 There are 27 active travel routes located within the Order Limits. Of these, the PRow Management Plan (PRowMP) (see **Appendix 5.3.3G, Volume 5, Document 5.3.3G**) identifies that construction activities associated with the Project may temporarily affect 11 footpaths and 15 bridleways. Of these, 16 PRowS would be crossed by an overhead line which would need to be removed or installed and will therefore require a temporary short-term closure and active management. One PRow will require a temporary closure and diversion over a distance of approximately 50m as it runs through the proposed

Pylon working area for Pylon XC499. A new diverted route around the edge of the pylon working area would temporarily be provided. This diversion would last for the duration of the pylon working area works. Further details are provided in the PRowMP (**Appendix 5.3.3G, Volume 5, Document 5.3.3G**).

15.9.18 No permanent impacts on active travel routes are anticipated.

15.9.19 Mitigation measures, such as temporary diversions to access routes, will minimise disruption and therefore the effect of the Project on accessibility and active travel as a determinant of health and wellbeing during construction is assessed to be **neutral**.

Access to open space

15.9.20 There are no green open spaces from which there will be temporary or permanent land take or changes to access as a result of the Project during construction.

15.9.21 The River Ouse falls within the Order Limits. Decommissioning and realignment of the existing 275kV XCP overhead line which crosses the river would require temporary scaffolding in two locations close to the river south of Overton Wood. The navigation rights along the River Ouse would be temporarily suspended during construction works. However, construction works would take place overnight within an 8 hour period and the suspension of navigation rights would only be in place for a maximum of one hour at a time during this period. Therefore, the management of the river is not considered to affect the ability of users to enjoy it. More details are provided in the CTMP (see **Appendix 5.3.3G, Volume 5, Document 5.3.3G**) and Article 54 of the draft DCO.

15.9.22 Therefore, through minimisation of changes to access to natural space during the construction of the Project the effect on health and wellbeing is assessed to be **neutral**.

Air quality, noise and neighbourhood amenity

15.9.23 During construction of the Project, there is the potential for a change in amenity value due to the increase in construction traffic on nearby roads and noise, dust and vibration resulting from the construction of the Project which may have an impact on health and wellbeing. As such, there is the potential for users of recreational and open areas to experience impacts associated with a loss of amenity. Similarly, users of PRow and active travel routes are likely to experience impacts associated with a loss of amenity. These impacts could include changes in affected individuals' health perceptions and mental health.

15.9.24 An assessment of the potential dust and particulate matter impacts during the construction stage is provided in the **Chapter 13: Air Quality, Volume 5, Document 5.2.13**. The assessment concludes that during construction, demolition of pylons, earthworks, trackout and Project construction activities would result in dust emitted in an area up to 350m away from the Order Limits which includes some residential properties and a number of active travel routes, including PRow. However, due to low background particulate matter concentrations in the area and the use of best practice dust suppression measures (as outlined in the CoCP), the impact of these dust emissions is assessed to have a low risk to human health.

15.9.25 An assessment of the potential noise and vibration impacts during the construction stage is provided in **Chapter 14: Noise & Vibration, Volume 5, Document 5.2.14**. The assessment concludes that there are significant effects, associated with construction noise, on some receptors, detailed below.

- 15.9.26 Residents of a traveller encampment to the east and west of the A63/A1 (M) roundabout in Selby would experience construction noise levels greater than the 65dB threshold level between 07:00 – 19:00 Monday to Friday and 07:00 – 13:00 Saturday. However, this is not significant due to the short duration of the construction activity causing this exceedance.
- 15.9.27 Residents of Pollums House Farm, The Bungalow, Thickpenny Farm, Jesmond Cottage, Tockwith Road, North Hall Moor and Hall Moor Cottages would experience very small exceedances of the 55dB threshold level between 13:00 – 23:00 Saturday, and 07:00 – 23:00 Sunday. However, this is not significant due to the short duration of the construction activity causing this exceedance. Residents of Red Brick Farm House west, Moor Lane would experience moderate exceedances of this threshold during these times when horizontal directional drilling works were taking place. This is assessed as not significant due to the short duration of the construction activity causing this exceedance. Residents of a traveller encampment to the east and west of the A63/A1 (M) roundabout in Selby would experience 20-25dB exceedances of this threshold during these times. However the duration of the activities causing this exceedance would be short term and therefore this is assessed as not significant.
- 15.9.28 Approximately half of the receptors identified in **Chapter 14: Noise & Vibration, Volume 5, Document 5.2.14** would experience exceedances of the 45dB threshold between 23:00 – 07:00 Monday to Sunday. Of these, 14 would experience small (less than 5dB) exceedances (not significant); 11 would experience medium (5 – 10dB) exceedances (potentially significant); and two would experience high (greater than 10dB) exceedances (significant). The assessment concludes that these effects would not be significant as the duration of the construction activities causing the exceedance would be of a short duration and acoustic screening would be implemented to mitigate noise levels.
- 15.9.29 The assessment of construction traffic noise in **Chapter 14: Noise and Vibration, Volume 5, Document 5.2.14** concludes no significant effects. The assessment of construction vibration concludes that there are no significant effects for most of the receptors assessed due to the short duration of the activity or low levels of vibration produced. Residents of a traveller encampment to the west of the A63/A1 (M) roundabout in Selby would experience high impact magnitude construction vibration effects which are significant. Significant effects would only occur if impact piling was to be used for foundations at the pylon closest to this location. However, the geotechnical desk study has indicated ground conditions may not be suitable for this type of piling. However measures would be implemented through the Noise and Vibration Management Plan (**Document 5.3.3H**) such that if this type of piling was required once site-specific ground investigations have taken place effects would be managed.
- 15.9.30 Residents, workers and visitors in communities close to the construction sites as well as visitors within the Study Area would experience changes to views, landscape and neighbourhood amenity as a result of the construction of the Project. These temporary changes may have an impact on the mental health and wellbeing of the population, including relating to negative health perceptions and concerns about EMF. A separate technical note on EMF (**Volume 6, Document 6.3**) is provided to accompany the Development Consent Order application which states that the Project will be fully compliant with the UK Government policies on EMF and that there will be no significant EMF effects resulting from the Project. Therefore, the Project is unlikely to have an adverse effect on health perceptions and concerns about EMF in the study area.

15.9.31 The assessment within **Chapter 6: Landscape and Visual Amenity, Volume 5, Document 5.2.6** identified significant adverse effects on the following receptors:

- residents of Moor Monkton;
- residents of Overton (Viewpoint 3);
- residents of dwellings on Scagglethorpe Moor;
- guests at Woodstock Lodge wedding venue;
- residents of Hall Moor Farm Cottages;
- residents of Hall Moor Farm (South);
- residents of Overton Grange and Nos. 1 and 2 Glenroyd Cottages;
- residents of New Farm Cottages;
- residents of dwellings on Stripe Lane;
- residents of Red Brick House Farm;
- residents of Farmhouse east of Monk Fryston Lodge;
- residents of Pollums House Farm;
- users of National Cycle Route 65 and Way of the Roses long distance footpath;
- user of the River Ouse Corridor including four long distance footpaths⁶⁶;
- users of Other Routes of Public Access (ORPA) west of Newlands Farm;
- users of PRoW east of Shipton including Jorvic Way long distance footpath;
- users of PRoWs near Moor Monkton;
- users of PRoWs on Scagglethorpe Moor;
- users of Jorvic Way long distance footpath (River Ouse to Shipton);
- users of Paulinus Way long distance footpath;
- people travelling in vehicles along the A19, between New Farm and close to the junction with Overton Road;
- people travelling on the ECML;
- people travelling in vehicles along Corban Lane;
- people travelling in vehicles along Overton Road;
- people in vehicles travelling along the A659;
- people travelling in vehicles along Garnet Lane;
- people travelling in vehicles along A63; and
- people travelling in vehicles at the northern end of Rawfield Lane, between the existing Monk Fryston Substation and the junction with the A63.

⁶⁶ Long distance footpaths comprise parts of the Yorkshire Ouse Walk, Jorvic Way, Ainsty Bounds Way and Historical Walk: Lancashire and Yorkshire.

15.9.32 Effects on air quality, noise and neighbourhood amenity will be managed through the use of best practicable means included in the CoCP, **Appendix 3B, Volume 5, Document 5.3.3B** and the use of temporary noise barriers where appropriate. Although a number of receptors would experience adverse effects relating to landscape amenity, these effects will be temporary. Furthermore, air quality emissions resulting from the Project pose a low risk to human health and health and wellbeing is not likely to be impacted by construction noise or vibration. Therefore, the overall the effect of the Project on air quality, noise and neighbourhood amenity as a determinant of health and wellbeing during construction is assessed to be **neutral**.

Operation

Air quality, noise and neighbourhood amenity

- 15.9.33 An operational assessment of air quality has been scoped out of the EIA due to the minimal volume of predicted traffic during the operational phase. In addition, the substations are not expected to produce emissions as stated in **Chapter 13: Air Quality, Volume 5, Document 5.2.13**.
- 15.9.34 An assessment of the potential noise and vibration impacts during the operational stage is provided in **Chapter 14: Noise and Vibration, Volume 5, Document 5.2.14**. The assessment considers potential impacts on receptors associated with operational noise from overhead lines and substations.
- 15.9.35 The assessment of overhead line noise associated with the new and realigned 275kV and 400kV overhead lines concluded no significant effects.
- 15.9.36 The assessment of operational noise associated with the Monk Fryston Substation and Overton Substation has concluded no significant effects for all nearby receptors and no changes in ambient noise levels is predicted.
- 15.9.37 Residents, workers and visitors in communities close to the Project as well as visitors within the Study Area would experience permanent changes to views, landscape and neighbourhood amenity as a result of the operation of the Project. These changes may have an impact on the mental health and wellbeing of the population. The assessment within **Chapter 6: Landscape and Visual Amenity, Volume 5, Document 5.2.6** identified significant adverse effects on the following receptors during Year 0 of operation:
- residents of Moor Monkton;
 - guests at Woodstock Lodge wedding venue;
 - residents of Hall Moor Farm Cottages;
 - residents of Hall Moor Farm (South);
 - residents of Overton Grange and Nos. 1 and 2 Glenroyd Cottages;
 - residents of New Farm Cottages;
 - residents of dwellings on Stripe Lane;
 - residents of Pollums House Farm;
 - users of National Cycle Route 65 and Way of the Roses long distance footpath;
 - users of ORPA west of Newlands Farm;

- users of PRoW east of Shipton including Jorvic Way long distance footpath;
- users of Paulinus Way long distance footpath;
- people travelling in vehicles along the A19, between New Farm and close to the junction with Overton Road;
- people travelling in vehicles along Corban Lane;
- people travelling in vehicles along Overton Road;
- people travelling in vehicles along the A63 near the junction with Rawfield Lane; and
- people travelling in vehicles at the northern end of Rawfield Lane.

15.9.38 Of the landscape amenity effects identified, the following are assessed to remain significant during Year 15 of operation of the Project:

- residents of Hall Moor Farm Cottages;
- residents of Hall Moor Farm (South);
- residents of Overton Grange and Nos. 1 and 2 Glenroyd Cottages;
- residents of New Farm Cottages;
- residents of dwellings on Stripe Lane;
- residents of Pollums House Farm;
- users of National Cycle Route 65 and Way of the Roses long distance footpath;
- users of ORPA west of Newlands Farm;
- users of PRoW east of Shipton including Jorvic Way long distance footpath;
- people travelling in vehicles along the A19, between New Farm and close to the junction with Overton Road;
- people travelling in vehicles along Corban Lane;
- people travelling in vehicles along Overton Road; and
- users of Paulinus Way long distance footpath.

15.9.39 Effects on neighbourhood amenity during operation would be managed through design measures, where required. These would include landscape planting, landscape earthbunds, and noise management measures to mitigate any adverse effects on residents, workers, users of active travel routes, and visitors in communities close to the Project and those more widely within the Study Area. Therefore, the overall effect of the Project on air quality, noise and neighbourhood amenity as a determinant of health and wellbeing during operation is assessed to be **neutral**.

15.10 Assessment of cumulative effects

Inter-project (combined with other development) cumulative effects

15.10.1 An assessment of the effects which could result from the Project in cumulation with other developments in the vicinity of the Project is provided in **Chapter 18: Cumulative Effects Assessment (Volume 5, Document 5.2.18)**.

Intra-project (within the Project) cumulative effects

15.10.2 This health and wellbeing assessment inherently considers intra-project cumulative effects, as its findings are based on the conclusions of **Chapter 6: Landscape and Visual Amenity, Volume 5, Document 5.2.6**; **Chapter 12: Traffic and Transport, Volume 5, Document 5.2.12**; **Chapter 13: Air Quality, Volume 5, Document 5.2.13**; **Chapter 14: Noise and Vibration, Volume 5, Document 5.2.14**; and **Chapter 16: Socio-economics, Volume 5, Document 5.2.16**. No additional potential intra-project cumulative effects relating to health and wellbeing have been identified.

15.11 Conclusions

15.11.1 A summary of the results of the health and wellbeing assessment is provided in Table 15-23.

Table 15-23 – Summary of effects assessment

Receptor and summary of predicted effects	Outcomes	Summary rationale
Construction		
Access to Work and Training	Neutral	<p>During the construction phase, it is estimated that the Project would create 103 new jobs in the local area. Based on previous National Grid projects, 19 of these are likely to be taken up by the local workforce.</p> <p>The creation of jobs is beneficial; however, given the size of the local economies, the impact of the Project on access to work and training as a determinant of health and wellbeing is assessed as neutral.</p>
Access to Healthcare Services and other Social Infrastructure	Neutral	<p>During the construction phase, it is estimated that the Project would create 103 new jobs in the local area. Based on previous National Grid projects, 88 of these are likely to be taken up by individuals from outside of the local area who would move to the local area and generate additional demand for services.</p> <p>However, considering the availability of accommodation, healthcare services and other social infrastructure in the local area, the impact of the Project on access to accommodation, healthcare services and other social infrastructure as a determinant of health and wellbeing is therefore assessed as neutral.</p>
Changes in Severance and Accessibility to Healthcare	Neutral	<p>There is not likely to be any severance between local residents and the healthcare</p>

Receptor and summary of predicted effects	Outcomes	Summary rationale
Services and other Social Infrastructure		facilities and other social infrastructure which they use during the construction phase. This is because the additional construction traffic would not result in the transport network becoming over capacity. The effect on health and wellbeing is therefore assessed to be neutral .
Accessibility and Active Travel	Neutral	During the construction phase, the Project would result in temporary impacts on a number of active travel routes in the Study Area. 16 PRow would require temporary short-term closure and management, and one PRow would be temporarily diverted. Through mitigation measures and minimisation of temporary land take from these PRows, access to active travel routes during the Project construction would be maintained and so the effect on health and wellbeing is assessed to be neutral .
Access to Open Space and Recreational Facilities	Neutral	There are no green open spaces from which there will be temporary land take or changes to access as a result of the Project during construction. The River Ouse falls within the Order Limits. The navigation rights along the River Ouse would be temporarily suspended during construction works as detailed in Article 54 of the draft DCO. However, construction works would take place overnight within an 8 hour period and the suspension of navigation rights would only be in place for a maximum of one hour at a time during this period. Therefore, the management of the river is not considered to affect the ability of users to enjoy it. Therefore, through minimisation of changes to access to natural space during the construction of the Project the effect on health and wellbeing is assessed to be neutral .
Air Quality, Noise and Neighbourhood Amenity	Neutral	During construction, effects on air quality, noise and neighbourhood amenity will be managed through the use of best practicable means included in the CoCP and the use of temporary noise barriers where appropriate. Although a number of

Receptor and summary of predicted effects	Outcomes	Summary rationale
Operation		
Air Quality, Noise and Neighbourhood Amenity	Neutral	<p>receptors would experience adverse effects relating to landscape amenity, these effects would be temporary. Furthermore, air quality emissions resulting from the Project pose a low risk to human health and health and wellbeing is not likely to be impacted by construction noise or vibration. Therefore, the overall effect of the Project on air quality, noise and neighbourhood amenity as a determinant of health and wellbeing during construction is assessed to be neutral.</p> <p>During operation, effects on neighbourhood amenity would be managed through design measures, where required. These include landscape planting, landscape earthbunds, and noise management measures to mitigate any adverse effects on residents, workers, users of active travel routes, and visitors in communities close to the Project and those more widely within the Study Area. Therefore, the overall effect of the Project on air quality, noise and neighbourhood amenity as a determinant of health and wellbeing during operation is assessed to be neutral.</p>

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