FARNBOROUGH AIRPORT

FLIGHTPATH 2040

Farnborough Airport Limited.

Environmental Statement Volume I: Main Report

Chapter 12: Cumulative Effects

November 2023

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12. CUMULATIVE EFFECTS

12.1. INTRODUCTION

12.1.1. This chapter reports the likely significant cumulative environmental effects associated with the Proposal. Cumulative effects comprise the combined effects of reasonably foreseeable human-induced changes within a specific geographical area over a certain period of time, which can be both direct and indirect.

12.1.2. For the purposes of this ES, the following types of cumulative effects have been considered in accordance with the EIA Regulations 2017 and best practice guidance:

- Inter-project cumulative effects - the combined residual (post-mitigation) environmental effects of the Proposal with other committed projects affecting the same receptor; and
- Intra-project combined effects - the interaction and combination of different residual (post-mitigation) environmental effects of the Proposal affecting the same receptor.

12.1.3. This chapter is intended to be read as part of the wider ES with particular reference to **Chapters 6-11 of this ES**. This chapter considers the intra-project combined effects of the Proposal only, whilst inter-project cumulative effects are considered separately in **Chapters 6-11**.

12.1.4. This chapter:

- Summarises the legislative and policy framework (**Section 12.2**);
- Describes the methodology followed for the assessment (**Section 12.4**); and
- Reports the assessment of the potential intra-project cumulative effects of the Proposed Development (**Section 12.7**).

12.2. LEGISLATION, POLICY AND GUIDANCE

LEGISLATIVE FRAMEWORK

12.2.1. The applicable legislative framework is summarised as follows:

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017[1]

12.2.2. Schedule 4, Paragraph 5 of the EIA Regulations requires that an ES includes:

"A description of the likely significant effects of the development on the environmental resulting from, inter alia - "…

(e) the cumulation of effects with other existing and / or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;

"The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects of any indirect, secondary, cumulative, transboundary, short-term,

[1] Gov UK (2017). The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Available online at: The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (legislation.gov.uk)

medium-term and long-term, permanent and temporary, positive and negative effects of the development".

POLICY

The National Planning Policy Framework (NPPF) 2023[2]

12.2.3. Paragraph 185 states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."

GUIDANCE

Planning Practice Guidance (2021)

12.2.4. The Planning Practice Guidance (PPG) provides information to support the implementation of the NPPF and The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The PPG covers a broad range of areas relevant to the EIA, including EIA practice, noise, air quality, climate change, etc.

Planning Inspectorate Advice Note 9: Rochdale Envelope[3]

12.2.5. This advice note, while specifically prepared for Nationally Significant Infrastructure Projects, provides helpful advice and affirms the established principle that:

"The ES should not be a series of separate unrelated topic reports. The inter-relationship between aspects of the proposed development should be assessed and careful consideration should be given by the developer to explain how inter-relationships have been assessed in order to address the environmental impacts of the proposal as a whole. It need not necessarily follow that the maximum adverse impact in terms of any one topic impact would automatically result in the maximum potential impact when a number of topic impacts are considered collectively. In addition, individual impacts may not be significant but could become significant when their interrelationship is assessed. It will be for the developer to demonstrate that the likely significant impacts of the project have been properly assessed."

12.3. SCOPE OF THE ASSESSMENT

12.3.1. There is no standard methodology nor widely agreed best practice for the assessment of cumulative effects. The methodology adopted for the assessment of the Proposal is based on professional judgement, professional experience and drawing from the approach that was taken for the cumulative effects assessment for the 2011 permissions (APP/P1750/A/06/2024640).

[2] Gov UK. 2023. National Planning Policy Framework. Available online at: National Planning Policy Framework - GOV.UK (www.gov.uk)
[3] National Infrastructure Planning. 2018. Advice Note Nine: Rochdale Envelope. Available online at: Advice Note Nine: Rochdale Envelope | National Infrastructure Planning (planninginspectorate.gov.uk)

12.3.2. The scope of this assessment was established through an approach described in **Chapter 5: Approach to EIA**. This reiterates the evidence base for scoping out elements following further iterative assessment.

12.4. ASSESSMENT METHODOLOGY

IMPACT ASSESSMENT METHODOLOGY

12.4.1. Some environmental topics interact with each other, for example, changes in air quality, biodiversity, and noise. Therefore, several effects on a receptor or resource shared by these environmental topics could interact to produce a combined effect of overall greater significance than each individual effect on its own.

12.4.2. The reported residual effects on receptors and resources within each of the technical chapters have been carried through to this Intra-Project Effects Assessment. Where more than one residual effect on a receptor or resource has been identified the Intra-Project Effects Assessment has considered the potential for intra-project effects of greater significance than each individual effect considered separately. Where intra-project effects of greater significance have been identified, consideration has been given to the need for additional mitigation measures.

12.4.3. This assessment considers any residual effects that are reported as substantial, major, moderate or minor within separate technical chapters. Minor effects, while not significant, are considered in the assessment on the basis that multiple minor effects may interact to result in a significant effect. Negligible residual effects reported in the separate technical chapters are considered unlikely to accumulate to the extent that a significant intra-project effect would occur.

12.4.4. The assessment of intra-project effects has been undertaken in three steps. These steps have been taken for the assessment of both the Operation Stages:

- Step A: Identification of receptors or resources considered in more than one technical chapter, and therefore having the potential to be affected by more than one environmental topic.
- Step B: For receptors or resources identified in Step A, the significance of the residual effect from each relevant technical chapter have been identified; and
- Step C: For receptors or resources identified in Step B, consideration has been given to whether there would be an intra-project effect and if so whether that effect would be of the same or greater significance than the component effects.

SIGNIFICANCE CRITERIA

12.4.5. The significance of the intra-project effects has been determined by considering the following factors:

- Which receptors or resources are affected by more than one environmental topic; and
- How the Proposal affects the condition of the receptor or resource, using information contained within each technical chapter.

12.4.6. The significance of intra-project effects has been determined using the significance criteria outlined in **Chapter 5 (Section 5.10)**.

ASSUMPTIONS AND LIMITATIONS

12.4.7. The assessment of intra-project effects is affected by the same limitations which are identified in the individual technical chapters.

12.5. BASELINE CONDITIONS

12.5.1. The assessment of intra-project effects does not include a bespoke analysis of baseline conditions, this information is instead drawn from the individual technical chapters. As noted in **Chapter 5 (Section 5.8)**, the EIA only assesses the impact of the increase from the current cap of 50,000 to the proposed cap of 70,000 aircraft movements per annum.

12.6. SENSITIVE RECEPTORS

12.6.1. Using the methodology set out in **Section 12.7**, the Step A assessment identified that there are common receptors where the effects are considered to be 'minor adverse' or above in two or more environmental topics. The common receptors are all human receptors such as residential dwellings, residents, users of nearby recreational grounds and facilities, healthcare facilities, and schools.

12.6.2. Ecological receptors have not been considered in this chapter as the Biodiversity chapter provides a comprehensive assessment of impact interactions in relation to ecological receptors arising from in-combination intra-project effects and inter-project effects with other committed developments. The assessment presented in the Biodiversity chapter considers direct effects and interactions in relation to air quality, noise and recreational pressures.

12.7. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

12.7.1. This section summarises the outcome of the intra-project assessment. As outlined in **Section 12.6**, all common receptors identified are human receptors. The assessment has ruled out any intra-project effects related to air quality and transport because their individual chapters assessed all effects as '*negligible*' and therefore any in-combination effects are not considered to result in significant effects.

12.7.2. The remaining topics – noise, climate change and socio-economics – have been assessed for intra-project effects. Human receptors such as residential receptors, recreational areas and non-residential properties are expected to experience effects up to 'Minor Adverse' (not significant) intra-project effects due to the interactions of effects of climate change and noise. The level of effect up to Minor Adverse is dependent on the proximity of the receptor to the airport and its flightpaths.

12.7.3. The magnitude of the increase in greenhouse gas emissions would not amount to a level which would impact on the UK's trajectory towards net zero in 2040 and therefore, this particular environmental topic is not expected to produce in-combination effects. In terms of climate resilience, all impacts to human receptors were considered to have a low likelihood of occurring and therefore, they are considered unlikely to produce an in-combination effect which would be significant. Some noise effects on certain residential properties are rated as 'significant moderate

adverse' overall in the noise assessment and therefore, these particular properties are likely to experience moderate adverse (significant) intra-project effects. However, these effects are limited to non-weekday noise and are not considered to produce a greater adverse effect in combination with greenhouse gases or climate resilience.

12.7.4. Furthermore, adverse noise effects need to be considered in the context of the identified socio-economic effects. The Socio-Economics chapter concluded that the Proposal is likely to result in significant Major Beneficial effects as a result of the impacts arising from increased employment opportunities and increased Gross Value Added (direct, indirect and induced) within the local area. As such, local residents may experience increased noise levels there will also be increased employment opportunities and benefits to the local economy.

HUMAN HEALTH

12.7.5. The Scoping Report for this EIA identified that there were unlikely to be any significant effects in relation to Human Health and the stand-alone subject was scoped out of the Environmental Statement. In the Scoping Opinion, RBC agreed that human health could be scoped out of the ES but requested that human health is considered within the other technical chapters. As a result, intra-project effects on human health have also been considered.

12.7.6. Detailed assessments of human health effects in relation to noise, air quality and socio economics have been undertaken within this ES, the conclusions of which have been summarised below.

Table 12-1 – Summary of potential effects on human health

Potential effects on Human Health	Assessment
Permanent increases in air emissions (exposure to NO_2, PM_{10} or $PM_{2.5}$ from aircraft could adversely affect the health of the local population. Poor air quality is the largest environmental risk to public health in the UK, and can cause chronic cardiovascular and respiratory conditions.	The assessment of Air Quality has concluded that there are no likely significant effects on human health from changes to NO_2 concentrations, or from changes to particulate matter concentrations (PM_{10} and $PM_{2.5}$). For both NO_2 and particulate matter, there were no modelled exceedances of the annual mean standards, resulting in negligible impacts at all modelled receptors.
The increase in aircraft movements could result in more people being affected by aircraft noise, and to a greater degree, than currently. Long-term exposure to noise can cause a range of health effects including annoyance, stress and sleep disturbance which overtime can increase the risk of developing depression, anxiety and heart disease.	The assessment of Noise has concluded that while there will be increases in both air and ground noise as a result of the Proposal (for a standard summer day), these increases are small and do not result in any residential property being exposed to a level above which significant adverse effects on health occur. For a standard summer non-weekday, some residential properties are anticipated to experience significant moderate effects, but no property will be exposed to a level above which significant adverse effects on health occur.
Employment opportunities resulting from the Proposal are likely to benefit the local population. Being in good employment improves health and wellbeing across peoples' lives and provides;	In Rushmoor, the proposal is anticipated to generate 250 jobs (both direct and indirect) by 2031, and 450 jobs (both direct and indirect) by 2045. To ensure that there are enough skilled workers to fulfil these additional jobs, the Applicant will sponsor local education and skills training

Potential effects on Human Health	Assessment
income, opportunity for social interaction, a core role, and identity and purpose.	initiatives, delivered alongside tenant companies. The Socio-economics assessment has identified a major beneficial effect in Rushmoor due to the additional jobs created by the proposal and the provision of the education and skills training initiatives.

12.7.7. Based upon the conclusions of **Table 12-1**, no significant intra-project effects on health are anticipated.

12.8. CONCLUSION

12.8.1. The assessment has not identified the need for any additional mitigation or monitoring beyond that stated within the technical chapters. It is concluded that local residents may experience limited significant noise effects but also major beneficial socioeconomic effects. No significant intra-project effects are likely to arise from the Proposal.

[DOCUMENT NAME]

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