



Gatwick Airport Northern Runway Project

Environmental Statement Chapter 21: Summary of Effects

Book 5

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21 Summary of Effects

21.1. Introduction

21.1.1 This chapter provides a summary of the likely significant effects of the proposal to make best use of Gatwick Airport's existing runways and infrastructure (referred to within this report as 'the Project'). As such, this chapter only identifies likely effects of the Project where these are considered significant in Environmental Impact Assessment (EIA) terms.

21.1.2 Full details of the findings of the EIA process undertaken to date are provided in the individual topic chapters (Chapters 7 to 19) of the Environmental Statement (ES) (Doc Ref. 5.1). A table of the adverse and beneficial effects, including those predicted not to be significant, has been provided at the end of each topic chapter of the ES.

21.1.3 A list of the mitigation measures relied upon for the purposes of the assessment for each topic chapter of the ES, including the mechanism through which these are to be secured, is provided in **ES Appendix 5.2.3: Mitigation Route Map** (Doc Ref. 5.3).

21.2. Methodology and Assessment Criteria

21.2.1 The following section provides a summary of the methodology and assessment criteria used for the EIA. A full description of the approach to environmental assessment is provided in **ES Chapter 6: Approach to Environmental Assessment** (Doc Ref. 5.1).

Assessment Years

21.2.2 The approach to assessment has incorporated the use of identified assessment periods to allow for evaluation of the likely effects during the construction process and during the operation of the Project. The indicative construction programme is described in Section 5.3 of **ES Chapter 5: Project Description** (Doc Ref 5.1). The following assessment periods (also referred to in this ES as assessment years) have been used to inform this ES:

- 2024 to 2029: represents the anticipated initial construction period prior to opening of the altered northern runway;
- 2029: represents the anticipated opening year of the altered northern runway (and therefore the first point at which effects arising from its operation would occur);
- 2032: an interim assessment year (and anticipated surface access improvements opening year);
- 2038: represents the anticipated year in which the development works proposed as part of the Project would be completed; and
- 2047: represents the long term forecast year and to meet a specific requirement of guidance in the Design Manual for Roads and Bridges to assess impacts 15 years after the last of the key highways works associated with the Project are due to be completed.

21.2.3 For the purposes of this ES, the assessment concentrates on the period 2024 to 2047, with topics modelling 2029, 2032, 2038 and 2047 as the primary assessment years.

21.2.4 For some of the assessment years (including the airfield opening year (2029) and the interim assessment year (2032)), construction activities would occur alongside operation of the altered northern runway, and this has been taken into account in the assessments.

21.2.5 In some cases, individual topic chapters may also identify additional years to be included in the assessment work, in accordance with topic-specific good practice guidance.

Sensitivity or Importance of Receptors

21.2.6 Sensitivity has been defined within each of the topic chapters of the ES (Doc Ref. 5.1). The receptor sensitivity levels have been defined as set out in Table 21.2.1, and further clarified in **ES Chapter 6: Approach to Environmental Assessment** (Doc Ref. 5.1).

Table 21.2.1: Definitions of Receptor Sensitivity (based on Highways England *et al.*, (2020))

Sensitivity	Typical Descriptors
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Term

21.2.7 Where appropriate, chapters have referred to temporary and permanent impacts (where temporary impacts are those that last for a limited period of time).

21.2.8 The impacts related to land take have been assessed as part of the construction process within the year that the impact would occur.

21.2.9 These impacts could be considered either temporary or permanent depending on whether the land would be restored following completion of the construction period.

21.2.10 With respect to the duration of temporary impacts, the following has been used as a guide within this assessment, unless defined separately within the topic chapters:

- Short term: A period of months, up to one year;
- Medium term: A period of more than one year, up to five years; and
- Long term: A period of greater than five years.

Magnitude of Impact

21.2.11 Magnitude has been defined within each of the topic chapters of the ES (Doc Ref. 5.1). The magnitude levels have been defined as set out in Table 21.2.2 below

Table 21.2.2: Definitions of Impact Magnitude (based on Highways England *et al.*, 2020)

Magnitude	Typical Descriptors
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features and elements (Adverse).
	Large scale or a major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Medium	Loss of resource but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements (Adverse).
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Low	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse).
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse).
	Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial).
No change	No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Significance of Residual Effects

21.2.12 Table 21.2.3 sets out the general approach used to inform the assessment of significance based on the sensitivity of the receptor and the magnitude of impact.

Table 21.2.3: Assessment Matrix

Sensitivity	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Negligible	No change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major

High	No change	Minor	Minor or Moderate	Moderate or Major	Major or Substantial
Very high	No change	Minor	Moderate or Major	Major or Substantial	Substantial

21.2.1 Where a range of significance levels are presented, the final assessment for each effect is based upon expert judgement. In all cases, the evaluation of receptor sensitivity or value, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.

21.2.2 The significance of effect has been determined post-mitigation (ie residual effects), including embedded and further mitigation measures, where appropriate. Unless set out otherwise in each topic chapter of the ES (Doc Ref. 5.1), effects assessed as moderate or above are considered to be significant within the assessment.

21.3. Summary Tables

21.3.1 The summary tables below provide a summary of the likely adverse and beneficial residual effects of the Project identified within each topic chapter of the ES, where these are considered significant in EIA terms.

21.3.2 Significant adverse and beneficial residual effects identified within each of the topic chapters of the ES have been grouped according to the assessment years in which they occur.

21.3.3 Full details of the findings of the EIA process undertaken to date are provided in the individual topic chapters (Chapters 7 to 19) of the ES (Doc Ref 5.1).

21.4. Initial Construction Period (2024-2029)

21.4.1 Table 21.4.1 provides a summary of the likely significant adverse and beneficial residual effects of the Project identified during the initial construction period (2024-2029) within each topic chapter of the ES.

Table 21.4.1: Summary of Significant Effects identified during the Construction Period (2024-2029) in the ES

Topic	Receptor	Receptor Sensitivity*	Description of Impact	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Construction Period (2024-2029)						
Historic Environment	Buried archaeological remains (Museum Field flood compensation area)	Up to Medium	Complete loss or substantial damage resulting from reduction in ground level	Permanent	Up to High	Up to Major Adverse
	Deposits of geoarchaeological interest (flood compensation area– Car Park X)	Low	Complete loss or substantial damage resulting from ground reduction	Permanent	Up to High	Up to Moderate Adverse
	Buried archaeological remains (new water treatment works)	Up to Medium	Complete loss or damage resulting from excavation and construction	Permanent	Up to High	Up to Major Adverse

Topic	Receptor	Receptor Sensitivity*	Description of Impact	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Construction Period (2024-2029)						
	Buried archaeological and geoarchaeological remains (environmental mitigation land at Museum Field extending north as far as Charlwood Road)	Up to Medium	Planting, scrapes, replacement habitats etc	Permanent	High	Up to Major Adverse
Landscape, Townscape and Visual Resources	Mole Valley Open Weald	Medium	Construction period impact on landscape character	Long term, temporary	Negligible (wider character area) to High (locally)	Negligible to Major Adverse
	Occupiers of Hilton Hotel	Medium	Visual, construction and operational period	Medium term, temporary and long term permanent	High to Medium	Major to Moderate Adverse
Ecology and Nature Conservation	Semi-natural broadleaved woodland and mature broadleaved trees	National	Loss of woodland	Long term	Medium	Moderate Adverse
	Hedgerows	National	Reconfiguration of airport facilities	Long term	Medium	Moderate Beneficial

Topic	Receptor	Receptor Sensitivity*	Description of Impact	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Construction Period (2024-2029)						
	Watercourses (River Mole and Gatwick Stream)	County (River Mole)	Creation of a new section of river channel providing high value habitats	Long term	Medium	Moderate Beneficial
	Broadleaved plantation woodland and associated scrub	Local	Loss of woodland and scrub and loss of habitat connectivity	Long-term	High	Moderate Adverse
	Breeding bird assemblage including species of conservation interest (confirmed or possible)	County (other)	Loss of suitable nesting sites for a range of species	Long-term	Medium	Moderate Adverse
	Assemblage of other bat species	Local	Diversion of River Mole and lead-in works for the surface access improvements; construction of surface access satellite contractor compound; and	Long term	High	Moderate Adverse

Topic	Receptor	Receptor Sensitivity*	Description of Impact	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Construction Period (2024-2029)						
			South Terminal and North and South Terminal improvement works			
	Terrestrial Invertebrate assemblage	County	Habitat loss	Medium term	Medium	Moderate Adverse
Geology and Ground Conditions	No likely significant residual effects identified					
Water Environment	Surface Water – Water Quality – De-icer - River Mole	High	New de-icer treatment system providing additional treatment	Long term	Moderate Beneficial	Moderate Beneficial
	Surface Water – Water Quality – De-icer - Gatwick Stream	High	New de-icer treatment system discharge	Long term	Moderate Beneficial	Moderate Beneficial
Traffic and Transport	No likely significant residual effects identified					
Air Quality	No likely significant residual effects identified					

Topic	Receptor	Receptor Sensitivity*	Description of Impact	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Construction Period (2024-2029)						
Noise and Vibration	Properties adjacent to the works	Residential (high) and non-residential (various) Noise Sensitive Receptors (NSRs)	Construction noise during daytime and night-time	Short term	Medium. For whole construction period potential for adverse effects at approximately 37 properties	Moderate Adverse
Climate Change	No likely significant residual effects identified					
Greenhouse Gases	No likely significant residual effects identified					
Socio-economics	Construction business and activity within the Local Study Area (LSA)	Medium	Direct employment	Medium	High	Moderate Beneficial
	Construction business and activity within the Functional Economic Market Areas (FEMA)	Low	Direct employment	Medium	High	Moderate Beneficial
Health and Wellbeing	No likely significant residual effects identified					

Topic	Receptor	Receptor Sensitivity*	Description of Impact	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Construction Period (2024-2029)						
Agricultural Land Use and Recreation	Public rights of way & Sussex Border Path	Medium	Temporary diversion or disruption	Medium term temporary	High	Moderate Adverse
	National Cycle Route (NCR) 21	High	Temporary diversion or disruption	Short term temporary	Medium	Moderate Adverse
	Public Open Space Riverside Garden Park	Medium	Temporary disruption to southern fringe of Riverside Garden Park	Long term temporary	Medium	Moderate Adverse
	Public Open Space Church Meadows	Medium	Temporary disruption to southern fringe of Riverside Garden Park	Medium term temporary	Medium	Moderate Adverse

21.5. Construction and Operation 2030-2032

21.5.1 Table 21.5.1 provides a summary of the likely significant adverse and beneficial residual effects of the Project identified from 2030 to 2032 within each topic chapter of the ES.

Table 21.5.1: Summary of Significant Effects identified from 2030 to 2032 in the ES

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2030 to 2032 (Construction and Operation Effects)						
Historic Environment	Church Road (Horley) Conservation Area (Longbridge Roundabout Highway Improvements)	Medium	Effect on significance of heritage asset	Long term	Up to Medium	Up to Moderate Adverse
	Buried archaeological remains (Car Park B contractor compound)	Up to Medium	Potential loss of or damage to remains from establishment of compound	Permanent	Up to High	Up to Major Adverse
	Buried archaeological remains (environmental mitigation land at Car Park B)	Up to High	Planting, scrapes, replacement habitats etc	Permanent	Up to High	Up to Major Adverse
Landscape, Townscape and Visual Resources	Mole Valley Open Weald Character Area	Medium	Construction /operational period impact on landscape character	Medium term, temporary and long term permanent	High	Major Adverse (day) and Moderate Adverse (night)

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2030 to 2032 (Construction and Operation Effects)						
	Users of public open space at Riverside Garden Park and Church Meadows Horley	High	Visual, construction period	Medium term, temporary	Medium to Negligible	Major Adverse (locally) Moderate to Negligible (generally)
	Occupiers of Hilton Hotel	Medium	Visual, construction period	Medium term, temporary and long term permanent	High	Moderate to Major Adverse
	Occupiers of number 74 Longbridge Road Horley	High	Visual, construction period	Medium term, temporary	Medium	Major Adverse
Ecology and Nature Conservation	Semi-natural broadleaved woodland and individual broadleaved trees	National	Continued absence of woodland due to new planting being immature	Long-term	Medium	Moderate Adverse
	Broadleaved plantation woodland and associated scrub	Local	Continued absence	Long-term	High	Moderate Adverse
	Breeding birds -Natural Environment and Rural Communities (NERC) Act	County	Loss of suitable nesting sites for a range of species	Long term	Medium	Moderate Adverse

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2030 to 2032 (Construction and Operation Effects)						
	2006 Species of Principal Importance and Birds of Conservation Concern (BoCC) Red or Amber listed species					
	Assemblage of Bat Species	Local	Loss of semi-natural broadleaved woodland due to Longbridge roundabout improvements	Long-term	High	Moderate Adverse
Geology and Ground Conditions	No likely significant residual effects identified					
Water Environment	Surface Water – River Mole	High	New de-icer treatment system providing additional treatment	Long term	Moderate Beneficial	Moderate Beneficial
	Surface Water – Gatwick Stream	High	New de-icer treatment system discharge	Long term	Moderate Beneficial	Moderate Beneficial
Traffic and Transport	No likely significant residual effects identified					
Air Quality	No likely significant residual effects identified					

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2030 to 2032 (Construction and Operation Effects)						
Noise and Vibration	West of runway at Ifield Road, Russ Hill, and Partridge Lane. East of the runway at Balcombe Road and Peeks Brooke Lane.	Residential (high) and non-residential (various) NSRs	Air noise disturbance	Permanent	Total 210 people.	Moderate Adverse
	Properties in Charlwood, Charlwood Road, Povey Cross, Lowfield Heath and Rowley Farm	Residential (high) and non-residential (various) NSRs	Ground noise disturbance	Permanent	Approximately 17 properties; Medium	Moderate Adverse
	Charlwood, Lowfield Heath, Rowley Farm	Residential (high)	Ground noise disturbance	Permanent	Approximately 20 properties; Medium	Moderate Adverse
Climate Change	No likely significant residual effects identified					
Greenhouse Gases	No likely significant residual effects identified					
Socio-economic Effects	Construction business and activity within the LSA	Medium	Direct employment	Medium	High	Moderate Beneficial

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2030 to 2032 (Construction and Operation Effects)						
	Construction business and activity within the FEMA	Low	Direct employment	Medium	High	Moderate Beneficial
	Construction business and activity within the LMA	Medium	Indirect, induced and catalytic employment	Permanent	Medium	Moderate Beneficial
	Business and commercial activity within the FEMA	High	Indirect, induced and catalytic employment	Permanent	Medium	Moderate Beneficial
	Business and commercial activity within the LSE	High	Indirect, induced and catalytic employment	Permanent	Medium	Moderate Beneficial
	Business and commercial activity within the LMA	Medium	Indirect, induced and catalytic employment	Permanent	High	Moderate Beneficial
	Labour Market within the LSA	Medium	Availability of labour	Permanent	High	Moderate Beneficial
	Labour Market within the FEMA	Low	Availability of labour	Permanent	High	Moderate Beneficial
Health and Wellbeing	Health and wellbeing effects from changes in socio-economic factors	Low (general population) High (vulnerable group population)	Operational increase in direct, indirect and induced employment opportunities	Long-term, permanent	Medium	Moderate to Major Beneficial

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2030 to 2032 (Construction and Operation Effects)						
Agricultural Land Use and Recreation	Public rights of way & Sussex Border Path	Medium	Temporary diversion or disruption	Medium term temporary	Medium	Moderate Adverse
	NCR 21	High	Temporary diversion or disruption	Short term temporary	Medium	Moderate Adverse
	Public Open Space Riverside Garden Park	Medium	Temporary disruption to southern edge of Riverside Garden Park	Long term temporary	Medium	Moderate Adverse
	Public Open Space Church Meadows	Medium	Temporary disruption to southern and western fringes of Church Meadows	Medium term temporary	Medium	Moderate Adverse

21.6. Construction and Operation 2033-2038

21.6.1 Table 21.6.1 provides a summary of the likely significant adverse and beneficial residual effects of the Project identified from 2033 to 2038 within each topic chapter of the ES.

Table 21.6.1: Summary of Significant Effects identified from 2033 to 2038 in the ES

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2033 to 2038 (Construction and Operation Effects)						
Historic Environment	No likely significant residual effects identified					
Landscape, Townscape and Visual Resources	Occupiers of number 74 Longbridge Road Horley	High	Visual operational period	Long term permanent	Medium	Major Adverse
Ecology and Nature Conservation	Semi-natural broadleaved woodland and mature broadleaved trees	National	Continued absence of habitat	Long term	Medium	Moderate Adverse
	Assemblage of other bat species	Local	Continued reduced area of habitat and reduced connectivity from surface access improvements	Long-term	High	Moderate Adverse
Geology and Ground Conditions	No likely significant residual effects identified					

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
2033 to 2038 (Construction and Operation Effects)						
Water Environment	Surface Water – River Mole	High	New de-icer treatment system providing additional treatment	Long term	Moderate Beneficial	Moderate Beneficial
	Surface Water – Gatwick Stream	High	New de-icer treatment system discharge	Long term	Moderate Beneficial	Moderate Beneficial
Traffic and Transport	No likely significant residual effects identified					
Air Quality	No likely significant residual effects identified					
Noise and Vibration	No likely significant residual effects identified					
Climate Change	No likely significant residual effects identified					
Greenhouse Gases	No likely significant residual effects identified					
Socio-economic Effects	No likely significant residual effects identified					
Health and Wellbeing	No likely significant residual effects identified					
Agricultural Land Use and Recreation	No likely significant residual effects identified					

21.7. Design Year: 2038

21.7.1 Table 21.7.1 provides a summary of the likely significant adverse and beneficial residual effects of the Project identified during the Design Year: 2038 within each topic chapter of the ES.

Table 21.7.1: Summary of Significant Effects identified during the Design Year: 2038 in the ES

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Design Year: 2038						
Historic Environment	No likely significant residual effects identified					
Landscape, Townscape and Visual Resources	No likely significant residual effects identified					
Ecology and Nature Conservation	No likely significant residual effects identified					
Geology and Ground Conditions	No likely significant residual effects identified					
Water Environment	Surface Water - Geomorphology	High	River Mole renaturalised channel works, including re-meandering and restoration of natural	Long-term	Medium Beneficial	Moderate Beneficial

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Design Year: 2038						
			channel morphology, improved floodplain coupling			
	Surface Water - Geomorphology	High	River Mole runway culvert weir to improve low flow conditions through culvert	Long-term	Medium Beneficial	Moderate Beneficial
	Surface Water – River Mole	High	New de-icer treatment system providing additional treatment	Long term	Moderate Beneficial	Moderate Beneficial
	Surface Water – Gatwick Stream	High	New de-icer treatment system discharge	Long term	Moderate Beneficial	Moderate Beneficial
	Flood Risk – Fluvial (offsite)	Very High (Transport Infrastructure) to Medium (Industrial)	Change in flood risk due to encroachment into floodplain	Long-term	Medium Beneficial to No Change	Major Beneficial to No Change
	Flood Risk –Fluvial (on Airport)	Very High to Low	Change in flood risk due to encroachment into floodplain	Long-term	Medium Beneficial to No Change	Major Beneficial to Minor Adverse

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Design Year: 2038						
Traffic and Transport	No likely significant residual effects identified					
Air Quality	No likely significant residual effects identified					
Noise and Vibration	No likely significant residual effects identified					
Climate Change	No likely significant residual effects identified					
Greenhouse Gases	No likely significant residual effects identified					
Socio-economic	Business and commercial activity within the LSA	High	Direct employment	Permanent	High	Major Beneficial
	Business and commercial activity within the LSA	High	Indirect, induced and catalytic employment	Permanent	Medium	Moderate Beneficial
	Business and commercial activity within the FEMA	High	Indirect, induced and catalytic employment	Permanent	Medium	Moderate Beneficial
	Business and commercial activity within the LMA	Medium	Indirect, induced and catalytic employment	Permanent	High	Moderate Beneficial
	Labour market within the LSA	Medium	Availability of labour	Permanent	High	Moderate Beneficial
	Labour market within the FEMA	Low	Availability of labour	Permanent	High	

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of residual effect*
<i>*Refer to definitions provided in Section 21.2.</i>						
Design Year: 2038						
Health and Wellbeing	Health and wellbeing effects from changes in socio-economic factors	Low (general population) High (vulnerable group population)	Operational increase in direct, indirect and induced employment opportunities	Long-term, permanent	Medium	Moderate to Major Beneficial
Agricultural Land Use and Recreation	No likely significant residual effects identified					

21.8. Long Term Forecast Year: 2047

21.8.1 Table 21.8.1 provides a summary of the likely significant adverse and beneficial residual effects of the Project identified during the Long Term Forecast Year: 2047 within each topic chapter of the ES.

Table 21.8.1: Summary of Significant Effects identified during the Long Term Forecast Year: 2047 in the ES

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of effect*
<i>*Please refer to definitions provided in section 21.2 above.</i>						
Long Term Forecast Year: 2047						
Historic Environment	No likely significant residual effects identified					
Landscape, Townscape and Visual Resources	No likely significant residual effects identified					
Ecology and Nature Conservation	No likely significant residual effects identified					
Geology and Ground Conditions	No likely significant residual effects identified					
Water Environment	No likely significant residual effects identified					
Traffic and Transport	No likely significant residual effects identified					
Air Quality	No likely significant residual effects identified					

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of effect*
<i>*Please refer to definitions provided in section 21.2 above.</i>						
Long Term Forecast Year: 2047						
Noise and Vibration	No likely significant residual effects identified					
Climate Change	No likely significant residual effects identified					
Greenhouse Gases	No likely significant residual effects identified					
Socio-economic	Business and commercial activity within the LSA	High	Direct employment	Permanent	High	Moderate beneficial
	Business and commercial activity within the LSA	High	Indirect, induced and catalytic employment	Permanent	Medium	Moderate beneficial
	Business and commercial activity within the FEMA	High	Indirect, induced and catalytic employment	Permanent	Medium	Moderate beneficial
	Business and commercial activity within the LMA	Medium	Indirect, induced and catalytic employment	Permanent	High	Moderate beneficial
	Labour market within the LSA	Medium	Availability of labour	Permanent	High	Moderate beneficial
	Labour market within the FEMA	Low	Availability of labour	Permanent	High	Moderate beneficial

Topic	Receptor	Receptor Sensitivity*	Description of Impact*	Term*	Magnitude of Impact*	Significance of effect*
<i>*Please refer to definitions provided in section 21.2 above.</i>						
Long Term Forecast Year: 2047						
Health and Wellbeing	Health and wellbeing effects from changes in socio-economic factors	Low (general population) High (vulnerable group population)	Operational increase in direct, indirect and induced employment opportunities	Long-term, permanent	Medium	Moderate to Major Beneficial
Agricultural Land Use and Recreation	No likely significant residual effects identified					

21.9. References

Highways England, Transport Scotland, Welsh Government and the Department for Infrastructure Northern Ireland (2020) Design Manual for Roads and Bridges: Sustainability and Environmental Appraisal. LA 104: Environmental assessment and monitoring.

21.10. Glossary

Table 21.10.1: Glossary of Terms

Term	Description
BoCC	Birds of Conservation Concern
CoCP	Code of Construction Practice
EIA	Environmental Impact Assessment
ES	Environmental Statement
FEMA	Functional Economic Market Areas
LSA	Local Study Area
NCR	National Cycle Route
NERC	Natural Environment and Rural Communities
NSRs	Noise Sensitive Receptors