



Gatwick Airport Northern Runway Project

Environmental Statement

Appendix 13.3.2: Summary of Stakeholder Consultation Responses - Air Quality

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1 Introduction

- 1.1.1 This document forms Appendix 13.3.2 of the Environmental Statement (ES) prepared on behalf of Gatwick Airport Limited (GAL) for the proposal to make best use of Gatwick Airport’s existing runways and infrastructure (referred to within this report as ‘the Project’).
- 1.1.2 This document summarises the consultation responses relevant to the air quality assessment received for the Preliminary Environmental Information Report (PEIR) and updated Preliminary Environmental Information (PEI) together with how they have been taken into account in the ES.

2 Summary of Stakeholder Consultation Responses for Air Quality

2.1 PEIR responses

Table 2.1.1: Summary of Stakeholder Consultation Responses

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Crawley Borough Council	Concern about the noise and air quality impacts and inadequate proposed mitigations.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.3) and corresponding appendices. The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.
Crawley Borough Council	The recommendations provided by WSCC [West Sussex County Council] should be addressed, including broader survey areas, more detailed consideration of air quality impacts and significantly more extensive mitigation, compensation and enhancement measures in order to achieve at least 10% net gain in biodiversity.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.
Crawley Borough Council	Where information is necessary to consider the air quality impacts of the proposal is not provided within the main document or appendices, CBC [Crawley Borough Council] would welcome links to relevant supporting information; this will improve the quality and transparency of the application consultation process.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) Air Quality and corresponding appendices. It is considered suitable links are provided in the chapter.
Crawley Borough Council	CBC would welcome full information and data files that underpin the air quality assessment of the ES being provided in the appendices or, where this is not practical via links to the relevant datasets so that all evidence is transparent and readily available for scrutiny; they would also welcome prompt responses to requests for further information and data.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. Data and model files have been provided to the local authorities along with the ES, as discussed and agreed at the TWG meetings.
Crawley Borough Council	CBC welcomes the ambitious targets for modal share, however, to have confidence in the use of these targets for future baseline, further evidence is needed to support the predictions. The air quality effects of the Northern Runway Project [NRP] are fundamentally reliant on the traffic forecasts put forward, therefore, the local authority would welcome sensitivity analysis of alternative scenarios/ additional interventions to eliminate uncertainty in the traffic inputs for the air quality model.	The air quality assessment has been based on latest available tools by Defra. The EFT v11 developed by Defra has recently been updated to account for more realistic future emission rates. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3)
Crawley Borough Council	Technical recommendations are provided by AECOM following their review of the PEIR; refer to the AECOM report submitted as Appendix II to this response.	AECOM report responses have been addressed in this appendix.

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Crawley Borough Council	The proposed construction mitigation measures are welcomed. Given the scale and duration of the construction phase (2024-2038) CBC would like to see an absolute commitment to monitor dust levels throughout the duration of the project in order to assess the effectiveness of the dust management plans against an established without-project baseline.	<p>Construction mitigation measures (including monitoring recommended) follow best practice IAQM guidance are set out in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.8.1: Air Quality Construction Period Mitigation (Doc Ref. 5.3) and would be implemented through the ES Code of Construction Practice (Appendix 5.3.2) (Doc Ref. 5.3).</p> <p>The assessment in ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to monitor air quality in future.</p>
Crawley Borough Council	The control of construction traffic by means of a Construction Traffic Management Plan is noted. The routes should be subject to agreement with CBC to ensure minimal impact on Crawley’s AQMA and local road network.	There is a Construction Traffic Management Plan (CTMP) (see Annex to the Buildability Report ES Appendix 5.3.1: Buildability Report (Doc Ref. 5.3)).
Crawley Borough Council	In view of revised World Health Organisation [WHO] standard for NO ₂ and published literature on the health effects of the pollution, CBC would welcome a detailed quantitative assessment of the health impacts of the pollution associated with the proposal, to calculate the health impact for each assessment year. This is to assist interested parties to understand the air pollution health costs of the NRP by allowing comparison for the “With” and “Without” Project scenarios.	The air quality standards against which the impacts of the Project are assessed are based on the effects the pollutants have on human health. The results of the air quality assessment have been used as input to the health impact assessment and to inform the health and wellbeing assessment relating to changes in air quality (ES Chapter 18: Health and Wellbeing (Ref. 5.1)).
Crawley Borough Council	CBC would welcome a greater commitment from GAL towards mitigation / enhancement measures for air quality to reflect the increase in airport emissions associated with the Scheme.	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.
Crawley Borough Council	There should be more detailed discussion and qualitative assessment on the potential health impacts of ultrafine particles [UFP] as a result of the planned development. CNBC would also like to see a commitment from GAL to fund ultrafine particle monitoring in the vicinity of the airport.	It is not possible to practically model these impacts although ultrafine particles are included within the PM _{2.5} fraction which is modelled and mitigated where necessary. Ultrafine particulate matter (UFP) has been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Crawley Borough Council	Further detailed consideration within the ES on how it intends to provide operational mitigation that reflect the damage cost would be welcomed, as would full transparency of the data that underpins the damage cost calculations.	<p>The Sussex Guidance (Air Quality and Emissions Mitigation Guidance for Sussex) includes the methodology to calculate damage costs, referred to in the comment. The Project is a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008 (UK Government, 2008). The assessment of effects is in accordance with the corresponding Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (UK Government, 2017) and the Airports National Policy Statement (ANPS) and National Policy Statement for National Networks (NNNPS) applicable to such a scale/type of project. The Sussex Guidance has been given due regard in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1). However, the specific mitigation requirements from the Sussex Guidance (ie damage cost calculations) have not been applied because there is no requirement or justification for doing so under the ANPS and NNNPS.</p> <p>The underlying rationale of damage cost calculations and the Sussex guidance is to seek the mitigation of NO_x and PM_{2.5}. This has been considered in the assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1), which details commitments made to mitigate air quality impacts following best practice. Actions being taken to reduce</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
		<p>emissions to air from surface access and airside activity are included in the ES Appendix 5.4.1: Surface Access Commitments (Doc Ref. 5.3) and ES Appendix 5.4.2: Carbon Action Plan (Doc Ref. 5.3).</p> <p>This approach is considered consistent with the principles and guidance set out in the Sussex Guidance; it follows requirements for EIA and National Policy Statements (NPSs); and provides detailed commitments for suitable mitigation to be secured through the DCO.</p>
Crawley Borough Council	<p>A more detailed assessment of the health impacts proposed for the next stage of the DCO is required, and this should include a quantitative Impact Pathway Assessment of the health effects associated with NO₂ concentrations due to NRP. This should provide a clear understanding of the air pollution health costs of the proposals on the local community.</p>	<p>The results from the air quality assessment have been used to inform the health and wellbeing assessment relating to changes in air quality (ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1)). The method of assessment has been agreed during the health topic working group meetings and is presented in ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1).</p>
Crawley Borough Council	<p>Whilst ultrafine particulate concentrations are unquantifiable at this stage, CBC would welcome further discussion in qualitative terms in the ES of the likely UFP health impacts as a result of the NRP.</p> <p>In addition, it is recommended that as part of the mitigation measures there is a clear commitment in the ES to fund the purchase and operation of ultrafine particulate monitoring equipment for the duration of the project.</p>	<p>It is not possible to practically model these impacts although ultrafine particles are included within the PM_{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
Crawley Borough Council	<p>The methodology by which the forecasts have been produced is simply not set out. Hence, this substantially limits the reliance that can be placed on them.</p>	<p>The air quality assessment has been based on latest available tools by Defra. The EFT v11 developed by Defra has recently been updated to account for more realistic future vehicle emission rates. A sensitivity test for the slower fleet transition for aircraft fleet and future forecasting has been included in the ES.</p> <p>Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Crawley Borough Council	<p>The review of the documents has identified a number of clarifications and recommendations in regard to the assessment methodology, including a detailed review of the air quality assessment being completed for the ES stage of the DCO.</p>	<p>The dispersion model setup and model verification were reviewed following the PEIR to take into account all feedback during consultation and engagement. The key points of feedback were all addressed for the ES and the model verification is improved compared with the PEIR. All recommendations and clarifications have been addressed during the air quality topic working group meetings and details of how these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1). Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3) and details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
Crawley Borough Council	<p>Within the gathered baseline environment information, the following issues have been identified:</p> <ul style="list-style-type: none"> ▪ Incorrectly labelled site type for RG149 ▪ Defra Background mapping not compared to local background monitoring sites 	<p>The dispersion model setup and model verification were reviewed following the PEIR to take into account all feedback during consultation and engagement. The key points of feedback were all addressed for the ES. All recommendations and clarifications have been addressed during the air quality topic working group meetings and details of how</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
		these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1). Details of the air quality assessment baseline data and methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).
Crawley Borough Council	<p>The dispersion model setup and methodology applied for the model verification includes elements which could lead to unreliable modelling results being presented for both the baseline (2018) and future years, both with and without the scheme in operation. The different elements identified include the following:</p> <ul style="list-style-type: none"> ▪ Misaligned road with gaps between road links in modelling ▪ Only roads 200m from monitoring / receptors included within the wider study area ▪ Monitoring sites incorrectly located in the model ▪ Road widths in modelling inaccurate ▪ Exclusion of sites suitable for use in model verification ▪ High uncertainty in some verification zones ▪ Area based approach to zoning ▪ Use of Clapp and Jenkin for NO_x to NO₂ conversion ▪ Consideration of Congestion ▪ Information supporting the application of a factor of 1 to some verification zones ▪ Modelled vs monitored road NO_x at each verification site 	<p>The dispersion model setup and model verification were reviewed following the PEIR to take into account all feedback during consultation and engagement. The key points of feedback were all addressed for the ES and the model verification is improved compared with the PEIR.</p> <p>All recommendations and clarifications have been addressed during the air quality topic working group meetings and details of how these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1). Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3) and details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
Crawley Borough Council	<p>The following more general issues have been identified:</p> <ul style="list-style-type: none"> ▪ Determination of the 11 km by 10 km airport modelling domain ▪ Screening of Traffic Data and Affected Road Network ▪ Airport Capacity Assumptions ▪ Application of the NPS policy Test for Air Quality ▪ Assumptions for consideration of construction phase emissions in 2024 ▪ Uncertainty in the improvement in air quality over time ▪ Non-Airport Regional NO_x Emissions improvements 	<p>These points have been addressed by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings and details are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Crawley Borough Council	<p>The mitigation and enhancement measures should be re-confirmed within the ES chapter which will be prepared using a revised set of traffic data and should account for the various recommended refinements to the assessment.</p>	<p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to mitigate air quality impacts following best practice.</p>
Crawley Borough Council	<p>The proposals take into account all relevant policy and legislation, with the exception of not having explicitly set out the considerations required by the NPS for Airports.</p>	<p>The ANPS is explicitly discussed in section 13.2 (Planning Policy Context) in ES Chapter 13: Air Quality (Doc Ref. 5.1)</p>
Crawley Borough Council	<p>The report fails to make any clear / detailed reference to disbenefits associated with the Project. Impact of the Project on Noise (assumed to be nil), air quality and greenhouse gas emissions (GHG) are briefly mentioned.</p>	<p>The air quality is presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding air quality appendices.</p>
Reigate and Banstead Borough Council	<p>Whilst the PEIR suggests an overall improvement in air quality despite the airport's growth, most of this improvement comes from reductions in non-airport sources of pollution and reductions in the airport related road traffic pollution (due to the take up of electric vehicles).</p>	<p>This has been considered in future baseline conditions detailed in ES Chapter 13: Air Quality (Doc Ref.5.1) and details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
		The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to mitigate air quality impacts following best practice to mitigate airport related emissions.
Reigate and Banstead Borough Council	Emissions from the airport itself (2018 to 2032 operational) will increase.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding air quality appendices.</p> <p>The ES has included a source apportionment of predicted pollutant emissions for the main sources, such as aircraft in the air, aircraft on ground, airport activities, car parks, airport related and non-airport related road traffic. Predicted pollutant concentrations have been presented in tabular format in ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
Reigate and Banstead Borough Council	RBBC [Reigate and Banstead Borough Council] are particularly concerned by the proposed South Terminal Roundabout Contractor Compound (para 5.4.29 [of the PEIR]) which appears to be the largest and longest lasting of the compounds. At present the proposal completely ignores the impact of the construction and occupation of the Horley Strategic Business Park, to the north of the site, which will take place during the construction of the airport proposals and will be accessing the M23 spur at the South Terminal Roundabout. We are concerned by the presence of a substantial concrete batching plant and the use of the site as a contractor transport depot when there are other sites inside the airport which could serve this purpose. We are also concerned that a better facility would be closer to the railway line so that materials can be brought in by rail in a more sustainable way and that concrete is piped across the site rather than moved by multiple vehicles. We are also concerned by the dust, noise and light implications of this compound which is considered later in our response.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and air quality corresponding appendices.</p> <p>Cumulative assessments have been undertaken for air quality as part of the ES. Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1 Air Quality Assessment Methodology (Doc Ref. 5.3).</p> <p>The ES has included modelling of the impacts of NRMM and batching plants. Construction mitigation measures (including monitoring recommendations will follow best practice IAQM guidance and would be implemented through ES Code of Construction Practice (Appendix 5.3.2) (Doc Ref. 5.3) to ensure air quality impacts are minimised.</p>
Reigate and Banstead Borough Council	A number of receptor points within the Horley AQMA for which concentrations and source apportionment have been modelled historically (2003 to 2017) were not included in the current work, and so comparisons of 2024, 2029 and 2032 data to the existing monitoring data is not possible. Specifically points RB54, 55, 56, 57, 58, 59, 60, 61, 64, 66, 68, 69, 70, 78, and the real time sites RG6 and RG1 are missing from the current work.	The air quality assessment includes receptors requested by the Council. Predicted pollutant concentrations have been presented in tabular format in the ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3).
Reigate and Banstead Borough Council	Other metrics used to look at aircraft emissions performance ie, $Dp(NO_x)$, $M(NO_x)$, and $ER(NO_x)$ have also not been included in the PEIR, despite being told in writing that they would be included.	Details of aircraft emissions performance metrics have been provided in ES Appendix 13.4.1 Air Quality Assessment Methodology (Doc Ref. 5.3).
Reigate and Banstead Borough Council	It can be seen that the 2018 PEIR modelled background is $25.1 \mu g/m^3$ for NO_x while the 2015 modelled background was $15.2 \mu g/m^3$. Thus, the current model seems to be significantly overestimating the background level in the base year compared to GAL's previous modelling work, and this is being reflected in the modelled 2018 concentrations of nitrogen dioxide of $36 \mu g/m^3$, whereas the nearest measured value was $27 \mu g/m^3$. If the background level is reduced to the 2015 level, then the revised 2018 nitrogen dioxide concentration is around $30 \mu g/m^3$, which is more comparable to the closet measured value.	The ES has been updated to include the latest available background air pollution concentrations estimated by Defra. Background concentrations are presented in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Reigate and Banstead Borough Council	It is important to note that while the PEIR shows an overall improvement in air quality despite the airport's growth, the bulk of this improvement comes from reductions in non-airport sources of pollution and also from reductions in the airport related road traffic pollution, while emissions from the airport itself (2018 to 2032 operational) increase.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>The ES has included a source apportionment of predicted pollutant emissions for the main sources, such as aircraft in the air, aircraft on ground, airport activities, car parks, airport related and non-airport related road traffic. Predicted pollutant concentrations have been presented in tabular format in the ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
Reigate and Banstead Borough Council	At the one residential site that GAL has modelled (R0030) that is partially representative of the impact of aviation emissions on residential exposure, the aircraft and APU NO _x concentrations increase from 10.1µg/m ³ in 2018 to 13.5µg/m ³ in 2032 with the development, a 33 % increase on the 2018 level.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>The ES has included a source apportionment of predicted pollutant emissions for the main sources, such as aircraft in the air, aircraft on ground, airport activities, car parks, airport related and non-airport related road traffic. Predicted pollutant concentrations have been presented in tabular format in ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p>
Reigate and Banstead Borough Council	The consultation Overview Document states that 'for all future year scenarios 2024, 2029, 2032 and for 2038 (aircraft emissions only) no significant effects are expected.' It is unclear how such a statement can be made about 2038 given Pier 7 at the airport will be completed post 2032 and there is an absence of modelled data in the PEIR for 2038. While it would appear from the data presented that the tonnage of aircraft emissions remains unchanged between 2032 and 2038, it is the distribution of these emissions around the airport that determines the pollutant concentrations that people are exposed to.	<p>The air quality impacts (including Pier 7) are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>2038 was modelled as part of the air quality assessment and has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p> <p>The ES has included a source apportionment of predicted pollutant emissions for the main sources, such as aircraft in the air, aircraft on ground, airport activities, car parks, airport related and non-airport related road traffic. Predicted pollutant concentrations have been presented in tabular format in ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
Reigate and Banstead Borough Council	The WHO recently reduced the recommended annual limit value for nitrogen dioxide from 40 µg/m ³ to 10 µg/m ³ based on a better understanding of the impact of nitrogen dioxide on human health. In 2032 (with the project) nitrogen dioxide concentrations to the north of the airport at residential premises are modelled to be in the range 20 to 27 µg/m ³ , with around 50% of the nitrogen dioxide	The World Health Organisation (WHO) global air quality guidelines are not currently part of UK legislation or policy, so the thresholds used to assess schemes remain as presented in ES Chapter 13: Air Quality (Doc Ref.5.1), Table 13.2.1. Until such thresholds are changed, which may or may not reflect the WHO Guidelines, then assessment is undertaken in accordance with current legislation which is consistent with

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	exposure due to the airport. Thus by 2032 the airport will still be having a significant impact on residents' health.	policy standards. In order to determine the significance of air quality impacts the methodology detailed in ES Chapter 13: Air Quality (Doc Ref. 5.1) has been used. However, the measures in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) will reduce impacts, even at locations where the current legislated standards are not predicted to be exceeded.
Reigate and Banstead Borough Council	For NO _x and PM as a minimum this will need to cover the period out to 2040 and be funded to at least the same level as in the 2019 s106 with an annual CPI [Consumer Price Index] uplift. Additional funding will also be required for ultrafine particle [UFP] monitoring.	Monitoring commitments are intended to be secured under the Section 106 Agreement to be entered in relation to the Project.
Reigate and Banstead Borough Council	It would be useful if the construction dust buffer maps Figure 13.9.1 to 19.9.12 could be presented in terms of project phasing, so that all of the sites operating at a given time and thus potentially overlapping could be seen on one map.	Details of proposed works during construction are provided in ES Chapter 5: Project Description (Doc Ref. 5.1). The air quality assessment is based on a worst-case cumulative impact, as described in Section 13.4 in ES Chapter 13: Air Quality (Doc Ref. 5.1), therefore the phasing of works will not affect the mitigation recommended following the assessment of construction period impacts as detailed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and mitigation measures provided in ES Appendix 13.8.1: Air Quality Construction Period Mitigation (Doc Ref. 5.3).
Reigate and Banstead Borough Council	Given the scale of the proposed project dust monitoring must be installed at the start of the project to establish a baseline. In the absence of such an approach it is unclear how the performance of the dust management plans will be assessed, given that an absence of complaints from residents does not necessarily indicate the lack of a dust problem.	Monitoring commitments are intended to be secured under the Section 106 Agreement to be entered in relation to the Project. This includes monitoring at least three months prior, and during the construction period. Construction mitigation measures (including any monitoring recommended) would follow best practice IAQM guidance and would be implemented through the ES Code of Construction Practice (Appendix 5.3.2) (Doc Ref. 5.3).
Reigate and Banstead Borough Council	It is disappointing to see that there is no discussion of ultrafine particles [UFP] within the air quality chapter.	It is not possible to practically model these impacts although ultrafine particles are included within the PM _{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Reigate and Banstead Borough Council	In the absence of a discussion on ultrafine particles [UFP] not unexpectedly there is no discussion on mitigation, which will need to focus on monitoring and then potentially on the rising aviation emissions. Their needs to be a clear commitment in the ES as part of the mitigation measures to fund the purchase and operation of ultrafine particulate monitoring equipment for the duration of the project	It is not possible to practically model these impacts although ultrafine particles are included within the PM _{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Reigate and Banstead Borough Council	The need for ultrafine particle monitoring in the vicinity of the airport is in line with the recommendations of the Government's air quality expert group [AQEG], and the Government's draft aviation strategy.	A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Reigate and Banstead Borough Council	The ES needs to examine the impact of Pier 7 APU emissions on the surrounding area allowing for a potential doubling of days above 25C during the summer, to evaluate the potential benefits of preconditioned air being installed at this pier when it is constructed.	An In-combination Climate Change Impacts assessment has been completed for the ES (ES Chapter 15: Climate Change (Doc Ref. 5.1)). The airport already has provision for

Stakeholders	Stakeholder Comment	How/where taken into account in ES
		fixed electrical ground power on any new stands to further reduce the use of APU (Auxiliary Power Unit).
Reigate and Banstead Borough Council	We are concerned that occupiers of neighbouring residential properties and businesses will be adversely affected by dust arising from the construction phase of the development particularly in the properties in the south of Horley. More evidence is needed to demonstrate the effectiveness of the proposed mitigation and if necessary further actions.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. Monitoring commitments are intended to be secured under the Section 106 Agreement to be entered in relation to the Project. This includes monitoring at least three months prior, and during the construction period. Construction mitigation measures (including monitoring recommended) would follow best practice IAQM guidance and would be implemented through the ES Code of Construction Practice (Appendix 5.3.2) (Doc Ref. 5.3).
Mole Valley District Council	It is noted that other metrics used to look at aircraft emissions performance ie, $Dp(NO_x)/Foo$, $M(NO_x)$, and $ER(NO_x)$ have not been included in the PEIR, despite being told in writing that they would be included.	Details of aircraft emissions performance metrics have been provided in ES Appendix 13.4.1 Air Quality Assessment Methodology (Doc Ref. 5.3).
Mole Valley District Council	If the PEIR modelling is compared to GAL's own retrospective modelling of 2015 (Gatwick Airport Limited Air Quality Assessment: 2015 Emissions Inventory & Modelling Report AQ-02 – 20 November 2017 – ARUP Job No. 235135-12); it can be seen that the 2018 PEIR modelled background NO_x is $25.1 \mu g/m^3$, while the 2015 modelled background NO_x was $15.2 \mu g/m^3$. Thus the PEIR model seems to be significantly overestimating the background level in the base year compared to GAL's previous modelling work (2015), and this is being reflected in the future modelled concentrations of nitrogen dioxide for all emission sources of $36 \mu g/m^3$, whereas the actual nearest measured value was only $27 \mu g/m^3$. If the background level is reduced to the 2015 level, then the revised nitrogen dioxide concentration is around $30 \mu g/m^3$, which is more comparable to the closest measured value ($27 \mu g/m^3$). This apparent overestimation of the background level NO_x requires explanation at the next stage.	Details of the air quality assessment methodology in relation to backgrounds are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).
Mole Valley District Council	While the PEIR shows an overall improvement in air quality despite the airport's growth, the bulk of this improvement comes from reductions in non-airport sources of pollution and also from reductions in the airport related road traffic pollution, while emissions from the airport itself (2018 to 2032 operational) increase. The improvements do not appear to be being passed on to the local area and they appear to mask the increase in on-airport emissions.	The air quality assessment for the ES includes a breakdown of airport and non-airport related road vehicles in ES Chapter 13: Air Quality (Doc Ref. 5.1). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1). The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.
Mole Valley District Council	The lack of modelled data is unfortunate as this has meant that the airport has only modelled and reported on a single point within the air quality management area (AQMA) where aviation emissions have the biggest impact. The modelled nitrogen dioxide concentration for this site in the PEIR is $36 \mu g/m^3$ which is significantly higher than concentrations recorded in this area in 2018.	The ES has included a source apportionment of predicted pollutant emissions for the main sources, such as aircraft in the air, aircraft on ground, airport activities, car parks, airport related and non-airport related road traffic. Predicted pollutant concentrations have been presented in tabular format in ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Mole Valley District Council	In view of revised WHO standard for nitrogen dioxide and the fact that there is published literature for example on increased bronchitis at the pollution levels forecast for 2032 in the PEIR (where the airport is contributing around 50 % of the NO_x pollution), it is disappointing that the table of mitigation and enhancement measures contains no enhancement measures for air quality.	The WHO global air quality guidelines are not currently part of UK legislation or policy, so the thresholds used to assess schemes remain as presented in ES Chapter 13: Air Quality (Doc Ref. 5.1), Table 13.2.1. Until such thresholds are changed, which may or may not reflect the WHO Guidelines, then assessment is undertaken in accordance with current legislation which is consistent with policy standards. In order to determine the

Stakeholders	Stakeholder Comment	How/where taken into account in ES
		<p>significance of air quality impacts the methodology detailed in ES Chapter 13: Air Quality (Doc Ref. 5.1) has been used.</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice and will reduce impacts, even at locations where the current legislated standards are not predicted to be exceeded.</p>
Mole Valley District Council	Defra's background concentrations used in the model were not verified against local monitoring.	<p>A comparison of Defra backgrounds against urban background monitoring sites was undertaken for all applicable sites within the Affected Road Network (ARN) area. A figure showing the ARN is included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3) Figure 4.1.1. Details of the air quality assessment methodology (Doc Ref. 5.3) are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details on the Defra background comparison are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p> <p>Details of the air quality assessment methodology in relation to backgrounds are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Mole Valley District Council	It is not known which model verification zones have been assigned to which monitoring sites/zones. For instance, clarification should be given on the monitoring sites used to verify NO ₂ concentrations at Leatherhead as it is particularly important that the model performs well in sensitive locations with elevated levels of nitrogen dioxide. It would be more appropriate for the applicant to have carried out their own monitoring at relevant locations to fill in gaps in local monitoring.	<p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3), details of the model verification process and results are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p> <p>An air quality survey was undertaken between 2016 and 2020 at key areas of concern around the airport, details are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
Mole Valley District Council	Particulate matter concentrations were not verified against local monitoring.	<p>Verification factors for PM₁₀ tend to be different than NO_x verification factors where the data are available. The NO_x factor being low doesn't necessarily mean the PM₁₀ factor would be low, due to the difference in real-world gas vs particle behaviour. Therefore, PM has not been verified against local monitoring.</p> <p>Details of the air quality assessment methodology in relation to verification are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Mole Valley District Council	Given the scale of the proposed project dust monitoring must be installed at the start of the project to establish a baseline and run throughout the duration of the works in that area to check that the dust management plan(s) are working in practice. In the absence of such an approach, it is unclear how the performance of the dust management plans will be assessed, given that an absence of complaints from residents does not necessarily indicate the lack of a dust problem.	<p>Monitoring commitments are intended to be secured under the Section 106 Agreement to be entered in relation to the Project. This includes monitoring at least three months prior and during the construction period. Construction mitigation measures (including any monitoring recommended) would follow best practice IAQM guidance and would be implemented through the ES Code of Construction Practice (Appendix 5.3.2) (Doc Ref. 5.3).</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Mole Valley District Council	It is disappointing to see that there is no discussion of ultrafine particles within the air quality chapter given airports are a significant source of ultrafine particles (Atmospheric Environment 45 (2011) pp.6526 – 6533 and Atmospheric Environment 50 (2012) pp.328 – 337), the evidence of their health impacts and that initial work around Gatwick indicates residents to the north east of the airport are being exposed significant levels of these particles.	It is not possible to practically model these impacts although ultrafine particles are included within the PM _{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Mole Valley District Council	The absence of a discussion on ultrafines [UFP] in the air quality chapter is also surprising given that the main source of ultrafines are the aircraft themselves, and as the air quality modelling had shown aircraft emissions of NO _x are forecast to increase by 33 % from 2018 to 2032 (with development) at the one receptor modelled where aviation emissions have a significant impact. While the council appreciates that no quantified ultrafine concentrations can be given, the report could have discussed the likely ramifications of the changes in qualitative terms for the benefit of the health assessment chapter.	It is not possible to practically model these impacts although ultrafine particles are included within the PM _{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Mole Valley District Council	In the first instance their needs to be a clear commitment in the ES as part of the mitigation measures to fund the purchase and operation of ultrafine particulate [UFP] monitoring equipment for the duration of the project ie out to 2040, for this to be installed downwind of the airport where residential exposure is highest, and for the equipment to be installed at least two years before the project commences to establish a residential base line. This need for ultrafine particle monitoring in the vicinity of the airport is in line with the recommendations of the Government’s air quality expert group [AQEG], and the Government’s draft aviation strategy (Aviation 2050: The Future of UK Aviation. pp.82).	A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).
Mole Valley District Council	Based on the existing assessment results, which have shown the highest increases in NO ₂ concentrations to occur at Hookwood and Charlwood, these areas should be modernisation for air quality mitigation, specifically aimed at reducing emissions from the airport itself and airport traffic. It is advised that the applicant makes provision for NO ₂ monitoring at these areas before any mitigation measures are put forward.	Monitoring commitments are intended to be secured under the Section 106 Agreement to be entered in relation to the Project. The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice and will reduce impacts, even at locations where the current legislated standards are not predicted to be exceeded.
Tandridge District Council	Concern is raised regarding the air traffic movements and related noise/air pollution etc. which could come about from the modernisation of the airspace (FASI-S) [Future Airspace Strategy Implementation South]. This could see ‘stacking’ on flightpaths which cannot currently be factored in as the work has not developed enough. It is entirely probable that pollution and noise etc, will impact the environment and flown-over communities very differently because of FASI, than those GAL is presenting. It is suggested that the pace of the DCO process be slowed to align more closely with the FASI-S programme so the estimates being proposed are more reflective of the future airspace and not the old and restricted patterns which are currently used by NATS.	Aircraft emissions have been assessed for the LTO cycle up to 3,000 ft (approximately 915 metres) in height as defined by the International Civil Aviation Organization (ICAO). The impact at ground level is expected to be negligible for NO _x emissions from an altitude greater than 3,000 feet and therefore stacking is not included in the air quality assessment. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).
Tandridge District Council	It is noted that one of the issues is the effect of nitrogen deposition in relation to sensitive receptors, which with respect to our district primarily relates to ancient woodlands, of which there are a number in proximity to this site. However, as an assessment of the effects of air quality on ancient woodland is to be included in the Environmental Statement [ES], it is not possible to assess the impact at this stage. It is also noted that GAL has not included the third runway at Heathrow within the cumulative assessment for ecology. It is considered that the worst-case scenario should include this element.	The air quality impacts and how they affect human health and ecological issues (including ancient woodlands) are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. The ES has been based on the most likely scenarios at the time of the assessment. The ES is based on a no Heathrow third runway scenario. Heathrow third runway is

Stakeholders	Stakeholder Comment	How/where taken into account in ES
		<p>considered separately and qualitatively in ES Chapter 20: Cumulative Effects and Inter-relationships (Doc Ref. 5.1).</p> <p>Throughout the assessment reasonable worst-case assumptions have been made to address the uncertainties providing a robust, conservative approach.</p>
Tandridge District Council	<p>In the 11 km x 10 km domain (key modelled area) all roads with available traffic data have been modelled. For areas outside of the key modelling area (the so called “wider study area”) the model was run for discrete receptor locations only, within 200m of screened in roads selected by screening predicted increases in traffic flows against IAQM/EPUK guidance thresholds. This data will have to be checked when it becomes available in order to make sure that all affected links have been included in the assessment.</p>	<p>Data and model files have been provided to the local authorities along with the ES, as discussed and agreed at the TWG meetings. All roads exceeding the EPUK/IAQM criteria were included in the assessment. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Tandridge District Council	<p>The number of receptors is different between the scenarios; the consultants confirmed that the roads for which there was no available traffic data were excluded; presumably such situation could only arise where the predicted traffic increases were negligible – however that remains to be confirmed.</p>	<p>The modelled domain for the ES was updated to avoid this area for confusion. The same receptors have been modelled for every year and scenario. The study area is show in ES Appendix 13.4.1: Air Quality Assessment Methodology Figure 4.1.1 (Doc Ref. 5.3).</p>
Tandridge District Council	<p>It is disappointing to see that there is no discussion of ultrafine particles [UFP] within the air quality chapter given airports are a significant source of ultrafine particles, the evidence of their health impacts, and that initial work around Gatwick indicates residents to the NE [Northeast] of the airport are being exposed significant levels of these particles.</p>	<p>It is not possible to practically model these impacts although ultrafine particles are included within the PM_{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
Tandridge District Council	<p>The ES needs to examine the impact of pier 7 APU emissions on the surrounding area allowing for a potential doubling of days above 25C during the summer, to evaluate the potential benefits of preconditioned air being installed at this pier when it is constructed.</p>	<p>An In-combination Climate Change Impacts assessment has been completed for the ES (ES Chapter 15: Climate Change (Doc Ref. 5.1)). The airport already has provision for fixed electrical ground power on any new stands to further reduce the use of APU.</p>
Tandridge District Council	<p>It is not known which model verification zones have been assigned to which monitoring sites/zones. Therefore, clarification is sought on the monitoring sites used to verify NO₂ concentrations in Godstone as it is particularly important that the model performs well in sensitive locations with elevated levels of nitrogen dioxide. Although the monitoring sites in Godstone were below the annual mean objective for NO₂ in 2018, the following year two sites on Godstone High Street saw significant increases in concentrations; it is requested that this change is accounted for in the base scenario.</p>	<p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
Tandridge District Council	<p>The model verification spreadsheet includes a verification zone for Warlingham. It is requested that clarification be given as to why Warlingham monitoring sites were included in the model verification if there are no receptors modelled in that area. In addition, the RMSE [root-mean-square deviation] for TD23 Limpsfield Road, Warlingham (M190) is very high so this site should either be re-visited or excluded from verification.</p>	<p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3). Warlingham was excluded from model verification due to its distance from the modelled road network.</p> <p>Results were updated for the ES and presented at the topic working group meetings.</p>
Tandridge District Council	<p>It is recommended that the statistical analysis of the model performance includes a comparison of the modelled road nitrogen oxides (NO_x) contribution against monitored road NO_x contribution, as advised by the TG(16) guidance. This comparison has not been provided and it appears that the model may be significantly under-predicting at some of the sites eg TD23 (M190). It is also recommended that other statistical parameters including the fractional bias and correlation coefficient,</p>	<p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p> <p>Results were updated for the ES and presented at the topic working group meetings.</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	be also presented, to give a full picture of the model performance, in line with the recommendations of the TG(16) guidance.	
Tandridge District Council	Defra's background concentrations used in the model were not verified against local monitoring.	<p>A comparison of Defra backgrounds against urban background monitoring sites was undertaken for all applicable sites within the Traffic Reliability Area. Details on the Defra background comparison are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p> <p>Details of the air quality assessment methodology in relation to backgrounds are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3).</p>
Tandridge District Council	Particulate matter concentrations were not verified against local monitoring.	Details of the air quality assessment methodology in relation to backgrounds are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).
Tandridge District Council	Under the dust mitigation measures (Table 13.8.114) it states, 'Dust monitoring during construction will also be undertaken should it be required.' Given the scale of the proposed project dust monitoring must be installed at the start of the project to establish a baseline and run throughout the duration of the works in that area to check that the dust management plan [DMP(s)] are working in practice. In the absence of such an approach it is unclear how the performance of the dust management plans [DMPs] will be assessed, given that an absence of complaints from residents does not necessarily indicate the lack of a dust problem.	Monitoring commitments are intended to be secured under the Section 106 Agreement to be entered in relation to the Project. This includes monitoring at least three months prior, and during the construction period. Construction mitigation measures (including any monitoring recommended) would follow best practice IAQM guidance and would be implemented through the ES Code of Construction Practice (Appendix 5.3.2) (Doc Ref. 5.3).
Tandridge District Council	The key recommendation is for the applicant to prepare a robust Air Quality Mitigation Plan [AQMP] to mitigate and/or offset the airport and airport traffic-related emissions. The Preliminary Environmental Information Report [PEIR] ES Chapter 13: Air Quality (Doc Ref. 5.1): Air Quality advises that a Construction Traffic Management Plan will be developed to mitigate impacts from the construction activities while The Airport Surface Access Strategy and Travel Plan will manage traffic during the project operational phase. The point to make here is that there is no mention of mitigating emissions from the airport itself, and as those have been showed to contribute to the NO ₂ levels at the modelled receptors those emissions should also be addressed.	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.
Tandridge District Council	Based on the existing assessment results, which have shown the highest increases in NO ₂ concentrations to occur at Smallfield and the receptors adjacent the M23, those areas should be prioritized for investment in EV [electric vehicle] charging infrastructure. I would advise that the applicant makes provision for NO ₂ monitoring at Smallfield and locations adjacent to the M23.	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice. Monitoring commitments are intended to be secured under the Section 106 Agreement to be entered in relation to the Project.
Tandridge District Council	The areas adjacent the M23 should specifically be targeted for action aimed at reducing emissions from road traffic and specifically airport road traffic. They should be prioritized for air quality mitigation due to having higher levels of background and total NO ₂ .	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice
Tandridge District Council	Smallfield and Godstone are areas where increases in NO ₂ concentrations have been modelled for the Construction 2029 scenario; it is therefore recommended that specific mitigation measures are considered to reduce the traffic impacts during this development phase.	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice

Stakeholders	Stakeholder Comment	How/where taken into account in ES
West Sussex County Council	The proposals will result in an increase in both aircraft and vehicle traffic with associated impacts on air quality. It is understood that air quality impacts on designated sites in the surrounding landscape is being investigated. Discussion is required on whether this should be extended to non-designated sites, such as ancient woodland.	The air quality impacts and how they affect human health and ecological issues (including ancient woodlands and other ecological sites) are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding air quality appendices.
West Sussex County Council	There are concerns around the Impact Pathway Assessments and the requirement for damage cost calculations presented as part of the air quality assessment. The provisional view is that current calculations by GAL are limited, providing too great a range (£12m to £423m). Complete modelling data has not been published as part of the PEIR and, therefore, it is difficult to determine if the modelling is reasonable.	<p>The Project is a NSIP under the Planning Act 2008 (UK Government, 2008). The assessment of effects is in accordance with the corresponding Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (UK Government, 2017) and the ANPS and NNNPS applicable to such a scale/type of project.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.</p> <p>This approach is considered consistent with the principles and guidance set out in the Sussex Guidance; it follows requirements for EIA and NPSs; and provides detailed commitments for suitable mitigation to be secured through the DCO.</p> <p>Data and model files have been provided to the local authorities along with the ES, as discussed and agreed at the TWG meetings.</p>
West Sussex County Council	There was no source apportionment data in the PEIR when it was published at the start of the consultation period, meaning there was no indication of where the pollution was coming from, for example, aircraft, road traffic (airport and non-airport), construction, the proposed CARE [Central Area Recycling Enclosure] facility or wastewater treatment works. Following the officer review of the PEIR, GAL published the missing evidence; therefore, additional comments may need to be made (post-consultation) once officers have had the opportunity to review the additional information.	The ES has included a source apportionment of predicted pollutant emissions for the main sources, such as aircraft in the air, aircraft on ground, airport activities, car parks, airport related and non-airport related road traffic in ES Chapter 13: Air Quality (Doc Ref. 5.1). Any additional comments received during engagement are summarised in section 13.3 in ES Chapter 13: Air Quality (Doc Ref. 5.1) along with how they have been taken into account in the ES. Predicted pollutant concentrations have been presented in tabular format in ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).
West Sussex County Council	It is noted that the World Health Organisation [WHO] published revised guidance on ambient air pollution in September 2021, which recommends that annual average nitrogen dioxide concentration should reduce from 40 µg/m ³ (which is the current UK and European Union [EU] standard) to 10 µg/m ³ . This compares to average nitrogen dioxide [NO ₂] concentration of around 27 µg/m ³ at sites around the airport. Therefore, the revised WHO guideline value is of significance if the project is progressed.	The WHO global air quality guidelines are not currently part of UK legislation or policy, so the thresholds used to assess schemes remain as presented in ES Chapter 13: Air Quality (Doc Ref. 5.1), Table 13.2.1. Until such thresholds are changed, which may or may not reflect the WHO Guidelines, then assessment is undertaken in accordance with current legislation which is consistent with policy standards. In order to determine the significance of air quality impacts the methodology detailed in ES Chapter 13: Air Quality (Doc Ref. 5.1) has been used.

Stakeholders	Stakeholder Comment	How/where taken into account in ES
West Sussex County Council	These sections appear to only address air quality issues arising from increased vehicle (presumably car) traffic. There is no mention of air quality impacts resulting directly from increased flights, and also airport operations.	The ES has included a source apportionment of predicted pollutant emissions for the main sources, such as aircraft in the air, aircraft on ground, airport activities, car parks, airport related and non-airport related road traffic. Predicted pollutant concentrations have been presented in tabular format in ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).
West Sussex County Council	The Air Quality reporting indicates that there are no significant impacts for construction and operation elements on human receptors and ecological receptors in the forecast years of 2024 (Construction phase), 2029 and 2032. It is acknowledged that predictions for 2038 will be uncertain but this does not justify the absence of a 2038 assessment of road vehicle emissions, which should be provided in the ES.	Details of the air quality assessment methodology (including assessment years) are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).
Surrey County Council	We also query whether air quality impact due to aircraft emissions has been adequately assessed in relation to ecological receptors, in particular areas of ancient woodland around the airport.	The air quality impacts and how they affect human health and ecological issues (including ancient woodlands and other ecological sites) are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.
Surrey County Council	It is noted that even with the growth of the airport, the PEIR shows an overall improvement in air quality. However, the majority of this improvement (between 2018 and 2032) comes from the expected reductions in both non-airport and airport road traffic pollution sources, while pollution sources from the airport operations increase. The improvements in air quality from the forecasted reduction in road traffic pollution sources, would be a benefit to the health of the local population. However, this improvement in air quality appears to be negated by the forecasted increase in the airport pollution sources, thus impacting on any potential health benefits from reduced road traffic pollution sources.	The air quality impacts and how they affect human health and ecological issues are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.
Surrey County Council	It is noted that by 2032 the modelled nitrogen dioxide concentrations at residential properties to the north of the airport are expected to be in the range 20 -27 µg/m ³ , with around 50% of the exposure due to the airport. These levels are above those recommended by WHO, with potential health effects on the local population. We would therefore expect there to be mitigation and enhancement measures for air quality.	The WHO global air quality guidelines are not currently part of UK legislation or policy, so the thresholds used to assess schemes remain as presented in ES Chapter 13: Air Quality (Doc Ref. 5.1), Table 13.2.1. Until such thresholds are changed, which may or may not reflect the WHO Guidelines, then assessment is undertaken in accordance with current legislation which is consistent with policy standards. In order to determine the significance of air quality impacts the methodology detailed in ES Chapter 13: Air Quality (Doc Ref. 5.1) has been used. The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice and will reduce impacts, even at locations where the current legislated standards are not predicted to be exceeded.
Surrey County Council	There is no mention in the PIER of ultrafine particles of which airports are a significant source. Ultrafine particles present a known health risk, and while there is no current standard, WHO defines average ultrafine particle counts as 'high' when over 10,000 particles/ cm ³ / 24-hour period. Local 2019 monitoring data for 205 days at the Horley Garden Estate, showed that 35.6% of days were classed as high and none were classed as low (<1,000 particles /cm ³).	It is not possible to practically model these impacts although ultrafine particles are included within the PM _{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	We would expect there to be ultrafine particle monitoring to establish a baseline prior to the project, and throughout the project.	
Horsham District Council	Environmental impacts need greater consideration, including . . . improvements to the consideration of air quality and transport impacts on Horsham District. This will require bringing forward . . . the preparation of an Air Quality Mitigation Plan [AQMP].	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.
Horsham District Council	Air Quality impacts – more areas within the District need to be considered. Also disappointed that there is no discussion of ultrafine particles. Key recommendation to GAL is to prepare a robust Air Quality Mitigation Plan [AQMP] to mitigate and/or offset the airport and airport related transport emissions. Also recommended that specific incentives to increase the level of sustainable transport.	<p>All sensitive receptors and AQMAs were examined in the air quality assessment for the ES. All roads within the 11 km by 10 km domain were modelled with the additional traffic extent defined by changes in traffic flows screened using the IAQM/EPUK criteria to identify areas for detailed modelling. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). The method to determine the study area has been discussed and agreed with local authorities (including Horsham District Council) during TWG meetings.</p> <p>With regards to ultrafine particles (UFPs), it is not possible to practically model these impacts although UFPs are included within the PM₁₀ and PM_{2.5} fraction which is modelled and mitigated where necessary. UFPs have been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice. Promoting and supporting sustainable modes of transport is considered in the ES Appendix 5.4.1: Surface Access Commitments (Doc Ref. 5.3) and ES Appendix 5.4.2: Carbon Action Plan (Doc Ref. 5.3).</p>
Horsham District Council	The PEIR— ES Chapter 13: Air Quality (Doc Ref. 5.1) advises that a Construction Traffic Management Plan will be developed to mitigate impacts from the construction activities while the Airport Surface Access Strategy and Travel Plan will manage traffic during the Project’s operational phase. There is no mention of mitigating emissions from the airport itself, and as those have been showed to contribute to the NO ₂ levels at the modelled receptors those emissions should also be addressed.	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.
Horsham District Council	In respect of air quality and noise impacts, there is concern regarding the Baseline Case, the sensitivity analysis for different growth trajectories, the methodology for forecasting, which has not been set out, and the resulting doubt around the forecasting and assessment. Given these fundamental concerns around the assessment, this may have implications for the conclusions drawn on the health and wellbeing impacts.	The air quality assessment has been based on latest available tools by Defra. The EFT v11 developed by Defra has recently been updated to account for more realistic future vehicle emission rates. A sensitivity test for the slower fleet transition for aircraft fleet and future forecasting has been included in the ES.

Stakeholders	Stakeholder Comment	How/where taken into account in ES
		<p>Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref.5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Horsham District Council	<p>The methodology by which the forecasts have been produced is simply not set out. Hence, this substantially limits the reliance that can be placed on them. Furthermore, it is not apparent that any account has been taken of the cost of carbon and future abatement measures in the forecasts which makes them inconsistent with the Government's Jet Zero policy.</p>	<p>The air quality assessment has been based on latest available tools by Defra. The EFT v11 developed by Defra has recently been updated to account for more realistic future vehicle emission rates. A sensitivity test for the slower fleet transition for aircraft fleet and future forecasting has been included in the ES.</p> <p>Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref.5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Horsham District Council	<p>The review of these documents has identified a number of clarifications and recommendations in regard to the assessment methodology, including a detailed review of the air quality assessment being completed for the ES stage of the DCO.</p>	<p>The dispersion model setup and model verification were reviewed following the PEIR to take into account all feedback during consultation and engagement. The key points of feedback were all addressed for the ES. All recommendations and clarifications have been addressed during the air quality topic working group meetings and details of how these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3).</p>
Horsham District Council	<p>Within the gathered baseline environment information, the following issues have been identified:</p> <ul style="list-style-type: none"> ▪ Incorrectly labelled site type for RG149 ▪ Defra Background mapping not compared to local background monitoring sites 	<p>These points have been addressed by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings and details of how these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref.5.1).</p> <p>A comparison of Defra backgrounds against urban background monitoring sites was undertaken for all applicable sites within the Traffic Reliability Area. Details on the Defra background comparison are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Horsham District Council	<p>The dispersion model setup and methodology applied for the model verification includes elements which could lead to unreliable modelling results being presented for both the baseline (2018) and future years, both with and without the scheme in operation. The different elements identified include the following:</p> <ul style="list-style-type: none"> ▪ Misaligned road with gaps between road links in modelling 	<p>The dispersion model setup and model verification were reviewed following the PEIR to take into account all feedback during consultation and engagement. The key points of feedback were all addressed for the ES. All recommendations and clarifications have been addressed during the air quality topic working group meetings and details of how</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	<ul style="list-style-type: none"> ▪ Only roads 200m from monitoring/receptors included within the wider study area ▪ Monitoring sites incorrectly located in the model ▪ Road widths in modelling inaccurate ▪ Exclusion of sites suitable for use in model verification ▪ High uncertainty in some verification zones ▪ Area based approach to zoning ▪ Use of Clapp and Jenkin for NO_x to NO₂ conversion ▪ Consideration of Congestion ▪ Information supporting the application of a factor of 1 to some verification zones ▪ Modelled vs monitored road NO_x at each verification site 	<p>these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
Horsham District Council	<p>The following more general issues have been identified:</p> <ul style="list-style-type: none"> ▪ Determination of the 11km by 10km airport modelling domain ▪ Screening of Traffic Data and Affected Road Network ▪ Airport Capacity Assumptions ▪ Application of the NPS policy Test for Air Quality ▪ Assumptions for consideration of construction phase emissions in 2024 ▪ Uncertainty in the improvement in air quality over time ▪ Non-Airport Regional NO_x Emissions improvements 	<p>These points have been addressed by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings and details of how these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Horsham District Council	<p>The mitigation and enhancement measures should be re-confirmed within the ES chapter which will be prepared using a revised set of traffic data and should account for the various recommended refinements to the assessment.</p>	<p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to mitigate air quality impacts following best practice. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
Horsham District Council	<p>The proposals take into account all relevant policy and legislation, with the exception of not having explicitly set out the considerations required by the NPS for Airports.</p>	<p>The ANPS is explicitly discussed in section 13.2 (Planning Policy Context) in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
Horsham District Council	<p>The report fails to make any clear / detailed reference to disbenefits associated with the Project. Impact of the Project on Noise (assumed to be nil), air quality and greenhouse gas emissions (GHG) are briefly mentioned.</p>	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p>
Mid Sussex District Council	<p>The baseline data and the modelling undertaken to assess air quality is not reliable.</p>	<p>The dispersion model setup and model verification were reviewed following the PEIR to take into account all feedback during consultation and engagement. The key points of feedback were all addressed for the ES and the model verification is improved compared with the PEIR. All recommendations and clarifications have been addressed during the air quality topic working group meetings and details of how these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
Mid Sussex District Council	<p>The Council has concerns about how the Sussex requirement for damage cost calculations/ Impact Pathway Assessment has been carried out. This has important implications for the mitigation</p>	<p>The Project is a NSIP under the Planning Act 2008 (UK Government, 2008). The assessment of effects is in accordance with the corresponding Infrastructure Planning</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	<p>measures that will be sought. The purpose of the assessment is to evaluate the health damage impacts associated with transport emissions from the proposed development, in order to inform the level of Air Quality mitigation measures required to offset the health impacts. In the Economic Impact Report, GAL has suggested that this figure is between £12 million to £423 million, which is a huge variation. GAL need to undertake further work to obtain a robust social cost figure that can be used to properly inform mitigation measures so that an appropriate Air Quality Mitigation Strategy can be agreed.</p>	<p>(Environmental Impact Assessment) Regulations 2017 (UK Government, 2017) and the ANPS and NNNPS applicable to such a scale/type of project.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.</p> <p>This approach is considered consistent with the principles and guidance set out in the Sussex Guidance; it follows requirements for EIA and NPSs; and provides detailed commitments for suitable mitigation to be secured through the DCO.</p>
<p>East Sussex County Council</p>	<p>Greater clarity is needed on justification for supporting infrastructure; including clarity on the suggested socioeconomic benefits, including the number, type, quality, and location of jobs created, the link between current labour supply and jobs created, and local economic benefits; the need for new homes and associated infrastructure; concerns relating to traffic and transport, including assumptions about mode share for both passengers and staff; impacts on noise and air quality from both construction and operational phases; concerns about greenhouse gas emissions and impacts on climate change, and understanding how airport expansion can be justified given national and international carbon reduction targets; and the need for enhancement measures.</p>	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref.5.1) and corresponding air quality appendices.</p>
<p>East Sussex County Council</p>	<p>An assessment for 2047 is included, however, air quality is expected to improve in the future and current tools include predictions only up to 2030. It is acknowledged that predictions for 2047 would be uncertain but this does not justify the absence of a 2047 assessment, which should be provided in the ES.</p>	<p>The air quality assessment for the ES includes a breakdown of airport and non-airport related road vehicles (including in 2047). The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref.5.1).</p>
<p>East Sussex County Council</p>	<p>The methodology by which the forecasts have been produced is simply not set out. Hence, this substantially limits the reliance that can be placed on them. Furthermore, it is not apparent to us that any account has been taken of the cost of carbon and future abatement measures in the forecasts which makes them inconsistent with the Government’s Jet Zero policy.</p>	<p>The air quality assessment has been based on latest available tools by Defra. The EFT v11 developed by Defra has recently been updated to account for more realistic future vehicle emission rates. A sensitivity test for the slower fleet transition for aircraft fleet and future forecasting has been included in the ES.</p> <p>Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref.5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
<p>South Downs National Park Authority</p>	<p>The deposition of nitrogen during the operational phase is a concern. Whilst the emissions inventory at para 13.4.39 [of the PEIR] refers to aircraft engines at ground level and in flight, the study does not mention any impact of holding patterns that may apply for aircraft corridors. Holding patterns may concentrate aircraft over areas of the National Park, as well as other protected landscapes.</p>	<p>Aircraft emissions have been assessed for the LTO cycle up to 3,000 ft (approximately 915 metres) in height as defined by the International Civil Aviation Organization (ICAO). The impact at ground level is expected to be negligible for NO_x emissions from an altitude greater than 3,000 feet and therefore stacking is not included in the assessment. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
South Downs National Park Authority	No emission reductions are being considered in terms of the 2038 future baseline. This is not in line with the Government's UK Clean Air Strategy 2019 and their Net-Zero targets as set out in the 2021 Build Back Greener paper.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>Road traffic emissions were calculated using the factors from the Defra Emission Factor Toolkit (EFT) v11. EFT v11 contains basic vehicle split composition data up to 2050 and this would be used to reflect the ongoing improvements in emissions from vehicles in line with the government's commitment to transition to zero emission cars and vans (HM Government 2020) and the banning of petrol and diesel vehicle sales in 2035.</p> <p>Throughout the assessment reasonable worst-case assumptions have been made to address the uncertainties providing a robust, conservative approach.</p>
Sevenoaks District Council	The development will increase air pollution and noise impacts on sensitive habitats around the airport and therefore SDC [Sevenoaks District Council] has concerns regarding the impact of these proposals.	<p>The air quality impacts and how they affect human health and ecological issues are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. Throughout the assessment reasonable worst-case assumptions have been made to address the uncertainties providing a robust, conservative approach.</p>
Sevenoaks District Council	<p>The majority of people in Kent travelling to Gatwick would currently use the M25 and the M20 or M26. All of these roads pass through Sevenoaks District and are designated Air Quality Management Areas, as a result of pollution caused by traffic levels and congestion. At present, to travel to Gatwick by rail a large portion of Sevenoaks Districts residents either need to travel into London or change at Tonbridge station to get a train to Redhill. Whilst some journeys are more convenient from our western side of the District, SDC is still concerned that some of the current journeys are inconvenient particularly when carrying luggage between services. It is vital that any growth in passenger numbers at Gatwick is supported by improved public transport links between the airport and Kent to alleviate the reliance on our strategic and local road network. Further to this, public transport improvements are vital to negate the negative impact that growth will have on congestion on the motorway network and the risk of increasing numbers of motorists using unsuitable local roads.</p>	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. Throughout the assessment reasonable worst-case assumptions have been made to address the uncertainties providing a robust, conservative approach.</p> <p>The transport figures include future growth assumptions agreed with the local planning authorities. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p> <p>Promoting and supporting sustainable modes of transport is considered in the ES Appendix 5.4.1: Surface Access Commitments (Doc Ref. 5.3) and ES Appendix 5.4.2: Carbon Action Plan (Doc Ref. 5.3). The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to mitigate air quality impacts following best practice.</p>
Elmbridge Borough Council	Any air quality issues are driven by changes to road traffic. The modelling has been focused on areas of changes and Elmbridge does not fall within these.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref.5.1) and corresponding appendices. Throughout the assessment reasonable worst-case assumptions have been made to address the uncertainties providing a robust, conservative approach.</p> <p>All traffic data provided for the assessment has been screened against the EPUK/IAQM guidance screening criteria with any traffic exceeding the criteria being modelled (IAQM, 2017). Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Waverley	Proposed environmental areas small in comparison to the overall size of the airport and areas of hardstanding. Ecological area close to northern runway and aircraft are likely to disturb wildlife through noise and air pollution. The benefit of this ecological area is questionable.	The air quality impacts and how they affect human health and ecological issues are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding air quality appendices.
Tunbridge Wells Borough Council	<p>At a Full Council meeting on the 6 October 2021 the following resolution was passed: ‘Tunbridge Wells Borough Council continues to oppose any further expansion of Gatwick Airport. This council does not support the airport’s proposal to use its northern runway for routine use as it will lead to more flights and more pollution for our residents. . .’</p> <p>The Council is strongly opposed to the expansion of Gatwick and the proposed routine use of the northern runway. . .The impact of increased flights is increased air and noise pollution affecting the local population. . . It is not clear how Gatwick will achieve its shift to sustainable transport for access to the airport with or without the proposed use of the northern runway. The ambition to increase modal shift to rail will be difficult to achieve without ensuring a frequent direct rail connection via Redhill towards Tonbridge and beyond, linking with appropriate services along this alignment. It is essential that a comprehensive and sustainable transport strategy is developed working with wider transport partners, both national and regional, to cost and fund this connection whether the proposed use of the northern runway goes ahead or not.</p>	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice. Promoting and supporting sustainable modes of transport is considered in the ES Appendix 5.4.1: Surface Access Commitments (Doc Ref. 5.3) and ES Appendix 5.4.2: Carbon Action Plan (Doc Ref. 5.3).</p>
Natural England	We are concerned about the statements in paragraphs 5.2.7 and 5.2.10 of the Habitats Regulations Assessment [HRA] report that state that cumulative ‘in combination’ flows (ie taking account of all other traffic growth) on the M3 past Chobham Common, and roads through Ashdown Forest Special Area of Conservation [SAC], will not exceed 1000 annual average daily traffic [AADT] between base year and assessment year, particularly for the M3. This appears to conflict with traffic modelling exercises undertaken for Local Plans in these areas. For the DCO Environmental Statement, it will be important to understand that a true ‘in combination’ assessment has been undertaken (ie considering the effect of the Scheme in combination with traffic growth due to housing and employment delivery in the modelled area between base year and assessment year).	Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref.5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3). A cumulative assessment, taking into account all in-combination growth has been included in the assessment for HRA sites.
Natural England	‘For the Thursley, Ash, Pirbright & Chobham [TAPC] SAC/Chobham Common [Site of Special Scientific Interest] component of the Thames Basin Heaths Special Protection Area [SPA], the only location where the change in cumulative AADT is predicted to exceed 1,000 is along the M3’. It then goes on to state [in the PEIR] that ‘The resulting cumulative nitrogen deposition is <1% of the relevant critical load (Figure 5.2.5) and, as such, no cumulative effects are predicted’. The former could be true since the M3 is by far the busiest road in that area which is likely to be used by vehicles travelling to Gatwick.	Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref.5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3). Predicted results have been presented in tabular format in the ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3).

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Natural England	<p>The assessment utilised 24-hour Annual Average Daily Traffic (AADT) traffic data, with speeds on the approach to and away from junctions reduced to 20 kph in the dispersion modelling. No daily temporal profile has been applied to the data, and whilst the modelling therefore accounts for the typical slowing down and speeding up of traffic near to junctions, it does not account for more general congestion within the modelled network - for example during peak hours. It should be clarified how the congestion effects have been considered, or if they have not been accounted for, then consideration should be given to the use of temporal profiles or period data (eg peak hour (AM/PM), inter-peak (IP) and off-peak (OP)) within the future assessment for the ES chapter.</p>	<p>Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref.5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Daily variation of flow and congestion has been taken into account by modelling period data from the traffic model (eg peak hour (AM/PM), inter-peak (IP) and off-peak (OP)). As two AM peak period speeds were provided, the lowest of these were used to represent the speed for the AM traffic period. In absence of an off peak period speed, the inter-peak period speed was used to represent the off peak traffic period.</p> <p>Speed data in kilometres per hour were provided for all traffic links from the transport consultants. Speeds at junctions and roundabouts where greater than 20 kph were modelled at a reduced speed (20 kph) in accordance with the Defra LAQM Technical Guidance (TG22) guidance (Defra, 2022).</p>
National Highways	<p>The operational activities associated with NRP will have a number of environmental impacts, which Gatwick will need to demonstrate have been fully considered. NH [National Highways] key concerns are included below with more detail included within the answers to the questions posed Annex 2. In relation to air quality National Highways [NH] has a KPI [key performance indicator], agreed with the DfT [Department for Transport] and based on the Pollution Control Mapping [PCM] model, to bring links into compliance with legal NO₂ limits in the shortest possible time. There are six compliance links surrounding the proposed site boundary, with one located within the site. These are located on roads including: the A23 (located within the proposed site boundary); A264, A2220, A2004, A2011 and A2219. All of these compliance links are predicted to comply with the set standard (EU Limit Value of 40µg/m³ as an annual mean for NO₂) in 2018. NH requires Gatwick to provide evidence that the proposed scheme will not exacerbate pollutant levels along these links and that the proposed scheme will not lead to an exceedance in the EU Limit Value of 40µg/m³ as an annual mean for NO₂ along these links.</p>	<p>The ES does include an assessment of compliance with limit values. Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p> <p>The air quality impacts and how they affect human health and ecological issues are presented and discussed in ES Chapter 13: Air Quality (Doc Ref.5.1) and corresponding appendices.</p>
National Highways	<p>Designs are required to demonstrate compliance with the air quality regulations Air Quality Standards Regulations 2010 and The Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC, and the air quality limit values set under these regulations. Gatwick must also demonstrate the proposed changes to the SRN [Strategic Road Network] will not have a detrimental impact on AQMAs within the affected road network. Gatwick will be required to demonstrate compliance with air quality regulations, the European air quality limit values and/or in local authority designated AQMAs. Full consideration to potential mitigation measures as a result of the proposed changes to the SRN, must also be demonstrated.</p>	<p>All areas of interest, sensitive receptors and AQMAs were examined and have been taken into account in the air quality assessment in the ES. The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref.5.1) and corresponding appendices.</p> <p>The ES also includes an assessment of compliance with limit values. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
UK Health Security Agency	<p>ES Chapter 13: Air Quality (Doc Ref.5.1) outlines the air quality impact assessment undertaken for nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) which considers the potential change in air quality at receptors within the defined study area, for different scenarios. A qualitative approach has been taken for the assessment of construction dusts, while a quantitative (modelling) approach has been used for construction traffic and operational aspects including aircraft, airside vehicle/plant emissions and road traffic on highways and car parks. ES Chapter 13: Air Quality (Doc Ref.5.1) summarises the findings at identified receptors. Further details on these receptors are given in ES ES</p>	<p>Comment acknowledged; no air quality response required.</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	<p>ES Appendix 13.6.2 (Doc Ref. 5.3). (eg a grid reference, type, location) and the predicted concentration for each individual receptor are provided in ES Appendix 13.9.1 (Doc Ref. 5.3).</p>	
<p>UK Health Security Agency</p>	<p>ES Appendix 13.6.2 (Doc Ref. 5.3).includes a map of individual receptor locations, however UKHSA [UK Health Security Agency] notes that the maps do not detail the receptor references. For clarity it is recommended that mapping includes receptor references. It would also be helpful within Table 2.1.1 outlining the receptors to include the distance and direction of the receptor to the project and which figure that receptor is presented on.</p>	<p>Predicted pollutant concentrations and details of receptors have been presented in tabular format in the ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3).</p>
<p>UK Health Security Agency</p>	<p>For a number of the assessment scenarios it is understood that construction and operation would be occurring simultaneously. However, ES Chapter 13: Air Quality (Doc Ref.5.1) appears to present the results for construction and operational impacts separately. Where off-site receptors would be impacted by both construction and operational phase emissions, we would recommend a cumulative assessment is presented within the ES.</p>	<p>Cumulative assessments have been undertaken for the ES, details are included in ES Chapter 13: Air Quality (Doc Ref. 5.1). Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
<p>UK Health Security Agency</p>	<p>No detailed assessment of construction plant has been provided and the applicant has assumed that best practice measures and low emission plant will be used during construction to minimise any potential air quality effects, which would be implemented through the Code of Construction Practice [CoCP]. It is reported that Gatwick Airport Limited [GAL] is committed to mobile construction equipment meeting zero or ultra-low emission standards by 2030. The proposed quantity of construction plant, as well of their anticipated emissions is unclear and UKHSA recommend that further detail is provided on this, as well as their cumulative impact on air quality to justify why this source has not been included in the assessment.</p>	<p>Construction plant has been modelled in the ES. Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
<p>UK Health Security Agency</p>	<p>ES Chapter 13: Air Quality (Doc Ref.5.1) reports the largest change in air quality concentrations for each of the assessment scenarios (and details the receptor at which this occurs). However, it is unclear (without investigating the tabulated individual receptors results in ES Appendix 13.9.1 (Doc Ref. 5.3)) what the wider impacts on air quality are within the assessment area. UKHSA recommends that consideration is given to how the data is presented or summarized to indicate the number of receptors or discrete areas where there is a deterioration or improvement in air quality compared to the baseline for the assessment scenarios to support the understanding and clarity of data presentation. We understand that the ES will include contour plots of the predicted concentrations which may assist with this.</p>	<p>Predicted pollutant concentrations have been presented in tabular format in the ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-2 and P4-6 (Doc Ref. 5.3). The ES includes contour plots with predicted concentrations for all pollutants and assessment scenarios in the 11 km by 10 km domain (ES Figures 13.1.1 to 13.1.9).</p> <p>The results of the emissions inventories for each year are provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
<p>UK Health Security Agency</p>	<p>ES Appendix 13.1.1 (Doc Ref. 5.3) outlines the 2018 baseline air quality assessment methodology and details elements considered including meteorological data; emissions sources (ie related to construction, aircraft related emissions, traffic on the highway network and car parks); the potential for temporal variation of emissions; the background concentration data used.</p>	<p>Comment acknowledged; no air quality response required.</p>
<p>UK Health Security Agency</p>	<p>It is unclear if the same 2018 meteorological dataset has been used within the future scenario predictions. As noted within our scoping response, UKHSA would recommend that a range of years</p>	<p>2018 meteorological data was used for all assessment scenarios, this follows best practice for air quality assessment as all data is adjusted based on the model verification</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	of meteorological data is included in the modelling to appropriately capture any worst-case conditions.	exercise which is based on 2018. A sensitivity test to take account of annual variation from five met years has been included in the ES for the CARE facility as it is common practice to assess several years of data for point source emissions. Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).
UK Health Security Agency	Receptors exposed to high levels of ambient noise may also be exposed to other hazards, for example air pollution, giving rise to potential combined effects on health. It is not clear if this additional factor will be taken into account in combined effects or as inter-related effects.	The air quality standards against which the impacts of the Project are assessed are based on the effects the pollutants have on human health. The results of the air quality assessment have been used as input to the health impact assessment and to inform the health and wellbeing assessment relating to changes in air quality (ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1)).
Mayor of London	GAL should address the surface access and air quality impacts of the scheme -especially in relation to forecast increases in traffic on roads in South London and what they will mean for congestion and air quality.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>The transport figures include future growth assumptions agreed with the local planning authorities. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p> <p>The assessment undertaken for the ES for construction and operation concludes that no significant air quality effects are predicted using the latest UK air quality objectives at time of assessment.</p>
Mayor of London	Mayor has invested hundreds of millions of pounds cleaning up London's air, making rapid improvements to the health of millions of Londoners. These improvements must not be squandered on schemes that needlessly increase traffic. Gatwick should show far more ambition and commitment to reducing car trips, for example through increasing access charges. The substantial proposed increase in car parking runs directly counter to this.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. The assessment undertaken for the ES for construction and operation concludes that no significant air quality effects are predicted using the latest UK air quality objectives at time of assessment.</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.</p>
Mayor of London	Until we have full confidence in the highway modelling, it is not possible to attach weight to any air quality assessment, notably on those corridors which are already air pollution hotspots.	Comment acknowledged; no air quality response required.
Mayor of London	The air quality assessment is not consistent with the London Plan which sets a different standard for the air quality assessment level for PM _{2.5} , which in turn is likely to necessitate a reclassification of some of the impacts in London from "negligible" to slight or moderate adverse.	<p>The London Plan is committed to achieving legal limits for NO₂ and achieving WHO targets for other pollutants such as Particulate Matter. The assessment for the ES has followed current UK legislation and policy as presented in ES Chapter 13: Air Quality (Doc Ref. 5.1). At the time of writing, updated PM_{2.5} standards for future years have recently been confirmed by Defra and align with the WHO target for particulate matter committed to in the London Plan.</p> <p>In order to determine the significance of air quality impacts the methodology detailed in ES Chapter 13: Air Quality (Doc Ref. 5.1) has been used.</p>
Mayor of London	The number of separately adjusted model verification zones (22 zones with 16 separate verification factors) is also a cause for concern and suggests that there may be deeper issues with the model.	The number of verification zones has been reduced for the ES. Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Mayor of London	It is essential that GAL plays its part to reduce air pollution and for those remaining highway trips needs to accelerate efforts to increase the proportion of vehicles that are zero emission.	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to mitigate air quality impacts following best practice.
AECOM (Mid Sussex DC)	<p><u>Details of the Inspectorate's comments</u> The proposal to scope out pollutants other than NO_x, NO₂, PM₁₀ and PM_{2.5} is not supported because it is not only road and air traffic that are relevant. This list should be expanded to include consideration of the emissions from the stack of the CARE energy-from-waste facility.</p> <p><u>How/where GAL have addressed in PEIR</u> PINS has requested that further justification be provided to scope out other pollutants and this will be provided within the ES. Should any pollutant be found to be emitted at levels that require a detailed assessment then these will be included in the air quality assessment in the ES.</p> <p><u>Adequacy of GAL comment</u> Provide justification as recommended.</p>	The pollutants assessed in the ES has been expanded to take into account all pollutants which could result in a significant impact, including those from the CARE facility. Details of the pollutants assessed is provided in ES Chapter 13: Air Quality (Doc Ref. 5.1).
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Defra Background mapping not compared to local background monitoring sites.</p> <p><u>Details of engagement or information required</u> Comparison should be completed to ensure that the Defra modelled background maps used properly represent the baseline environment in 2018, and if necessary, adjustment of the Defra background maps completed.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology.</p>	<p>A comparison of Defra backgrounds against urban background monitoring sites was undertaken for all applicable sites within the Traffic Reliability Area. Details on the Defra background comparison are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p> <p>Details of the air quality assessment methodology in relation to backgrounds are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Misaligned road with gaps between road links in modelling</p> <p><u>Details of engagement or information required</u> A review should be completed of the modelled road alignments, to ensure that they accurately represent the road network in areas close to receptors and monitoring included within the assessment.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology</p>	<p>These points have been addressed by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings and details of how these have been considered in the ES are provided in ES Chapter 13: Air Quality (Doc Ref.5.1).</p> <p>This particular point has been resolved and agreed with local authorities (and AECOM) at the topic working group meeting in November 2022.</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process and results are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Only roads 200m from monitoring/receptors included within the wider study area</p> <p><u>Details of engagement or information required</u> Major road links (eg motorways and busy A roads) within 500m of receptors should be included within the modelling</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology</p>	<p>These points have been resolved by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings.</p> <p>This particular point has been resolved and agreed with local authorities (and AECOM) at the topic working group meeting in November 2022.</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3). Details of the model verification process and results are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Monitoring sites incorrectly located in the model.</p> <p><u>Details of engagement or information required</u> A detailed review of the site locations for all diffusion tubes used within the modelling should be completed to ensure that their positioning and height within the model represents the real-world locations.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology</p>	<p>These points have been resolved by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings.</p> <p>Details of the air quality assessment methodology, including details of the monitoring sites are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Road widths in modelling inaccurate</p> <p><u>Details of engagement or information required</u> A detailed review of road widths should be completed ensuring that road widths entered into the model are accurate using OS [Ordnance Survey] master map.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology</p>	<p>Road widths have been recalculated to 2 decimal places using OS Master Map.</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Exclusion of sites suitable for use in model verification</p> <p><u>Details of engagement or information required</u> A detailed review of the site locations for all diffusion tubes excluded from the modelling should be completed to ensure that they are not discounted from use unnecessarily and information provided to confirm the detailed reasons for any exclusions.</p> <p><u>Relevant LA</u> All</p>	<p>These points have been resolved by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings.</p> <p>This particular point has been resolved and agreed with local authorities (and AECOM) at the topic working group meeting in November 2022.</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	<p><u>Action for LA</u> Request for update to methodology</p>	<p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> High uncertainty in some verification zones.</p> <p><u>Details of engagement or information required</u> A detailed review of the monitoring sites should be completed to confirm exact locations and heights, and to remove any sites which identify any sites which might be impacted by local conditions that make them unsuitable for use in model verification.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology</p>	<p>These points have been resolved by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings.</p> <p>This particular point has been resolved and agreed with local authorities (and AECOM) at the topic working group meeting in November 2022. The number of verification zones and results of updated model verification presented.</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Area based approach to zoning</p> <p><u>Details of engagement or information required</u> A review of monitoring locations should be completed to identify any areas where model performance is notably different within a zone, considering whether specific local dispersion characteristics might exist and whether due to those local dispersion environments it might be appropriate to create additional or different verification zones to account for the local conditions.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology</p>	<p>These points have been resolved by presenting updates during the modeling work and collaborating with the local authorities to demonstrate modelling has taken into account comments. Matters were presented and agreed during the air quality topic working group meetings.</p> <p>This particular point has been resolved and agreed with local authorities (and AECOM) at the topic working group meeting in November 2022. All monitoring locations were checked and agreed with local authorities.</p> <p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process and results are provided in ES Appendix. 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Use of Clapp and Jenkin for NO_x to NO₂ conversion of road sources.</p> <p><u>Details of engagement or information required</u> Provide a comparison of the two approaches, to confirm that application of the Clapp and Jenkin approach does not results in substantially different total pollutant concentrations_</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology or suitable justification of approach.</p>	<p>The Clapp and Jenkin approach has been used for the NO_x to NO₂ conversion for all modelled sources (including roads). This is consistent with previous assessments undertaken for the airport. Clapp and Jenkin approach is more appropriate for airport assessments as it takes into account NO_x emissions from various sources whereas the Defra NO_x to NO₂ tool only accounts for road emissions. The ES provides a sensitivity test using the Defra NO_x to NO₂ tool. Results are provided in ES Appendix 13.9.2: Sensitivity Tests (Doc Ref. 5.3).</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Consideration of Congestion</p> <p><u>Details of engagement or information required</u> Clarify how the congestion effects have been considered, or if they have not been accounted for, then consideration should be given to the use of temporal profiles or period data (eg AM/IP/PM/OP) within the future assessment for the ES chapter.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for update to methodology and suitable justification of approach.</p>	<p>Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Daily variation of flow and congestion has been taken into account by modelling period data from the traffic model (eg peak hour (AM/PM), inter-peak (IP) and off-peak (OP)). As two AM peak period speeds were provided, the lowest of these were used to represent the speed for the AM traffic period. In absence of an off peak period speed, the inter-peak period speed was used to represent the off peak traffic period.</p> <p>Speed data in kilometres per hour were provided for all traffic links from the transport consultants. Speeds at junctions and roundabouts where greater than 20 kph were modelled at a reduced speed (20 kph) in accordance with the Defra LAQM Technical Guidance (TG22) guidance (Defra, 2022).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Application of a factor of 1 to some verification zones</p> <p><u>Details of engagement or information required</u> Detailed justification including presentation of the verification calculations for these zones should be provided.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request justification and supporting evidence for verification zones with a factor of 1.</p>	<p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3). Details of the model verification process, including justification, and results are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Modelled vs monitored road NO_x data for each verification site not provided.</p> <p><u>Details of engagement or information required</u> The verification calculations, including a comparison of modelled and monitored Road NO_x should be provided.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request information.</p>	<p>Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3). Details of the model verification process and results are provided in ES Appendix 13.6.1: Air Quality Data and Model Verification (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Determination of the 11km by 10km airport modelling domain</p> <p><u>Details of engagement or information required</u> An explanation and justification of the determination of this area as being a suitable study area for consideration of impacts from aviation emissions should be provided.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request information.</p>	<p>All sensitive receptors and AQMAs were examined in the air quality assessment for the ES. All roads within the 11 km by 10 km domain were modelled with the additional traffic extent defined by changes in traffic flows screened using the IAQM/EPUK criteria to identify areas for detailed modelling. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Screening of Traffic Data and Affected Road Network</p> <p><u>Details of engagement or information required</u> Clarification of whether the more stringent screening criteria for road traffic within an AQMA have been applied should be provided. Additionally, figures indicating the Affected Road Networks for each scenario considered should be provided.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request information.</p>	<p>The more stringent criteria for AQMA have been applied in the ES. A figure showing the ARN is included in ES Appendix 13.4.1: Air Quality Assessment Methodology Figure 4.1.1 (Doc Ref. 5.3). Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Application of the NPS policy Test for Air Quality</p> <p><u>Details of engagement or information required</u> NPS air quality considerations should be directly addressed within the report, including the effect of the scheme on limit values and the PCM model.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request for inclusion within the report.</p>	<p>The ES does include an assessment of compliance with limit values. Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Assumptions for consideration of construction phase emissions in 2024.</p> <p><u>Details of engagement or information required</u> A justification of the use of 2029 airport emissions should be provided to confirm that this is a worst-case assumption.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request justification is included within the report.</p>	<p>For the construction dust assessment, all construction elements have been assessed. For the assessment of construction traffic emissions, the peak construction traffic flows were modelled using emissions and backgrounds from the first full year of airfield (2024) and highways construction (2029). Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Uncertainty in the improvement in air quality over time</p> <p><u>Details of engagement or information required</u> An explanation as to how uncertainty in the improvements in air quality over time has been accounted for should be provided.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request explanation is included within the report.</p>	<p>The air quality assessment has been based on latest available tools by Defra. The EFT v11 developed by Defra has recently been updated to account for more realistic future emission rates. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
AECOM (Mid Sussex DC)	<p><u>Sub-topic</u> Non-Airport Regional NO_x Emissions improvements</p>	<p>Background concentration for the year of each assessment scenario have been used, with the exception of the 2032 and 2047 scenario. For the ES assessment, 2030 backgrounds</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	<p><u>Details of engagement or information required</u> An explanation of the improvement in non-airport regional NO_x emissions should be provided along with details to confirm what non-airport emissions comprises.</p> <p><u>Relevant LA</u> All</p> <p><u>Action for LA</u> Request explanation is included within the report.</p>	<p>have been used for these scenarios, as this is the latest year provided in the Defra predictions. This represents a conservative assumption as background concentrations are expected to improve after 2030. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p>
York Aviation	<p>We recognise that the local authorities have a particular concern about the accuracy of the noise modelling due its direct impact on residents. Leaving aside our concerns about whether the usage of SIDs [Standard Instrument Departure Route] are necessary to deliver the projected uplift in hourly runway capacity has been properly accounted for, the principal concern expressed has been in terms of the future fleet mix. The fleet mix is set out in Tables A1.3.1 and A1.3.2 of ES Appendix 4.3.1 (Doc Ref. 5.3).</p> <p>We note that this fleet mix differs from that shown in Table 3.7.1 of PEIR ES Appendix 13.4.1 (Doc Ref. 5.3) on Air Quality, so we are unclear which is the correct fleet mix. We could not identify in the PEIR what fleet mix was assessed for noise purposes. This needs to be clarified by GAL as a matter of urgency.</p> <p>If the information set in Tables A1.3.1 and A1.3.2 of ES Appendix 4.3.1 (Doc Ref. 5.3), relating to the proportion of new generation aircraft in the mix is correct, we consider that the fleet mix assumed in the Central Case for assessment is somewhat optimistic, particularly in the early years given the deferral of aircraft orders that has occurred during the pandemic, but that the Slower Transition Case represents a robust worst case but this needs to be caveated by the confusion regarding which aircraft mix has actually been assessed.</p>	<p>The air quality assessment has been based on estimates of how the aircraft fleet will transition over time, based on assumptions around airlines' fleet procurement programmes and business models. The 'central case' used in the main assessment is based on what is considered at time of writing to be the most likely rate of fleet transition. A further set of forecasts have been developed for a scenario that assumes that the rate of transition of GAL's airline fleet is slower than in 'the Northern Runway Project (NRP)' and 'Baseline' Cases - referred to as the 'Slow Fleet Transition' cases. The number of passenger and aircraft movements are the same as in the 'NRP' and 'Baseline' Cases. A sensitivity test for the slower fleet transition case has been undertaken for all modelled future scenarios.</p> <p>Details of the sensitivity tests undertaken are included in ES Appendix 13.9.2: Sensitivity Tests (Doc Ref. 5.3).</p>
AECOM (Socio Economics)	<p>The Executive Summary (Section 1) and Summary (Section 2) of the [PEIR] report provide a summary of social costs, environmental impacts, scheme costs and benefits (benefits to passengers, benefits to businesses, new job opportunities for individuals, increased productivity, foreign direct investment, air passenger duty) at the national level. The Executive Summary also provides additional details about those items in turns for the Gatwick Diamond area (regional employment and GVA). The Summary section provides greater details on costs and benefits items at the national level.</p> <p>In these early sections, the report fails to make any clear / detailed reference to disbenefits associated with the Project. Impact of the Project on Noise (assumed to be nil), air quality and greenhouse gas emissions (GHG) are briefly mentioned in paragraph 2.23, giving them little attention in the Summary section of the report.</p>	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p>
AECOM (Socio Economics)	<p>Air quality values to social cost arising from change in air quality with the Project, in line with Transport Analysis Guidance [TAG] guidance and based on changes in emission levels provided by Arup.</p> <p>The assessment of this impact if done in line with TAG guidance is reasonable.</p>	<p>Comment acknowledged; no air quality response required.</p>

2.2 Updated PEI responses

Table 2.2.1: Summary of Stakeholder Updated PEI Responses

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Surrey County Council	The increase in greenhouse gas [GHG] emissions associated with the project continues to be a matter of serious concern.	Greenhouse gas emissions have been taken into consideration in ES Chapter 16: Greenhouse Gases (Doc Ref. 5.1). The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.
Surrey County Council	It should also be noted that the transport modelling outputs are needed to understand the Air Quality impacts.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding air quality appendices. The traffic modelling has been used in the air quality work and transport information is provided in ES Chapter 12: Traffic and Transport (Doc Ref. 5.1).
Crawley Borough Council	The Consultation assessment concludes that, for air quality, the highways improvement changes do not introduce any new significant effects or materially different significant effects from those set out in the 2021 PEIR Consultation. Airport and non-airport traffic are both expected to grow in volume as a result of the Northern Runway scheme. Consequently, increases in vehicle emissions may be expected. Therefore, alongside the highway improvement changes presented in this consultation, GAL is developing its Airport Surface Access Strategy (ASAS) for both the construction and operational phase.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.
Crawley Borough Council	The consultation document states that work on the ASAS is still on going, therefore targets on mode share have not yet been presented. It is also not clear from the consultation document if assessments have been based on the updated traffic model. As a result, it is not possible to fully evaluate how GAL have reached their conclusions on the significant effects/materially different significant effects arising from the highway improvement changes.	Details on traffic models and highways updates are provided in ES Chapter 12: Traffic and Transport (Doc Ref. 5.1).
Crawley Borough Council	In addition, it is important that the change in traffic flows and traffic emissions resulting from these updated highways proposals are assessed in terms of the health impacts and damage costs compared to an air quality neutral benchmark rather than simply an assessment of significance. CBC would therefore welcome further detailed air quality emissions assessment of the highway improvement proposals using the updated traffic model and mode share targets once the work on the ASAS is completed.	The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. The assessment has been undertaken following normal EIA guidelines, based on best available information, for assessing the likely significant effects on air quality from the Project. There are no air quality neutral benchmarks for airports in the Greater London Authority (Greater London Authority, 2014) guidance, therefore this has not been used. Throughout the assessment reasonable worst-case assumptions have been made to address the uncertainties providing a robust, conservative approach. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).
Mid Sussex District Council	Following the completion of the Summer series of TWG's relating to air quality we wish to provide some comments relating to the approach GAL have taken to air quality Mitigation.	Noted. Discussions continued via the TWG meetings.

Stakeholders	Stakeholder Comment	How/where taken into account in ES
Mid Sussex District Council	<p>Mid Sussex District Council [MSDC] is not in agreement with the approach that is proposed by GAL with regard to air quality [AQ] mitigation measures, which appears to be that mitigation will not be required unless the AQ modelling shows there to be a significant adverse effect caused by the development. Whilst we accept that mitigation can be, and often is, dealt with in this manner in a local planning context, particularly for relatively small developments, this is not always the case. Many authorities use an approach similar to the Air quality and emissions mitigation guidance for Sussex Low Emission Strategy Regional Group Initiative (midsussex.gov.uk), based on quantifying the health damage costs associated with transport emissions from development, and requiring the appropriate level of mitigation required to help avoid, minimise and/or off-set the impact on air quality, irrespective of whether or not there is a significant impact on local air quality.</p>	<p>The Project is NSIP under the Planning Act 2008 (UK Government, 2008). The assessment of effects is in accordance with the corresponding Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (UK Government, 2017) and the ANPS and NNNPS applicable to such a scale/type of project. The Sussex Guidance has been taken into account in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1) and in commitments made to mitigate air quality impacts in the Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1). However, the specific mitigation requirements from the Sussex Guidance have not been applied because there is no requirement or justification for doing so under the ANPS and NNNPS.</p> <p>It is recognised that the Sussex Guidance requires an assessment of transport emissions associated with the Project. The air quality assessment for the ES has included all routes likely to be used by construction traffic around the airport, and any roads affected during operation. Pollutant concentrations have been predicted at discrete receptors in the AQMAs and the wider study area. Details of the air quality assessment methodology are included in ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref.5.3).</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p> <p>The underlying rationale of the Sussex Guidance is to seek the mitigation of NO_x and PM_{2.5}. This has been considered in the assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) which details commitments made to mitigate air quality impacts following best practice. Actions being taken to reduce impacts to air quality from surface access are also included in the ES Appendix 5.4.1: Surface Access Commitments (Doc Ref. 5.3).</p> <p>This approach is considered consistent with the principles and guidance set out in the Sussex Guidance; it follows requirements for EIA and NPSs; and provides detailed commitments for suitable mitigation to be secured through the DCO.</p>
Mid Sussex District Council	<p>As technological improvements reduce transport related pollution over time, residents should benefit from lower pollution levels. Where development increases road or air traffic, these improvements disappear and the development can show a small increase or decrease in pollutants. Whilst this appears to be an insignificant effect, in reality there is an opportunity cost, as the residents will have missed out on the lower pollution levels that they would have benefitted from without the development.</p>	<p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to mitigate air quality impacts following best practice.</p> <p>The air quality assessment compares the Project scenario to the without Project scenario to assess the significance of impacts. Both scenarios include any wider long-term reductions in transport related pollution. The conclusion that no significant air quality impacts are predicted is based solely on the impact of the Project.</p>
Mid Sussex District Council	<p>The NPPF [National Planning and Policy Framework] advises that new development should avoid contributing to unacceptable levels of pollution, but also makes clear that "Development should, wherever possible, help to improve local environmental conditions such as air and water quality"</p>	<p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice and will reduce</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	<p>(Para 170 [of the PEIR]). This is reinforced in the AQ Guidance at Air quality - GOV.UK (www.gov.uk) which states that "Consideration of air quality issues at the plan-making stage can ensure a strategic approach to air quality and help secure net improvements in overall air quality where possible." It goes on to list items which could form part of assessments, including "measures that could deliver improved air quality even when legally binding limits for concentrations of major air pollutants are not being breached."</p>	<p>impacts, even at locations where the current legislated standards are not predicted to be exceeded.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p>
<p>Mid Sussex District Council</p>	<p>This approach of not restricting mitigation measures only to development where significant effects are predicted is also endorsed by the Institute of Air Quality Management Land-Use Planning & Development Control: Planning For Air Quality (2017), which emphasises "the importance of applying good design and 'best-practice' measures to all developments, to reduce both pollutant emissions and human exposure."</p>	<p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice and will reduce impacts, even at locations where the current legislated standards are not predicted to be exceeded.</p>
<p>Mid Sussex District Council</p>	<p>This guidance refers to the offsetting of emissions "In addition to these good practice principles, local authorities may wish to incorporate additional measures to offset emissions at an early stage. It is important that obligations to include offsetting are proportional to the nature and scale of development proposed and the level of concern about air quality; such offsetting can be based on a quantification of the emissions associated with the development. These emissions can be assigned a value, based on the "damage cost approach" used by Defra, and then applied as an indicator of the level of offsetting required..."</p>	<p>The Project is being progressed as a NSIP under the Planning Act 2008 (UK Government, 2008). The assessment of effects will be in accordance with the corresponding Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (UK Government, 2017) and the ANPS and NNNPS applicable to such a scale/type of project.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice.</p> <p>This approach is considered consistent with the principles and guidance set out in the Sussex Guidance; it follows requirements for EIA and NPSs; and provides detailed commitments for suitable mitigation to be secured through the DCO.</p>
<p>Mid Sussex District Council</p>	<p>On this basis, and particularly for a development where the number of people affected is likely to be large, we feel that this type of damage cost approach, whether emissions or health impact based, is entirely reasonable. Through further discussion we are hope that a fair and reasonable package of suitable mitigation measures can be agreed and secured via the DCO s106.</p>	<p>The key areas of mitigation and monitoring were presented and discussed at the TWG meetings with agreement from the local authorities being provided.</p> <p>The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref. 5.1) details commitments made to mitigate air quality impacts following best practice. We will continue to work with the local authorities to secure an agreed set of measures through the DCO.</p>
<p>Reigate & Banstead Borough Council</p>	<p>We note that the project's Habitats Regulation is being updated to take account of changes in air quality modelling and that ammonia emissions will be incorporated into the traffic modelling emissions. Provided the data sets are all aligned with the projected growth forecasts, clear outcomes reporting should be possible though information should be shared in a timely way with the air quality/ environmental health specialists.</p>	<p>Ammonia has been included in the assessment of ecological impacts. The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>Engagement has been undertaken as summarised in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p>
<p>Betchworth Parish Council</p>	<p>These updates do not address the problem which is that any expansion at Gatwick will have a negative impact on us all. A second runway would not only bring significant additional aircraft noise, but it will also bring an extra 1 million tonnes of carbon every year on top of the pre-Covid amounts.</p>	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
	The southeast of the UK has already one of the most congested airspaces in Europe; these proposals only add to this problem and add to our air and noise pollution.	The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.
Ebernoe Parish Council	Gatwick 2 ignores the new Environment Act that includes air quality as a major consideration. Gatwick already has a problem with the small PM _{2.5} particles that are released from plane tyres and roads.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices. PM_{2.5} has been assessed as well as all sources of PM_{2.5} including aircraft emissions and brake and tyre wear.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p>
Fittleworth Parish Council	Fittleworth and its surrounding hamlets are in the South Downs National Park to the south west of Gatwick. Fittleworth Parish Council [FPC] and the residents of the parish are concerned at the further deleterious impact of the GA proposals on air quality for residents.	<p>Fittleworth has been excluded from the air quality assessment due to its distance from the affected road network. All roads within the 11 km by 10 km domain were modelled with the additional traffic extent defined by changes in traffic flows screened using the IAQM/EPUK criteria to identify areas for detailed modelling.</p> <p>The air quality impacts and how they affect human health and ecological issues are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p>
Lingfield Parish Council	Following the devastating financial impact on the airport and the subsequent worsening economic conditions, we feel that advancing the plans for long term growth are not appropriate at this time and at the 2019 peak of passenger movements, we believe Gatwick has probably reached its optimum performance, when balancing the positive economic and social benefits against the noise and air pollution, surface traffic, loss of open space for parking and other harms to the natural environment and the quality of life for the airport's neighbours.	<p>Lingfield Parish has been excluded from the air quality assessment due to its distance from the affected road network. All roads within the 11 km by 10 km domain were modelled with the additional traffic extent defined by changes in traffic flows screened using the IAQM/EPUK criteria to identify areas for detailed modelling.</p> <p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>The air quality assessment has indicated that there are no significant effects as a result of the Project and the Project is not predicted to impact compliance with the air quality standards.</p>
Salfords and Sidlow Parish Council	How is the increase in parking and congestion proposed to be off-set? Can Gatwick consider a Clean Air Order appropriate to the Airport to encourage less pollution on local roads?	The assessment in Section 13.9 of ES Chapter 13: Air Quality (Doc Ref.5.1) details commitments made to mitigate air quality impacts following best practice.
Wisborough Green Parish Council	The proposals to widen the strategic road network even further, as well as the potential increase in traffic on local roads will further increase traffic noise and air pollution.	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>No significant effects on air quality are predicted as a result of the Project.</p>

Stakeholders	Stakeholder Comment	How/where taken into account in ES
National Highways	<p>National Highways has an air quality KPI, agreed with the Department for Transport, and based on the Pollution Control Mapping model, to bring links into compliance with legal NO₂ limits in the shortest possible time. There are six compliance links surrounding the proposed site boundary, with one located within the site. These are located on roads including the A23 (located within the proposed site boundary), A264, A2220, A2004, A2011 and A2219. All these compliance links are predicted to comply with the set standard (EU Limit Value of 40µg/m³ as an annual mean for NO₂) in 2018. National Highways requires GAL to provide evidence that the proposed SRN mitigation scheme will not exacerbate pollutant levels along these links and that the proposed scheme will not lead to an exceedance in the EU Limit Value of 40µg/m³ as an annual mean for NO₂ along these links.</p>	<p>The ES includes an assessment of compliance with limit values. Details of the air quality assessment methodology are included in ES Chapter 13: Air Quality (Doc Ref. 5.1) and ES Appendix 13.4.1: Air Quality Assessment Methodology (Doc Ref. 5.3).</p> <p>All air quality assessment results are included in ES Appendix 13.9.1: Air Quality Results Tables and Figures P1-6 (Doc Ref. 5.3).</p>
CPRE Sussex	<p>Many Sussex residents will be struggling to understand what will happen especially as the consultation is fairly silent on the fact that the emergency runway will need to be rebuilt to function as a second runway . . . If you are silent on these matters now, just a few months before going for development permission, then it seems your plans are not sufficiently well developed to pass muster. Your proposals are also silent on other matters, such as, air quality issues with which you are already struggling and which accumulating evidenced associates with wide spread public health impacts. Dr Gary Fuller of Imperial College London proved only this year that PM_{2.5} air particles, which are a particular hazard to residents around Gatwick, are directly from the airfield.</p>	<p>The air quality impacts are presented and discussed in ES Chapter 13: Air Quality (Doc Ref. 5.1) and corresponding appendices.</p> <p>It is not possible to practically model ultrafine particle (UFP) impacts although UFPs are included within the fine particulate matter (PM_{2.5}) fraction which is modelled and mitigated where necessary. UFP, also known as PM_{0.1} has been taken into consideration in the health assessment ES Chapter 18: Health and Wellbeing (Doc Ref. 5.1). A commitment to engage with UK wide airport UFP monitoring studies has been included in the assessment in ES Chapter 13: Air Quality (Doc Ref. 5.1).</p> <p>No significant effects on air quality are predicted as a result of the Project.</p>

3 References

3.1 Legislation

UK Government (2008) Planning Act 2008.

UK Government (2017) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

3.2 Published Documents

Department for Environment, Food and Rural Affairs (Defra) (2022) Local Air Quality Management Technical Guidance (TG22).

Institute of Air Quality Management and Environmental Protection UK (IAQM and EPUK) (2017) Land-use Planning & Development Control: Planning for Air Quality. v1.2.

Sussex Air Partnership (2021) Air Quality and Emission Mitigation Guidance for Sussex [Online]. Available at: <https://sussex-air.net/wp-content/uploads/2022/09/Sussex-AQ-Guidance-V.1.2-2021.pdf>

4 Glossary

4.1 Glossary of Terms

Table 4.1.1: Glossary of Terms

Term	Description
AADT	Annual Average Daily Traffic
AM/PM	Peak hour
ANPS	Airports National Policy Statement
APU	Auxiliary Power Unit
AQEG	Air Quality Expert Group
AQMA	Air Quality Management Area
AQMP	Air Quality Mitigation Plan

Term	Description
ARN	Affected Road Network
ASAS	Airport Surface Access Strategy
CARE	Central Area Recycling Enclosure
CBC	Crawley Borough Council
CO ₂	Carbon Dioxide
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order – planning consent process for Nationally Significant Infrastructure Projects
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMP	Dust Management Plan
EFT	Emissions Factors Toolkit
EIA	Environmental Impact Assessment
EPUK	Environmental Protection UK
ES	Environmental Statement
EU	European Union
GACC	Gatwick Area Conservation Campaign
GAL	Gatwick Airport Limited – the company which operates Gatwick Airport
GHG	Greenhouse Gas Emissions
HRA	Habitats Regulations Assessment
IAQM	Institute of Air Quality Management
ICAO	International Civil Aviation Organization

Term	Description
IP	Inter-peak
KPI	Key Performance Indicator
LTO	Landing and Take-off
NH	National Highways
NNNPS	National Policy Statement for National Networks
NO _x	Oxides of nitrogen
NO ₂	Nitrogen Dioxide
NPS	National Policy Statement
NRP	Northern Runway Project
NSIP	Nationally Significant Infrastructure Project. Large scale projects as defined by the 2008 Planning Act
OP	Off-peak
OS	Ordnance Survey
PCM	Pollution Climate Mapping
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PM _{2.5}	Airborne particulate matter that have a median diameter of 2.5 microns
PM ₁₀	Airborne particulate matter that have an aerodynamic diameter of median diameter of 10 microns
RBBC	Reigate and Banstead Borough Council
SAC	Special Area of Conservation
SDC	Sevenoaks District Council

Term	Description
SPA	Special Protection Area
SRN	Strategic Road Network
TAG	Transport Analysis Guidance
TWG	Topic Working Group
UFP	Ultrafine Particle
UK	United Kingdom
UKHSA	UK Health Security Agency
WHO	World Health Organisation