

## 24. Human Health

### Purpose of the Assessment

24.1 Human health can be influenced (both adversely and beneficially) by a number of health pathways, which are defined as environmental or social changes that could affect people and are relevant to health. Direct health pathways include a number of environmental exposures such as changes to air quality, changes to noise/vibration exposure and changes to traffic flows. Indirect health pathways include wider determinants of health such as employment and income. Due to the multidisciplinary nature of health, this chapter should be read in conjunction with (in particular) the following PEIR technical chapters:

- Chapter 9: Air Quality;
- Chapter 18: Noise and Vibration;
- Chapter 19: Highways and Transportation; and
- Chapter 20: Socio-economics.

24.2 As per the Human Health Scoping Statement, provided is **Appendix 24.1**, it was agreed with the Northamptonshire Public Health Team that all of the potential material effects on human health associated with the construction and operation of the Proposed Development are already addressed through the individual technical disciplines to objective thresholds set to be protective of health, and that no further health assessment is required. However, this brief Human Health PEIR chapter has nevertheless been provided to assist the reader of the PEIR by explaining how and where potential effects on human health are addressed through design and assessed through the wider technical disciplines within the PEIR. This is intended to improve transparency and to help allay any residual community concerns.

24.3 The remainder of the Human Health PEIR chapter is structured as follows:

- relevant legislation and policy;
- scoping and consultation;
- method of assessment;
- embedded mitigation;
- assessment of construction, operational and decommissioning effects;
- cumulative effects;
- mitigation;
- residual effects; and
- monitoring.

- 24.4 In this instance, the inclusion of a baseline section has not been considered necessary due to the absence of any formal human health assessment.

## Legislative and Policy Framework

- 24.5 **Table 24.1** provides a summary of relevant human health legislation, policy and guidance.

**Table 24.1: Relevant Legislation and Policy and Guidance**

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
The Infrastructure Planning (Environmental Impact Assessments) Regulations 2017 (Ref. 24.1)	Paragraph 5(2)(a) and Schedule 4 of the 2017 Infrastructure Planning EIA Regulations require that an EIA assesses the effects (where likely to be significant) on population and human health, among other factors.	The overarching purpose of this chapter is to meet the recently amended EIA regulations, that reinforces the coverage of population and health within planning and EIA, and seeks to improve transparency through a dedicated section in the ES.
National Planning Policy Framework (Ref. 24.2)	Promoting healthy communities is a theme of the NPPF, which states that <i>“the planning system can play an important role in facilitating social interaction and creating healthy, inclusive communities”</i> (paragraph 69).	The NPPF reinforces how planning can be applied to not only design out hazards to protect human health, but can be further influenced to address underlying burdens of poor health, and facilitate healthy, vibrant and cohesive communities. Hazards and opportunities have been investigated through the formal scoping process and are embedded within the proposed design, mitigation and supporting initiatives proposed.
National Policy Statement for National Networks (Ref. 24.3)	<i>“National road and rail networks and strategic rail freight interchanges have the potential to affect the health, well-being and quality of life of the population. They can have direct impacts on health because of traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water, hazardous waste and pests.</i>  <i>New or enhanced national network infrastructure may have indirect</i>	Direct and indirect effects on the health, well-being and quality of life of local communities are considered within this chapter (air quality, noise and transport). In addition, this chapter considers the socio-economic wider determinants of health such as income and employment.  As the Human Health Scoping Statement, provided in <b>Appendix 24.1</b> , concluded that no likely significant effects on human health

	<p><i>health impacts; for example if they affect access to key public services, local transport, opportunities for cycling and walking or the use of open space for recreation and physical activity.</i></p> <p><i>As described in the relevant sections of this NPS, where the proposed project has likely significant environmental impacts that would have an effect on human beings, any environmental statement should identify and set out the assessment of any likely significant adverse health impacts.</i></p> <p><i>The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. These impacts may affect people simultaneously, so the applicant, and the Secretary of State (in determining an application for development consent) should consider the cumulative impact on health.”</i></p>	<p>were likely to arise during either the construction, operational or decommissioning phases of the Proposed Development and therefore no further health assessment was required, the Assessment section of this chapter signposts to how and where potential effects on human health are assessed and addressed within the PEIR.</p>
Northamptonshire’s Joint Health and Wellbeing Strategy 2016-2020 (Ref. 24.4)	<p>The Northamptonshire Joint Health and Wellbeing Strategy hopes to improve health and wellbeing by “Encourage[ing] employers to actively support the wellbeing of their workforce through the Healthier Workplace Initiative” (page 20)</p>	<p>While neither legislation nor policy, the Joint Health and Wellbeing Strategy provides a means to gauge local circumstance, and health improvement objectives to deliver the NPPF health objective. While no further health assessment is deemed necessary, <b>Appendix 24.2</b> provides details of healthy workplace features to support the promotion of good health and wellbeing within the workforce and local communities.</p>

## Scoping and Consultation

- 24.6 A summary of the Scoping Opinion relevant to human health is provided in **Table 24.2**. The key themes raised included the consideration of an active transport strategy to contribute to health and wellbeing benefits and psychological effects on residents due to stress created during the DCO application process.
- 24.7 The psychological effects on residents due to stress created during the DCO process is addressed in the Embedded Mitigation section. Active transport strategies will be considered in **Appendix 24.2** which provides details of healthy workplace features that will encourage good health and wellbeing within the workforce; additional information on this is provided in the Adaptive Mitigation section.

**Table 24.2 Summary of Scoping Opinion Relevant to Human Health**

Scoping Opinion section/paragraph	Summary of issue raised	Where in the PEIR is this addressed?
Scoping Opinion Section 4 paragraph 33	<p>Secretary of State – <i>“The Secretary of State considers that it is a matter for the applicant to decide whether or not to submit a stand-alone Health Impact Assessment (HIA). However, the applicant should have regard to the responses received from the relevant consultees regarding health, and in particular to the comments from the Health and Safety Executive and Blisworth Parish Council in relation to health issues (see Appendix 3 of this Opinion).</i></p> <p><i>The methodology for the HIA, if prepared, should be agreed with the relevant statutory consultees and take into account mitigation measures for acute risks.”</i></p>	<p>An Health Impact Assessment (HIA) scoping exercise was undertaken with input from key health stakeholders. The exercise concluded that all the potential hazards are addressed through the regulatory assessment process to objective thresholds set to be protective of health, concluding that a full health assessment would not be required.</p> <p>However, in order to meet the requirements of the updated EIA regulations, a brief Human Health PEIR chapter has been provided (this chapter) to assist the reader of the PEIR by explaining how and where potential effects on human health are addressed through design and assessed through the wider technical disciplines within the PEIR.</p>
Scoping Opinion Scoping Report Section APPENDIX 3 – RESPONDENTS TO CONSULTATION AND COPIES OF	<p>Blisworth Parish Council – <i>“Travel Plans for large employment developments are typically aimed at achieving all (or some specific mix of) the following, depending upon opportunities and constraints: [...] (vi) higher levels of walking and cycling</i></p>	<p><b>Appendix 24.2</b> provides details of healthy workplace features, and draws from the committed actions referenced in the Travel Plan to set into context the potential benefits to human health.</p>

REPLIES	<i>than would otherwise be observed, with associated benefits to health and well-being; [...]"</i>	
Scoping Opinion Scoping Report Section APPENDIX 3 – RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES	Blisworth Parish Council – <i>"Large numbers of people will be impacted by the noise, light and air pollution, not to mention the stress endured through the whole of the process, regardless of whether the development proceeds or not. [...] The psychological effects on all residents affected are unquantifiable (under this process) but they are very real. Nowhere in any of this process are these damaging health effects likely to be taken into account and we therefore believe that this issue deserves due consideration."</i>	The potential effect on residents from tangible changes in noise, light and air pollution are addressed in the relevant technical chapters of the PEIR; <b>Chapter 18: Noise and Vibration, Chapter 17: LVIA, and Chapter 9: Air Quality.</b>  The psychological effects on residents due to the planning process referenced by Blisworth Parish Council is addressed in the Embedded Mitigation section of this chapter.

- 24.8 Human health has been an inherent element in all consultation and engagement (with statutory consultees through to local communities) so far, informing both the design and development of the Proposed Development and its assessment. That will continue. In addition, a public health focused discussion took place with the Northamptonshire County Council Public Health Team. This is summarised in **Table 24.3** below.

**Table 24.3 Summary of Engagement with Northamptonshire County Council Public Health Team**

Engagement and date	Summary of engagement	Where in the PEIR is this addressed?
The Human Health Scoping Statement was provided to the Northamptonshire County Council Public Health Team (NCCPHT) on 08/09/17, and discussed with them on 22/09/17. A written summary of the discussion was provided by the NCCPHT on 02/10/17.	The Human Health Scoping Statement was shared and discussed with the Northamptonshire County Council Public Health Team to agree and refine the proposed scope.  While it was agreed no further health assessment was required, one key issue raised was the provision of an occupational healthcare strategy to support the health and wellbeing of the large workforce required on-site, in line with Northampton's Healthy	<b>Appendix 24.2</b> provides details of healthy workplace features, and is intended to address the following:  the incorporation of healthy workplace features which will be put in place to support a healthy and vibrant workforce; and  manage any potential impact on local health care provision.

### **Method of Assessment**

- 24.9 While the 2017 EIA Regulations require an assessment of the likely significant effects of projects on human health, the manner in which this is to be assessed and presented is not prescribed.
- 24.10 In this instance a human health scoping exercise was undertaken to identify any potential construction, operational or decommissioning activity with the potential to have a material effect on human health (be it adverse or beneficial). This comprised:
- a detailed review of the proposed application to identify potential health pathways and to inform a review of the appropriate health evidence base;
  - a review of PEIR scope and the range of technical assessments commissioned to explore how potential health pathways are already assessed and addressed within the PEIR;
  - development of a Human Health Scoping Statement outlining the justification for an appropriate scope of work, where necessary; and
  - provision of the Human Health Scoping Statement to the Northamptonshire County Council public health team for review and comment.
- 24.11 As detailed in the Human Health Scoping Statement (**Appendix 24.1**), the outcome of the scoping exercise was that no likely significant effects on human health were likely to arise during either the construction, operational and decommissioning phases of the Proposed Development, and that all potential effects are already assessed and addressed through the wider PEIR technical disciplines where any exposure is set to remain within environmental objective thresholds set to be protective of health. On this basis, no further health assessment is deemed necessary. The remainder of this chapter therefore signposts to how and where potential effects on human health are assessed and addressed within the PEIR.
- 24.12 In this instance, the inclusion of a baseline section is not considered necessary due to the absence of any formal human health assessment.

### **Embedded Mitigation**

- 24.13 Embedded health mitigation focusses on avoiding, minimising and managing potential adverse human health effects through the planning process, such that they are either designed out; or managed to the point that they do not present a significant risk to human health. The extent of embedded health mitigation is significant, but focusses on precursors to any health impact (e.g. air quality and noise objective thresholds set to be protective of the environment and health). In so doing, the planning process not only acts at a point to preclude health effects, but can also establish monitoring protocols that can facilitate

intervention before any manifest health outcome. The approach is therefore inherent, proactive and protective of health.

- 24.14 On this basis, design and the EIA process serve to avoid, minimise and manage potential adverse effects on human health.
- 24.15 The provision of further mitigation, such as a dedicated Construction Environmental Management Plan (CEMP) (which includes a Dust Management Plan), will set out best practice methods to mitigate against any residual adverse effects to the environment and community health.
- 24.16 In addition, a Construction Traffic Management Plan (CTMP), a Framework Travel Plan (FTP) and a Public Transport Strategy will be provided to manage travel demand therefore mitigating against potentially adverse health and wellbeing effects on the local road network (i.e. from severance, pedestrian fear, and risk of accident and injury).
- 24.17 In its consultation response, Blisworth Parish Council raised the issue of potentially adverse psychological effects on residents due to stress associated with the DCO process itself. The DCO process provides significant opportunities for engagement with local communities in advance of the submission of an application, with detailed requirements imposed on an applicant as to the nature and extent of community consultation. This process includes providing local communities with preliminary environmental information and giving them a role in influencing the content of the application that is ultimately submitted. This includes dedicated consultation events where local communities can highlight any concerns to be addressed through the DCO process. Local residents are then able to actively participate in the examination process, informed by the Environmental Statement and other information submitted with the application, and any relevant concerns will be taken into account by the examining authority and Secretary of State in reaching a decision. This process of informed engagement by communities in the decision-making process is important for all involved, and makes that process more accessible, transparent and effective, and thus key to addressing the stress felt by local communities through the DCO process.

## **Assessment of Construction, Operational and Decommissioning Effects**

### **Air Quality and Health**

- 24.18 Human health is inherently addressed within the air quality assessment (**Chapter 9: Air Quality**), where air quality dispersion modelling has been carried out to predict the Proposed Development's contribution to dust nuisance and levels of, PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub>. Results indicate that following appropriate mitigation, any impact from dust during construction and decommissioning is not considered significant and that levels of PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub> at air quality sensitive receptors during construction, operation and decommissioning phases are predicted to remain within objective thresholds set to be protective of the environment and health.
- 24.19 Therefore, no significant adverse effects on human health are likely to occur as a result of the air quality impacts of the Proposed Development and as a result, no further human health assessment or mitigation is considered necessary.

### **Noise, Vibration and Health**

- 24.20 Human health is inherently addressed within the noise and vibration assessment (**Chapter 18: Noise and Vibration**), where noise modelling has been carried out to predict the Proposed Development's contribution to daytime and night-time noise levels. With mitigation, results indicate that noise levels at residential noise sensitive receptors during construction, operation and decommissioning phases are not significant.
- 24.21 Therefore, no significant adverse effects on human health are likely to occur as a result of the noise and vibration impacts of the Proposed Development, and as a result, no further human health assessment or mitigation is considered necessary.

### **Transport and Health**

- 24.22 As stated in the transport assessment (**Chapter 19: Highways and Transportation**), once operational, the Proposed Development should lead to a net reduction in Heavy Goods Vehicle (HGV) traffic on the national road network due to a meaningful shift of national freight movements from road to rail, offering national health benefits.
- 24.23 The local road network will experience an increase in transport movements due to employee commuting. However, impacts on severance, pedestrian amenity and accidents and safety, will be managed through a dedicated CTMP, FTP and Public Transport Strategy to ensure that no significant adverse effects on human health are likely to occur as a result of increased transport movements. As such, no further human health assessment is considered necessary. However, **Appendix 24.2** provides details of healthy workplace features and initiatives to support the use of active transport.

### **Socio-economic Factors and Health**

- 24.24 As stated in the **Chapter 5: Project Development** and the socio-economic assessment (**Chapter 20: Socio-economics**) the Proposed Development is anticipated to generate 268 FTE gross construction jobs per annum for 10 years, and 8,111 FTE once operational for 60 years. As long-term employment and income security is a key determinant of health, the Proposed Development will have significant health and wellbeing benefits for employees. To ensure that employment, skills and training benefits are delivered locally, a Local Employment Scheme will be implemented throughout the construction and operation of the Proposed Development.
- 24.25 The workplace environment can also contribute to the health and wellbeing of employees. There are many workplace interventions which can be put in place to help facilitate healthy behaviours. These are considered further in **Appendix 24.2** which provides details of healthy workplace features incorporated into the Proposed Development.

### **Cumulative Effects**

- 24.26 While there is an element of interaction between the health pathways outlined in the Assessment section, the cumulative effect retains the conclusion that no significant adverse effects on human health are likely to occur.



24.27 The identification of developments which have the potential to create cumulative effects remains consistent with the relevant technical disciplines. As such, no additional developments relevant to human health have been identified. The cumulative effect on human health associated with identified developments, such as Northampton Gateway, is inherently addressed within each relevant technical discipline where at this stage it is anticipated no significant adverse effects on human health are likely to occur.

### **Adaptive Mitigation**

24.28 Mitigation measures intended to address any residual effects are addressed within each of the PEIR technical disciplines. While no further human health mitigation is required, opportunities to support health benefit uptake has been requested by the Northamptonshire County Council Public Health Team, particularly regarding: active transport; facilitating a healthy workforce; and minimising any residual impact on local health care.

24.29 Local policy states the importance of occupational health through a dedicated Healthy Workplaces initiative (Ref. 24.5), which seeks to encourage and assist employers to proactively support the health and wellbeing of their workforces.

24.30 As previously mentioned, the construction phase of the Proposed Development will last for approximately 10 years and is anticipated to provide 268 FTE gross construction jobs per annum. Once operational, the Proposed Development will generate approximately 8,111 FTE and will operate 24/7, with an anticipated economic lifetime of 60 years. As a result, there is a significant opportunity to encourage, support and promote healthier lifestyles within the workforce.

24.31 **Appendix 24.2** provides details of healthy workplace features, and is intended to address the following:

- the incorporation of healthy workplace features which will be put in place to support a healthy and vibrant workforce; and
- manage any concern over impact on local health care provision.

### **Residual Effects**

24.32 Prior to mitigation, the construction and operation of the Proposed Development is not anticipated to give rise to any significant adverse effects on human health. The primary focus of **Appendix 24.2** is on health enhancement measures rather than mitigating adverse effects. As such, residual adverse effects on human health remain not significant.

### **Monitoring**

24.33 As air quality (dust and NO<sub>2</sub>) and noise levels will be monitored during construction and operation of the Proposed Development and are considered key environmental precursors to a range of health outcomes, no additional health-specific monitoring is deemed necessary.

## References

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