Gatwick Airport Northern Runway Project

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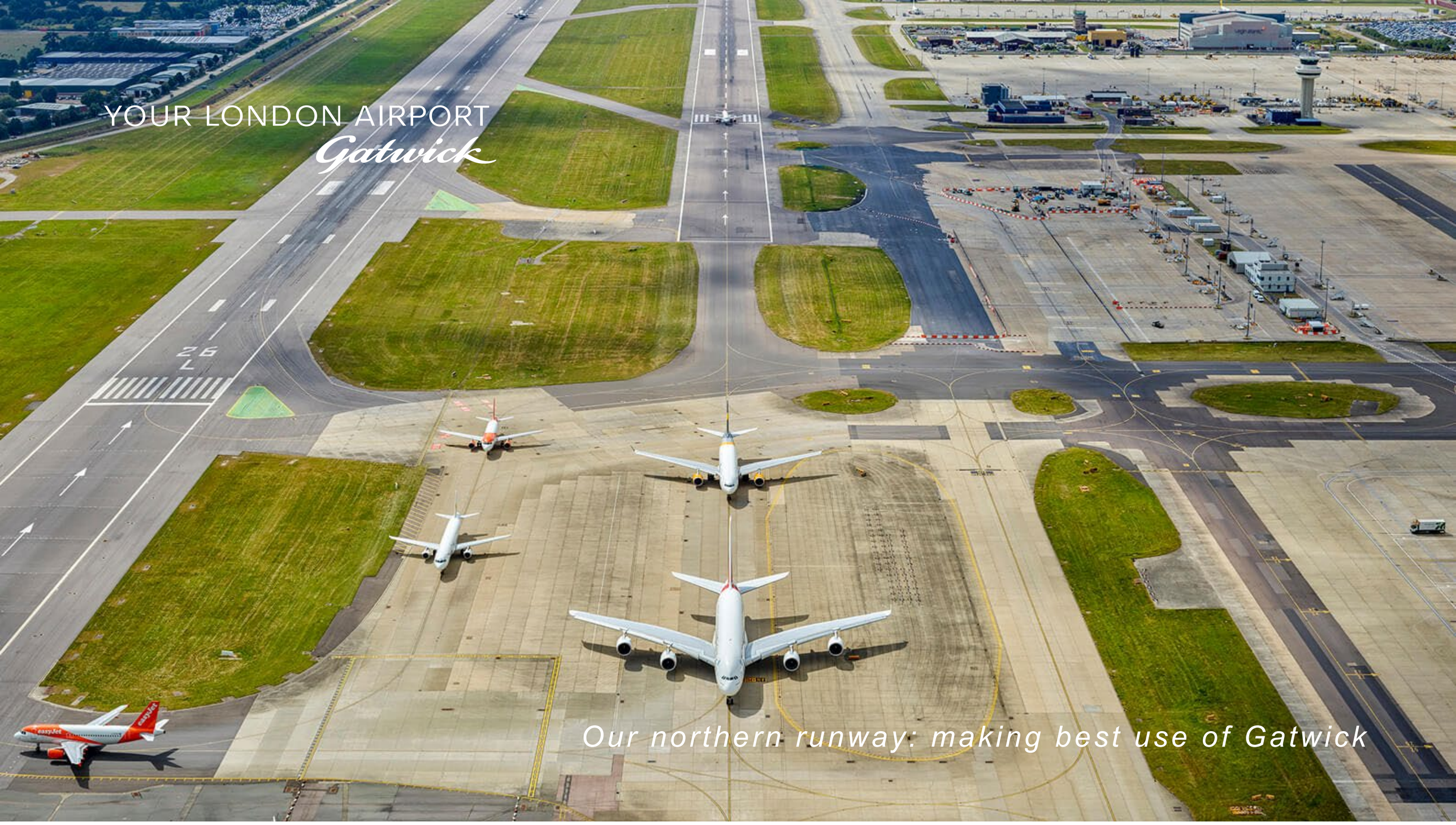

Preliminary Environmental Information Report
Appendix 14.3.1: Summary of Stakeholder Scoping Responses - Noise and Vibration

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 14.3.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the summary of stakeholder scoping responses relating to noise and vibration for the Project.

2 Summary of Stakeholder Scoping Responses for Noise and Vibration

Consultee	Date	Details	How/where addressed in PEIR
Burstow Parish Council	28 September 2019	With the Northern Runway in use on a regular basis, many more residents would be subjected to noise over a much larger area of Smallfield. This is an unsatisfactory situation as there are far less homes affected currently as none have been built under the flightpath since the airport became a commercial enterprise. What is even worse is that more noise complaints are received by Gatwick Airport these days due to the number of movements even though aircraft are decidedly quieter. With the prediction of Gatwick Airport Limited that the number of ATMs will increase from 280,700 in 2017/18 to 300,000 in 2022/23, an increase of 6.9% is not very welcome for the residents close to the airport. It is to be hoped that the Department for Transport do not allow any increase in night movements.	Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047. Noise impacts in the Smallfields area are quantified and mitigation is proposed. With regard to night flights, the DfT is currently consulting on night restrictions and it is assumed that these will remain in place with the Project.
Civil Aviation Authority	30 September 2019	Airports and ANSPs are expected to inform and engage overflown communities about aircraft operational change and change to aircraft movements when such changes could have a noise impact on communities. The Air Navigation Guidance 2017 and direction 15 of the Airspace Directions given to the CAA requires us to produce guidance on transparency and engagement for such operational changes to airspace usage not covered by ACPs or PPRs. This guidance is described in detail from page 97 of CAP 1616. Although the CAA has no decision-making role concerning such changes, we would expect GAL to publish this information where it is relevant to its proposed dual runway operations.	The noise assessment reported in Chapter 14 of the PEIR follows the guidance in CAP1616 and provided this information.
Civil Aviation Authority	30 September 2019	It would be beneficial to add ATMs and number of passengers should be given on a yearly basis for baseline year and forecast years.	ATMs forecasts modelled are provided in Section 14.7 of Chapter 14.
Civil Aviation Authority	30 September 2019	In reference to paragraph 6.29, assessment years do not mention or refer to year of maximum effect - only GHG emissions refers to a worst case scenario in paragraph 7.8.29, but this needs also to be considered for noise and local air quality emissions - the year of maximum effect may be different for each.	An explanation as to why 2032 is the year of maximum noise effect is provided in Section 14.7 of Chapter 14.
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.8.2, consider the following applications: ▪ Department for Transport, Aviation Policy Framework, March 2013 (DfT, 2013) ▪ Consultation response on UK airspace policy: a framework for balanced decisions on the design and use of airspace, 2017.	These documents have been considered, as summarised in Section 14.2 of Chapter 14.

Consultee	Date	Details	How/where addressed in PEIR
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.8.2, What time period is this data for? If it is to be assessed for day, evening and night, data should be provided for the three time periods, not 24h.	The air noise assessment considers a 92 day summer average 16 hour day and 8 hour night and annual average day/evening and night levels.
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.8.3, Consider the following documents: ▪ Air Navigation Guidance 2017 (ANG), DfT, October 2017 ▪ ICAO Annex 16 noise certification standards ▪ ECAC.CEAC Document 29 4th Edition, 2016: Report on Standard Method of Computing. Noise Contours around Civil Airports.	These documents have been considered.
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.8.7, '…using the same flight paths'. Since most southern runway SIDs are RNAV, but the northern runway SIDs are conventional, the dispersion of aircraft around the SID may be different for the two runways. See also comment on para 7.8.36.	As further explained in Section 14.8 and Appendix 14.9.2, aircraft using the altered northern runway would use the same flight paths as currently flown from the existing northern runway but would be displaced by some 12 metres further to the north. The main and northern runway flight paths modelled run parallel to each other maintaining the track of the respective extended runway centrelines. At the point that aircraft begin to turn to the north or south (between 5 and 16 km from the runway) the main and northern runway flight paths merge. Flights from both runways are included in the assessment, and the forecast allows for growth in operations of larger aircraft from the main runway.
Civil Aviation Authority	30 September 2019	In reference in paragraph 7.8.31, Consider including noise contour areas, population counts and Noise Quota Counts in the assessment reports.	Contour areas and population counts are used extensively because they relate to noise impact. QCs are not used because they do not directly relate to noise impact.
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.8.36, since GAL explicitly state they do not require an airspace change, we do not believe it is correct to state that 'within the turn, the flight paths will not be distinguishable'. The northern runway SIDs are conventional SIDs, whereas the current runway SIDs are RNAV, so there will be differences in flight track dispersion in the turns on both easterly and westerly operation. If GAL is separating this DCO proposal from future FASI(S) airspace changes, then the DCO assessment needs to reflect that the northern runway's conventional SIDs will likely result in flight path differences around the first turn, compared with the existing main runway RNAV SIDs.	The noise modelling is based on the track dispersions observed. It is not expected that increased use of the northern runway would be distinguishable from main runway departures once aircraft have left the extended runway center line and are in the turn, and beyond.
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.8.39, what does the second bullet 'Type 2: Comparison against absolute noise level benchmarks' mean? Is this a future do-nothing scenario or something else?.	Absolute levels for LAOEL and SOAEL are used. Yes, future with Project noise levels are compared against future baseline ie do minimum, as well as the current baseline.
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.8.57, Insufficient evidence presented to justify scoping out use of APUs from ground noise assessment. What are the 'operational reports' that 'demonstrate that it is rare for an aircraft to use the APU whilst on any of the stands as ground power is generally available'?	Noise from aircraft auxiliary power units (APUs) has been scoped into the assessment and is considered within Section 14.9.
Civil Aviation Authority	30 September 2019	In reference to paragraph 7.11, consider including WebTAG, QALY or another health and wellbeing noise metric in the analysis.	The health chapter (Chapter 17 of the PEIR) provides an assessment of the effects of noise on health and wellbeing.
Charlwood Parish Council	30 September 2019	Very concerned that regular use of the northern runway will mean more noise for the communities of Charlwood and Hookwood. Will be disappointed if the Assessment merely concludes that the noise will be no worse than at present.	Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047.

Consultee	Date	Details	How/where addressed in PEIR
			Noise impacts in the Charlwood area are quantified and mitigation is proposed.
Charlwood Parish Council	30 September 2019	Regular use of the Northern runway would especially mean extra noise, both air noise and ground noise, especially for houses in Ifield Road and Russ Hill. Local residents already complain when the Northern runway is used. The holding areas and the new round-the-end taxiway will be used by large aircraft and will obviously seriously increase ground noise for local residents and this needs to be included in the assessment. We ask that a site at the southern end of Ifield Road to be included in the specific locations to be assessed, in addition to Charlwood Primary (not Infant) School.	Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047. Very detailed air noise data is provided for seven Community Representative Locations, one of which is Charlwood Village Primary School off Chapel Road. Air noise increases and associated impacts in Ifield Road and Russ Hill are specifically reported. Ground noise is summarily modelled and assessed using four example sites around Charlwood.
Charlwood Parish Council	30 September 2019	Told that it is proposed to construct a new around-end taxiway and new holding areas. But it is difficult to make proper assessment without knowing the extent of these developments and whether it is proposed to construct new earth bunds, such as have been constructed around all the northern side of the airport, in order to shield communities from noise and visual intrusion.	The ground noise modelling assessment indicates a new bund would be required. Details are given in Section 14.8 of Chapter 14.
Charlwood Parish Council	30 September 2019	We suggest that the study uses the WHO (Europe) aircraft noise limit guidelines and therefore addresses comprehensively all areas impacted by noise down to 45 dB Lden.	Section 14.2 of Chapter 14 discusses the WHO Guidelines and how they have been considered for this Project.
Charlwood Parish Council	30 September 2019	In reference to paragraph 7.8.33, *"Leq 16 hour day and 8 hour night will be used as the primary metrics to quantify impacts in terms of the areas and population within the various 3 dB noise contour bands in the ranges above."* It proposes that noise event frequency metrics should be secondary metrics only and it seeks to give the impression in paragraph 7.8.20 that this has been agreed with the Noise Management Board. That is not the case.	Paragraph 7.8.33 of the Scoping Report discusses the requirements of CAP 1616. Paragraph 7.8.20 discusses the work of the NMB. It is noted that Charlwood Parish Council do not agree with the CAP 1616 guidance that refers to the number above metrics as secondary. Both Leq and number above metrics are presented in the PEIR (Chapter 14 and its appendices), as are other metrics aimed at giving full information on the noise changes expected including in Charlwood.
Charlwood Parish Council	30 September 2019	The scoping report proposes that there would be limited effects to arise regarding property values. CPC believe that the increase in flight numbers that would arise as a result of the project and their concentration in areas that already suffer aircraft noise would be very likely to cause reductions in the value of homes and other assets. All potential value impacts should be fully quantified and, should the project proceed, fully compensated for.	As noted in Table 16.4.2 of Chapter 16, it is not considered that there are likely to be direct impacts in property values inside the Project site boundary due to the very limited change in flight paths and therefore the potential for effects to arise is limited. The issues of flightpath changes and their likely impacts are considered fully in the Chapter 14, together with the mitigation appropriate to address the assessed impacts in line with other airport DCO applications. The PEIR and the ES will not attempt to look beyond this to potential effects on individual properly values.
Charlwood Parish Council	30 September 2019	Paragraph 7.11.18 of the Scoping Report outlines that health data collection will focus on Crawley and Reigate & Banstead. Charlwood Parish is in neither Crawley nor Reigate and Banstead.	The health chapter (Chapter 17 of the PEIR) provides an assessment of the effects of noise on health and wellbeing.
Charlwood Parish Council	30 September 2019	The proposals to assess the health impacts of noise changes quantitatively and qualitatively are insufficiently clear and might not result in the thorough health impact assessment that is required. We believe there must be a specific, quantified, assessment of the health impacts on people under flight paths who would suffer the effects	

Consultee	Date	Details	How/where addressed in PEIR
		of significant increases in aircraft numbers. We also believe there needs to be a thorough assessment of the health effects of expansion on air quality taking account the additional traffic forecast to be generated.	
Crawley Borough Council	30 September 2019	CBC consider that the main impacts of a dual runway operation on air noise are: (i) - the increase in overflights of existing residents both in terms of total noise (LAeq) and the increase in the number of events and, (ii) that communities within 6-7km from the end of the runways and to the north of the existing departure route will be 210m closer to departing aircraft. CBC consider that it is important for the ES to quantify the impacts of both these factors to appropriately measure the noise impact.	Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047. Noise impacts in these areas (ie Charlwood/Russ Hill in the west and Burstow, Smallfields in the east) are identified. Those areas likely to experience the greatest increases in noise are quantified through the use of a series of noise metrics and figures displaying noise levels.
Crawley Borough Council	30 September 2019	It is generally accepted that there is no single metric that can evaluate the impact of aviation noise. Acoustically one old Boeing 747-100 is roughly equivalent to 128 x Airbus 320-NEOs as it is about 20dB louder on departure. Given the choice some residents would prefer one single B747-100 to 128 x A320 NEOs as the noise is over and done with in one go. However further from the airfield and at night residents may prefer quieter NEOs which won't wake them up as opposed to one noisier aircraft which might. To measure the total noise the EIASR (para 7.8.29) recommends using the summer 2018 noise contours (LAeq,16hr & LAeq,8hr) as the base line and then comparing this to the summer contours for future seasons. The summer contours are based on 92 days during the summer season as this is traditionally the noisiest period. However, Gatwick is already at near capacity during this season on a single runway operation and any future growth on a single runway operation will be achieved by 'peak spreading', namely outside the busiest periods (see diagram 4.5.1 from the EIASR below). This is also likely to be the case for the dual-runway operation, where growth will be in both the busiest summer period (captured by the 92-day summer contours) and by 'peak spreading' (outside the summer period) and therefore not captured by the summer contours. Therefore the sole use of the summer contours will not capture the full impact in of 'peak spreading' and the total noise.	Diagram 4.5.1 of the Scoping Report indicates clearly that the highest numbers of flights would continue to occur in the months of June to September as captured by the Leq noise modelling period form from 16 June to 15 September. This is confirmed by current forecasts (see Chapter 4 of the PEIR: Existing Site and Operation). Air noise is assessed as adverse if future levels exceed absolute levels (ie LOAELs) which are defined by the DfT in terms of 92 day summer contours. Furthermore, in the UK the dose/response for aircraft noise is measured using summer season noise levels, not annual averages which would dilute levels. However, annual Lden and Lnight contours are also provided for baseline and with Project conditions in Section 14.6 and 14.9 to illustrate noise changes over the whole year including the winter months.
Crawley Borough Council	30 September 2019	CBC consider it is necessary to produce Lden and Lnight contours as well as the summer contours as they have the advantage of including all the flights from the whole year*8. Gatwick are already required by The Environmental Noise (England) Regulations 2006 to produce Lden and Lnight contours for their Noise Action Plans every 5 years, the last one was published in 2019 using 2016 Lden contour.	Annual average Lden and Lnight contours are provided in the PEIR.
Crawley Borough Council	30 September 2019	The Environmental Noise (England) Regulations 2006 recommends Lden contours of 55dB or above and Lnight contours of 50dB or above. However, since 2006 there has been new research9 which recommends adverse effects from aircraft noise can begin at Lden 45dB and Lnight of 40dB. CBC therefore consider that in order to correctly identify the full impact of noise from dual runway use that the Lden and Lnight contours starting at 45dB and 40dB should be included as part of the ES in order to accurately establish the noise impact, as well as the summer contours proposed.	The assessment of air noise follows CAA guidance as in CAP 1616: Leq, 16 hour day 51 to 72 dB; and Leq, 8 hour night 45 to 72 dB. Lden contours are also provide from 55 dB and above in 5 dB steps and Lnight contours from 45 dB upwards in 5 dB steps.
Crawley Borough Council	30 September 2019	The other aspect of overflight is the number of events. These are best measured using number above contours (N65 day & N60 night) as proposed in the EIASR. However, when preparing these contours CBC consider that all aircraft over the respective decibel level irrespective of altitude (i.e. the 7000' 'cap' in CAP1498), must be included.	The assessment of air noise follows CAA guidance as in CAP 1616: N65 day 20, 50, 100, 200, 500; and N60 night 10, 20, 50, 100 In modelling these noise metrics no altitude cut-off is used. Overflights are considered a non-noise metric and are assessed using the CAP1489 definition, ie up to 7,000 ft above local see level.

Consultee	Date	Details	How/where addressed in PEIR
Crawley Borough Council	30 September 2019	The use of the northern runway will bring departures (for Code C aircraft only) 210m closer to existing communities on the north side of the airport. To assess the impact on this type of aircraft on these communities a noise footprint of the departure of such an aircraft is required. CBC recommend a 60dB & 65dB contour (related to the N-above) for both standard aircraft and the new NEO/max from both main and northern runway and for both east and west departures is provided.	Agreed, Lmax 60 and 65 dB footprints as suggested are provided in Section 14.9.
Crawley Borough Council	30 September 2019	Para 7.8.36 of the EIASR states that it is proposed to maintain the existing Noise Preferential Routes (NPRs) for departing aircraft. However, there is no indication whether the departure routes can comfortably manage departures efficiently from a dual runway operation, especially during periods when departures dominate (namely early morning with the surge of short haul departures). With the expansion of the long-haul market at Gatwick there will be an increase of wide-bodied aircraft which require greater spacing from smaller aircraft so potentially reducing the number of departures per hour. CBC consider that data on spacing and departure/arrival rates is required as part of the ES. This needs to include data on the maximum number of departures per hour which can safely and efficiently use each NPR based on the present and predicted fleet mix proposed at Gatwick. Should the existing NPR's not be able to accommodate the increase in flights, then full assessment would be needed of any additional routes.	As explained in Section 14.8 of Chapter 14 and Appendix 14.9.2, aircraft using the altered northern runway would use the same flight paths as currently flown from the existing northern runway but displaced by some 12 metres further to the north (equating to about a third of a wingspan of the average sized aircraft). The numbers of movements are set out in the Table 14.7.1 in Section 14.7.
Crawley Borough Council	30 September 2019	It is known that 'go-arounds'10 have steadily increased in number and in percentage terms since 2012 and therefore as the number of arrivals increase then the number of 'go-arounds' will increase at least proportionally or as the recent trend shows, disproportionally. This point needs to be examined in further detail as 'go-arounds' can be very disturbing for residents and can cause a higher than normal level of anxiety due the low altitude and displaced location of the aircraft. This data needs to form part of the evidence informing the ES.	Aborted landings result in 'go-arounds', the standard procedure that occurs when an arriving aircraft aborts landing during the final stages of approach. They occur most often as a result of a departing aircraft or preceding arriving aircraft not fully vacating the runway ahead of a landing aircraft. On these occasions the pilot takes averting action under a defined standard missed approach procedure. On westerly operations, typically these aircraft abort landing at low level, climb to 3,000 feet and loop round over Crawley to make a fresh approach to the runway. However, the CAA do not model noise from go-arounds at UK airports because their effect on the resultant noise contours is not significant. In the busy summer season in 2019 there were approximately three go-arounds each day. 85% of these occurred within the 16 hour day and evening period, with 15% at night (23:00-07:00 hours). The Project includes new exit/entrance taxiways, and end around taxiways, and has been designed so that the numbers of go-arounds do not significantly increase. As such, noise disturbance from go-arounds is not expected to increase.
Crawley Borough Council	30 September 2019	A ground noise report was produced by Gatwick in 2016 but was never published. This report needs to be published as this data will inform the baseline of the ES.	Further analysis of the ground noise baseline is reported in the PEIR (Chapter 14). The ground noise baseline report will be provided as part of the Environmental Statement.
Crawley Borough Council	30 September 2019	The proposal in 7.8.41 is to assess ground noise against absolute benchmarks of 55 dB LAeq for the day and evening and 45 dB LAeq for the night-time. These figures are derived from the internal noise standards specified in BS8233 and relate to 'steady' noise. This is acceptable for the overall general 'hum' from Gatwick but where residents will be aware of individual distinguishable events then a different methodology will be required. The reason being is that	The PEIR uses Leq benchmarks, and assesses change in Leq. It does not use the BS4142 method but in Section 14.9 it predicts and assesses Lmax levels above 60 and 65dB from taxiing aircraft and engine testing and how the numbers of these will change with the Project.

Consultee	Date	Details	How/where addressed in PEIR
		Ground noise is considered to be 'commercial or industrial' noise and not air-noise which is considered transportation noise. Therefore, individual distinguishable events need to be assessed in the similar manner as with all other commercial or industrial noise which is by using BS4142:2014. This would include (but not exclusively) engine testing and taxiing aircraft close to a receptor (the end-around taxiways and Juliet holding spur).	
Crawley Borough Council	30 September 2019	The Gatwick 'hum' in any particular location varies according to wind direction. CBC consider that it would therefore be appropriate to measure the background (L90) noise levels in upwind conditions to ensure a true background noise level. The ground noise propagation should then be calculate using a positive downwind scenario.	Wind direction has been considered carefully in the PEIR as explained in Appendix 14.9.3. Easterly and westerly operations are modelled separately. Initially downwind propagation was considered in all modeling cases, but this provided baseline levels above the measured baseline that were too conservative. This is because some receptors cannot always be downwind of some noise sources because the runway changes direction. To model wind effects more accurately, a realistic average wind speed and direction was used for westerly operations, and a different realistic average wind speed and direction was used for easterly operations. Different wind speeds and directions were also modelled for day and night.
Crawley Borough Council	30 September 2019	To measure the total noise the EIASR (para 7.8.29) recommends using the summer 2018 noise contours (LAeq,16hr & LAeq,8hr) as the base line and then comparing this to the summer contours for future seasons. The summer contours are based on 92 days during the summer season as this is traditionally the noisiest period. However, Gatwick is already at near capacity during this season on a single runway operation and any future growth on a single runway operation will be achieved by 'peak spreading', namely outside the busiest periods (see diagram 4.5.1 from the EIASR below). This is also likely to be the case for the dual-runway operation, where growth will be in both the busiest summer period (captured by the 92-day summer contours) and by 'peak spreading' (outside the summer period) and therefore not captured by the summer contours. Therefore, the sole use of the summer contours will not capture the full impact in of 'peak spreading' and the total noise.	Diagram 4.5.1 of the Scoping Report indicates clearly that the highest numbers of flights would continue to occur in the months of June to September as captured by the Leq noise modelling period form from 16 June to 15 September. This is confirmed by current forecasts (see Chapter 4: Existing Site and Operation of the PEIR). Air noise is assessed as adverse if future levels exceed absolute levels (ie LOAELs) rather than changes at any level. Furthermore, in the UK the dose/response for aircraft noise is measured using summer season noise levels, not annual averages which would dilute levels. The Airports Commission noise 'scorecard' from the 2014 consultation has been superseded by government consultations as summarised above that do not refer to Lden. Air Navigation Guidance 2017, CAP 1616 does not require annual average Lden contours to be used.
Crawley Borough Council	30 September 2019	CBC are concerned that there has already been an increase in road traffic 'spillage' from the main highways to the side roads and country lanes for airport trips. Even though the total noise will not be comparable to the main roads, the increase can be large and proportionally more disturbing due it's close proximity to residents and due to the fact it is made up by multiple 'events' rather than a general hum. It is therefore considered that an assessment should be made of traffic flows on local roads and how this traffic is associated with Gatwick and how it can be mitigated. The current methodology for this the assessment set out in para 7.8.42 is ambiguous and needs to be clarified and other receptor points on the local road network agreed with CBC to establish the impacts.	Noise change due to changes in traffic on adjacent roads is assessed for the operational phase in the PEIR. Further detail relating to the construction phase will be included in the Environmental Statement.
Crawley Borough Council	30 September 2019	Para 5.3.18 explains that much of the construction work will take place overnight to reduce impact on the operation of the airport, and access roads. This will therefore create noise during the only period of relative quiet for the nearest residents. The ES should consider the additional burden placed on these residents in detail and	The assessment of construction noise and vibration is provided in Section 14.9. Construction noise has been modelled from the largest teams of plant expected to carry out the all the main works and

Consultee	Date	Details	How/where addressed in PEIR
		all forms of potential mitigation must be explored and applied not just the physical measures currently listed in the EIASR. For example, if noise levels are very high or during periods of very hot weather where windows have to be opened for ventilation, mitigation could be alternative temporary accommodation for nearby residents. It is accepted that residents will experience limited vibration from the construction works on site but the off-site construction work on the road network is much closer to residents and needs to be fully assessed as part of the ES. There is potential for use of the Gatwick Goods Yard railhead to increase during the construction phase of the Project, and this may be predominantly at night. This would increase noise from the Goods Yard itself and from HGV traffic which would have an impact on nearby residents in Bowthorpe House and Forge Wood. This should be assessed as part of the ES and must be appropriately mitigation.	assessed cumulatively as a worst case at this stage. Day evening and night periods are assessed separately. See Appendix 14.9.1. The assessment will be refined for the Environmental Statement. A full package of mitigation is proposed in line with that used for other major projects that require work at night, see section 14.8. Noise insulation would be offered for qualifying buildings. Noise insulation, or if other measures are not possible, temporary re-housing would avoid residents being significantly affected by levels of construction noise inside their dwellings. The assessment reported in the Environmental Statement will provide an estimate of the buildings that are likely to qualify for noise insulation or to qualify for temporary rehousing, if any.
East Sussex County Council	30 September 2019	Consideration of a more dispersed flight path where (albeit) more people are affected, less people are affected more intensely.	This is beyond the scope of this Project. It will be considered as part of the FASI-South project.
East Sussex County Council	30 September 2019	Consideration of more efficient routes by greater utilisation of Continuous Descent and Climb operations.	This is beyond the scope of this Project. It will be considered as part of the FASI-South project.
East Sussex County Council	30 September 2019	Consideration of enabling aircraft to climb more steeply than they do at present to further minimise noise impacts on communities.	This is beyond the scope of this Project. It will be considered as part of the FASI-South project.
East Sussex County Council	30 September 2019	Consideration of noise insulation provision for residential properties and businesses where appropriate.	A full package of mitigation is proposed, including an enhanced noise insulation scheme for residential properties (see Section 14.8 of Chapter 14). 50 non-residential noise sensitive buildings are assessed in the PEIR and the Environmental Statement will consider any other particularly noise-sensitive building including those identified during consultation on the PEIR.
East Sussex County Council	30 September 2019	The continuation of the Noise Management Board, or an appropriate forum, to support and mitigate (wherever possible) the negative impact of aircraft noise on local communities.	There is no plan to cease the NMB.
Highways England	1 October 2019	Traffic and environmental impact arising from changes to the SRN, the increase/re-routing of traffic post-opening (including phased opening) of the Proposed Development, during construction, traffic volume (including cumulative effects), composition or routing change and transport infrastructure modification should be fully assessed and reported. Adverse changes to noise and air quality should be particularly considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management Areas (AQMAs).	See Section 12.5 of Chapter 12 on Assumptions and Limitations of the Assessment, including on construction and operational traffic. Further work will be undertaken for the application for development consent including a more detailed assessment of highway construction impacts in conjunction with Highways England. The PEIR provides detailed assessment of noise impacts during the operational phase. Noise impacts during construction are assessed qualitatively and will be refined further and quantified in the Environmental Statement.
Historic England	1 October 2019	There is a case for inclusion of heritage/cultural facilities within the non-residential receptor's category of the noise assessment chapter (paragraph 7.8.25). The enjoyment and appreciation of heritage sites, museums & galleries, and historic parks and gardens could be disproportionately affected by changes in the noise regime and visual intrusion resulting from more flights and additional ground facilities proposed by the project. Some of these could be well beyond the 3km radius set for the heritage impacts (e.g. Hever Castle).	Meetings have been held with Historic England to discuss this. Noise effects on heritage assets are assessed and two heritage assets are included in the 50 non-residential locations foe which detailed noise levels and changes due to the Project are provided (See Appendix 14.2).

Consultee	Date	Details	How/where addressed in PEIR
			Overflight analysis for landscape and visual, ecology and heritage assessments has been included (see Sections 14.9 and 14.13 of Chapter 14).
Horley Town Council	25 September 2019	Careful consideration needs to be given to the impact from the regular use of the Northern Runway on the residents living in the southern part of Horley adjacent to the airport boundary. This is because it is much closer to residences than the main runway; particularly as its centre line which is 210 m closer than the main runway. Our concerns centre around noise & air quality.	Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047. Noise impacts in the norther part of Horley are quantified and mitigation is proposed.
Horley Town Council	25 September 2019	The impact of noise and air quality from the increase in the number of movements and the fact that the peak will now be spread across a greater part of the day than presently; as airlines fill up the current spare capacity in the shoulder periods.	Noise impacts are assessed over the full 24 hour period.
Horsham District Council	27 September 2019	The main impacts of a dual operation runway operation on air noise are the increase in overflights of existing residents both in terms of total noise (Laeq) and the increase in the number of events. Also, communities within 6-7km from the end of the runways and to the north of the existing departure route will be 210m closer to the departing aircraft. It is therefore important to quantify the impacts of these two main issues.	Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047.
Horsham District Council	27 September 2019	It is generally accepted that there is no single metric that can evaluate the impact of aviation noise. Acoustically one old Boeing 747-100 is roughly equivalent to 128 x Airbus 320-NEOs as it is about 20dB louder on departure. Given the choice some residents would prefer one single B747-100 to 128 A320 NEOs as the noise is over and done with in one go. However further from the airfield at night residents may prefer quieter NEOs which will not wake them up to one nosier aircraft which might.	Noise impacts from the departure routes from the northern runway are modelled assessed and reported in several different ways. Maps are provided with Chapter 14 showing the different departure routes and the areas overflown from each as well as Lmax, Leq and number above Lmax noise levels for day and night and how these will change with the Project.
Horsham District Council	27 September 2019	To measure the total noise the EIASR (para 7.8.29) recommends using the summer 2018 noise contours (LAeq,16hr & LAeq,8hr) as the base line and then comparing this to the summer contours for future seasons. The summer contours are based on 92 days during the summer season as this is traditionally the noisiest period. However, Gatwick is at near single runway operation will be achieved by 'peak spreading', namely outside the busiest periods. This is also likely to be the case for the dual-runway by the 92-day summer contours but again to achieve the predicted growth figures 'peak spreading' will be required which will be outside the summer period and therefore not captured by the summer contours.	Diagram 4.5.1 of the Scoping Report indicates clearly that the highest numbers of flights would continue to occur in the months of June to September as captured by the Leq noise modelling period form from 16 June to 15 September. This is confirmed by current forecasts (see Chapter 4: Existing Site and Operation of the PEIR). Air noise is assessed as adverse if future levels exceed absolute levels (ie LOAELs) which are defined by the DfT in terms of 92 day summer contours. Furthermore, in the UK the dose/response for aircraft noise is measured using summer season noise levels, not annual averages which would dilute levels. However, annual Lden and Lnight contours are also provided for baseline and with Project scenarios in Section 14.6 and 14.9 to illustrate noise changes over the whole year including the winter months.

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Horsham District Council	27 September 2019	Therefore, sole use of the summer contours will not capture the full impact of 'peak spreading' and the total noise. It is therefore necessary to produce Lden and Lnight contours as well as the summer contours as they have the advantage of including all the flights from the whole year.	See above.
Horsham District Council	27 September 2019	The Environmental Noise (England) Regulations 2006 recommends Lden contours of 55dB or above and Lnight contours of 50dB or above. However, since 2006 there has been new research by the World Health Organisation which recommends adverse effects from aircraft noise can begin as Lden 45dB and Lnight pf 40dB. It is therefore recommended to correctly identify the full impact of noise from dual-runway use that the Lden and Lnight contours start at 45dB and 40dB.	The assessment of air noise follows CAA guidance as in CAP 1616: Leq, 16 hour day 51 to 72 dB; and Leq, 8 hour night 45 to 72 dB. Lden contours are also provide from 55 dB and above in 5 dB steps and Lnight contours from 45 dB upwards in 5 dB steps.
Horsham District Council	27 September 2019	If permission is granted for the second runway then the predicted Lden and Lnight contours will also act as a comparison for future Noise Action Plans to be benchmarked against.	Noted.
Horsham District Council	27 September 2019	When preparing number-above contours all aircraft over the respective decibel level should be included regardless of altitude.	Agreed, the noise modelling does not cut off aircraft above any altitude.
Horsham District Council	27 September 2019	The use of the northern runway will bring departures 210m closer to existing communities on the north side of the airport. It is proposed to only use Code C aircraft on that runway. To assess the impact on this type of aircraft on these communities a noise footprint of the departure of such an aircraft would be required. I would recommend a 60dB and 65dB contour for both standard aircraft and the new NEO/max from both main and northern runway and for both east and west departures.	These suggested Lmax footprints have been modelled, assessed and reported in Section 14.9 of the PEIR.
Horsham District Council	27 September 2019	It is proposed to maintain the existing Noise Preferential Routes (NPRs) for departing aircraft. With aircraft movements proposed to increase up to 70 movements per hour. There is no indication in the Scoping Report whether the departure routes can comfortably manage this flow, especially during periods when departures dominate. With the expansion of the long-haul market at Gatwick there will be an increase of wide-bodied aircraft which require greater spacing and departure/arrival rates is required, especially the whole of the Airspace is being redesigned through the Future Airspace Strategy Implementation programme for the South of England - or FASI(S) as it is more commonly referred to- and there is the potential for new departure routes.	As further explained in Section 14.8 and Appendix 14.9.2, aircraft using the altered northern runway would use the same flight paths as currently flown from the existing northern runway but displaced by some 12 metres further to the north (equating to about a third of a wingspan of the average sized aircraft). The numbers of movements are set out in the Table 14.7.1 in Section 14.7.
Horsham District Council	27 September 2019	If permission is granted for the upgrading of the standby runway then between that permission and the beginning of the operation the results of FASI(S) will be published. If permission is granted for a twin runway operation, then FASI(S) will have to take that into account. This fact may well influence the need for new departure route for a dual runway operation, especially on Routes 3 or 4. However, GAL is likely to argue that it would require a full Airspace Change Consultation (CAP1616). Since permission would have already been granted for a second runway the 'safety/efficiency' argument can be used to much greater effect. It is therefore very important to understand that by 2038 with no airspace changes that Gatwick can operate at up to 70 movements per house without risk to safety or efficiency.	The Project has been designed in line with all relevant legislation and guidance relating to safety and with the aim of improving operational resilience and efficiency.
Horsham District Council	27 September 2019	The increase in the number of 'go-arounds' needs to be examined in further detail as go-arounds can be very disturbing for residents and can cause a higher than normal level of anxiety due to the low altitude and displaced location of the aircraft.	Aborted landings result in ‘go-arounds’, the standard procedure that occurs when an arriving aircraft aborts landing during the final stages of approach. They occur most often as a result of a departing aircraft or preceding arriving aircraft not fully vacating the runway ahead of a landing aircraft. On these occasions the pilot takes averting action under a defined standard missed approach procedure. On westerly operations, typically these aircraft abort landing at low level, climb to 3,000 feet and loop round over Crawley to make a fresh approach to the runway. However, the CAA do not model noise from go-arounds

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			at UK airports because their effect on the resultant noise contours is not significant. In the busy summer season in 2019 there were approximately three go-arounds each day. 85% of these occurred within the 16 hour day and evening period, with 15% at night (23:00-07:00 hours). The Project includes new exit/entrance taxiways, and the end around taxiways and has been designed so that the numbers of go-arounds do not significantly increase. As such, noise disturbance from go-arounds is not expected to increase.
Horsham District Council	27 September 2019	A ground noise report was produced by Gatwick in 2016 but was never published. This report needs to be published as a part of the DCO application.	Further analysis of the ground noise baseline is reported in the PEIR. The ground noise baseline report will be provided as part of the Environmental Statement.
Horsham District Council	27 September 2019	Ground noise is 'commercial or industrial' and should therefore be assessed in the similar manner as all other commercial or industrial noise using BS4142:2014. The standards used in BS8233 relate to anonymous or steady noise which would include the 'hum' caused by Gatwick but not individual distinguishable events which will cause a greater level of annoyance. This would include (but not exclusively) engine testing and taxiing aircraft close to a receptor.	The PEIR uses Leq benchmarks, and assesses change in Leq. It does not use the BS4142 method but in Section 14.9 of Chapter 14 it predicts and assesses Lmax levels above 60 and 65 dB from taxiing aircraft and engine testing and ow the numbers of these will change with the Project.
Horsham District Council	27 September 2019	The Gatwick 'hum' in any particular location varies according to wind direction. It would therefore be appropriate to measure the background (L90) noise levels in upwind conditions to ensure a true background noise level. The ground noise propagation should then be calculated using a positive downwind scenario.	Wind direction has been considered carefully in the PEIR as explained in Appendix 14.9.3. Easterly and westerly operations are modelled separately. Initially downwind propagation was considered in all modeling cases, but this provided baseline levels above the measured baseline that were too conservative. This is because some receptors cannot always be downwind of some noise sources because the runway changes direction. To model wind effects more accurately, a realistic average wind speed and direction was used for westerly operations, and a different realistic average wind speed and direction was used for easterly operations. Different wind speeds and directions were also modelled for day and night.
Horsham District Council	27 September 2019	The 'end-around' taxiways and the new Juliet holding spur need to be examined in detail as these both bring taxiing aircraft closer to existing residents. The use of bunds has been mentioned but full calculations and assumptions would need to be published to demonstrate their effectiveness.	Noise from end around taxiways has been predicted and assessed in Section 14.9 of Chapter 14. A new bund has been designed and ground noise levels have been modelled with it in place, as reported in Section 14.8 and 14.9 and in Appendix 14.9.3
Horsham District Council	27 September 2019	The increase of aircraft using Gatwick will result in an increase in maintenance and ground runs. The location for future ground runs needs to be agreed and the impact calculated when compared to the present location and frequency.	Noise levels from ground runs with the Project have been predicted and assessed, see Section 14.9 and Appendix 14.9.3.
Horsham District Council	27 September 2019	There has already been an increase in road traffic 'spillage' from the main highways to the side roads and country lanes. Even though the total noise will not be comparable to the main roads, the increase in noise can be large and proportionally more disturbing due its close proximity to residents and due to the fact it is made up of multiple 'events' rather than a general hum. Therefore, an assessment should be made of traffic flows on local roads and how this traffic is associated with Gatwick and how it can be mitigated.	The PEIR provides detailed assessment of road traffic noise impacts during the operational phase, see Section 14.9 and Appendix 14.9.4. Noise impacts during construction are assessed qualitatively and will be quantified in the ES.
Horsham District Council	27 September 2019	The use of sound insulation to mitigate noise is a last resort and needs to include the windows, doors and the roof, which is often the weak spot in a house. In addition, sound insulation is only effective when the windows are	An enhanced noise insulation scheme is proposed, see Section 14.8. It includes acoustic windows, treatments to upstairs bedroom ceilings

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		closed. During summer months windows have to be kept open to deal with overheating. This will expose residents to the harmful effects of noise, therefore, to truly mitigate against the harmful effects of noise, additional forms of ventilation are required. Natural forms of ventilation like acoustic louvres are more sustainable and visually acceptable. They are however less effective with very high noise levels at which point mechanical ventilation will be required. Any mitigation scheme will be expected to offer all of these options.	if necessary for the worst affected homes, and offers of acoustic ventilators to allow windows to remain closed in warmer conditions.
Horsham District Council	27 September 2019	It is expected that there will be a lot of nighttime working creating noise during the only period of relative quiet that the nearest residents will have. It is expected that this additional burden places on these residents will be considered in detail and all forms of potential mitigation explored and applied. If noise levels are very high or during periods of very hot weather where windows have to be opened for ventilation, then alternative temporary accommodation should be available.	The assessment of construction noise and vibration is provided in Section 14.9 of Chapter 14. Construction noise has been modelled from the largest teams of plant expected to carry out the all the main works and assessed cumulatively as a worst case at this stage. Day, evening and night periods are assessed separately. See Appendix 14.9.1. The assessment will be further refined for the Environmental Statement. A full package of mitigation is proposed in line with that used other major projects that require work at night, see Section 14.8 Noise insulation would be offered for qualifying buildings. Noise insulation, or if other measures are not possible, temporary re-housing would avoid residents being significantly affected by levels of construction noise inside their dwellings. The assessment reported in Environmental Statement will provide an estimate of the buildings that are likely to qualify for noise insulation or to qualify for temporary rehousing, if any.
Horsham District Council	27 September 2019	It is accepted that residents will experience limited vibration from the construction works on site but the off-site construction work on the road network is much closer to residents and needs to be assessed.	Noted, vibration from offsite construction work will be assessed and reported in the Environmental Statement.
Kent County Council	1 October 2019	Paragraph 7.8.7 states *"any increases in noise will be due to the increased number of flights on the northern runway"*. This is not the case, as releasing capacity on the main runway will allow for additional movements by larger aircraft. Increased demand for long haul flights and larger aircraft (such as Airbus A380s) will generate a further increase in noise on the main runway compared to current operations. Combined with increases in noise from the use of the northern runway, it is imperative that noise impacts from use of both runways are considered appropriately.	Noted, the noise assessment considers noise from all flight generated by the increased capacity of the Project. See Chapter 14.
Kent County Council	1 October 2019	It is imperative that the study area of the noise assessment is extended to include Kent, in particular the urban area of Tunbridge Wells, which regularly experiences overflight of Gatwick aircraft at less than 7,000ft.	The noise assessment reported in Chapter 14 of the PEIR does report noise levels in part of Kent, and it reports overflights up to 7,000ft above levels including over Tunbridge Wells.
Kent County Council	1 October 2019	Overflight metrics should also include the anticipated growth at Heathrow as a result of a third runway. Kent is overflown by aircraft from a range of airports in the South East and it is imperative that any consideration of overflight represents a true reflection of the impact on communities.	In quantifying overflights in the current base case, all flights have been analyzed including flights from Heathrow. It is not possible to consider in detail the airspace change that will be required for a third runway at Heathrow because the design of that airspace is being developed separately to a different programme. Cumulative effects will be considered in further detail within the Environmental Statement if sufficient information is available at the time of assessment.

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Mid Sussex District Council	1 October 2019	The temporal scope of all noise and vibration topics should be set out in the ES.	Noted. The PEIR considers noise and vibration from the onset of construction through to opening of the northern runway (assumed 2029) to the runway design year (2038) and on to 2047 which is 15 years after opening of the highway improvements in 2032.
Mid Sussex District Council	1 October 2019	The Study Area and the method for defining it should be clearly set out in the ES.	See Section 14.5 of Chapter 14. The study area for noise and vibration effects includes all receptors that may experience potential adverse impacts. For example, for some air noise metrics, this area extends more than 20 km from the airport and overflights are considered beyond this. Whereas for ground noise, the nearest receptors around the airport have been assessed, as at greater distances, the impacts would be lower. This approach has ensured that the most critical receptors have been considered.
Mid Sussex District Council	1 October 2019	The ES should clearly describe the approach taken with regard to baseline monitoring that informs the assessment.	See Section 14.6 of Chapter 14.
Mid Sussex District Council	1 October 2019	The ANPS is an important and relevant consideration for the expansion project. The key points set out in the ANPS relating to noise should be set out in the ES along with information on how they have been responded to.	See Section 14.2 which includes Table 14.2 that summarises the main Airports NPS requirements and how they have been addressed.
Mid Sussex District Council	1 October 2019	The assessment should consider the requirements of the Noise Policy Statement for England and the need to establish LOAEL and SOAEL. In addition, the UAEL should be defined and assessed.	LOAELs and SOAELs for air, ground, traffic and construction noise are described in Section 14.4 of Chapter 14. NOELs are referred to in the NPSE, but since only effects above the LOAEL require mitigation, a NOEL standard is not required for EIA purposes. UAELs are not mentioned in the NPSE. The Gatwick modelling shows zero population counts for air noise contours above the Heathrow UAELs Leq 16 hr 71 dB and Leq 8-hour 66 dB.
Mid Sussex District Council	1 October 2019	The ES should clearly set out its methodology for assessing potential effects from construction noise, construction traffic vibration or noise emissions from airport operations/plant.	The approach to assessment is set out in Section 14.4 of Chapter 14, with the assessment of construction noise and vibration provided in Section 14.9.
Mid Sussex District Council	1 October 2019	The ES should consider cumulative effects due to other committed developments within the Area of Influence.	An assessment of the cumulative noise impacts is provided in Section 14.12 of Chapter 14.
Mid Sussex District Council	1 October 2019	Consultation specific to the DCO application should be undertaken.	The Local Authority Noise Topic Working Group has met to discuss the methodology used in the PEIR. See Section 14.3. GAL is consulting on the PEIR to seek stakeholders views.
Mid Sussex District Council	1 October 2019	Air noise mitigation covered in the ANPS should be referenced, where relevant, and responded to in the ES. Specifically, a Noise Envelope (paragraph 5.60 of the ANPS) should be part of the DCO application.	Noise mitigation referred to in the Airports NPS is addressed in the PEIR, see Section 14.8 of Chapter 14. A Noise Envelope is proposed, see Section 14.8 and Appendix 14.9.5.
Mid Sussex District Council	1 October 2019	The ES should consider the following sources of potential noise or vibration effects or provide additional justification for scoping them out: ▪ Off-site construction noise and vibration; ▪ Construction traffic vibration; and ▪ Noise and vibration from potential increased train/shuttle movements.	Vibration from construction plant and construction traffic will be assessed in further details in the Environmental Statement. In accordance with the latest DMRB guidance, vibration during operation of the highway is scoped out. The approach to assessment is set out in Section 14.4 of Chapter 14, with the assessment of construction noise and vibration provided in Section 14.9. Two periods of peak construction traffic will be assessed in the

Consultee	Date	Details	How/where addressed in PEIR
			Environmental Statement. Construction noise has been modelled from the largest teams of plant expected to carry out the all the main works and assessed cumulatively as a worst case at this stage. The assessment will be refined further for the Environmental Statement. See Appendix 14.9.1.
Mid Sussex District Council	1 October 2019	The assessment of ground noise should consider noise from training activities at the relocated fire training ground and use of APUs or GPUs for aircraft at stands.	Noise from APU and GPU usages is modelled and assessed in the PEIR. Noise from the relocated fire training ground will be assessed further in the Environmental Statement.
Mid Sussex District Council	1 October 2019	The assumption that no change occurred between 2016 and 2018 in baseline data needs to be validated if it is to be relied upon.	Noted, however, ground noise is modelled for all assessment years and the levels and changes in noise are used in the assessment.
Mole Valley District Council	30 September 2019	Paragraph 7.8.8 – The Council believes that using summer 2018 noise contours as the baseline is insufficient, even if used alongside the Noise Preferential Routes. Gatwick Airport is at near capacity during the summer months on which these contours are based, whereas much of the growth of the airport will be achieved by peak spreading outside of the busiest periods (as per Diagram 4.5.1). It is therefore necessary to produce Lden and Lnight contours that are based on flights year-round and which therefore take into account flights outside the busy summer period. We therefore request that summer LAeq noise contours, year-round Lden and Lnight contours and the Noise Preferential Routes are used as the baseline. Additionally, World Health Organisation guidelines should be taken into account and noise should therefore be modelled from 45dB Lden for average noise exposure, and 40dB Lnight for night noise exposure.	Diagram 4.5.1 of the Scoping Report indicates clearly that the highest numbers of flights would continue to occur in the months of June to September as captured by the Leq noise modelling period form from 16 June to 15 September. This is confirmed by current forecasts (see Chapter 4: Existing Site and Operation of the PEIR). Air noise is assessed as adverse if future levels exceed absolute levels (ie LOAELs) which are defined by the DfT in terms of 92 day summer contours. Furthermore, in the UK the dose/response for aircraft noise is measured using summer season noise levels, not annual averages which would dilute levels. However, annual Lden and Lnight contours are also provided for baseline and with Project conditions in Section 14.6 and 14.9 to illustrate noise changes over the whole year including the winter months. The assessment of air noise follows CAA guidance as in CAP 1616: Leq, 16 hour day 51 to 72 dB; and Leq, 8 hour night 45 to 72 dB. Lden contours are also provide from 55dB and above in 5 dB steps and Lnight contours from 45 dB upwards in 5 dB steps. Section 14.2 of the PEIR discusses the WHO guidelines.
Mole Valley District Council	30 September 2019	Paragraph 7.8.24 – Whilst it is understood that the specific study area for noise and vibration effects cannot be determined until noise levels resulting from the development have been modelled, the Council would request that both the primary and secondary noise metrics are used to determine this area so that noise levels, frequency of noise events and increase in overflight are considered.	Agreed.
Mole Valley District Council	30 September 2019	Paragraph 7.8.27 – Any likelihood in increase in the number of aircraft go-arounds should be assessed through the EIA, as these events can have great noise impacts on local communities.	Aborted landings result in ‘go-arounds’, the standard procedure that occurs when an arriving aircraft aborts landing during the final stages of approach. They occur most often as a result of a departing aircraft or preceding arriving aircraft not fully vacating the runway ahead of a landing aircraft. On these occasions the pilot takes averting action under a defined standard missed approach procedure. On westerly

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			operations, typically these aircraft abort landing at low level, climb to 3,000 feet and loop round over Crawley to make a fresh approach to the runway. However, the CAA do not model noise from go-arounds at UK airports because their effect on the resultant noise contours is not significant. In the busy summer season in 2019 there were approximately three go-arounds each day. 85% of these occurred within the 16 hour day and evening period, with 15% at night (23:00-07:00 hours). The Project includes new exit/entrance taxiways, plus the end around taxiways, and has been designed so that the numbers of go-arounds do not significantly increase. As such, noise disturbance from go-arounds is not expected to increase.
Mole Valley District Council	30 September 2019	Paragraph 7.8.27 – It is expected that much of the construction of the development will take place at night, the only period of relative quiet for residents near to the airport. A full assessment of the noise impacts from construction on local communities, as well as exploration of potential mitigation measures, is therefore necessary.	The construction noise assessment considers day evening and night-time noise impacts. See Appendix 14.9.1.
Mole Valley District Council	30 September 2019	Paragraph 7.8.31 – When preparing N65 Day and N60 Night contours, all aircraft over the respective decibel noise level should be included, regardless of their altitude.	Noted, no flights above any altitude are excluded in the noise modelling.
Mole Valley District Council	30 September 2019	Paragraph 7.8.36 – The regular use of the Emergency Runway will bring departures 210 metres closer to communities to the north of the airport. The noise impact on these communities should be fully assessed as part of the EIA by modelling the noise footprint of departures of Code C aircraft from both runways in each runway direction.	Noted, the noise assessment considers this in detail using a variety of noise metrics as discussed above, including Lmax 60 and Lmax 65 dB footprints.
Mole Valley District Council	30 September 2019	Paragraph 7.8.40 – Reconfiguration of the Juliet taxiway and creation of end-around taxiways will bring taxiing aircraft closer to local communities. The potential noise impacts of this should be fully assessed, as well as the effectiveness of any mitigation measures proposed such as bunds. Similarly, an increase in the number of aircraft using Gatwick will bring an increase in maintenance and ground runs, likely in differing locations to present. The impact of this should be fully assessed against the present locations and frequency.	Noise from end around taxiways has been predicted and assessed in Section 14.9. Noise from ground running has also been modelled and assessed. See Section 14.9 of Chapter 14 and Appendix 14.9.3. A new bund has been designed and ground noise levels have been modelled with it in place, as reported in Section 14.8 and 14.9 and Appendix 14.9.3.
Mole Valley District Council	30 September 2019	Paragraph 7.8.44 – An increase in cargo throughput at the airport will lead to an increase in heavy goods vehicle movements, of which the noise impact should be assessed as part of any road traffic noise assessments. Furthermore, the noise impacts of an increase in airport trips on rural roads must be assessed through the EIA process.	Road traffic noise has been modelled and assessed for the year of opening and up to 15 years after opening of the highway improvements as required by the DMRB. This has been based on road traffic modelling which in turn is based on the forecast for all future aircraft using the airport including cargo. Road traffic noise has been modelled in a 3-d noise model for the area in the vicinity of the new road scheme, and has also been modelled in terms of change in Basic Noise Level at 10m from roads unaltered by the Project but included in the highway model including rural roads away from the airport. See Section 14.9 of Chapter 14 and Appendix 14.9.4.
Mole Valley District Council	30 September 2019	Paragraph 7.8.52 – The Council is of the opinion that LAeq contours should not be used to inform the areas eligible for mitigation, as these contours do not account for an increase in overflight and therefore do not	The PEIR provides an assessment of the numbers of overflights in all areas overflown (at least once every 24 hours on an average summer

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		accurately represent all of the residents and communities that are affected by aircraft noise. Instead, assessments should be undertaken in all areas overflown by aircraft associated with Gatwick.	day) by aircraft associated with Gatwick. This used a circular study area with a diameter of 70 miles centred at Gatwick Airport. Paragraph 7.8.52 notes: *The final bullet point of the Aviation 2050 consultation proposes that where an airspace change leads to 'significantly increased overflight, to set a new minimum threshold for an increase of 3dB LAeq, which leaves a household in the 54dB LAeq 16hr contour or above', noise insulation should be offered in some form.* The PEIR proposes a noise insulation scheme based on Leq noise levels, offering two levels of noise insulation above Leq 54 dB so as to priorities noise mitigation for those most affected by noise.
Reigate and Banstead Borough Council	27 September 2019	The Council has no noise and vibration expertise and instead relies upon Crawley Borough Council to provide noise and vibration expertise. We therefore support comments provided by Crawley with regards to noise and vibration.	Noted, see responses to Crawley Borough Council comments above.
Reigate and Banstead Borough Council	27 September 2019	In the list of policies and legislation for noise and vibration, the following policy is omitted: ▪ DMP Policy OSR1 *"Urban Open Space"*	Noted.
Reigate and Banstead Borough Council	27 September 2019	Following the adoption of the DMP, references to the *"emerging Reigate & Banstead Borough Development Management Plan 2018-2027"* should be amended to *"Reigate and Banstead Development Management Plan (Reigate and Banstead Borough Council, 2019)"* to ensure consistency with other adopted Local Plan documents. Also, following the adoption of the DMP, saved Borough Local Plan Policy Hr19 *"Development Affected by Noise"* should be removed from Paragraph 7.8.1 of the EIA Scoping Report.	Any subsequent changes in emerging planning policy have been taken into account within this PEIR where relevant and this will be further updated if required when preparing the Environmental Statement.
Reigate and Banstead Borough Council	27 September 2019	We are satisfied that Local Green Spaces and areas identified as Quiet Areas are proposed to be scoped out of the assessment as there are non-such areas within our borough. We however have a local designation of Urban Open Space (DMP Policy OSR1) (green open space areas in urban areas which are highly valued for a number of different purposes including their opportunity for recreation and visual contribution to the character of an area) which we consider should be taken into consideration in the assessment of noise and vibration impacts.	It is noted that the description of the Urban Open Space given does not include areas being valued for quiet or noise, as is the case for Quiet Areas that are within the scope of the assessment. Further details will be sought from the local authority (eg long term monitoring and the contribution of the quantified noise environment to their community value) and consideration will be given to including them as a noise sensitive receptor in the Environmental Statement, if appropriate.
Reigate and Banstead Borough Council	27 September 2019	The Council welcomes consideration of the potential overflight of planes in the scope of the EIA as the borough is severely impacted by overflight. We note that the potential for overflight of the borough as a result of airspace modernisation programmes may increase and therefore, whilst we appreciate that the results from the airspace modernisation programme are unknown at this time, we consider that they should be taken into consideration at some point in the DCO process should it proceed given that they will be in operation at the time of the proposed routine use of the northern runway.	As noted, the results of the FASI-South appraisal are not known at this time. The programme of that work has been delayed by the global pandemic, and is not likely to be available to allow modelling of noise from new routes within the timescale of the DCO application. The FASI-South appraisal will assess the noise impacts of these routes. Further details of FASI-South are provided in Chapter 4 of the PEIR.
Reigate and Banstead Borough Council	27 September 2019	We also consider that the assessment of noise and vibration should give consideration to any emerging airspace modernisation programmes required for the dual runway operation. Whilst we note that Paragraph 7.8.7 of the EIA Scoping Report states that *"any noise impacts of the Project will be the result of increases in noise due to the increased number of flights on the northern runway, rather than new noise impacts over areas previously*	As explained in Section 14.8 of Chapter 14 and Appendix 14.9.2, aircraft using the altered northern runway would use the same flight paths as currently flown from the existing northern runway but displaced by some 12 metres further to the north (equating to about a

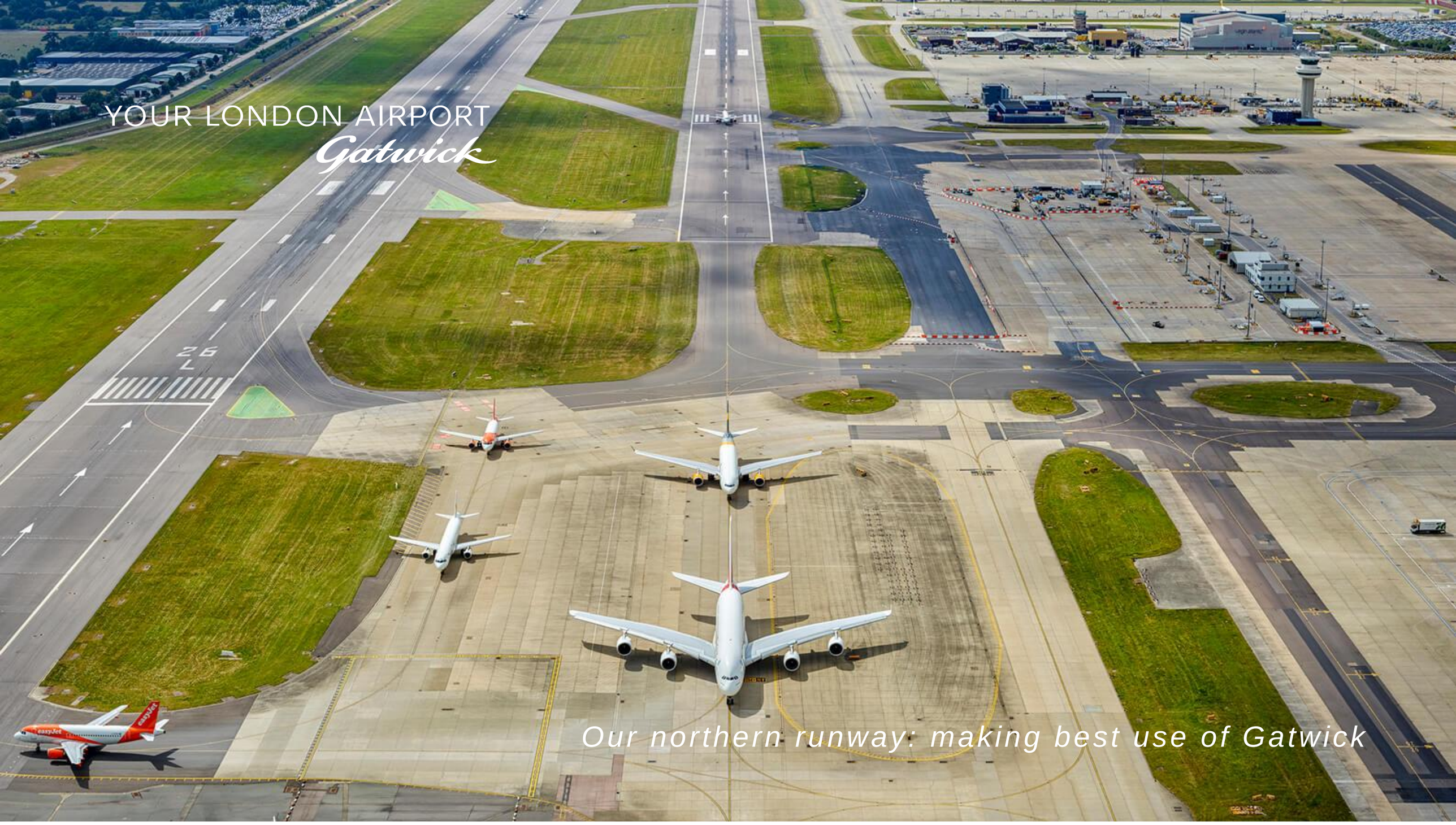
Consultee	Date	Details	How/where addressed in PEIR
		unaffected" and that *"this will therefore avoid the noise impacts often associated with new flight paths"* at the most recent Socioeconomics Topic Working Group facilitated by GAL it was stated by GAL representatives that the routine use of the northern runway in addition to the 'main' runway may require an airspace change. The Council would therefore welcome clarity as to whether an airspace change is required and if so expects consideration.	third of a wingspan of the average sized aircraft). The main and northern runway flight paths run parallel to each other maintaining the track of the respective extended runway centrelines. At the point that aircraft begin to turn to the north or south (between 5 and 16 km from the runway) the main and northern runway flight paths merge. Flights from both runways are included in the assessment, and the forecast allows for growth in operations of larger aircraft from the main runway. The numbers of movements are set out in the Table 14.7.1 in Section 14.7. An airspace change is not required for the Project. Proposals for airspace change known as FASI-South are proposed independently of the Project – details are provided in Chapter 4 of the PEIR.
Reigate and Banstead Borough Council	27 September 2019	We also consider that the impact of the proposed Heathrow early growth (25,000 ATMs from 2022 onwards) should be taken into consideration in the assessment of noise and vibration given that Heathrow planes also overfly Reigate & Banstead.	Heathrow overflights are included in the baseline used to assess change in overflights. It is not possible to consider in detail the cumulative effect that could occur with a third runway at Heathrow due to the lack of detail of the likely timing of that project coming forward. Cumulative effects will be considered in further detail within the Environmental Statement if sufficient information is available at the time of assessment. Further details of the approach relating to Heathrow are provided in Appendix 4.3.1.
Reigate and Banstead Borough Council	27 September 2019	The Council notes - and welcomes - GAL's proposal to undertake additional noise assessments at the Riverside Garden Park and in the vicinity of the North and South terminals. We however note that any current assessments would be impacted by the ongoing M23 Smart Motorway improvements and would welcome clarity as to what assumptions will be made regarding the impact of the M23 Smart Motorway improvements on the assessment of noise and vibration on land in the Riverside Garden Park and land in the vicinity of the North and South Terminals.	The change in road traffic noise levels in the Riverside Garden Park arising from the Project has been modelled, and assessed and mitigation has been included in the scheme. See Section 14.9 of Chapter 14. Whilst a baseline noise survey was carried out in the park to better understand its noise sensitivity and users (see Appendix 14.9.4) the noise levels used to assess the impacts on the park, in particular the changes to be expected, are generated by the noise model based on the traffic model for traffic in the relevant assessment year, eg 2032 and 2047, so are not affected by short term noise changes that could arise from the M23 Smart Motorway improvements.
Reigate and Banstead Borough Council	27 September 2019	We note that Paragraph 7.8.10 of the EIA Scoping Report states that *"the baseline for the air noise assessment will be the 2018 summer season (16 June to 15 September)"*. We also note that Paragraph 7.8.7 of the EIA Scoping Report states that *"in 2018 the northern runway was used by 3,534 flights"*. We would therefore welcome clarity as to whether any assumptions will be made to take into consideration the use of the northern runway in the baseline air noise assessment.	2019 is now the baseline year, in which there were 2,842 flights on the northern runway that have been taken into account in the noise modelling.
Reigate and Banstead Borough Council	27 September 2019	The Council questions whether the scope of the assessment should also take into consideration noise metrics during the shoulder periods. We note that Paragraph 7.8.32 of the EIA Scoping Report states that all noise metrics used to assess the potential impact of increased flights on air noise will relate to the 92 day summer period (16 June to 15 September) as conventionally in the UK this represents the busiest, and hence noisiest,	Diagram 4.5.1 of the Scoping Report indicates clearly that the highest numbers of flights would continue to occur in the months of June to September as captured by the Leq noise modelling period form from 16 June to 15 September. This is confirmed by current forecasts (see Chapter 4: Existing Site and Operation of the PEIR). Air noise is

Consultee	Date	Details	How/where addressed in PEIR
		season but note that through the Project, only minor additional movements are expected during the summer periods and that the majority of growth is expected within the shoulder periods.	assessed as adverse if future levels exceed absolute levels (ie LOAELs) which are defined by the DfT in terms of 92 day summer contours. Furthermore, in the UK the dose/response for aircraft noise is measured using summer season noise levels, not annual averages which would dilute levels. However, annual Lden and Lnight contours are also provided for baseline and with Project conditions in Section 14.6 and 14.9 to illustrate noise changes over the whole year including the winter months.
Reigate and Banstead Borough Council	27 September 2019	We note that Paragraph 7.8.38 of the EIA Scoping Report states that *"a comprehensive noise survey of aircraft taxiing noise levels has recently been carried out (March-May 2019) and the results of this will feed into the ground noise model"*. Whilst this time period relates to some of the shoulder period in which the greatest anticipated growth is expected, we note that this doesn't take into consideration the remainder of the shoulder period which is expected to see the greatest increase in air traffic movements nor the summer season. We therefore question whether the scope of the assessment should also take into consideration noise metrics during the remainder of the shoulder period and the summer period in order to fully understand – and hence mitigate – the potential ground noise impacts through the routine use of the northern runway.	The ground noise survey in 2019 is reported in Appendix 14.3 of the PEIR. Its purpose was not to measure total levels of ground noise at noise sensitive receivers, but rather to measure the source noise levels of aircraft taxiing for inputting into the ground noise model that computes the propagation of noise from each source to each receiver and sums up all the aircraft in a given time period.
Reigate and Banstead Borough Council	27 September 2019	In terms of road traffic noise during construction, we note that Paragraph 7.8.44 of the EIA Scoping Report states that *"the assessment of construction traffic noise will be based on a period of peak traffic flow"*. We do not consider that this is sufficient given that Paragraphs 5.3.17 and 5.3.18 of the EIA Scoping Report state that the greatest construction will be scheduled during the night-time period in close proximity to residential areas (i.e. during a noise sensitive time outside of peak traffic flow).	Construction noise has been modelled from the largest teams of plant expected to carry out the all the main works and assessed cumulatively as a worst case at this stage. See Appendix 14.9.1. The assessment will be refined when the construction programme is further refined for the ES. Two periods of peak construction traffic will be assessed further in the Environmental Statement.
Reigate and Banstead Borough Council	27 September 2019	We note that through the routine use of the northern runway GAL is anticipating a growth in cargo movements. Whilst we note that the airport previously had much higher cargo throughput and that the facilities still existing on-site to accommodate this throughput, we understand that GAL no longer has access to these facilities as they have been sold to SEGRO. We would therefore seek clarity as to whether the scope of the assessment will take into consideration the potential noise impacts of increased HGV movements to cargo facilities on/ off-site.	The road traffic noise model uses the results of the road traffic model that accounts for all trips generated by the airport with the Project in operation as described in Sections 4 and 5 of the PEIR.
Reigate and Banstead Borough Council	27 September 2019	With regards to assumptions made to assess the potential impact of noise during the operational phase, we note that GAL are proposing to assess the night noise component of the planned development assuming that the current Department for Transport's night movement quota is in place when the Project is completed and that the northern runway will only be used for Code C or smaller aircraft. These assumptions will need to be conditioned as part of the DCO for future operations.	That is the basis of the assessment. A noise envelope is proposed to give certainty over future noise levels. See Appendix 14.9.5 of the PEIR.
Reigate and Banstead Borough Council	27 September 2019	The Council would welcome clarity as to whether the proposed mitigation associated with the construction phase via a s.61 Environmental Health Application will form part of the DCO application.	The construction noise assessment reported in the PEIR does not consider noise mitigation measures. For the Environmental Statement, it is anticipated that further details of noise mitigation (on site) will be available and the noise assessment will be refine further. The Outline Code of Construction Practice (Appendix 5.3.1) commits to the Section 61 process when full details of noise mitigation will be made available for the council to approve before work begins.

Consultee	Date	Details	How/where addressed in PEIR
Reigate and Banstead Borough Council	27 September 2019	The Council would also welcome clarity regarding the proposed location, design and height of the proposed new noise bund/ buffer.	See Section 14.8 of the PEIR.
Reigate and Banstead Borough Council	27 September 2019	The Council welcomes consideration of the enhancement of the Noise Insulation Scheme. In line with Crawley Borough Council's response, we consider that this should mirror or be better than Crawley Borough Council Local Plan Policy ENV11 *"Development and Noise"*.	Details of the enhanced Noise Insulation Scheme are provided in Section 14.8 of Chapter 14.
Reigate and Banstead Borough Council	27 September 2019	Following the GAL-facilitated Noise Topic Working Group, we would welcome clarity as to whether a noise envelope will be used. We are concerned that if one is used based on LAeq that it will not properly assess the potential impact of increased overflight and consequently this will impact upon the scale of mitigation required/ proposed.	Yes, see Appendix 14.9.5.
Surrey County Council	1 October 2019	The County Council is concerned that the Future Airspace Strategy Implementation review for the airspace over the south east of England (FASI-S), which is part of the national Airspace Modernisation Strategy, has been scoped out of the assessment. The proposed DCO and FASI-S are directly related but at present the results of FASI-S and the final flightpaths cannot be predicted.	As noted, the results of the FASI-South appraisal are not known at this time. The programme of that work has been delayed by the global pandemic, and is not likely to be available to allow modelling of noise from new routes within the timescale of the DCO application. The FASI-South appraisal will assess the noise impacts of these routes. Further details of FASI-South are provided in Chapter 4 of the PEIR.
Surrey County Council	1 October 2019	FASI-S will be designed on the basis that Heathrow Runway 3 and Gatwick Runway 2 both proceed. Although the current proposal would not, of itself, require changes to existing flightpath arrangements, flightpaths are very likely to change under the FASI-S review before the northern runway is completed. Consequently, the areas covered by the noise contour bands for aircraft, which will be a key part of the assessment for the DCO, could change within the lifetime of the DCO project. New flightpaths could have a significant adverse impact on the quality of life of some communities and if there are newly affected areas or areas experiencing more overflights potentially negative health impacts.	See above.
Surrey County Council	1 October 2019	It is recommended that the assessment provide an indication of the level of certainty attached to the air noise impact assessments where they are based on existing flightpaths and if possible explore any indicative alternative flightpaths, perhaps on a worst case basis, so that local communities and stakeholders are able to understand and develop an informed view of the likely environmental effects. Preferred design options for Gatwick's airspace change are anticipated in late Summer/Autumn 2020 before the DCO is expected to be submitted and the assessment process should take these into account.	The FASI-South programme has been delayed by the global pandemic, and results are not likely to be available to allow modelling of noise from new routes within the timescale of the DCO application. The FASI-South air space change appraisal will assess the noise impacts of these routes. Further details of FASI-South are provided in Chapter 4 of the PEIR.
West Sussex County Council		WSCC endorses the response from Crawley Borough Council regarding noise/vibration matters.	Noted.
West Sussex County Council		In reference to Table 7.8.3: The impact of the potential increased use of Crawley Goods Yard as a source of aggregate during the construction phase should be scoped in, particularly as operations may occur overnight when the noise environment is particularly sensitive.	Noted. If this option is considered, it will be assessed in the ongoing EIA process.
Wealden District Council	26 September 2019	The mitigation and monitoring section of the scoping report states that an adjustment of the flightpaths 12m further north is unlikely to require a formal 'airspace change process' to enable the dual runway operation and that a majority of flights would be 1,000ft in the air before they leave the airfield. It is not satisfactorily clear whether an assessment of the length of potential noise disturbance has been taken account of, and the times of day that the noise disturbance will take place. This should form part of the scoping assessment. Wealden District Council are also concerned that the formalisation of night flight operations at Heathrow Airport will put pressure	Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047. This accounts for the numbers of flights expected in each runway during the day and night.

Consultee	Date	Details	How/where addressed in PEIR
		on Gatwick Airport to provide later or earlier flights that could impact residential amenity. Heathrow Airport should be assessed as an appropriate 'in combination' impact.	With regard to night flights, the DfT is currently consulting on night restrictions and it is assumed that these will remain in place with the Project thus limiting growth in night flights at Gatwick regardless of what may happen at other airports.
Waverley Borough Council	30 September 2019	The Air Noise Baseline for day and night, Figure 7.8.2 and 7.8.3, includes one site within the Borough at Alford where Air Noise Baseline for both day and night will be measured. The site between Ellen's Green and Oakwood Hill appears to be on the edge of the Waverley Borough boundary. The Council is concerned about potential noise impacts over a wider area, including other parts of Waverley Borough, and considers that th3ese should be addressed in the Environmental Statement. This should also have regard to noise impacts at different times of the day.	Chapter 14 provides an assessment of modelled levels of noise and the associated impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047. This accounts for the numbers of flights expected in each runway during the day and night and covers areas across the southern part of the Waverly District.
Transport for London	October 2019	The air quality and noise impacts of traffic and transport should be assessed as part of the EIA within their respective chapters, as indicated by GAL.	Road traffic noise is assessed in Chapter 14.
Tandridge District Council	30 September 2019	The detailed comments made by Crawley Borough Council under this topic heading are endorsed. Of particular significance to this District (in relation to aircraft noise) is the fact that the use of the northern runway will bring departures 210m closer to those communities on the north side of the airport, until they turn onto the relevant Standard Instrument Departure Routes within the Noise Preferential Route approximately 5-7 km beyond the end of the runway. This is likely to impact on residents and communities in the south western part of the District including Smallfield. Also, of significance for this District is the likely increase in the number of 'go-arounds' (where a landing is aborted as a result of another aircraft failing to vacate the runway), which cause disturbance and anxiety due to their low altitude. This data also needs be presented as part of the ES.	Noted, see replies to Crawley Brough Council comments above. Chapter 14 provides an assessment of the noise impacts expected from the Project based on noise modelling for operations in 2019, and in the base case and with the Project in 2029, 2032, 2038 and 2047. Noise impacts in the Smallfields area and Tandridge District are quantified and mitigation is proposed. Aborted landings result in 'go-arounds', the standard procedure that occurs when an arriving aircraft aborts landing during the final stages of approach. They occur most often as a result of a departing aircraft or preceding arriving aircraft not fully vacating the runway ahead of a landing aircraft. On these occasions the pilot takes averting action under a defined standard missed approach procedure. Typically these aircraft abort landing at low level, climb to 3,000 feet and loop round to make a fresh approach to the runway. However, the CAA do not model noise from go-arounds at UK airports because their effect on the resultant noise contours is not significant. In the busy summer season in 2019 there were approximately three go-arounds each day. 85% of these occurred within the 16 hour day and evening period, with 15% at night (23:00-07:00 hours). The Project includes 8 new exit/entrance taxiways, plus the end around taxiways and has been designed so that the numbers of go-arounds do not significantly increase. As such, noise disturbance from go-arounds is not expected to increase.
Tandridge District Council	30 September 2019	In terms of ground noise as a result of traffic, the impact of increased traffic on local roads needs to be fully assessed. A number of smaller roads and country lanes in this District, particularly in its south western corner,	Road traffic noise has been modelled and assessed for year of opening and up to 15 years after opening of the highway scheme as

Consultee	Date	Details	How/where addressed in PEIR
		are used as alternative routes for airport related traffic (including for employees) and there is the potential for increased volumes of traffic to have a significant effect on noise levels close to residential properties.	required by Design Manual for Roads and Bridges (DMRB). This has been based on road traffic modelling which in turn is based on the forecast for all future aircraft using the airport. Road traffic noise has been modelled in a 3-d noise model for the area in the vicinity of the new road scheme, and has also been modelled in terms of change in Basic Noise Level at 10 metres from roads unaltered by the Project but included in the highway model including rural roads away from the airport. See Section 14.9 of Chapter 14 and Appendix 14.9.4.



Preliminary Environmental Information Report
Appendix 14.9.1: Construction Noise

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 14.9.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document describes the construction works which were included in the noise modelling for the Project, and the initial worst case results of the modelling.

2 Construction Works in Noise Model

2.1 Construction Works

2.1.1 The following table shows the main construction works included in the initial construction noise model, and the assumed hours over which they could be undertaken, based on preliminary construction design information as discussed in the main report.

Table 2.1.1: Construction Works

Group	Name	Description	Working Times
1	Alterations to the existing northern runway	The existing northern runway would be adjusted to reposition the centerline 12 metres further north to ensure a separation distance of 210 metres between it and the main runway.	Day, evening, and night
2	Taxiway Juliet	The western part of Taxiway Juliet (Taxiway Juliet West) would be realigned approximately 27 metres to the north to allow for the movement of large (Code F) aircraft.	Day and evening
3		The eastern part of Taxiway Juliet (Taxiway Juliet East Code E) would be realigned approximately 19.5 metres to the north between Taxiways Uniform and Sierra.	Day, evening and night
4		The eastern part of Taxiway Juliet between Taxiways Sierra and Papa (Taxiway Juliet East Code C) would be realigned by approximately 5 metres northwards.	Night
5		In addition, a new spur (known as the Taxiway Juliet West Spur) would be provided to the north of the taxiway.	Day, evening, and night
6	Aircraft Holding Area	Clearance for Charlie Taxiway.	Day, evening, and night
7		Reconfiguration of an existing apron area to the north of Taxiway Juliet is proposed.	Day, evening, and night
8	Taxiways Lima and Tango	Taxiway Lima would require an extension westward, towards the existing Taxiway Uniform, providing a route suitable for larger Code E and Code F aircraft. The extension would be 23 metres in width and approximately 300 metres in length.	Day, evening, and night
9		An extension to Taxiway Tango would provide a cut-through northwards to meet the extended Taxiway Lima, creating a taxiway for Code E aircraft. The cut-through would be 23 metres in width and approximately 85 metres in length.	Day, evening, and night
10	Taxiways Whiskey, Victor and Zulu	This would largely be located within the area occupied by the existing taxiways but would require an additional area to the north of Taxiway Zulu to accommodate wider body aircraft.	Night
11	Exit Taxiways	Four additional new runway exits would be provided between the northern runway and Taxiway Juliet.	Day, evening, and night
12		A further eight new exit taxiways from the main runway would be required as part of the Project in order to allow arriving aircraft to hold before crossing the northern runway.	Day, evening, and night
13	End Around Taxiways	End around taxiway west: a new end around taxiway linking into the existing Taxiway Juliet.	Day, evening and night
14		End around taxiway east (Yankee): a new exit taxiway would link into the existing Taxiway Yankee to form the end around taxiway east (Yankee).	Day, evening, and night

Group	Name	Description	Working Times
15	Pier and Stand Amendments	As part of the Project, a new Pier 7 is proposed to the north west of Pier 6, adjacent to the existing cargo facility.	Day, evening, and night
16		Provision of a new area of remote stands to the south of Hangar 7 (easyJet hangar) and south of Pier 7, in the area to the north of Taxiway Juliet.	Day, evening, and night
17		Reconfiguration of existing areas of remote stands to allow for the reconfigured Taxiway Lima while retaining stands suitable for Code C aircraft.	Day, evening, and night
18	Central Airfield Maintenance and Recycling (CARE) Facilities	The CARE facility is proposed to be relocated in the north western part of the airport.	Day
19	Motor Transport Facilities	The existing motor transport maintenance facilities are also located to the north of Taxiway Juliet and are proposed to be relocated to the north western part of the airport.	Day
20	Grounds Maintenance Facilities	The existing grounds maintenance facilities would also be relocated to an area of hardstanding in the south eastern part of the airport.	Day
21	Surface Transport Facilities	The existing surface transport facility would be relocated to an area of hardstanding in the south eastern part of the airport.	Day
22	Emergency Air Traffic Control Tower and Rendezvous Point North	The former/emergency air traffic control tower is currently located south of the existing Virgin hangar and to the west of the surface transport and grounds maintenance facility. This tower is proposed for demolition.	Day
23		The existing Rendezvous Point North would require relocation in order to re-provide a suitable emergency rendezvous area, to the north of the central airport area, for off-airport emergency services.	Day
24	Fire Training Ground	It is proposed that the fire training ground be re-provided to the north of its existing location, occupying a consolidated area of approximately 12,000 m^2.	Day
25	Satellite Airport Fire Service Provision	Dependent on safety case requirements, the Project may require a satellite Airport Fire Service (AFS) facility to the south of the main runway.	Day, evening and night
26	Hangars	It is anticipated that one additional hangar, sized for Code E aircraft, would be required as part of the Project. This is also proposed to be located in the north western part of the airport, to the north of Larkins Road.	Day and evening
27		Existing pavement on the northern side of the Virgin hangar would need to be re-provided on the southern side.	Day and evening
28	Perimeter Boundary Treatments to Mitigate Noise	The Project would remove an existing noise bund in the western end of the airfield.	Day
29		The functionality of the bund would be re-provided in the proposed design, potentially in the form of a new bund or barrier in this area.	Day
30	Internal Access Routes	The existing Larkins Road within the airport boundary would require realignment to accommodate the extension to Taxiway Lima.	Day
31		A new east-west access track is proposed between the main runway and the altered northern runway.	Day, evening and night
32	North Terminal	Extensions to the existing North Terminal.	Day, evening, and night
33	South Terminal	Extensions to the existing South Terminal.	Day, evening, and night
34	Forecourts	The forecourts and approaches to both existing terminals would be enhanced, with routes providing access to the terminal frontage, multi-story and long stay car parks, hotels and pick-up and drop-off areas for different transport modes.	Day, evening, and night
35	Hotel and Commercial Facilities	One new South Terminal hotel (up to 400 bedrooms) in the location of existing car park H.	Day and evening
36		One new North Terminal hotel (up to 400 bedrooms) in the location of existing car park Y.	Day and evening
37		One new hotel at the building compound at car rental location (200 bedrooms).	Day, evening, and night
38		Up to three new office blocks to serve internal airport uses. These would be up to approximately 27 metres high. Each office building would have a footprint of approximately 1,024 m2. This is likely to be provided within the existing car park H.	Day and evening
39	Car Parking	Pentagon Field	Day
40		Car park J multi-story.	Day, evening, and night
41		Car park H multi-storey.	Day, evening, and night
42		Car park Y multi-storey.	Day and evening
43		North Terminal Long Stay (decked parking).	Day and evening
44		In addition to the above, an area in the western part of Crawter's Field may be required to replace the existing 'Purple Parking' (operated by a third party).	Day
45	Surface Access Improvements	South Terminal roundabout: new junction, providing full grade separation.	Day, evening, and night
46		North Terminal roundabout: new grade-separated junction, removing A23 westbound traffic from the North Terminal roundabout.	Day, evening, and night
47	Shuttle Service	This would require short extensions to the platform decks at each of the two stations, and a corresponding extension to the canopy at South Terminal.	Day, evening, and night

Group	Name	Description	Working Times
48	Museum Field	The Museum Field would be lowered to a depth of up to approximately 3.5 metres below ground level.	Day, evening, and night
49	River Mole diversion and east of Museum Field flood compensation area	The works to Taxiway Juliet require the relocation of Pond A to a location north of its existing position, through which the River Mole currently flows. It is proposed to provide a diversion of the River Mole to the north of its current course.	Day, evening, and night
50		In addition, a new east of Museum Field flood compensation area is proposed. This would require lowering of ground levels by up to approximately 1.8 metres.	Day
51	Car park X flood compensation area	The existing car park X would be lowered by a depth of up to 2.5 metres.	Day
52	Gatwick East flood compensation area	This would require lowering of existing ground levels up to a maximum of approximately 5 metres.	Day
53	Foul Water	A new pumping station (Pumping Station 7a) would be provided near the existing Pumping Station 7, to accommodate flows from the extended North Terminal.	Night
54	Foul Water	A second new pumping station would be provided to decouple the existing sewerage network east of the railway.	Day
55	Foul Water	A third new pumping station (Pumping Station 2a) is proposed to allow for flows from the existing Pumping Station 3 (affected by Taxiway Juliet) and flows from Pier 6.	Day, evening and night
56	Power Strategy	Substation J: a priority substation, forming part of the airfield ring.	Day, evening, and night
57		Substation BK.	Day and evening
58		Substations BP, BR.	Day
59		Substation A.	Day and evening
60		A new substation to be located to the east of the railway in an area known as the Pentagon Field.	Day
61		Flood mitigation for substation L.	Day, evening, and night
62	Main contractor compound (MA1)	Compound operation.	Day
63	Satellite airfield contractor compound	Compound operation.	Day, evening and night
64	Reigate Compound and South Terminal roundabout contractor compound 1	Compound operation.	Day, evening and night
65	North Terminal compound (Car Park Y)		Day, evening and night
66	Balcombe Road	Sheet piling.	Day
67	Surface access	Works to ITTS (to be included in ES).	To be confirmed
68	Water Management, Foul Water and Substations	Dog Kennel Pond.	Day
69	Internal access	North Terminal autonomous vehicle station.	Day, evening and night
70	Internal access	South Terminal autonomous vehicle station.	Day, evening and night
71	Internal access	Autonomous vehicle connection to pier 7.	Day, evening and night
72	Terminal extension	North Terminal baggage hall extension (to be included in ES).	Day, evening and night
73	Surface Access	Works to Longbridge roundabout**.**	Day, evening and night

3 Initial Construction Noise Model Results

3.1 Model Results

3.1.1 Construction noise has been modelled based on a series of worst case simplifying assumptions as reported in Section 14.5 of Chapter 14 of the main PEIR report (Volume 1). The 73 main works modelled are listed above with their currently expected hours of working: day; evening; or night. At this stage the programme of works has allowed the main construction works areas to be grouped into 13 periods: the 12 individual years between 2024 and 2035 and the period 2036 to 2038. In order to not under-estimate the possible cumulative effect of concurrent works, all works likely to occur within any of these periods have been modelled concurrently, resulting in thirteen noise models. Table 3.1.1 below gives estimates of the approximate number of households within each community that could experience significant adverse effects above the SOAEL during any part of the construction programme, and Table 3.1.2 gives the equivalent number of households which could be above LOAEL, but which would not exceed SOAEL, where significant impacts may occur depending on the factors which are explained in the PEIR in Section 14.4. These factors include consideration of the affected population size, the amount by which the predicted noise levels exceed the assessment criteria and the duration of the noise.

Table 3.1.1: Potential Adverse Construction Noise Effects (above SOAEL) – no Additional Mitigation

Community	Approximate Number of Dwellings		
	Daytime	Evening	Night
Charlwood	0	4	82
Hookwood	3	9	29
Horley	12	90	347
Ifield	0	0	20
Lowfield Heath	1	3	26

Table 3.1.2: Potential Adverse Construction Noise Effects (Between LOAEL and SOAEL) – no Additional Mitigation

Community	Approximate Number of Dwellings		
	Daytime	Evening	Night (1)
Charlwood	13	15	-
Hookwood	8	9	-
Horley	105	146	-
Ifield	0	1	-
Lowfield Heath	6	9	-

1) It is noted that the existing noise levels are sufficiently high at night to make baseline noise levels at most receptors fall into BS5228 Noise Exposure Category C. In these cases the SOAEL and the LOAEL are identical and therefore no households are exposed to noise between LOAEL and SOAEL.

3.1.2 This initial modelling adopts a series of worst case assumptions and takes no account of additional noise mitigation (eg noise barriers) beyond that will reduce noise impacts. These will be studied and reported in the ES in more detail, but noise mitigation is typically able to reduce noise levels by at least 5 dB, and the analysis above has been repeated in the tables below to give an indication of the likely number of households that could be significantly affected by construction noise with mitigation. Table 3.1.3 and Table 3.1.4 below show the results.

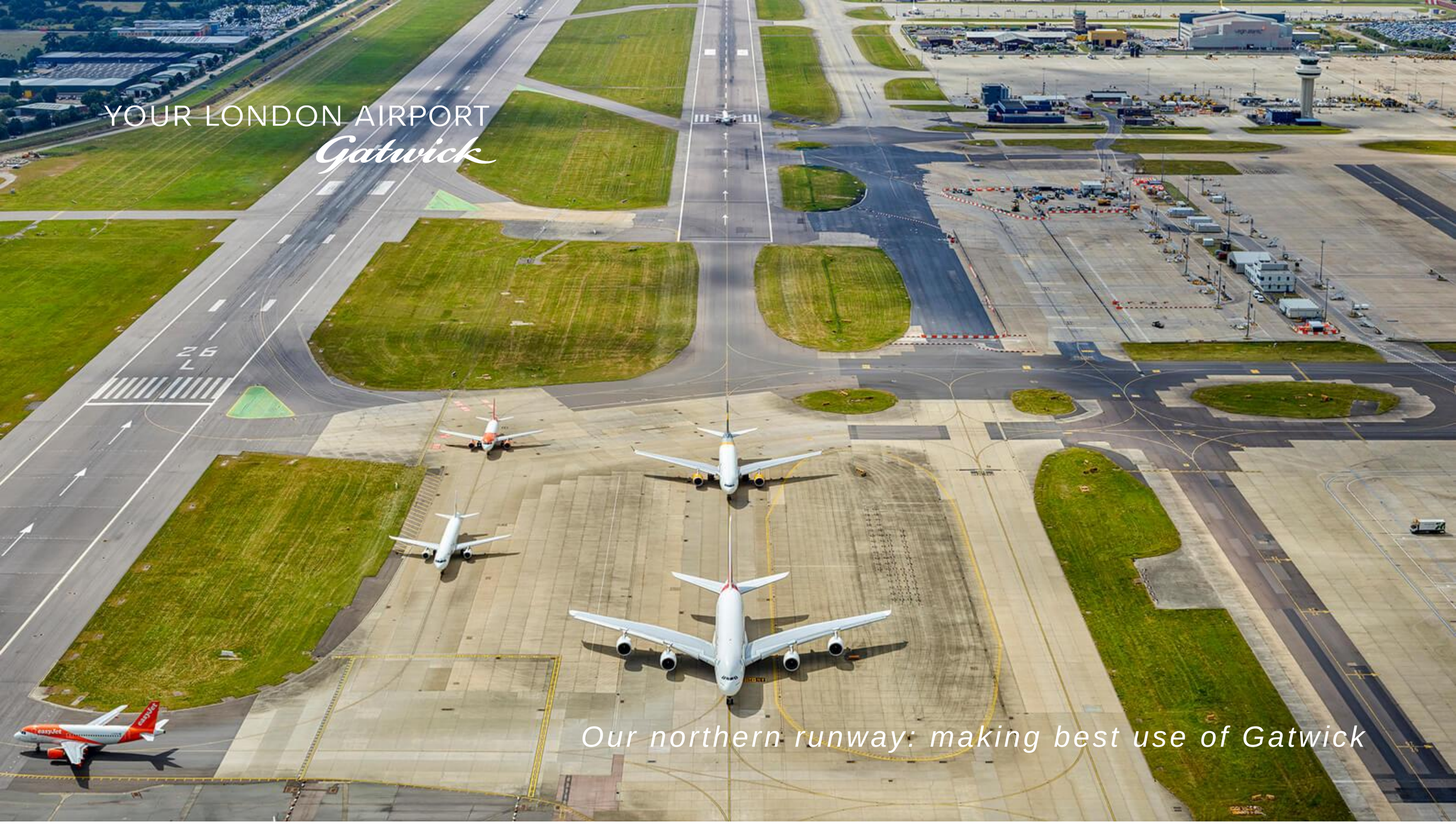
Table 3.1.3: Potential Adverse Construction Noise Effects (above SOAEL) – with Additional Mitigation

Community	Approximate Number of Dwellings		
	Daytime	**Evening**	**Night**
Charlwood	0	0	14
Hookwood	2	5	13
Horley	1	28	149
Ifield	0	0	1
Lowfield Heath	0	0	10

Table 3.1.4: Potential Adverse Construction Noise Effects (Between LOAEL and SOAEL) – with Additional Mitigation

Community	Approximate Number of Dwellings		
	Daytime	**Evening**	**Night (1)**
Charlwood	0	4	-
Hookwood	4	4	-
Horley	37	63	-
Ifield	0	0	-
Lowfield Heath	2	3	-

1) It is noted that the existing noise levels are sufficiently high at night to make baseline noise levels at most receptors fall into BS5228 Noise Exposure Category C. In these cases the SOAEL and the LOAEL are identical and therefore no households are exposed to noise between LOAEL and SOAEL.



Preliminary Environmental Information Report
Appendix 14.9.2: Air Noise

September 2021

Table of Contents

1 Introduction

1.1 General

1.1.1 This document forms Appendix 14.9.2 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides details of the air noise modelling for the Project. Details of relevant legislation, policy and guidance documents can be found in Chapter 14.

2 Assessment Methodology

2.1 Air Noise Modelling

2019 Historic Contours

2.1.1 The 2019 historic contours were produced using the 20-year rolling average 'standard' modal split (75% west / 25% east) for daytime and the 10-year average modal split for night-time (75% west / 25% east). The contours were modelled with the latest version of ANCON (v2.4). A full description of modelling assumptions can be found in ERCD Report 2002: Noise Exposure Contours for Gatwick Airport 2019.

2029, 2032, 2038 and 2047 Forecast Contours

2.1.2 Secondary forecast traffic data were provided by ICF. Mean departure and arrival flight tracks from the 2019 summer Leq contour analysis were assumed for operations on the main runway. The ICF traffic forecasts provided distributions across the departure routes by aircraft type. For arrivals, the 2019 summer traffic distributions across each approach sub-track by ANCON aircraft type were assumed.

2.1.3 Where an aircraft type is modelled by two or more engine variants in the ANCON model (eg Airbus A320), the forecast movements were split according to engine statistics from the 2019 summer period.

2.1.4 RNAV (the newer area navigation system) dispersion (as used in previous Gatwick forecast studies) was modelled for all departure tracks.

2.1.5 Average flight profiles of height, speed and thrust from 2019 Gatwick data were used for existing aircraft types. Noise assumptions for next-generation aircraft types that were not available from the 2019 Gatwick database are summarised in Table 2.1.1.

Table 2.1.1: Next Generation Aircraft Noise Adjustments

Next generation ANCON type	Surrogate ANCON type	Departure adjustment (dB)	Arrival adjustment (dB)
B73710MAX	B738MAX	+1.5	+0.5
B779X	B773G	-3.3	-1.8
EA319NEO	EA319C	-5.2	-2.6

2.1.6 For the forecast contours (with the Project in place), the northern runway was modelled as being available for use by departures of ICAO Code C aircraft types between the hours 0600-2300 local time (LT) only. Code C aircraft were apportioned across the two runways as summarised in the table below:

Table 2.1.2: Code C Aircraft Runway Usage

Time period	Westerly mode	Easterly mode
0700-2300 LT (day)	90% northern runway/10% main runway	90% northern runway/10% main runway
0600-0700 LT (night)	30% northern runway/70% main runway	30% northern runway/70% main runway

2.1.7 ICF provided a traffic data subset for the 1-hour period 0600-0700 local time to enable modelling of northern runway departures within the night period. The distribution across the Standard Instrument Departure (SID) route for 0600-0700 local time was assumed to be the same as for the whole night period (2300-0700 Local Time).

2.1.8 Mean departure and arrival flight tracks from the 2019 summer Leq contour analysis were used for the main runway. Departure tracks for the northern runway were straight along the extended northern runway centre lines until making the turns onto the existing main runway routes.

2.1.9 Runway end coordinates for the northern runway were provided. Start-of-roll locations were assumed to be inset 150 metres from the runway ends, as is the case for the main runway modelling. RNAV dispersion was modelled for all northern runway departure routes.

2.1.10 The following long-term runway modal splits were assumed for average summer day all forecast scenarios:

- Summer day 75% west / 25% east (20-year average).
- Summer night 75% west / 25% east (10-year average).

2.1.11 For annual average noise metrics, L_{den} and L_{night} the following long term runway modal splits were used:

- Annual day 68% west / 32% east (10-year average).
- Annual night 68% west / 32% east (10-year average).

2.1.12 For all the future baseline (no northern runway) cases, as a worst case assumption flights operating from the standby runway where not included in the noise model.

2.1.13 The population/household estimates are based on a 2019 population database update of the 2011 Census supplied by CACI Ltd. For the forecast contour scenarios, population and households within the Forge Wood development were accounted for by estimating the Forge Wood area enclosed by each contour and applying a pro-rata adjustment to the total Forge Wood population of 4,703 (1,900 households). Because part of the Forge Wood development has already been built and included in the 2019 population database, their postcodes were removed from the population data to avoid double-counting when the above adjustments were made. No residential populations from any other future development were included in the population estimates.

2.2 Overflights Assessment

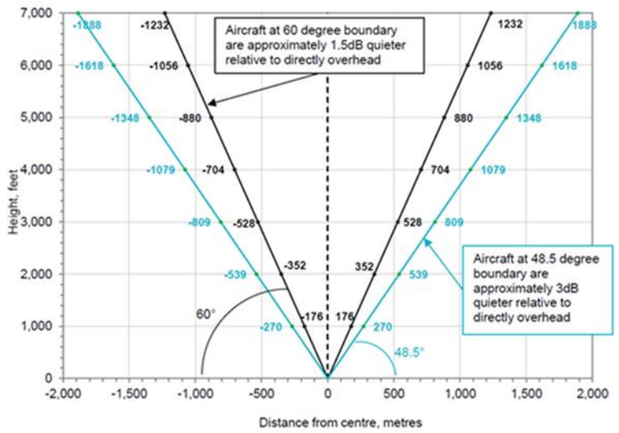
2.2.1 The methodologies for assessing Airspace Change (CAP1616) adopted for the EIA process require consideration of overflights in two areas.

- Air Noise – 'Overflight' as defined by CAP1498.

- Tranquillity – CAP1616 requires consideration of increased overflights affecting particular areas such as Areas of Outstanding Natural Beauty (AONBs) and National Parks.

2.2.2 Diagram 2.2.1 below shows the CAP1498 definition of 'overflight'. Of the two options Gatwick Airport Limited (GAL) has adopted the wider 48.5 degree option. Overflights are capped at a height of 7,000 feet (CAP1616 defines this as above ground level). Hence for this study, flights below 7,000 feet within a distance of 1.8 km from an observer may be counted as an overflight.

Diagram 2.2.1: CAP1498 Definition of Overflight



2.2.3 Using the CAA overflight definition, a grid size of 3.6 km was used, and the grid was aligned with the Gatwick runway orientation.

2.2.4 The method does not attempt to exclude any flight paths that overfly a given 3.6 km by 3.6 km grid square but are at angles of less than 48.5 degrees to the horizontal and therefore strictly speaking not overflights under the CAP1498 definition (eg a flight at 3,000 feet, 1.5 km to the side). This leads to a count of overflight densities that may be too high, and hence worst case, particularly in areas where flights are lower, ie near Gatwick in the case of Gatwick flights. However, this is a worst case approach, and one that is most accurate at greater distance from the airport, which may be of most interest for tranquillity assessment, where flights are higher and nearer to the 7,000 feet height where there would be no over-estimation.

2.2.5 Neither CAP1616 nor CAP1498 give any guidance on how to assess the numbers of overflights statistically. The method presented here adopts a lower threshold of one overflight per average summer day and, in consultation with the wider EIA team, considers all flights in the day or night equally.

2.2.6 The analysis used the 92 day (noise modelling) summer season for 2018 and considers all Gatwick flights below 7,000 feet, on the 26 easterly days and on the 66 westerly days (70,000 flights).

2.2.7 For non-Gatwick flights (ie flights to or from all other airports), 7 days (Monday to Sunday) of easterly and 7 days of westerly operations between 16 June and 11 July 2018 were analysed (37,000 flights below 7,000 feet). The results were weighted to reflect the Gatwick 2018 average summer east/west runway % modal split (28/72).

2.2.8 Each flight track in these two samples was overlaid on a digital terrain map to establish its height above the ground in each grid square and hence whether it was below 7,000 feet above local ground level. Whilst departures generally climb continuously, some arrivals flight tracks dip below a height above ground of 7,000 feet, raise above and dip below again, usually because the terrain is rising below. The analysis captured these overflights correctly.

2.2.9 The study area was developed so as to cover the area within which there is at least one Gatwick overflight, plus at least a 3.6 km grid buffer so as to be able to report non-Gatwick overflights over the Gatwick overflight area. This resulted in a circular study area with a diameter of 70 miles centred at Gatwick Airport. There are Gatwick overflights outside this area, but mostly above 7,000 feet and those below 7,000 feet were present at frequencies of less than one per average summer day.

2.2.10 To give an indication of the effect of the Project, some simplifying assumptions were used to ensure a worst case assessment. The largest effect of the Project in terms of increasing flight numbers is forecast to be in 2032 when there would be increases of approximately 10% at night and 19% in the day. For this analysis a simplistic assumption of increasing 20% over 2018 levels was used, and this was assessed against a 2018 baseline for non-Gatwick flights assuming no growth and no changes to routings for any airport. Since there will inevitably be some increases in non-Gatwick flights as well at Gatwick flights prior to 2032, this is considered a reasonable worst case simplifying assumption, ie it will not understate the additional effect of the Project.

2.2.11 As explained elsewhere, the distribution of Gatwick flights to and from the airport is assumed to be similar as today, so the assumed 20% of additional Gatwick flights have been spread equally over all areas.

3 Summary of Noise Management System

3.1 Introduction

3.1.1 Gatwick Airport has a comprehensive noise management system, as reported in the Noise Action Plan that is updated and reviewed by DfT every five years. The system follows the ICAO balanced approach that consists of four main elements:

- noise at source;
- land use planning;
- operating procedures; and
- operating restrictions.

3.1.2 This section summarises the ongoing noise management activities under each of these headings.

3.2 Noise at Source

3.2.1 ICAO establishes International Standards, recommended practices and procedures regarding the technical areas of aviation, including aircraft noise. The standards, once adopted, are put into effect by each ICAO member state in its own country.

3.2.2 An important pillar of the Balanced Approach to Aircraft Noise Management is the reduction of noise at source. Aircraft noise ("noise at source") has been controlled since the 1970s by the setting of noise limits for aircraft in the form Standards and Recommended Practices (SARPs) contained in Annex 16 to the Convention on International Civil Aviation (the "Chicago Convention"). This continues to be the case today. Noise provisions appear in Volume I of Annex 16. The primary purpose of noise certification is to ensure that the latest available noise reduction technology is incorporated into aircraft design and that this is demonstrated by procedures that are relevant to day-to-day operations. This aims to ensure that noise reductions offered by technology are reflected in reductions around airports.

3.2.3 The first noise standard was developed by the ICAO Committee on Aircraft Noise in 1971 and became applicable in 1973, setting noise limits as a direct function of Maximum Take-off Mass (MTOM) in order to recognize that heavier aeroplanes, which were of greater transport capability, produce more noise than lighter aeroplane types. This is the Chapter 2 Noise Standard contained in Annex 16, Volume I.

3.2.4 In the years following the introduction of Chapter 2, much higher bypass ratio jet engines were introduced into service. Not only did this new technology deliver improved fuel efficiency, it also resulted in reductions in engine noise. This allowed for the ICAO noise standard to be made more stringent and in 1977 the Chapter 3 Noise Standard was added to Annex 16, Volume I. In the following years, further noise reduction technologies were incorporated into engine and airframe designs which led to incremental improvements in aircraft noise performance and this resulted in progressively further increases in the stringency of noise standards as reflected in Annex 16, Volume I, Chapter 4 and Chapter 14.

3.2.5 Over time it has become common parlance when discussing aviation noise to refer to civil jet aircraft by which chapter of Annex 16 Volume 1 they sit in. The adoption of progressively more stringent standards has encouraged the phase out of noisier aircraft meeting the noise standards of earlier Chapters. Chapter 2 aeroplanes have been banned from operating within the EU since 1st April 2002, unless they are granted specific exemptions. The vast majority of civil aircraft now operating therefore fall within Chapters 3 and 4, and are much quieter than the previous Chapter 2 aircraft types. As yet, there is no agreed date for the phase out of Chapter 3 aircraft.

3.2.6 All new aircraft manufactured from 2006 onwards must meet the requirements of Chapter 4. The standard for Chapter 4 has been set at 10dB quieter than Chapter 3. This is based on an aggregate of reductions in noise measured at three standardised locations close to an airport, so that noise levels experienced at any one location on the ground will be about 1/3 of this quieter, ie about 3dB. During the process of agreeing the Chapter 4 standard, the industry discussed a stricter level at 18dB (aggregate) below the current Chapter 3, which would have reflected best available technology. This now forms the basis of Chapter 14 standard adopted in 2014 by the ICAO Council. This represented a new noise standard for jet and propeller-driven aeroplanes which is Chapter 4 minus 7dB (Chapter 3, -17dB). This new, more stringent standard will be the mainstay ICAO Standard for subsonic jet and propeller-driven aeroplane noise for the coming years. It is applicable to new aeroplane types submitted for certification on or after 31 December 2017, and on or after 31 December 2020 for aircraft less than 55 tonnes in mass.

3.2.7 The Chapter 14 noise standard is expected to drive the continued reduction in aircraft noise emissions and lead to long term reductions in the number of people affected by aircraft noise.

3.2.8 GAL operates a system of aircraft landing charges that are based each aircraft's noise levels measured under ICAO certification processes. Each type of aircraft is placed in to one of five noise categories according to the margin by which it is quieter is than the ICAO Chapter 3 Standard. These landing charges for the summer season are given in the following. Winter season changes are lower.

Table 3.2.1: Gatwick Airport Summer Season Landing Charges

Noise Category	Chapter 3 Margin dB	Day Charge £	Night Charge £
Chapter 14 Minus	>=23	£17.45	£458.25
Chapter 14 Base	20 to 23	£21.82	£572.80
Chapter 14 High	17 to 20	£26.19	£687.37
Chapter 4	10 to 17	£43.65	£1,145.62
Chapter 3 and below	<=10	£87.28	£2,291.25
Unmodified A320 Family		£872.85	£2,291.25

3.2.9 Higher landing charges are used to incentivise airlines to fly quieter aircraft.

3.3 Land Use Planning

3.3.1 Land use planning is largely the responsibility of relevant local planning authorities. Gatwick Airport works with local authorities and provides noise exposure information to assist them.

3.3.2 Guidance on the planning of new noise sensitive development, such as housing, near airports is found in most local authority local planning guidance. Following the repeal of national guidance on the subject, the Institute of Acoustics, Chartered Institute of Environmental Health and the Association of Noise Consultants produced Professional Practice Guidance (ProPG) Planning and Noise; New Residential Development in May 2017 which promotes good acoustics design to achieved suitable design standards in new housing in existing noisy environments including near airports. Under the Noise Management Board's work programme Gatwick Airport has worked with local authorities to promote good land use planning, and held a workshop sharing experiences in November 2017. The Noise Management Board has included in its 2021 work plan a project to work with local authorities to help improve land use planning with regards new noise sensitive developments affected by noise from the airport. (See [redacted]/ for more details of the Noise Management Board).

3.4 Operating Procedures

3.4.1 A range of noise controls relating directly to aircraft operations are set out in statutory notices and are published in the Gatwick Aerodrome Aeronautical Information Publication (AIP) and elsewhere as appropriate. These include the following.

3.4.2 Departures:

- After take-off the aircraft shall be operated in such a way that it is at a height of not less than 1,000ft above aerodrome level at 6.5 km from the start of roll as measured along the departure track of that aircraft.
- After taking off the aircraft shall avoid flying over the congested areas of Horley and Crawley.

3.4.3 Arrivals:

- Between the hours of 23:30 (local) and 06:00 (local), inbound aircraft, whether or not making use of the ILS (instrument landing system) localiser and irrespective of weight or type of approach, shall not join the centre-line below 3,000 ft (Gatwick QNH[1]) closer than 10 nm (nautical miles) from touchdown.
- Before landing at the aerodrome the aircraft shall maintain as high an altitude as practicable and shall not fly over the

[1] QNH (no acronym) – when set to QNH, an altimeter reads the altitude above mean sea level.

congested areas of Crawley, East Grinstead, Horley and Horsham at an altitude of less than 3,000ft (Gatwick QNH) nor over the congested area of Lingfield at an altitude of less than 2,000ft (Gatwick QNH).

- Additionally, pilots are requested to avoid the use of reverse thrust after landing, unless required for safe operation of the aircraft, between 23:00 and 06:00 (local time). This is to minimise disturbance in areas adjacent to the airport.

3.4.4 Gatwick Airport has defined 'noise preferential' routes (NPR's) as one way used to reduce exposure to noise for people living near airports. Such routes are chosen because they direct aircraft, where possible, over less densely populated areas. Gatwick Airport's Flight Performance Team monitor compliance with the NPRs using the Noise and Track Keeping system, providing quarterly report to the Noise and Track Monitoring Advisory Group (NaTMAG). The FPT also investigate complaints of aircraft flying off track.

3.4.5 Continuous Descent Operation (CDO) is an important tool for reducing the noise of aircraft approaching airports. It involves starting a continuous steady descent, from 6,000ft or higher, rather than following a number of short descents to set 'cleared' altitudes where level segments are flow before finally joining the 3° approach glide-slope from below, as is normally required by Air Traffic Control.

3.4.6 The CDO technique results in lower noise levels on the ground through two effects:

- 1. the CDO flight-path is always higher than in the traditional stepped approach - being further from the ground also results in lower noise levels; and
- 2. by keeping the aircraft on a continuous descent, the overall engine power levels are kept lower, generating less noise than if the aircraft were required to fly level.

3.4.7 Gatwick Airport Ltd raised the level at which a CDO is measured to 7,000ft in 2016 and is exploring ways to raise this further through work with the Noise Management Board (NMB).

3.4.8 Additional noise reductions may be achieved by using a Low Power/Low Drag (LPLD) procedure. In this, the aircraft is flown in a 'clean' condition (i.e. with no flap or wheels deployed) as long as possible, consistent with safety, this can result in lower noise levels when the aircraft are close to the ground. The NMB is also carrying out a project to investigate if noise levels due to landing gear deployment can be further reduced.

3.4.9 GAL operates a system of Departure Noise Limits in which all aircraft leaving the airport are measured at a set of locations about 3 km from the airport, and airlines are fined if they exceed defined noise limits as follows:

- Day (07:00-23:00 hour) L_{max} 94 dB
- Shoulder (23:00- 23:30 and 07:00-07:00 hours) L_{max} 89 dB
- Night (23:00 to 06:00 hours) L_{max} 87 dB.

3.4.10 Departure noise limits are the responsibility of the DfT and have applied at Gatwick since 1959, and were last reduced in 2001.

3.4.11 Airlines are fined £500 if their aircraft exceed these limits by up to 3 dB, and £1000 if they exceed by more than 3 dB.

3.4.12 Departure noise limits are intended to incentivise good operational procedures on departure, ie flying a given aircraft as quietly as possible. In 2021 GAL carried out a review of compliance with these limits and is proposing changing the limits to increase the inceptive to fly good departure procedures. Section 14.8 of the PEIR discusses this proposals and seeks consultees views.

3.5 Noise Insulation Scheme

3.5.1 The current Gatwick NIS was based on an L_{eq16hr} 60 dB contour with 15km extensions to cover areas under the extended runway centreline. At the time of introduction, this was seen as one of the most innovative schemes in the UK and exceeded Government policy that noise insulation should be provided at levels of $L_{eq\ 16\ hr}$ 63dB.

3.5.2 The current NIS scheme provides a £3,000 grant to spend on acoustic windows and doors at owners' discretion. Homeowners can also buy additional windows and doors at heavily discounted rates from the suppliers of the NIS products and can therefore use the scheme to undertake further home improvements if they wish. An enhanced NIS has been developed for the Northern Runway Project and is described in Section 14.8 of the PEIR.

3.6 Operating Restriction

3.6.1 Operating restrictions may be necessary for some airports where noise mitigation is required, and other methods prove to be insufficient. In this respect, as part of the "Balanced Approach", operating restrictions may be applied to aircraft whose noise emissions are marginally below the Chapter 3 limits. Strict rules apply for the introduction of operating restrictions to ensure fair competition across Europe and maintain the efficiency of the EU aviation network.

3.6.2 Night Restrictions are in place at Gatwick, set by the DfT that limit the number of flights and the total Quota Count during in the 6.5 hour night period from 2330 to 0600 in the summer and winter seasons as follows:

- Summer Movements Limit 11,200
- Summer Quota Points 5,150
- Winter Movements Limit 3,250
- Summer Quota Points 1,785

3.6.3 The DfT is consulting in 2021 on revising the limits.

3.6.4 Gatwick works with its airline customers to stay within these limits and reports compliance to the Noise and Track Monitoring Advisory Group.

4 Assessment Results

4.1 Air Noise Contours

4.1.1 Table 4.1.1 to Table 4.1.16 give the noise contour areas and population count results from noise modelling 2029, 2032, 2038 and 2047 for the two primary and two supplementary noise metrics, for the central case fleet forecasts. The central fleet forecast considered the most likely rate of fleet transition based on current assumptions regarding the airlines' fleet procurement programmes and business models. The slower transition fleet (see results below) supposes the rate of fleet transition is delayed by about five years, particularly owing to uncertainties due to Covid (Appendix 14.9.5 gives further details). In each table the 2019 base case, assessment year base case and assessment year with the Project results are given.

Table 4.1.1: 2029 L_{eq} 16 hour Day, Central Case

Leq, 16hr dB	Area (km^2)			Population		
	2019 Base	2029 Base	2029 with Project	2019 Base	2029 Base	2029 with Project
>51	136.0	120.1	126.0	24,050	21,000	20,100
>54	74.0	62.4	66.8	9,850	8,200	8,800

Leq, 16hr dB	Area (km²)			Population		
	2019 Base	2029 Base	2029 with Project	2019 Base	2029 Base	2029 with Project
>57	38.7	32.5	34.4	2,550	2,000	2,200
>60	22.4	18.9	20.2	1,450	1,100	1,200
>63	12.6	10.6	11.6	500	500	600
>66	6.7	5.5	6.3	250	200	200
>69	3.5	2.9	3.5	100	100	0

Table 4.1.2: 2029 L_{eq} 8 hour Night, Central Case

Leq, 8hr dB	Area (km²)			Population		
	2019 Base	2029 Base	2029 with Project	2019 Base	2029 Base	2029 with Project
>45	159.4	139.8	141.5	27,650	23,700	23,700
>48	90.3	77.4	78.5	12,100	10,100	10,500
>51	46.5	38.6	39.3	5,550	4,300	4,400
>54	24.8	21.3	21.9	1,550	1,300	1,400
<55	22.6	17.7	18.2	1,250	1,000	1,100
>57	14.0	11.9	12.4	750	500	500
>60	7.4	6.3	6.7	300	300	300
>63	3.8	3.2	3.5	150	200	200
>66	2.1	1.7	2.0	0	0	0
>69	1.3	1.0	1.3	0	0	0

Table 4.1.3: 2029 N65 Day, Central Case

N65 Day	Area (km²)			Population		
	2019 Base	2029 Base	2029 with Project	2019 Base	2029 Base	2029 with Project
>20	149.9	121.5	128.4	24,100	20,400	20,700
>50	97.7	87.3	90.6	14,600	12,800	14,000
>100	72.7	60.4	62.6	9,500	7,200	8,200
>200	50.8	42.7	43.6	5,750	4,800	5,200
>500	2.4	3.4	2.8	100	100	100

Table: 4.1.4: 2029 N60 Night, Central Case

N60 Night	Area (km²)			Population		
	2019 Base	2029 Base	2029 with Project	2019 Base	2029 Base	2029 with Project
>10	204.2	188.1	190.4	33,850	30,700	30,700
>20	126.8	119.6	120.3	15,250	14,400	14,200
>50	56.4	55.2	55.9	7,600	7,400	7,500
>100	2.7	2.8	2.2	150	100	100

Table: 4.1.5: 2032 L_{eq} 16 hour Day, Central Case

$L_{eq, 16hr}$ dB	Area (km²)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>51	136.0	107.3	125.1	24,050	16,100	18,800
>54	74.0	54.1	66.1	9,850	6,700	9,000
>57	38.7	28.4	33.3	2,550	1,800	2,200
>60	22.4	16.6	19.4	1,450	900	1,200
>63	12.6	9.2	11.3	500	400	500
>66	6.7	4.7	6.2	250	200	200
>69	3.5	2.5	3.3	100	100	0

Table 4.1.6: 2032 L_{eq} 8 hour Night, Central Case

$L_{eq, 8hr}$ dB	Area (km²)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>45	159.4	124.6	136.2	27,650	18,800	21,600
>48	90.3	67.8	75.1	12,100	8,900	9,900
>51	46.5	33.6	37.5	5,550	3,600	4,400
>54	24.8	18.7	20.8	1,550	1,000	1,300
>55	22.6	15.5	17.4	1,250	900	1,000
>57	14.0	10.5	12.0	750	500	500
>60	7.4	5.5	6.5	300	300	300
>63	3.8	2.8	3.4	150	100	200
>66	2.1	1.5	2.0	0	0	0
>69	1.3	0.9	1.3	0	0	0

Table 4.1.7: 2032 N65 Day, Central Case

N65 Day	Area (km²)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>20	149.9	106.2	113.4	24,100	15,300	17,400
>50	97.7	75.4	83.0	14,600	10,900	13,300
>100	72.7	53.5	60.4	9,500	6,200	9,300
>200	50.8	39.6	42.6	5,750	4,500	5,100
>500	2.4	3.2	3.9	100	100	100

Table 4.1.8: 2032 N60 Night, Central Case

N60 Night	Area (km²)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>10	204.2	176.4	185.0	33,850	28,900	29,600
>20	126.8	112.9	118.0	15,250	13,700	14,000
>50	56.4	53.2	59.3	7,600	7,000	8,200
>100	2.7	2.6	2.9	150	100	100

Table 4.1.9: 2038 L_{eq} 16 hour Day, Central Case

$L_{eq, 16hr}$ dB	Area (km²)			Population		
	2019 Base	2038 Base	2038 with Project	2019 Base	2038 Base	2038 with Project
>51	136.0	96.5	113.7	24,050	13,000	16,500
>54	74.0	47.6	58.7	9,850	5,700	7,500
>57	38.7	25.2	29.9	2,550	1,600	1,800
>60	22.4	14.8	17.6	1,450	700	1,000
>63	12.6	8.3	10.3	500	300	500
>66	6.7	4.1	5.6	250	200	200
>69	3.5	2.2	3.0	100	100	0

Table 4.1.10: 2038 L_{eq} 8 hour Night, Central Case

$L_{eq, 8hr}$ dB	Area (km²)			Population		
	2019 Base	2038 Base	2038 with Project	2019 Base	2038 Base	2038 with Project
>45	159.4	115.3	125.8	27,650	15,700	18,300
>48	90.3	61.9	68.7	12,100	8,100	8,900
>51	46.5	30.6	34.2	5,550	3,300	4,000
>54	24.8	17.1	19.1	1,550	1,000	1,100
>55	22.6	14.2	16.0	1,250	800	900
>57	14.0	9.7	11.0	750	400	500
>60	7.4	5.0	6.0	300	300	300
>63	3.8	2.5	3.1	150	100	100
>66	2.1	1.4	1.8	0	0	0
>69	1.3	0.9	1.2	0	0	0

Table 4.1.11: 2038 N65 Day, Central Case

N65 Day	Area (km²)			Population		
	2019 Base	2038 Base	2038 with Project	2019 Base	2038 Base	2038 with Project
>20	149.9	94.3	102.2	24,100	13,400	15,200
>50	97.7	61.0	69.7	14,600	9,000	11,600
>100	72.7	50.3	56.2	9,500	6,000	8,700
>200	50.8	37.6	39.8	5,750	4,300	4,600
>500	2.4	3.1	3.9	100	100	100

Table 4.1.12: 2038 N60 Night, Central Case

N60 Night	Area (km²)			Population		
	2019 Base	2038 Base	2038 with Project	2019 Base	2038 Base	2038 with Project
>10	204.2	169.1	176.8	33,850	27,900	28,200
>20	126.8	109.4	113.4	15,250	12,900	13,700
>50	56.4	53.7	58.5	7,600	7,100	8,000
>100	2.7	2.6	2.7	150	100	100

Table 4.1.13: 2047 L_{eq} 16 hour Day, Central Case

$L_{eq, 16hr}$ dB	Area (km²)			Population		
	2019 Base	2047 Base	2047 with Project	2019 Base	2047 Base	2047 with Project
>51	136.0	96.2	112.9	24,050	12,800	16,400
>54	74.0	47.4	58.3	9,850	5,600	7,300
>57	38.7	25.2	29.7	2,550	1,600	1,800
>60	22.4	14.8	17.6	1,450	700	1,000
>63	12.6	8.3	10.3	500	300	500
>66	6.7	4.2	5.6	250	200	200
>69	3.5	2.2	3.0	100	100	0

Table 4.1.14: 2047 L_{eq} 8 hour Night, Central Case

$L_{eq, 8hr}$ dB	Area (km^2)			Population		
	2019 Base	2047 Base	2047 with Project	2019 Base	2047 Base	2047 with Project
>45	159.4	114.7	125.2	27,650	15,600	18,200
>48	90.3	61.6	68.5	12,100	8,000	8,800
>51	46.5	30.5	34.2	5,550	3,300	4,000
>54	24.8	17.1	19.1	1,550	1,000	1,100
>55	22.6	14.2	16.0	1,250	800	900
>57	14.0	9.7	11.1	750	400	500
>60	7.4	5.0	6.0	300	300	300
>63	3.8	2.5	3.1	150	100	100
>66	2.1	1.4	1.8	0	0	0
>69	1.3	0.8	1.2	0	0	0

Table 4.1.15: 2047 N65 Day, Central Case

N65 Day	Area (km^2)			Population		
	2019 Base	2047 Base	2047 with Project	2019 Base	2047 Base	2047 with Project
>20	149.9	95.1	102.9	24,100	13,700	15,300
>50	97.7	62.1	70.6	14,600	9,400	11,700
>100	72.7	50.9	56.7	9,500	6,000	8,700
>200	50.8	37.8	40.0	5,750	4,300	4,700
>500	2.4	3.1	3.9	100	100	100

Table 4.1.16: 2047 N60 Night, Central Case

N60 Night	Area (km^2)			Population		
	2019 Base	2047 Base	2047 with Project	2019 Base	2047 Base	2047 with Project
>10	204.2	169.0	176.9	33,850	27,900	28,400
>20	126.8	109.5	113.6	15,250	12,900	13,700
>50	56.4	52.6	58.2	7,600	7,100	8,000
>100	2.7	2.5	2.7	150	100	100

4.1.2 Table 4.1.17 to Table 4.1.24 give the noise contour areas and population count results from noise modelling 2029, 2032, and 2038 for the two primary and two supplementary noise metrics, for the slower transition fleet forecasts. In each table the 2019 base case, assessment year base case and assessment year with the Project results are given.

Table 4.1.17: 2029 L_{eq} 16 hour Day, Slower Transition Case

Leq, 16hr dB	Area (km^2)			Population		
	2019 Base	2029 Base	2029 with Project	2019 Base	2029 Base	2029 with Project
>51	136.0	128.5	134.9	24,050	24,100	23,500
>54	74.0	69.1	73.3	9,850	9,200	9,500
>57	38.7	35.9	37.8	2,550	2,400	2,700
>60	22.4	20.9	22.2	1,450	1,200	1,300
>63	12.6	11.8	12.8	500	500	600
>66	6.7	6.2	7.0	250	200	300
>69	3.5	3.2	3.9	100	100	-

Table 4.1.18: 2029 L_{eq} 8 hour Night, Slower Transition Case

Leq, 8hr dB	Area (km^2)			Population		
	2019 Base	2029 Base	2029 with Project	2019 Base	2029 Base	2029 with Project
>45	159.4	148.3	150.1	27,650	26,600	26,500
>48	90.3	82.9	84.1	12,100	11,100	11,200
>51	46.5	42.0	42.9	5,550	5,000	5,100
>54	24.8	23.2	23.9	1,550	1,400	1,400
<55	22.6	19.3	19.9	1,250	1,200	1,200
>57	14.0	13.1	13.6	750	600	700
>60	7.4	6.9	7.4	300	300	300
>63	3.8	3.5	3.9	150	200	200
>66	2.1	1.9	2.2	0	-	-

Table: 4.1.19: 2032 L_{eq} 16 hour Day, Slower Transition Case

$L_{eq, 16hr}$ dB	Area (km^2)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>51	136.0	125.8	146.7	24,050	23,500	26,400
>54	74.0	67.1	80.5	9,850	9,100	10,900
>57	38.7	34.9	40.6	2,550	2,200	3,900
>60	22.4	20.3	23.6	1,450	1,200	1,400
>63	12.6	11.5	13.8	500	500	600
>66	6.7	6.0	7.6	250	200	300
>69	3.5	3.1	4.2	100	100	100

Table 4.1.20: 2032 L_{eq} 8 hour Night, Slower Transition Case

$L_{eq, 8hr}$ dB	Area (km²)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>45	159.4	143.9	157.4	27,650	25,400	28,500
>48	90.3	80.1	88.0	12,100	10,800	11,900
>51	46.5	40.3	45.2	5,550	4,700	5,400
>54	24.8	22.3	24.8	1,550	1,300	1,500
>55	22.6	18.5	20.7	1,250	1,100	1,200
>57	14.0	12.5	14.2	750	500	700
>60	7.4	6.6	7.7	300	300	300
>63	3.8	3.3	4.1	150	200	200
>66	2.1	1.8	2.3	0	-	-
>69	1.3	1.1	1.5	0	-	-

Table 4.1.21: 2032 N65 Day, Slower Transition Case

N65 Day	Area (km²)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>20	149.9	136.4	151.0	24,100	28,300	32,200
>50	97.7	89.4	97.5	14,600	12,900	15,200
>100	72.7	64.5	72.9	9,500	7,700	11,000
>200	50.8	44.3	48.0	5,750	5,000	5,500
>500	2.4	3.5	4.3	100	100	100

Table 4.1.22: 2032 N60 Night, Slower Transition Case

N60 Night	Area (km²)			Population		
	2019 Base	2032 Base	2032 with Project	2019 Base	2032 Base	2032 with Project
>10	204.2	193.0	207.7	33,850	31,500	33,800
>20	126.8	121.6	127.3	15,250	14,700	15,200
>50	56.4	55.3	62.0	7,600	7,400	8,500
>100	2.7	2.7	3.2	150	100	100

Table 4.1.23: 2038 L_{eq} 16 hour Day, Slower Transition Case

$L_{eq, 16hr}$ dB	Area (km²)			Population		
	2019 Base	2038 Base	2038 with Project	2019 Base	2038 Base	2038 with Project
>51	136.0	107.4	125.7	24,050	16,300	19,200
>54	74.0	54.4	66.8	9,850	6,800	8,900
>57	38.7	28.8	33.8	2,550	1,800	2,200
>60	22.4	16.8	19.8	1,450	1,000	1,200
>63	12.6	9.4	11.6	500	400	500
>66	6.7	4.8	6.3	250	200	300
>69	3.5	2.5	3.4	100	100	-

Table 4.1.24: 2038 L_{eq} 8 hour Night, Slower Transition Case

$L_{eq, 8hr}$ dB	Area (km²)			Population		
	2019 Base	2038 Base	2038 with Project	2019 Base	2038 Base	2038 with Project
>45	159.4	124.3	136.1	27,650	18,700	21,700
>48	90.3	67.9	75.2	12,100	1,800	9,900
>51	46.5	33.9	37.7	5,550	3,600	4,600
>54	24.8	18.9	21.0	1,550	1,000	1,300
>55	22.6	15.7	17.5	1,250	900	1,000
>57	14.0	10.6	12.1	750	500	500
>60	7.4	5.6	6.6	300	300	300
>63	3.8	2.8	3.4	150	100	200
>66	2.1	1.5	2.0	0	-	-
>69	1.3	0.9	1.3	0	-	-

4.1.3 Table 4.1.25 to Table 4.1.26 give the noise contour areas and population count results from noise modelling in 2038, for the annual average L_{den} and L_{Night} noise metrics, for the central case and slower transition fleet forecasts.

Table 4.1.25: 2038 (Standard Mode) Annual L_{den} and L_{night} Baseline Noise Levels (1)

Noise Metric	Noise Contour Area (km²)	Population
L_{den}:		
>55 dB	66.1 - 73.7	8600 - 9700
>60 dB	21.8 - 24.5	1300 - 1400
>65 dB	8.5 - 9.5	400 - 500
>70 dB	2.7 - 3.1	100 - 100
>75 dB	1.1 - 1.2	0 - 0
L_{night}:		
>45 dB	84.4 - 91.6	10900 - 12100
>50 dB	27.1 - 30.1	1700 - 2300
>55 dB	10.6 - 11.6	500 - 500
>60 dB	3.5 - 3.9	200 - 200
>65 dB	1.3 - 1.4	0 - 0
>70 dB	0.6 - 0.6	0 - 0

(1) Ranges cover the central case fleet noise modelling and the slower transition fleet noise modelling

Table 4.1.26: 2038 (Standard Mode) Annual L_{den} and L_{night} With Project Noise Levels (1)

Noise Metric	Noise Contour Area (km^2)	Population
L_{den}:		
>55 dB	78.6 - 86.4	10,500 – 11,500
>60 dB	25.6 - 28.6	1,600 – 1,800
>65 dB	10.5 - 11.5	500 - 500
>70 dB	3.6 - 4.1	100 - 200
>75 dB	1.5 - 1.7	0 - 0
L_{night}:		
>45 dB	94 - 101.8	12,400 – 13,400
>50 dB	30.7 - 33.9	2,900 – 3,300
>55 dB	12.1 - 13.3	500 - 600
>60 dB	4.3 - 4.8	200 - 200
>65 dB	1.7 - 1.8	0 - 0
>70 dB	0.8 - 0.9	0 - 0

(1) Ranges cover the central case fleet noise modelling and the slower transition fleet noise modelling

4.2 Representative Community Locations

4.2.1 Table 4.2.1 to Table 4.2.7 give detailed results of noise modelling at each of the seven representative community locations, for the central case. In each table the noise levels at this location are given for easterly, westerly and average mode operation. Results are given for the two primary noise metrics and the two supplementary noise metrics and for the following cases:

- 2019 Base
- 2032 Base
- 2032 with Project
- 2032 with Project- 2032 Base
- 2032 with Project- 2019 Base

Table 4.2.1: Rusper Primary School (Central Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night
2019 Base	52.2	45.5	20	32	52.9	45.8	26	42	48.4	44.6	0	1
2032 Base	50.5	44.1	5	25	51.1	44.4	7	33	47.7	43.2	0	0
2032 with Project	50.8	44.6	5	26	51.3	44.9	7	34	48.5	43.5	0	0
2032 with Project- 2032 Base	0.3	0.5	0	1	0.2	0.5	0	2	0.8	0.3	0	0
2032 with Project- 2019 Base	-1.4	-0.9	-14	-6	-1.6	-0.9	-19	-8	0.1	-1.1	0	-1

Table 4.2.2: Charlwood Village Infant School (Central Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night
2019 Base	55.3	48.8	124	36	55.9	49.2	158	45	53.3	47	23	10
2032 Base	52.9	46.9	30	41	53.3	47.3	38	52	51.4	45.4	4	9
2032 with Project	53.4	47.4	78	48	53.6	47.7	102	61	52.8	46.2	7	11
2032 with Project- 2032 Base	0.5	0.5	49	7	0.3	0.4	64	8	1.4	0.8	2	1
2032 with Project- 2019 Base	-1.9	-1.4	-46	12	-2.3	-1.5	-56	16	-0.5	-0.8	-16	1

Table 4.2.3: Lingfield Primary School (Central Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night
2019 Base	55.6	52	240	66	56.4	53	286	82	51.6	45	102	19
2032 Base	55.1	50.8	238	59	56	51.8	301	72	50.1	43.2	49	21
2032 with Project	55.9	51.2	291	64	56.8	52.2	367	76	50.9	44.1	64	25
2032 with Project- 2032 Base	0.8	0.4	53	5	0.8	0.4	66	5	0.8	0.9	16	4
2032 with Project- 2019 Base	0.3	-0.8	51	-3	0.4	-0.8	81	-6	-0.7	-0.9	-38	6

Table 4.2.4: Chiddingstone Church of England School (Central Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night	$L_{eq,\ 16hr}$	$L_{eq,\ 8hr}$	N65 day	N60 night
2019 Base	50.8	47.1	5	30	51.8	48.2	6	38	44.5	38.5	1	5
2032 Base	50.6	46	2	26	51.6	47.1	2	34	43.3	37.2	1	1
2032 with Project	51.4	46.4	2	28	52.4	47.4	2	36	44.2	38	1	2
2032 with Project- 2032 Base	0.8	0.4	0	2	0.8	0.3	0	3	0.9	0.8	0	1
2032 with Project- 2019 Base	0.6	-0.7	-3	-2	0.6	-0.8	-4	-2	-0.3	-0.5	-1	-3

Table 4.2.5: Capel Pre-School (Central Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	53.5	47.2	110	15	54.7	48.2	146	20	44	40.2	0	0
2032 Base	51.6	45.5	96	15	52.6	46.5	128	21	43.4	38.8	0	0
2032 with Project	52.8	46.4	122	18	53.9	47.4	163	25	44.1	39.1	0	0
2032 with Project- 2032 Base	1.2	0.9	27	3	1.3	0.9	36	4	0.7	0.3	0	0
2032 with Project- 2019 Base	-0.7	-0.8	13	4	-0.8	-0.8	17	5	0.1	-1.1	0	0

Table 4.2.6: Willow Tree Pre-School, Ifield (Central Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	51.6	45.1	11	13	51.5	45.1	11	14	51.7	45.3	11	9
2032 Base	48.9	43	2	9	48.8	42.9	2	13	49.4	43.5	2	0
2032 with Project	48.3	43.2	2	8	47.7	43	2	10	49.6	43.9	2	0
2032 with Project- 2032 Base	-0.6	0.2	0	-2	-1.1	0.1	0	-3	0.2	0.4	0	0
2032 with Project- 2019 Base	-3.3	-1.9	-9	-5	-3.8	-2.1	-9	-4	-2.1	-1.4	-9	-9

Table 4.2.7: Barnfield Community Care Home, Horley (Central Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	51.7	45.4	5	14	50.9	44.8	0	8	53.4	46.7	19	33
2032 Base	49.6	43.7	1	12	49.1	43.2	0	0	51	45	4	48
2032 with Project	50.3	44.3	5	13	49	43.5	0	0	52.7	45.9	22	53
2032 with Project- 2032 Base	0.7	0.6	5	1	-0.1	0.3	0	0	1.7	0.9	18	6
2032 with Project- 2019 Base	-1.4	-1.1	1	-1	-1.9	-1.3	0	-8	-0.7	-0.8	3	20

4.2.2 Table 4.2.8 to Table 4.2.14 give detailed results of noise modelling at each of the seven representative community locations, for the slower transition fleet case. In each table the noise levels at this location are given for easterly, westerly and average mode operation. Results are given for the two primary noise metrics and the two supplementary noise metrics and for the following cases:

- 2019 Base
- 2032 Base
- 2032 with Project
- 2032 with Project- 2032 Base
- 2032 with Project- 2019 Base

Table 4.2.8: Rusper Primary School (Slower Transition Fleet Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	52.2	45.5	20	32	52.9	45.8	26	42	48.4	44.6	0	1
2032 Base	`	45.2	18	30	52.5	45.6	24	39	48.3	43.9	0	0
2032 with Project	52	45.6	16	32	52.7	46	21	43	49	44.2	0	0
2032 with Project- 2032 Base	0.2	0.4	-2	2	0.2	0.4	-2	3	0.7	0.3	0	0
2032 with Project- 2019 Base	-0.2	0.1	-4	0	-0.2	0.2	-5	1	0.6	-0.4	0	-1

Table 4.2.9: Charlwood Village Infant School (Slower Transition Fleet Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	55.3	48.8	124	36	55.9	49.2	158	45	53.3	47	23	10
2032 Base	54.6	48.2	92	42	55	48.7	115	52	52.9	46.5	23	10
2032 with Project	55.2	48.8	140	49	55.5	49.2	167	61	54.3	47.3	58	13
2032 with Project- 2032 Base	0.6	0.6	48	7	0.5	0.5	53	8	1.4	0.8	35	3
2032 with Project- 2019 Base	-0.1	0	16	13	-0.4	0	10	16	1	0.3	34	3

Table 4.2.10: Lingfield Primary School (Slower Transition Fleet Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	55.6	52	240	66	56.4	53	286	82	51.6	45	102	19
2032 Base	55.6	51.3	250	59	56.4	52.3	306	72	51.3	44.5	83	21
2032 with Project	56.4	51.7	304	64	57.2	52.7	370	77	52.2	45.3	103	25
2032 with Project- 2032 Base	0.8	0.4	53	5	0.8	0.4	64	5	0.9	0.8	21	4
2032 with Project- 2019 Base	0.8	-0.3	63	-3	0.8	-0.3	84	-6	0.6	0.3	1	6

Table 4.2.11: Chiddingstone Church of England School (Slower Transition Fleet Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	50.8	47.1	5	30	51.8	48.2	6	38	44.5	38.5	1	5
2032 Base	50.9	46.5	3	27	51.9	47.5	4	36	44.7	38.6	1	3
2032 with Project	51.7	46.8	4	30	52.6	47.8	5	38	45.6	39.3	1	4
2032 with Project- 2032 Base	0.8	0.3	1	2	0.7	0.3	1	3	0.9	0.7	0	1
2032 with Project- 2019 Base	0.9	-0.3	-1	0	0.8	-0.4	-1	0	1.1	0.8	-1	0

Table 4.2.12: Capel Pre-School (Slower Transition Fleet Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	53.5	47.2	110	15	54.7	48.2	146	20	44	40.2	0	0
2032 Base	52.6	46.8	96	15	53.7	47.9	127	21	43.8	39.4	0	0
2032 with Project	53.9	47.7	122	19	55	48.8	163	25	44.6	39.7	0	0
2032 with Project- 2032 Base	1.3	0.9	27	3	1.3	0.9	36	4	0.8	0.3	0	0
2032 with Project- 2019 Base	0.4	0.5	13	4	0.3	0.6	17	5	0.6	-0.5	0	0

Table 4.2.13: Willow Tree Pre-School, Ifield (Slower Transition Fleet Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	51.6	45.1	11	13	51.5	45.1	11	14	51.7	45.3	11	9
2032 Base	50.8	44.5	9	12	50.6	44.4	9	15	51.2	44.8	9	4
2032 with Project	50.2	44.7	10	11	49.7	44.5	10	14	51.3	45.2	10	4
2032 with Project- 2032 Base	-0.6	0.2	1	-1	-0.9	0.1	1	-2	0.1	0.4	1	1
2032 with Project- 2019 Base	-1.4	-0.4	-1	-1	-1.8	-0.6	-1	0	-0.4	-0.1	-1	-4

Table 4.2.14: Barnfield Community Care Home, Horley (Slower Transition Fleet Case)

Case	Average Summer Day				Westerly Flights				Easterly Flights			
	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night	$L_{eq, 16hr}$	$L_{eq, 8hr}$	N65 day	N60 night
2019 Base	51.7	45.4	5	14	50.9	44.8	0	8	53.4	46.7	19	33
2032 Base	51.1	44.8	6	14	50.4	44.2	0	4	52.7	46.3	22	46
2032 with Project	51.7	45.3	21	16	50.4	44.5	0	4	54.3	47.2	84	53
2032 with Project- 2032 Base	0.6	0.5	15	2	0	0.3	0	1	1.6	0.9	62	7
2032 with Project- 2019 Base	0	-0.1	16	2	-0.5	-0.3	0	-4	0.9	0.5	65	20

4.3 Noise Sensitive Buildings

4.3.1 The table below shows the predicted $L_{eq\ 16\ hr}$ day noise levels in the base case and 2032 Project central cases at 21 schools, one hospital, 18 places of worship and 7 community buildings that are predicted to be within the $L_{eq\ 16\ hr}$ day 51 dB noise contour in 2032 with the Project.

Table 4.3.1: Noise Sensitive Buildings, $L_{eq\ 16\ hr}$ day Noise Levels and Changes (Central Case)

Name	Postcode	2019	2032 Baseline	2032 with Project	2032 with Project-2019 Base	2032 with Project-2032 Base
Schools						
44 Acorn Cottage Cranbrook Nursery Ltd	RH6 9TE	60.4	58.7	58.7	-1.7	0.0
25 Aurora Redehall School	RH6 9QA	56.4	54.9	56.1	-0.3	1.2
8 Brookfield Day Nursery	RH10 9TR	54.5	51.8	52.5	-2.0	0.7
6 Capel Pre School	RH5 5JX	53.5	51.6	52.8	-0.7	1.2
47 Charlwood House Day Nursery	RH11 0QA	66.3	64.3	60.8	-5.5	-3.5
2 Charlwood Village Primary School	RH6 0DA	55.3	52.9	53.4	-1.9	0.5
7 Chiddingstone Nursery	TN8 7AD	51.0	<51	51.6	0.6	-
42 Childcare & Learning Ltd	RH6 9SW	58.9	57.1	56.9	-2.0	-0.2
41 Cranbrook Nursery	RH6 9TE	59.7	58.0	58.0	-1.7	0.0
5 Forge Wood Primary School	RH10 3SW	53.1	51.1	50.4	-2.7	-0.7
3 Hever Church of England Voluntary Aided Primary School	TN8 7NH	52.5	52.3	53.1	0.6	0.8
43 Kid Co Ltd	RH6 9SW	59.4	57.6	57.4	-2.0	-0.2
24 Lingfield College	RH7 6PH	55.6	55.1	55.9	0.3	0.8
21 Lingfield Primary School	RH7 6HA	55.6	55.1	55.9	0.3	0.8
27 Marsh Green Pre-school	TN8 5QR	54.2	53.9	54.6	0.4	0.7
4 Scott Broadwood C of E Infant School	RH5 5JX	53.6	51.6	52.9	-0.7	1.3
22 St Piers School (Young Epilepsy)	RH7 6PW	55.6	55.1	55.9	0.3	0.8
46 The Little House Montessori	RH6 9RG	65.4	64.7	65.4	0.0	0.7
9 The Stables Nursery School	RH19 2LF	52.3	51.9	52.7	0.4	0.8
26 Wee One's Day Nursery & Pre School	RH7 6HD	55.2	54.8	55.6	0.4	0.8
23 Young Epilepsy (The National Centre for Young People with Epilepsy)	RH7 6PW	55.6	55.1	55.9	0.3	0.8
Hospitals						
1 Edenbridge & District War Memorial Hospital	TN8 5DA	52.8	52.6	53.3	0.5	0.7
Places of Worship						
29 Chapel (Private)	RH7	55.5	55.0	55.8	0.3	0.8
14 Gurdwara Sri Guru Singh Sabha Temple	RH11 0NU	53.7	51.5	50.5	-3.2	-1.0
11 John the Baptist church, Okewood	RH5 5GT	52.0	<51	51.3	-0.7	-
31 Kingdom Hall of Jehovah's Witnesses	TN8	54.2	53.8	54.6	0.4	0.8
30 Providence Chapel	RH6	55.7	53.2	53.7	-2.0	0.5
49 St Bartholomew C of E Church Rectory	RH6 9RG	65.7	65.0	65.7	0.0	0.7
42 St Bernard's Church	RH7	56.0	55.5	56.3	0.3	0.8
10 St John the Baptist's Church, Capel	RH5	53.4	51.4	52.7	-0.7	1.3
33 St John's Church	TN8	54.2	53.9	54.6	0.4	0.7
20 St Mary Magdalene Church	RH12 4PX	53.4	51.6	51.9	-1.5	0.3

Name	Postcode	2019	2032 Baseline	2032 with Project	2032 with Project-2019 Base	2032 with Project-2032 Base
28 St Michael and All Angels' Church	RH11	65.6	63.7	62.5	-3.1	-1.2
40 St Nicholas' Church	RH6 0EE	56.0	53.7	54.7	-1.3	1.0
28 St Peter and St Paul's Church	RH7	55.7	55.2	56.0	0.3	0.8
13 St Peter's C of E Church	TN8 7NH	52.5	52.3	53.1	0.6	0.8
38 The Chapel	RH6 0DQ	57.9	55.5	56.8	-1.1	1.3
35 The Church of St Peter & St Paul	RH7 6BP	55.2	54.8	55.6	0.4	0.8
36 The London Temple	RH7 6HW	57.2	56.4	57.2	0.0	0.8
50 Touchwood Chapel	RH6	68.6	67.4	68.1	-0.5	0.7
Community Buildings						
15 Gurjar Hindu Union	RH11 0AF	53.8	51.5	50.3	-3.5	-1.2
18 Hever Village Hall	TN8 7NH	52.6	52.4	53.2	0.6	0.8
37 Lingfield & Dormansland Community Centre	RH7 6AB	56.2	55.7	56.4	0.2	0.7
45 Newchapel Hall	RH7 6HR	60.2	59.6	60.4	0.2	0.8
16 Okewood Hill Village Hall	RH5 5PU	54.7	53.0	53.9	-0.8	0.9
17 Parish Hall	RH6 0DS	55.2	53.0	53.8	-1.4	0.8
12 The Ellens Green Memorial Hall	RH12 3AS	52.5	51.1	51.9	-0.6	0.8
Heritage Assets						
52 Lowfield Heath Windmill	RH6 0EQ	57.9	55.7	57.7	-0.2	2.0
51 Thunderfield Castle site	RH6 9PP	52.9	51.1	52.3	-0.6	1.2

4.3.2 The table below shows the predicted $L_{eq\ 16\ hr}$ day noise levels in the base case and 2032 Project slower transition fleet case at 21 schools, one hospital, 18 places of worship and 7 community buildings.

Table 4.3.2: Noise Sensitive Buildings, $L_{eq\ 16\ hr}$ day Noise Levels and Changes (Slower Transition Fleet Case)

Name	Postcode	2019	2032 Baseline	2032 with Project	2032 with Project-2019 Base	2032 with Project-2032 Base
Schools						
44 Acorn Cottage Cranbrook Nursery Ltd	RH6 9TE	60.4	59.9	59.9	-0.5	0.0
25 Aurora Redehall School	RH6 9QA	56.4	55.9	57.1	0.7	1.2
8 Brookfield Day Nursery	RH10 9TR	54.5	53.7	54.4	-0.1	0.7
6 Capel Pre School	RH5 5JX	53.5	52.6	53.9	0.4	1.3
47 Charlwood House Day Nursery	RH11 0QA	66.3	65.6	62.6	-3.7	-3.0
2 Charlwood Village Primary School	RH6 0DA	55.3	54.6	55.2	-0.1	0.6
7 Chiddingstone Nursery	TN8 7AD	51.0	51.1	51.9	0.9	0.8
42 Childcare & Learning Ltd	RH6 9SW	58.9	58.4	58.2	-0.7	-0.2
41 Cranbrook Nursery	RH6 9TE	59.7	59.2	59.2	-0.5	0.0

Name	Postcode	2019	2032 Baseline	2032 with Project	2032 with Project-2019 Base	2032 with Project-2032 Base
5 Forge Wood Primary School	RH10 3SW	53.1	52.6	52.0	-1.1	-0.6
3 Hever Church of England Voluntary Aided Primary School	TN8 7NH	52.5	52.6	53.4	0.9	0.8
43 Kid Co Ltd	RH6 9SW	59.4	58.9	58.7	-0.7	-0.2
24 Lingfield College	RH7 6PH	55.6	55.6	56.4	0.8	0.8
21 Lingfield Primary School	RH7 6HA	55.6	55.6	56.4	0.8	0.8
27 Marsh Green Pre-school	TN8 5QR	54.2	54.2	55.0	0.8	0.8
4 Scott Broadwood C of E Infant School	RH5 5JX	53.6	52.6	54.0	0.4	1.4
22 St Piers School (Young Epilepsy)	RH7 6PW	55.6	55.6	56.4	0.8	0.8
46 The Little House Montessori	RH6 9RG	65.4	65.3	65.9	0.5	0.6
9 The Stables Nursery School	RH19 2LF	52.3	52.3	53.1	0.8	0.8
26 Wee One's Day Nursery & Pre School	RH7 6HD	55.2	55.2	56.0	0.8	0.8
23 Young Epilepsy (The National Centre for Young People with Epilepsy)	RH7 6PW	55.6	55.6	56.4	0.8	0.8
Hospitals						
1 Edenbridge & District War Memorial Hospital	TN8 5DA	52.8	52.9	53.6	0.8	0.7
Places of Worship						
29 Chapel (Private)	RH7	55.5	55.5	56.3	0.8	0.8
14 Gurdwara Sri Guru Singh Sabha Temple	RH11 0NU	53.7	53.1	52.2	-1.5	-0.9
11 John the Baptist church, Okewood	RH5 5GT	52.0	51.4	52.4	0.4	1.0
31 Kingdom Hall of Jehovah's Witnesses	TN8	54.2	54.2	55.0	0.8	0.8
30 Providence Chapel	RH6	55.7	54.9	55.5	-0.2	0.6
49 St Bartholomew C of E Church Rectory	RH6 9RG	65.7	65.6	66.3	0.6	0.7
42 St Bernard's Church	RH7	56.0	56.0	56.8	0.8	0.8
10 St John the Baptist's Church, Capel	RH5	53.4	52.4	53.8	0.4	1.4
33 St John's Church	TN8	54.2	54.2	55.0	0.8	0.8
20 St Mary Magdalene Church	RH12 4PX	53.4	52.9	53.1	-0.3	0.2
28 St Michael and All Angels' Church	RH11	65.6	65.1	64.1	-1.5	-1.0
40 St Nicholas' Church	RH6 0EE	56.0	55.3	56.4	0.4	1.1
28 St Peter and St Paul's Church	RH7	55.7	55.6	56.4	0.7	0.8
13 St Peter's C of E Church	TN8 7NH	52.5	52.6	53.4	0.9	0.8
38 The Chapel	RH6 0DQ	57.9	57.2	58.5	0.6	1.3
35 The Church of St Peter & St Paul	RH7 6BP	55.2	55.2	56.0	0.8	0.8
36 The London Temple	RH7 6HW	57.2	57.0	57.8	0.6	0.8
50 Touchwood Chapel	RH6	68.6	68.2	68.9	0.3	0.7
Community Buildings						
15 Gurjar Hindu Union	RH11 0AF	53.8	53.1	52.1	-1.7	-1.0
18 Hever Village Hall	TN8 7NH	52.6	52.7	53.5	0.9	0.8

Name	Postcode	2019	2032 Baseline	2032 with Project	2032 with Project-2019 Base	2032 with Project-2032 Base
37 Lingfield & Dormansland Community Centre	RH7 6AB	56.2	56.1	56.9	0.7	0.8
45 Newchapel Hall	RH7 6HR	60.2	60.1	60.9	0.7	0.8
16 Okewood Hill Village Hall	RH5 5PU	54.7	54.1	54.9	0.2	0.8
17 Parish Hall	RH6 0DS	55.2	54.5	55.5	0.3	1.0
12 The Ellens Green Memorial Hall	RH12 3AS	52.5	52.0	52.8	0.3	0.8
Heritage Assets						
52 Lowfield Heath Windmill	RH6 0EQ	57.9	57.2	59.2	1.3	2.0
51 Thunderfield Castle site	RH6 9PP	52.9	52.3	53.5	0.6	1.2

5 Sensitivity Tests

5.1 Runway Modal Split

5.1.1 The ratio of westerly (ie Runway 26) and easterly (ie Runway 08) operations is referred to as the runway modal split. In the summer daytime of 2019 this was 73% westerly and 27% easterly, and in the night-time it was 72% westerly and 28% easterly. Because wind conditions vary from year to year, so does modal split. In 2019 the long term average day and night 'standard' modal split 2019 was 75/25 and this modal split has been used in the baseline and all forecast years used in this assessment.

5.1.2 The results of modelling for variations in runway modal split are shown in Table 5.1.1.

Table 5.1.1: 2029 Runway Modal Split Sensitivity Tests, Summary

	90W/10E	80W/20E	70W/30E	60W/40E	50W/50E
$L_{eq\ 16\ hr}$ Day 51dB Area	135.9	135.4	134.8	133.6	132.1
$L_{eq\ 16\ hr}$ Day 51dB Population	19400	20,500	22,200	23,200	23,700
$L_{eq\ 8\ hr}$ Night 45 dB Area	148.2	148.4	147.8	146.8	145.6
$L_{eq\ 8\ hr}$ Night 45 dB Population	23900	24700	24600	24700	25100

6 WebTAG

6.1 Results

6.1.1 The CAA noise modelling team carried out a WebTAG assessment for air noise using the 2029 and 2038 noise modelling results for the Project. The results are provided in the table below.

6.1.2 There has been an error, which the CAA has confirmed, in the DfT Workbook for some time, which has been uncorrected. The noise Workbook in WebTAG has been used for many years now for roads and railways. More recent aviation policy has defined the Lowest Observable Adverse Effects Levels (LOAEL) for aviation as $L_{eq\ 16\ hr\ day}$ 51 dB and $L_{eq\ 8\ hour}$ night 45 dB.. In response to the policy defining LOAEL for aviation noise, the DfT added a sensitivity test for aviation to exclude the analysis of levels below $L_{eq\ 16hr}$ 51 dB. Unfortunately, in doing so they also excluded the analysis of levels below $L_{eq\ 8\ hr}$ night 51 dB which wrongly changed the night noise element. The CAA confirmed this as an error [2] and provided the webTAG workbook results as follows.

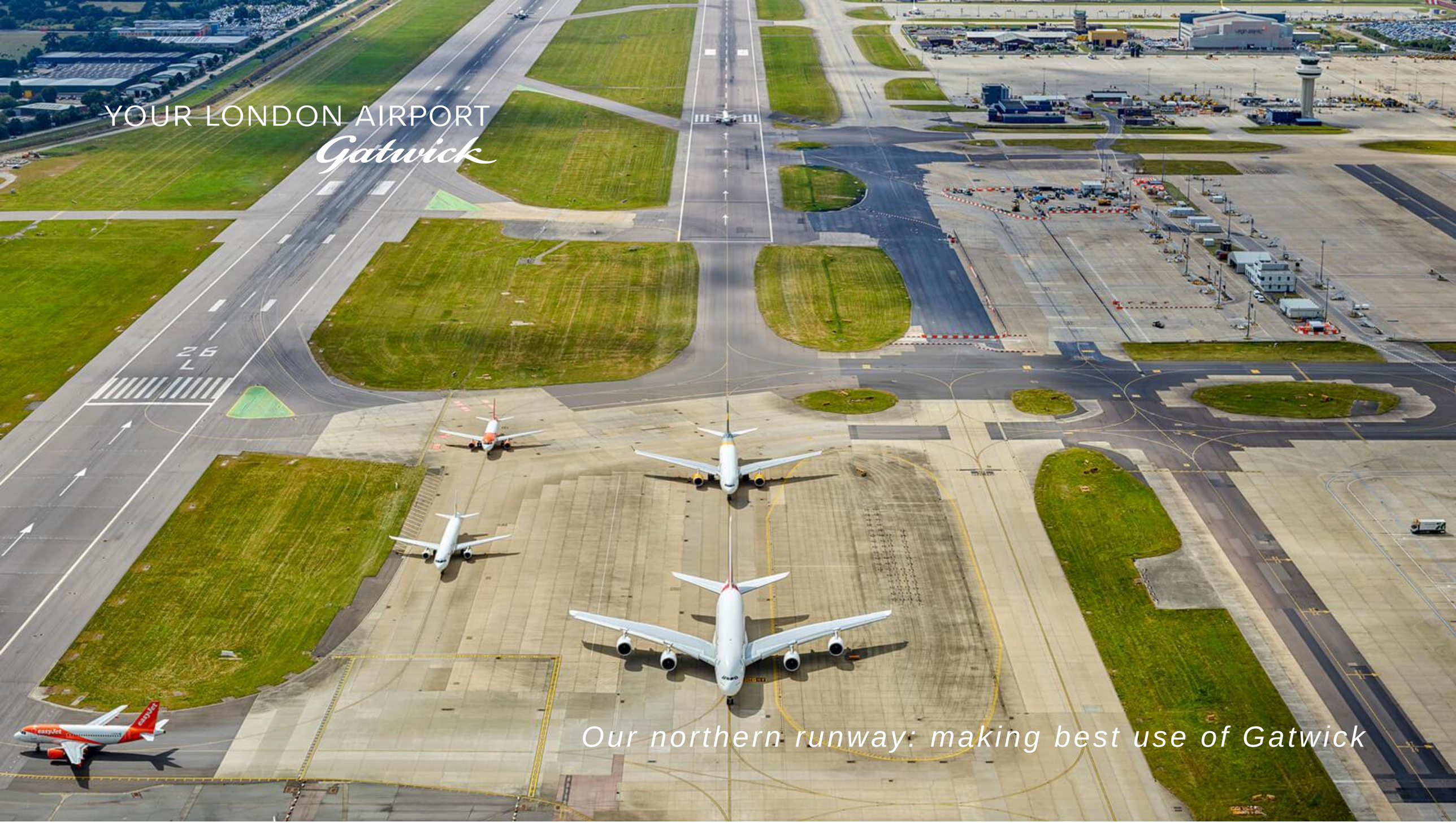
Table 6.1.1: WebTAG Noise Appraisal

	Central Case Fleet **Sensitivity test excluding impacts below 51 dB (for aviation proposals only) Corrected**	**Slower Transition Fleet** **Sensitivity test excluding impacts below 51 dB (for aviation proposals only) Corrected**
Net present value of change in noise (£, 2010 prices):	-£10,737,264	-£12,214,326
Net present value of impact on sleep disturbance (£, 2010 prices):	-£3,482,621	-£4,505,727
Net present value of impact on amenity (£, 2010 prices):	-£5,133,847	-£5,467,146
Net present value of impact on AMI (£, 2010 prices):	-£48,372	-£64,818
Net present value of impact on stroke (£, 2010 prices):	-£826,173	-£867,816
Net present value of impact on dementia (£, 2010 prices):	-£1,246,250	-£1,308,819

*positive value reflects a **net benefit** (ie a reduction in noise)

6.1.3 A number of assumptions are made in order to complete the workbook. There is an assumption that for the 47 years beyond 2038 noise levels are assumed constant in order to arrive at a 60 year discounted appraisal result. This is unlikely and more so for night noise given the night noise restrictions which are expected to prevail. The sleep disturbance costs are less than half the total. This is shown in the night noise contours changing less than day contours because of the assumption that the northern runway would not be used routinely between 2300 and 0600 hours.

[2] Email from CAA, ERCD to Mitchell Environmental Ltd, 4 April 2021



Preliminary Environmental Information Report
Appendix 14.9.3: Ground Noise

September 2021

Table of Contents

1 Introduction

1.1 General

1.1.1 This document forms Appendix 14.9.3 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides details of the ground noise modelling for the Project.

2 Baseline Study

2.1 Baseline Receptor Noise Survey

2.1.1 For the assessment of ground noise, around the perimeter of the airport, long term average L_{Aeq} noise levels over the day (07:00-23:00) and night (23:00-07:00) periods have been calculated with reference to the results of a 2-week baseline noise survey in 2016. The 12 sites surveyed are shown in Figure 14.4.1. The overall average daytime and night-time measured L_{Aeq} sound levels, including all noise sources, are shown at Table 2.1.1. The pattern of ground operations on the airfield is different between the two runway modes of operation (26 and 08) so the survey results for the two runway modes are reported separately.

Table 2.1.1: Summary of Average 2016 Baseline Measurements

Descriptor	Location ($L_{Aeq,\,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
26 Daytime	56	60	61	58	51	55	60	60	67	60	56	61
26 Night	50	54	55	50	44	52	56	56	61	54	51	56
08 Daytime	53	56	57	56	48	57	60	61	66	60	59	68
08 Night	52	54	55	53	47	54	55	56	61	56	54	61

2.1.2 It should be noted that the long-term average results of the 2016 baseline survey are generally representative of neutral weather conditions (typically characterised by low wind speeds) which have relatively little effect on the propagation of noise.

2.1.3 The 2016 baseline ground noise has been predicted at the same receptor locations that were used for the measurements. The results are presented at Table 14.6.4 in Chapter 14 of the PEIR. It is noted that these do not include road traffic or air noise.

2.1.4 The predicted 2016 baseline noise levels (presented in Chapter 14 of the PEIR) are, in some cases, higher than the average measured 2016 baseline noise levels. For locations where ground noise is dominating the ambient noise environment, this is not unexpected since although the predictions represent have been corrected for average wind conditions, this is a conservative correction and can still be considered to represent a realistic worst-case scenario. The noise propagation methodology used in the ground noise modelling is carried out according to ISO9613-2 and within the scope of this standard it states:

'The method predicts the equivalent continuous A-weighted sound pressure level (as described in parts 1 to 3 of IS0 1996) under meteorological conditions favourable to propagation from sources of known sound emission. These conditions are for downwind propagation, as specified in 5.4.3.3 of IS0 1996-21987…'

2.1.5 Since the current version of ISO9613 was published in 1996, the other standard referred to (ISO1996) has been updated and the latest version published in 2017 includes details about expected propagation under downwind conditions at Annex G. Annex G discusses an example of traffic noise predicted at 200 m from a road providing a figure which demonstrates 7-10 dB increase between neutral weather conditions and 'very favourable' downwind weather conditions. In order to consider downwind propagation of ground noise at Gatwick, the results of the 2016 baseline survey have been analysed to find the maximum measured $L_{Aeq,\,1\text{-hour}}$ levels at each location (for day and night periods separately). The long-term average levels have then been subtracted from the maximum 1-hour averages to show the maximum upward variance in measured noise levels as shown below.

Table 2.1.2: Summary of Maximum Variance in measured 2016 Baseline Levels above the mean (dB L_{Aeq})

Descriptor	Location ($L_{Aeq,\,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
26 Daytime	7	7	5	6	10	8	4	5	3	6	6	4
26 Night	8	8	8	7	8	7	6	5	8	9	9	4
08 Daytime	10	7	7	5	14	15	12	6	4	5	4	2
08 Night	11	11	12	9	9	6	5	7	10	9	9	7

2.1.6 It can be seen that the variation in the measured 2016 baseline noise, in terms of the maximum variance above the long-term average, generally shows some 1-hour periods over the baseline survey where favourable downwind conditions occurred resulting in a 7-10 dB increase in ground noise.

2.1.7 Allowing for this variation in the baseline noise measurements, and expected increase due to favourable downwind conditions, the 2016 predicted ground noise levels (presented at Chapter 14 of the PEIR) are within the expected range.

2.2 Model Review

2.2.1 Hayes Mckenzie has developed an equivalent point source noise model for predicting airport ground noise, and this has previously been used for ground noise assessment at Gatwick Airport. Whilst the acoustic propagation within this model is based on methodology within ISO9613-2, the parameters which are used for defining the equivalent point sources have been developed over a number of years by Hayes McKenzie. A review of the existing ground noise model parameters was carried out and it was identified that source noise data for aircraft were quite out of date and required updating if possible. A study carried out at Madrid Airport (Ansensio *et al*., 2007) provided some useful source noise data for comparison with the data used in previous ground noise modelling exercises (most recently for the 2019 master plan). A brief review of the derived source noise data from the Madrid Airport study confirmed that data used in previous ground noise modelling carried out for Gatwick were appropriate, if slightly conservative by comparison. However, the data are now more than 10 years old and do not include next generation aircraft such as the Airbus A320 Neo. The methodology used in the Madrid Airport study provides a useful measurement protocol for estimating the sound power of taxiing aircraft and this was used as a basis for a survey of taxiing aircraft noise at Gatwick carried out in March/April 2019 (see Section 2.3).

2.2.2 More recently, some work sponsored by the Federal Aviation Administration (FAA) was published by the National Academy of Science as a web-based document (National Academies of Sciences, Engineering, and Medicine, 2013) and this builds on the work carried out at Madrid Airport. This National Academy of Science document presents measurements carried out by Wyle Laboratories at Washington (Dulles) Airport and provides comparison with the data from Madrid Airport. The data in this document are more difficult to interpret in relation to the data used in previous Gatwick modelling as they are not provided in a comparable format. The document was written with the view to developing the FAA's noise modelling software for use in ground noise modelling and noise levels are represented in dB Sound Exposure Levels (SELs) for standard distances from aircraft as defined and used in the FAA models. Whilst the presented noise levels are not directly comparable, the results do provide more confidence in the results of the Madrid Airport aircraft taxi noise measurements. In addition, the measurement protocol used by the Wyle Laboratories is very similar to that used in the Madrid Airport study.

Wind Speed and Direction

2.2.3 Another aspect of the noise model that has been reviewed is the inherent effect of wind speed and direction on predicted noise levels. Since the wind direction determines whether the airport operates in runway 08 or runway 26 mode, it would seem appropriate to allow for wind conditions in the noise model. As discussed at paragraph 2.1.4, the ISO 9613-2 methodology results in an absolute worst-case "downwind" predicted noise level and although there is some discussion about a meteorological correction, there is no detailed methodology for implementing this and the standard does not provide clear guidance on how to correct predicted noise levels for average wind conditions.

2.2.4 In order to make an allowance for the average wind conditions experienced during the typical 92-day summer period, various methodologies were considered. A potentially suitable meteorological correction was found within a road traffic noise model published by the Acoustical Society of Japan (ASJ RTN 2018) and this was investigated further to understand the relevance to airport ground noise. Section 3.6 on the road traffic noise model is relatively brief and provides a simple formula for correcting overall A-weighted L_{Aeq} levels to account for meteorological effects. The model is based around determining predicted noise levels for neutral wind conditions over relatively short distances so the correction can be positive or negative depending on whether the conditions are favourable (downwind) or unfavourable (upwind).

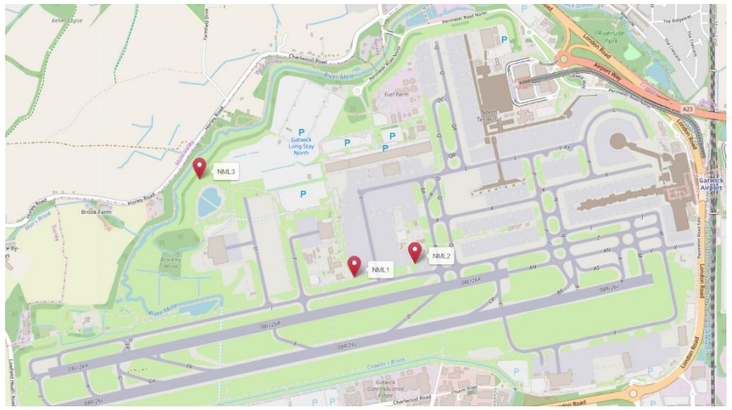
2.2.5 The origin of the meteorological correction in the road traffic noise model is referenced to a study published in 1983 and written by H. Tachibana, (Study on the practical prediction of the effect of wind on noise propagation) which describes the setup of a scale model experiment carried out in a wind tunnel that accurately reflects the results of field measurements presented in another study. The field measurements used for comparison were carried out by P. H. Parkin and W. E. Scholes and published in the Journal of Sound and vibration in 1965 (The Horizontal Propagation of Sound from a Jet Engine Close to The Ground, at Hatfield). These comprehensive measurements carried out by Parkin and Scholes are of particular relevance since they were carried out to measure propagation of noise from an aircraft jet engine under a range of wind conditions measured over long distances with the furthest measurement positions being in excess of 1 km from the noise source (jet engine).

2.2.6 Whilst the meteorological correction is presented within a road traffic noise model that corrects a prediction for neutral wind conditions (rather than correcting a worst-case downwind prediction), it is still considered to be relevant to the airport ground noise model. The fact that the research carried out to derive the meteorological correction has been verified through comparison with measurements of jet engine noise over long distances, gives confidence that the correction will provide a reasonable estimate of the effect of average wind conditions on long term average ground noise predictions.

2.3 Source Noise Survey

2.3.1 In order to provide more current data for Gatwick Airport, unattended sound level measurements were conducted over a period of 32 days between 21 March and 22 April 2019. Equipment was installed at three noise monitoring locations (NMLs) considered to be appropriate for measuring noise from aircraft taxi movements. The measurement locations are labelled NML 1, NML 2 and NML 3 and are shown at Diagram 2.3.1.

Diagram 2.3.1: NML Location Plan



2.3.2 At each NML, a Rion NL-52 Sound Level Meter fitted with a ½ inch microphone complying with the Class 1 standard in IEC 61672-1 (IEC, 2013) was installed, mounted on a tripod, at approximately 1.2 metres height, as shown at Diagram 2.3.2 to Diagram 2.3.4. At each NML, the microphone was located within a double-skinned windshield consisting of a 45 mm foam ball surrounded by a 125 mm radius secondary windshield of 40 mm thickness. The equipment was set up to measure the L_{Aeq} and L_{A90} noise level in 10-minute intervals along with 1-second Leq data in ⅓-octave bands and audio recording to allow further analysis of the measurements as necessary.

2.3.3 Calibration was carried out on all meters using a B&K type 4231 Acoustic Calibrator (s/n 2699280) with a level of 94.06 dB at the start of the survey and checked at the end with the same field calibrator. A drift of no more than 0.3 dB in the calibration was observed in any of the meters which is within normal tolerances and no correction was therefore required (or made) to the measured levels. All equipment was within its relevant laboratory calibration period.

2.3.4 Meteorological data including rainfall and wind speeds in 10-minute intervals were collected from the on-site runway midpoint meteorological station. Obtaining this weather data enabled periods of rainfall and high wind speeds to be considered and excluded from the derivation of the representative sound levels as necessary. These factors are less significant for aircraft pass-bys at NML 1 and NML 2 but could potentially increase the measured background sound levels at NML 3.

NML 1

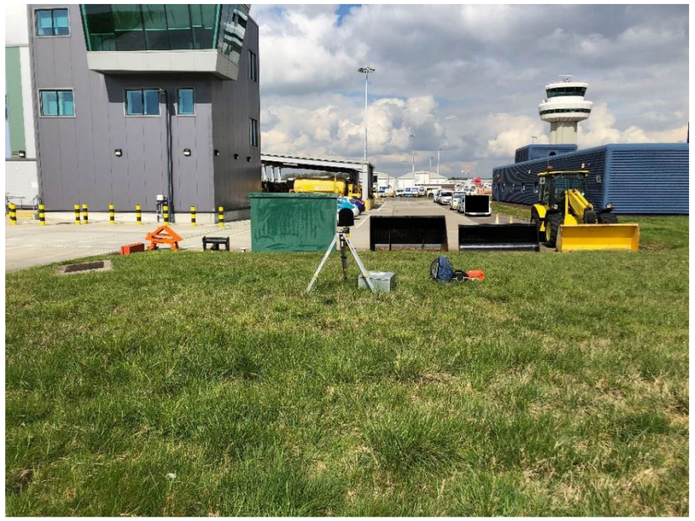
2.3.5 At NML 1, the monitoring equipment was installed on an area of grass beside an access road near to some disused maintenance hangers at the end of Larkins Road. The sound level meter was positioned at approximately 3 metres from the edge of the access road, 40 metres from the edge of Taxiway Juliet and 123 metres from the edge of the northern runway. The noise environment at NML 1 was dominated by taxiing aircraft passing on Taxiway Juliet and take-offs on the main runway. Aircraft landing on the main runway, more distant taxiing aircraft and occasional vehicles on the access road could also be heard.

Diagram 2.3.2: Photographs of NML 1

NML 2

2.3.6 At NML 2, the monitoring equipment was installed on an area of grass in front of the operations building. The sound level meter was positioned at approximately 44 metres from the edge of Taxiway Juliet and 127 metres from the edge of the northern runway. The noise environment at NML 2 was dominated by taxiing aircraft passing on Taxiway Juliet and take-offs on the main runway. Aircraft landing on the main runway, more distant taxiing aircraft and occasional vehicle movements related to the operations building could also be heard.

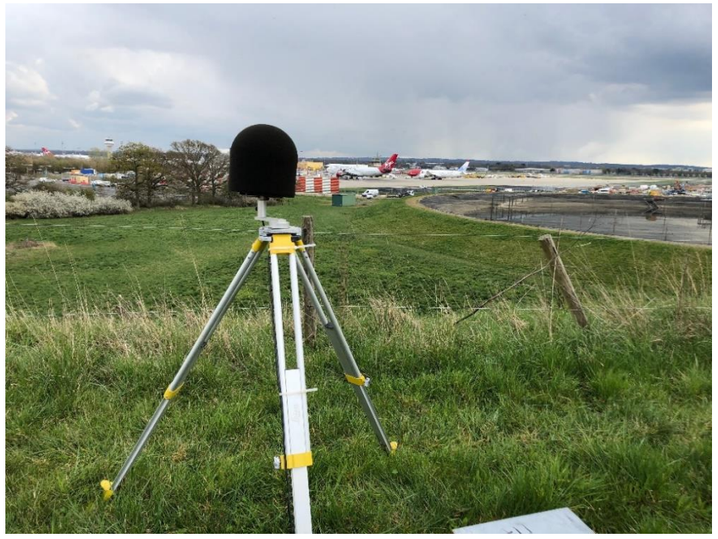
Diagram 2.3.3: Photographs of NML 2



NML 3

2.3.7 At NML 3, the monitoring equipment was installed on top of the north bund near to a holding pond behind the Boeing hangar development site. The sound level meter was positioned at the following latitude/longitude coordinates: 51.156737, -0.200590. The noise environment at NML 3 included take-offs and landings on the main runway, distant taxiing aircraft and reversing beepers/other sporadic noises from the Boeing hangar construction site (under construction at the time of survey).

Diagram 2.3.4: Photographs of NML 3



Aircraft Logging

2.3.8 In addition to the noise data, it was also necessary to keep a log of aircraft passing the microphones at NML 1 and NML 2 in order to allow detailed analysis of noise levels generated by particular types of taxiing aircraft.

2.3.9 Initially, when the equipment was installed in March (2019), a manned survey of the aircraft was carried out over 2-3 hours from the observation room in the operations building using GPS time and binoculars to note down aircraft registration and times. During this manned survey, the surveyors (Hayes McKenzie) were also provided access to the Gatwick situational awareness tool which provides live (and historical) radar data showing the exact location of aircraft taking off, landing and taxiing around the airport. The manned survey log sheets correlated perfectly with information obtained from the situational awareness tool and it was decided that all further information required for the aircraft log sheets could be obtained remotely through access to the situational awareness tool.

2.3.10 For the purposes of calculating source noise data used in the model for this assessment, approximately two weeks of aircraft log data was processed representing a large dataset of recorded aircraft pass-bys.

Results

2.3.11 The survey results were filtered to only include measurements where no take-offs or landings were happening whilst taxing aircraft travelled along the section of Taxiway Juliet that was used in the measurements. Results were also filtered to ensure that no measurements were included where a taxiing aircraft passing a microphone was within one minute of another aircraft passing the same microphone. Based on the two weeks of aircraft log data, a total of 1460, 98, 36, and 130 samples were obtained for the A320, A320 Neo, B747 and B787 aircraft respectively. Following the filtering described above the total numbers reduce to 484, 35, 9 and 49 for the A320, A320 Neo, B747 and B787 aircraft respectively. It was also decided that since the A320N and the A321N both use the same GE engine, results of these two aircraft types would be combined in order to provide a greater dataset for the sound power level assumed to be representative of the majority of small (Category C) next generation aircraft. Combining the two datasets provided a total of 58 samples from A320N and A321N aircraft after filtering. Some manual filtering was also made where it was considered that particular recordings appeared to be outliers based on the recorded noise profile not fitting with the expected trend.

3 Updated Source Terms

3.1.1 Detailed analysis of the results of the source noise survey revealed overall A-weighted maximum sound power levels (varies significantly with directivity) of 133 dBA, 130 dBA, 142 dBA and 137 dBA for the A320, A320 Neo, B747 and B787 aircraft respectively. This indicates that the next generation aircraft are 3 – 5 dB quieter than older aircraft (at source) when taxiing and this has been taken into account within the noise model.

3.1.2 The calculated sound power levels for each aircraft type are presented in octave bands at Table 2.3.1 below. It should be noted that due to difficulties with accurately measuring in the 31.5 Hz octave band, calculated levels in the 63 Hz band have been assumed to be representative of levels in the 31.5 Hz band.

Table 2.3.1: Calculated Sound Power Levels

Aircraft Type	Octave Band Sound Power dB L_{wA}									Overall L_{wA}
	31.5	63	125	250	500	1k	2k	4k	8k	
B747	125	125	130	135	133	135	133	136	128	142.2
B787	126	126	132	132	127	120	120	120	119	137
A320	124	124	128	125	123	123	122	121	117	133.2
A320 Neo	118	118	121	123	123	121	118	120	117	129.9

4 Prediction Model

4.1.1 Aircraft ground noise is assessed by carrying out predictions of noise levels arising from the proposed change in taxi routes and number and type of aircraft using the taxi routes. The accuracy of the ground noise predictions depends on the quality of the input noise data and the assumptions used in the prediction model.

4.1.2 Predictions of aircraft ground noise have been carried out in the noise modelling software CadnaA. Modelling has been carried out for the existing baseline situation comprising actual traffic data covering the 92-day summer period (as used for air noise). This modelling was initially carried out as part of the 2019 Gatwick Master Plan but the model has been used as a basis for future baseline predictions and it is considered that the key assumptions relating to aircraft taxi routes are also valid for this purpose. It should also be noted that the predicted ground noise levels provided for the 2019 masterplan have been updated based on the revised sound power data calculated as part of the survey discussed above within section 2.

4.2 Baseline Noise Model

4.2.1 For the 2019 master plan modelling, the total numbers of arrivals and departures for the relevant taxiways were derived from recorded movements supplied by GAL. Actual taxiways that were used have not been recorded in the recorded traffic data but the stand location is provided, and the taxiway on which a stand is located has been used to define the assumed taxi route for each individual movement (for the purposes of the model a single movement is considered to encompass both the arrival and departure of an aircraft). Movements were summed and averaged over the 92 day period to provide typical movements for the 16 hour day (07.00 to 23.00), and 8 hour night (23.00 to 07.00). The process of creating this model for the 2019 masterplan also provided information on the proportions of different aircraft using each of the defined taxiways for the daytime and night-time periods. These proportions of aircraft types on each of the defined taxiways have then been taken as representative of the current airport operation and used for interpretation of the predicted traffic data across all of the future baseline noise modelling.

4.2.2 Taxiing routes between the 'defined taxiways' which are marked on the airport plan (Quebec, Romeo, Sierra etc), and the runway have been interpreted from analysis carried out by London City Airport Consulting. The analysis shows the normal routes taken for aircraft arriving and departing under easterly and westerly operations separately. Based on routing diagrams provided by London City Airport Consulting, the most efficient routes between taxiways have been selected for inclusion in the baseline noise model.

Project Model

4.2.3 Modelling of the 'with Project' scenario has been based on specific arrival and departure routes around the airport supplied by GAL. The taxi routes are defined for Category C and Category E aircraft (small and large) travelling to six individual areas of the airport apron that are separated equally into three associated with the North Terminal and three associated with the South Terminal. These taxi routes are defined for day and night, separated into easterly and westerly operations. This results in 74 individual arrival and departure routes for daytime operation and 60 individual arrival and departure routes for night-time operation that are included within each run of the noise model.

Generic Aircraft Types

4.2.4 For the purposes of the 2019 master plan aircraft ground noise model, the many different aircraft types recorded were classed as either 'large' or 'small' generic types using the International Civil Aviation Organization (ICAO) wake category. The 'heavy' wake category has been used to indicate the first generic type (large), which is representative of the 'jumbo' size aircraft taxiing sound levels as first measured for the Heathrow Terminal 5 Public Inquiry. The 'medium' and 'light' wake categories have been used to indicate the second generic type which is representative of the majority of small standard size category twin-jet aircraft currently operating at Gatwick.

Source Noise Levels

4.2.5 Historically, source noise levels for the 'jumbo' size aircraft measured for Heathrow Terminal 5 Public Inquiry have been used to model large aircraft and measurements of an Airbus A319 aircraft carried out at Stansted Airport on 29 January 2007 have been used to model small aircraft. The small and large aircraft sizes correspond to GAL categories C and E respectively.

4.2.6 The taxiing noise source sound power levels used, in the pre-existing model (pre-2019 survey), for both large and small generic types were measured at 150 metre radius for both idle and breakaway thrust settings which were assumed to be typical for normal taxiing. There is sufficient residual thrust even at idle power settings to maintain forward motion during normal taxiing, but pilots can choose to use higher breakaway thrust settings for a few seconds to assist the aircraft to accelerate rapidly from rest or to negotiate a particularly sharp bend. Sound levels are not directly affected by the speed of taxiing but only by the thrust setting needed to maintain that speed.

4.2.7 The extent to which newer aircraft types may be quieter than those previously measured and used for the ground noise calculation model generated a significant uncertainty within the model. Since the fleet of aircraft at Gatwick will be changing over the coming years in terms of the number of next generation aircraft, it was deemed necessary to gather up-to-date source noise measurements that could be used to take this into account. As set out in Section 2.1, a survey was therefore conducted based on the principles set out in the research carried out at Madrid Airport (Ansensio *et al.,* 2007).

4.2.8 Historically (pre-2019 survey) the calculation model required an average sound power level to be calculated for taxiing operations based on the proportion of small and large aircraft types. The majority of air traffic at Gatwick falls into the small category and a statistical analysis of the supplied 2016 traffic data indicated that the lowest proportion of small aircraft using any of the defined taxiways for both easterly and westerly operation was 80.1% on Taxiway Lima. However, in order to further improve the accuracy of the modelling, each aircraft type included in the modelling for EIA purposes has now been modelled separately. The four aircraft types measured in the survey have been used to represent older small and large aircraft and next generation small and large aircraft accordingly. Forecast traffic numbers falling into each of these four categories of aircraft have been used to model noise from each aircraft category individually, producing a more accurate overall prediction of airport ground noise.

Directivity

4.2.9 Historical directivity patterns of small and large aircraft were determined by direct measurements at ten-degree increments around each of the two aircraft measured, with constant operating conditions throughout each measurement whilst the aircraft were stationary. The measurements of taxiing aircraft have been used to estimate the directivity pattern of each aircraft type following methodology used the research at Madrid Airport (Ansensio *et al.,* 2007). Frequency dependent directivity corrections have been applied within the model in 15-degree increments, based on the results of the measurements.

Calculation Method

4.2.10 The acoustic propagation model implemented within the CadnaA software is as set out in ISO 9613 Part 1 (ISO, 1993) and Part 2 (ISO, 1996), with point noise sources for taxiing noise assumed along a string of potential source locations covering the length of each of the baseline taxi routes and each of the 74 daytime and 60 night-time taxi routes for the development case scenarios. Ground absorption is assumed to be 0 for 'hard ground' over the airport apron and a coefficient of 0.6 has been used for all other ground absorption within the model.

4.2.11 The historical source sound power levels only offered overall A-weighted levels which was another factor affecting the accuracy and therefore the uncertainty of the previous model. Since updated source sound power levels have been obtained through measurements of taxiing aircraft in March and April 2019 it has been possible to derive octave band sound power levels which are considered to provide greater accuracy and lower overall uncertainty in the calculation. Remaining uncertainties that cannot be removed relate to environmental conditions and the effect these have on noise propagation. Air turbulence caused by cross winds or upwind obstructions can have a much bigger effect on A-weighted front end fan sound levels than any increases associated with breakaway thrust. It should be noted that ISO 9613 states that the methodology provides a nominal accuracy of ± 3 dB and the predicted noise levels can therefore be expected to vary this much due to the accuracy of the acoustic propagation model. In light of these known uncertainties in the modelling of environmental noise propagation it is best practice to conservatively allow for this to ensure that impacts are not underestimated. The inputs that are used for the modelling have been developed over a number of years (specifically in relation to ground noise at Gatwick) to ensure that results provide a conservative prediction. It should therefore be noted that the model is more likely to over-predict ground noise than under-predict it.

4.2.12 Whilst there should be some caution exercised to ensure that the noise model does not underpredict ground noise, it is also considered that assuming worst-case downwind conditions at all receivers for both easterly and westerly operations is simply too conservative. Following the review of the noise model (discussed at section 2.2 above), it is considered that a conservative estimate of the effects due to typical or average wind conditions can be obtained by using a meteorological correction outlined in a Japanese road traffic noise model (see paragraphs 2.2.3 - 2.2.6). The Japanese meteorological correction is derived so as to be applied to a prediction of noise under neutral wind conditions rather than a correction to be applied to a downwind noise prediction. The formula gives a correction ($\Delta L_{m,line}$) to overall A-weighted levels that is directly proportional to both wind speed and distance from the source and can be both positive or negative depending on wind direction as follows:

$$\Delta L_{\mathrm{m,line}} = \begin{cases} 0.88 \lg\left(\frac{l}{15}\right) \cdot U_{\mathrm{vec}} & l > 15 \\ 0 & l \leq 15 \end{cases},$$

Where l is the distance from the source in meters;

U_{Vec} = U.Cos(θ)

where U is the wind speed in m/s and

θ is the angle between the wind direction and the line perpendicular to the road through the prediction point.

4.2.13 In order to apply this meteorological correction to the worst-case downwind ground noise predictions, it is first necessary to convert from a worst-case downwind condition to something closer to neutral wind conditions. This has been conservatively estimated by calculating the correction for a downwind condition and subtracting this prior to applying the correction. This approach means that if a receiver is actually downwind of a noise source then the downwind correction would then be added back on and there would be no change to the predicted noise level.

4.2.14 It is also necessary to obtain representative values for typical wind conditions during easterly and westerly operations and for this purpose hourly meteorological observations from a centrally located weather station on the airfield at were obtained for the 92-day summer period in 2018. The wind speeds have been arithmetically averaged and the wind directions have been arithmetically averaged for day and night under easterly and westerly conditions separately. The averaged 2018 wind conditions used for the calculation of the meteorological correction (in all years) are summarised in the table below:

Table 4.2.1: Summary of 2018 92-day summer period typical wind conditions

Description	Ave wind speed	Ave wind direction
East Day	2.7	69.5
East Night	2.0	65.4
West Day	2.9	243.1
West Night	2.0	239.3

Taxiing Assumptions

4.2.15 All taxiing noise sources have been assumed to be at a height of 3 metres above ground level; this is based on the average centreline height of the jet engines on larger aircraft types. The taxiways have then been split into a series of segments represented by point sources and the locations of these taxiing noise sources have been agreed with GAL.

4.2.16 The model was set up with each straight length of taxiway divided into a series of short segments of around 100 metres. All bends in the main taxiways are represented by multiple short straight-line segments, which are assumed to be traversed at lower speed than for straight lengths of taxiway to represent typical queuing which occurs at sharp bends and at the pre-departure runway thresholds. Depending upon the time of day, the total numbers of aircraft along a given route can then be multiplied by the time spent on each separate segment represented by a point source. This provides an 'on time' which is dependent on the assumed speed at which each aircraft taxis across each taxiway segment and the assumed length of that segment.

4.2.17 Each aircraft travelling across each segment of taxiway is assumed to be positioned on the centre of each segment for as long as it would take to traverse that segment at the assumed standard taxiing speeds of 10 m/s for normal taxiing and 3 m/s when negotiating bends. At receiver locations outside the airport boundary this achieves exactly the same results as assuming continuous progression through each segment. Observations in the research at Madrid Airport and also the observations from the 2019 Gatwick Airport survey of taxi noise along Taxiway Juliet indicate that 10 m/s is a suitable assumption for constant speed along a straight section of taxiway.

Noise Barriers

4.2.18 Only those physical structures which make a significant contribution to screening in different directions within and around

the airport are included in the model. For the baseline modelling, these are:

- the existing noise wall to the north east of the airport north of North Terminal Pier 4 and South Terminal Pier 3;
- the earth bunds around the end of the runway and North Terminal long stay car park;
- the existing terminal buildings and cargo sheds; and
- the existing piers at the North and South Terminals.

4.2.19 For the with Project case this is slightly different as follows:

- the existing earth bund at the end of the runway needs to be removed to allow for the development to take place; and
- an additional barrier would be built into the Project design to replace the functionality of the earth bund as much as possible as described within Section 14.8 of the PEIR Chapter 14: Noise and Vibration.

5 Primary Metric (L_{Aeq}) Results

5.1 Baseline

First Full Year of Opening: 2029

5.1.1 With reference to the 12 assessment locations listed in Chapter 14 and shown at Figure 14.4.1 (see Volume 2 of the PEIR), the predicted ground noise baseline levels are presented for each of the locations in Table 5.1.1

Table 5.1.1: Summary of Ground Noise 2029 Future Baseline Predicted Levels (dB L_{Aeq})

Descriptor	Location ($L_{Aeq,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
2029 - 026 Daytime	46	45	51	51	46	54	55	59	48	58	54	51
2029 - 026 Night	46	45	50	49	44	52	52	55	47	56	51	47
2029 - 08 Daytime	53	56	56	55	49	55	51	51	60	61	52	42
2029 - 08 Night	49	51	51	50	45	52	48	49	56	58	49	40

Design Year: 2038

5.1.2 The predicted ground noise baseline in 2038 is presented in Table 5.1.2.

Table 5.1.2: Summary of Ground Noise 2038 Future Baseline Predicted Levels (dB L_{Aeq})

Descriptor	Location ($L_{Aeq,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
2038 - 26 Daytime	44	43	49	49	44	52	54	57	46	56	52	49
2038 - 26 Night	44	43	49	47	43	50	50	54	46	55	49	45
2038 - 08 Daytime	51	54	54	53	48	54	49	50	58	60	50	41
2038 - 08 Night	47	49	50	49	44	50	47	48	55	57	47	38

5.2 With Project Scenario

First Full Year of Opening: 2029

5.2.1 As part of the Project, mitigation in the form of noise barriers has been proposed and has been included in the results presented in Table 5.2.1, with the difference between the predicted levels and the 2029 baseline shown in Table 5.2.2.

Table 5.2.1: Summary of Ground Noise 2029 Predicted Level (dB L_{Aeq})

Descriptor	Location ($L_{Aeq,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
2029 - 26 Daytime	50	50	56	54	48	55	56	59	51	61	53	51
2029 - 26 Night	48	48	54	51	46	52	52	54	50	59	51	46
2029 - 08 Daytime	55	58	58	56	50	55	51	50	59	60	53	42
2029 - 08 Night	48	51	50	50	45	51	47	47	54	56	50	40

Table 5.2.2: Summary of Ground Noise 2029 Predicted Project Level versus 2029 Baseline, Differences (dB L_{Aeq})

Descriptor	Location ($L_{Aeq,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
2029 - 26 Daytime	3	4	5	3	2	1	1	0	3	3	0	0
2029 - 26 Night	3	3	4	2	2	1	0	-1	3	3	0	0
2029 - 08 Daytime	2	2	2	1	1	0	0	0	-1	-1	1	0
2029 - 08 Night	-1	0	-1	-1	0	-1	-1	-1	-3	-2	1	0

Design Year: 2038

5.2.2 As part of the Project, mitigation in the form of noise barriers has been proposed and has been included in the results presented below in Table 5.2.3 with the difference between the predicted levels and the 2038 baseline shown in Table 5.2.4.

5.2.3 The predicted level differences in Table 4.2.4 show some slightly (1 dB) larger differences than for the design year (2032) presented at Chapter 14: Noise and Vibration. However, these predicted changes are in the context of an overall lower predicted noise levels with the Project in 2038 due to a larger proportion of next generation aircraft in the fleet.

Table 5.2.3: Summary of Ground Noise 2038 Predicted Level (dB L_{Aeq})

Descriptor	Location ($L_{Aeq,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
2038 - 26 Daytime	49	49	55	53	47	54	55	58	50	60	52	49
2038 - 26 Night	48	47	53	50	45	51	51	53	50	59	50	45
2038 - 08 Daytime	54	56	57	55	49	54	50	50	57	59	52	42
2038 - 08 Night	46	49	49	49	44	50	46	46	52	55	49	39

Table 5.2.4: Summary of Ground Noise 2038 Predicted Project Level versus 2038 Baseline, Differences (dB L_{Aeq})

Descriptor	Location ($L_{Aeq,T}$ dB)											
	1	2	3	4	5	6	7	8	9	10	11	12
2038 - 26 Daytime	4	6	6	4	3	1	1	1	4	4	0	1
2038 - 26 Night	3	4	4	2	2	1	1	-1	4	4	0	0
2038 - 08 Daytime	2	3	2	2	1	1	1	0	-1	-1	1	1
2038 - 08 Night	-1	0	-1	0	0	-1	-1	-2	-3	-2	1	1

6 Secondary Metric (L_{Amax}) Results

6.1 Baseline

6.1.1 The number of maximum noise level events exceeding the day and night criteria, for the 2029 and 2038 future baseline scenarios (not presented in the main chapter), are summarised below.

Table 6.1.1: Summary of 2029 Future Baseline Aircraft Taxiing Events exceeding L_{Amax} Criteria

Descriptor	Total number of L_{Amax} events at Location											
	1	2	3	4	5	6	7	8	9	10	11	12
2029 - 26 Daytime (>65 dB)	0	0	0	0	0	0	0	4	0	12	0	0
2029 - 08 Daytime (>65 dB)	0	0	0	0	0	3	0	0	15	7	0	0
2029 - 26 Night (>60 dB)	0	1	6	0	0	1	2	9	0	23	1	0
2029 - 08 Night (>60 dB)	0	0	0	0	0	2	3	3	23	28	0	0

Table 6.1.2: Summary of 2038 Future Baseline Aircraft Taxiing Events exceeding L_{Amax} Criteria

Descriptor	Total number of L_{Amax} events at Location											
	1	2	3	4	5	6	7	8	9	10	11	12
2038 - 26 Daytime (>65 dB)	0	0	0	0	0	0	0	4	0	2	0	0
2038 - 08 Daytime (>65 dB)	0	0	0	0	0	4	0	0	15	9	0	0
2038 - 26 Night (>60 dB)	0	1	5	0	0	1	2	8	0	20	2	0
2038 - 08 Night (>60 dB)	0	0	0	0	0	1	3	3	22	20	0	0

6.2 With Project Scenario

Taxiing Noise

6.2.1 The number of maximum noise level events exceeding the day and night criteria, for the 2029 and 2038 northern runway scenarios (not presented in the main chapter), are summarised below.

Table 6.2.1: Summary of 2029 Northern Runway Aircraft Taxiing Events exceeding L_{Amax} Criteria

Descriptor	Total number of L_{Amax} events at Location											
	1	2	3	4	5	6	7	8	9	10	11	12
2029 - 26 Daytime (>65 dB)	0	0	9	0	0	0	0	3	0	10	0	0
2029 - 08 Daytime (>65 dB)	0	0	0	0	0	2	0	0	3	4	0	0
2029 - 26 Night (>60 dB)	0	0	14	0	0	1	1	2	4	27	0	0
2029 - 08 Night (>60 dB)	0	1	0	0	0	1	0	0	5	12	0	0

Table 6.2.2: Summary of 2038 Northern Runway Aircraft Taxiing Events exceeding L_{Amax} Criteria

Descriptor	Total number of L_{Amax} events at Location											
	1	2	3	4	5	6	7	8	9	10	11	12
2038 - 26 Daytime (>65 dB)	0	0	1	0	0	0	0	2	0	14	0	0
2038 - 08 Daytime (>65 dB)	0	0	0	0	0	4	0	0	0	4	0	0
2038 - 26 Night (>60 dB)	0	0	14	0	0	1	0	2	7	20	0	0
2038 - 08 Night (>60 dB)	0	1	0	0	0	1	0	0	1	4	0	0

APU, EGR and EAT Maximum Noise Levels

6.2.2 Maximum noise levels produced by auxiliary power units (APU) noise and engine ground running (EGR) noise are independent of runway operation and do not differ for day or night as the stands and EGR areas are fixed locations. The end around taxiway (EAT) usage has been modelled independently of other taxi movements and since there are only two EATs proposed for the Project, this is only dependent on 08 or 26 runway operation.

Table 6.2.3: Predicted APU, EGR and EAT L_{Amax} Noise Levels

Descriptor	Predicted L_{Amax} at Location											
	1	2	3	4	5	6	7	8	9	10	11	12
EAT 26	64	65	60	48	43	55	39	40	67	68	54	37
EAT 08	33	39	36	40	38	42	49	49	46	54	50	49
APU	46	48	47	41	45	51	67	65	49	59	57	65
EGR	58	61	64	62	49	54	54	57	73	70	73	61

7 References

Asensio, C., Pavón, I., Ruiz, M., Pagan Munoz, R., & Recuero, M. (2007) Estimation of directivity and sound power levels emitted by aircrafts during taxiing, for outdoor noise prediction purpose. Applied Acoustics, 68(10), 1263-1279. DOI: 10.1016/j.apacoust.2006.07.014.

Acoustical Society of Japan (ASJ) (2018); Road traffic noise prediction model ‘‘ASJ RTN-Model 2018’’: Report of the Research Committee on Road Traffic Noise.

Acoustical Society of Japan (ASJ) (1983); H. Tachibana, K. Yoshihisa and K. Ishii, ‘‘Study on the practical prediction of the effect of wind on noise propagation,’’ Tech. Rep. Archit. Acoust. Acoust. Soc. Jpn., AA-83-05.

Gatwick Airport Masterplan 2019 (GAL) (2019)

International Electrotechnical Commission (IEC) (2013) International Standard - Electroacoustics – Sound Level Meters. Part 1: Specifications.

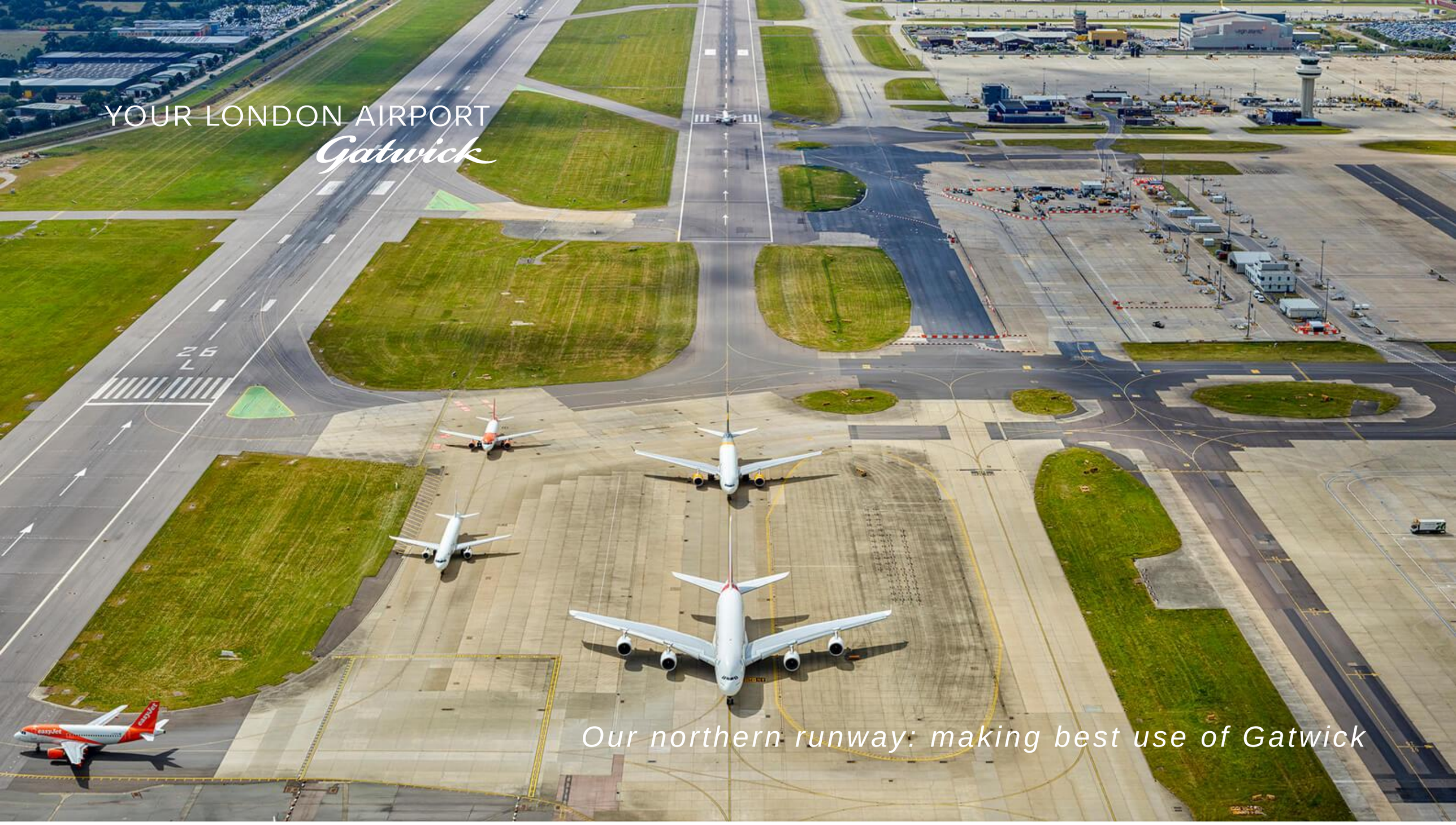
International Standards Organization (ISO) (1993) ISO 9613-2:1993. Acoustics — Attenuation of sound during propagation outdoors — Part 1: Calculation of the absorption of sound by the atmosphere.

International Standards Organization (ISO) (1996) ISO 9613-2:1996. Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation.

International Standards Organization (ISO) (2017) ISO 1996-2:2017. Acoustics — Description, measurement and assessment of environmental noise — Part 2: Determination of sound pressure levels.

Journal of Sound and Vibration (1965) 2 (4), 353-374; “The Horizontal Propagation of Sound from a Jet Engine Close to The Ground, at Hatfield” P. H. Parkin and W. E. Scholes

National Academies of Sciences, Engineering, and Medicine (2013) Enhanced Modeling of Aircraft Taxiway Noise, Volume 2: Aircraft Taxi Noise Database and Development Process. Washington, DC: The National Academies Press.



Preliminary Environmental Information Report
Appendix 14.9.4: Road Traffic Noise

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 14.9.4 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project involves alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in Chapter 5: Project Description.

1.1.2 This document describes the road traffic noise modelling methodology and the results of noise predictions that have been carried out for the Project.

2 Methodology

2.1 Road Traffic Noise Modelling

Software and Calculation Method

2.1.1 Predictor V2021 software was used to complete the road traffic noise model. The model implemented the Calculation of Road Traffic Noise (CRTN) calculation method to predict noise levels.

Traffic Data and Model Inputs

2.1.2 Strategic Model traffic data outputs were used within the model. Eighteen hour traffic flows, the percentage of heavy goods vehicles (HGVs), and average speed (in km/h) were used to calculate the basic noise level of each road in both the Do-minimum (or Business as Usual) case and the situation with the Project.

2.1.3 LiDAR 10-metre accuracy height points were used to interpolate the height information inside the Project site boundary. The data were also used to calculate the CRTN gradient noise level correction for the road noise sources in the existing situation.

2.1.4 All roads were assumed to have a bitumen surface with a texture depth of 1.5 mm, with a width of 7 metres, and source noise level elevation of 0.5 metres, following the guidance in CRTN. No additional low-noise surface correction was applied to future scenarios to be conservative.

2.1.5 All locations within the study area were assumed to have acoustically hard (reflective) ground, with the exception of the Riverside Garden Park region which had a soft ground correction to account for the additional acoustic ground absorption in the area.

2.1.6 Noise sensitive receptor locations were assumed to be 4 metres above the ground representing the first floor at residential and non-residential locations, and at 1.5 metres (human height) within the Riverside Garden Park.

Outputs and Contours

2.1.7 $L_{A10,18hr}$ noise levels were calculated at 14 noise-sensitive receptor locations as stated in Table 4.5.4. The contribution to the overall level from each road was also calculated for analysis.

2.1.8 Noise contours were calculated at a height of 4 metres above the ground, and from a grid of prediction points with a resolution of 50 metres within the entirety of the study area.

3 Assessment Results

3.1 Road Traffic Noise Results

3.1.1 Table 4.5.4 shows predicted traffic noise levels at all receptor locations in 2032 (the year of opening of the highway works) and 2047 (the year 15 years after opening as required for the assessment by the DMRB). The table includes the predicted noise levels for the do-minimum situation (which is referred to Business as Usual) and the situation with the Project for both assessment years.

4 Baseline

4.1 2019 Survey Details

Purpose of Survey

4.1.1 Riverside Garden Park is adjacent to the A23, where changes in the highway network are proposed to accommodate the forecast increased traffic demand with the Project. It is an area used for recreation and relaxation and hence users are sensitive to noise. It is also affected by road traffic noise, ground noise from the airport, and air noise from aircraft arriving and departing from the airport, all of which are addressed in Chapter 14: Noise and Vibration of the PEIR. The primary purpose of the survey was to visit the Riverside Garden Park to better understand its sensitivity to noise and the relative contributions of the three types of noise. The secondary objective was to measure baseline levels to assist in calibrating the traffic noise model.

Monitoring Locations

4.1.2 The noise monitoring locations are shown in Diagram 4.3.1 and a photograph of the monitoring equipment is shown in Diagram 4.5.3

Monitoring Location 1

4.1.3 ML1 was located along Riverside North next to the Riverside Garden Park in a residential car park.

Monitoring Location 2

4.1.4 ML2 was located inside the Riverside Garden Park within the visitor's car park.

4.2 Equipment and Setup

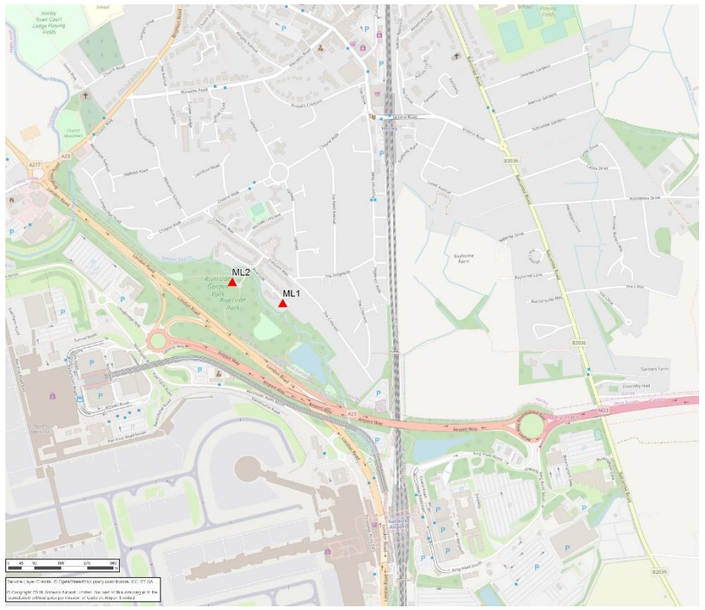
4.2.1 Monitoring was carried out using a Bruel and Kjaer 2250L Class 1 sound level meter (SLM). A windshield was used to minimise wind effects at the microphone. The equipment was mounted on a tripod so that the microphone was installed at approximately 1.5 metres above the ground. The system was located in free-field conditions (i.e. at least 3.5 metres from the nearest hard reflective surface). The sound level meter was calibrated before the survey. Following the survey, the calibration level was checked. No significant drift (i.e. > 0.5 dB) was noted.

4.3 Data Recording

4.3.1 Sound levels were measured over 10-minute periods, the sound level meter also logged short measurements which allow for subsequent interrogation of parts of each measurement. Standard metrics including L_{Aeq}, L_{A90}, L_{A10} and L_{Amax} were recorded. In addition, third-octave band measurements were carried out, and audio samples were recorded which could be listened at a later date.

4.3.2 The survey was carried out during the daytime between 11.00 and 12.00 hours. The wind speed and direction were recorded for each measurement. During the survey, the weather was sunny with patchy cloud and no rain. Wind speeds stayed consistent and below 1.5 m/s throughout. The measurement at ML2 starting at 11.39 was affected by a loud helicopter flyover which was not typical of the underlying sound levels.

Diagram 4.3.1: Measurement Locations (2019)



4.4 Riverside Garden Park Measurements 2019

4.4.1 Table 4.4.1 below, and Table 4.5.3 summarise the results of the noise survey for the two monitoring locations described.

Table 4.4.1: Noise Survey Results (May 2019)

Location	Start Time	Measurement Duration (Mins)	Noise Level (dBA)			
			L_{eq}	L_{90}	L_{max}	L_{10}
Residential Car Park (ML1)	11:16	10	57.3	54.7	68.7	59.4
Park Car Park (ML2)	11:39	10	60.6	51.0	81.9	60.4
	11:52	10	55.1	53.0	62.2	56.8

Observations

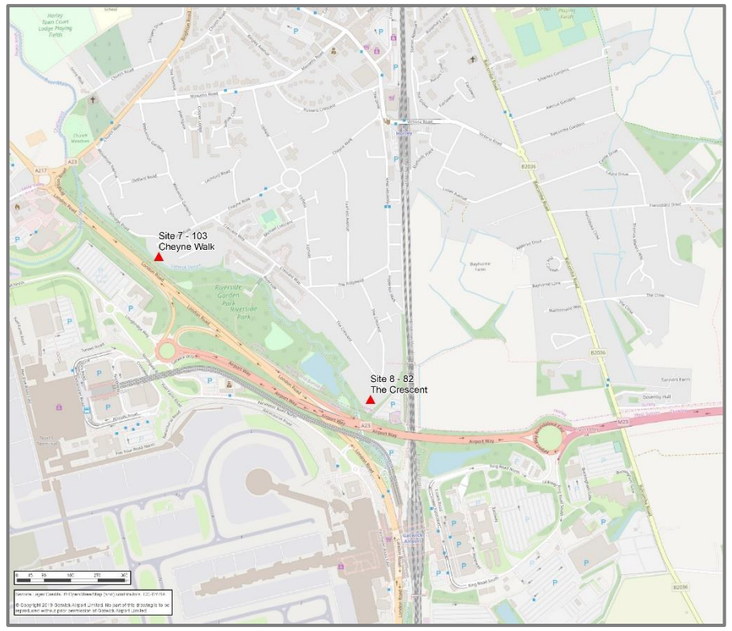
4.4.2 After conducting sound measurements and an assessment of the park areas, the following were observed. Firstly, as noted in Table 4.5.3, it was observed that traffic, aircraft and natural sounds were all audible at both measurement locations. It was also noted that none of the noise sources were visible due to the thick foliage and trees within the park (as shown in Diagram 4.5.6). The park itself appeared to be widely used by the local community; cyclists, walkers, and dog walkers were observed during the visit (as shown in Diagram 4.5.5). Despite having high measured baseline levels, the noise environment was unexpectedly relaxing mainly being dominated by continuous road traffic. It was apparent that the Riverside Garden Park is potentially sensitive to significant changes in ambient noise, given the number of users.

4.5 2016 Survey

2016 Baseline Measurements

4.5.1 The results of the survey which was conducted in 2016 by Hayes McKenzie to inform the ground noise assessment have also been used to calibrate the noise model. Two monitoring sites were identified in the survey that represented residential receptors which back onto Riverside Garden Park and which are in the traffic noise study area. These were Site 7 and Site 8 in Diagram 4.5.1 below.

Diagram 4.5.1: Monitoring Locations (Haynes McKenzie) 2016



4.5.2 Table 4.5.1 shows the noise levels measured at both sites during the same time of day in scenarios with flights taking off in both easterly (08) and westerly (26) runway (R/W) directions.

Table 4.5.1: 2016 Baseline Measurement Results

Location	Time	Measurement Duration (Mins)	Noise Level (L_{eq} dB)			
			Leq R/W 08	L90 R/W 08	Leq R/W 26	L90 R/W 26
Site 7 – 103 Cheyne Walk	11:00	60	60.3	54.1	61.0	57.2
	12:00	60	59.0	54.1	61.0	57.7
Site 8 – 82 The Crescent	11:00	60	63.1	52.0	60.3	57.4
	12:00	60	61.6	51.8	60.5	58.1

Modelled 2018 Baseline Results

4.5.3 Using initial traffic flow data from the traffic model for the 2018 baseline, a noise model was created, shown below in Diagram 4.5.2. Seven receptors were chosen at similar locations to where the 2016 baseline and the 2019 Riverside Garden Park measurements were taken. For ease of reference, Diagram 4.5.2 also shows the position of the monitoring locations in the 2019 survey (ML1 and ML2), Sites 7 and 8 from the 2016 survey and the locations at which traffic noise was predicted in this area using the noise model (locations NSR1, NSR2, NSR4, NSR6, NSR7 and NSR8). The predicted results are shown in Table 4.5.2.

Diagram 4.5.2: 2018 Noise Model and Measurement Locations

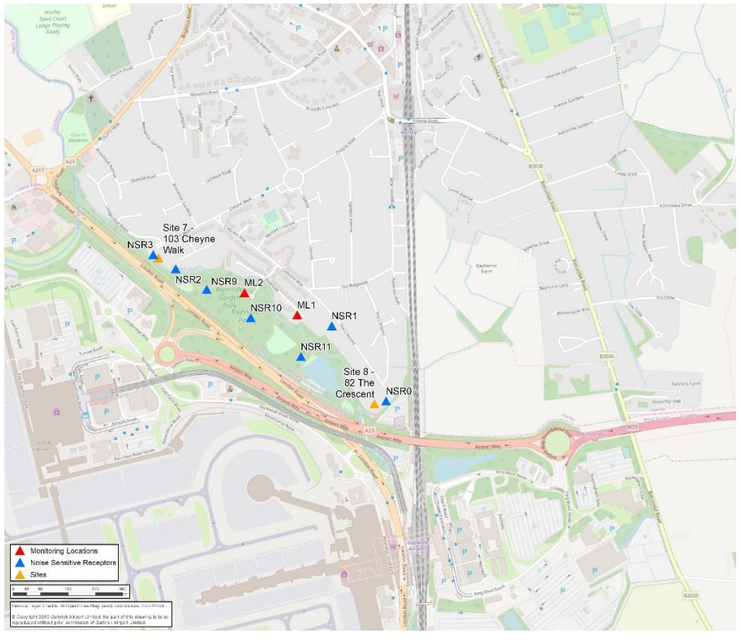


Table 4.5.2: Predicted Road Traffic Noise Levels

Receptor ID	Predicted Noise Level ($L_{A10,18\ hour}$ Free-field - dBA)	Height
NSR4	66.2	4 metres above terrain
NSR3	64.8	4 metres above terrain
NSR2	61.6	4 metres above terrain
NSR1	65.4	4 metres above terrain
NSR10	61.6	1.5 metres above terrain
NSR11	61.8	1.5 metres above terrain
NSR12	63.2	1.5 metres above terrain

Summary

4.5.4 The predicted 2018 baseline L_{A10} levels at NSR3 and NSR4, which represent the 2016 baseline Site 7 most accurately, show an $L_{10,\ 18\ hr}$ level of approximately five to six decibels greater than the baseline measured L_{Aeq} levels. The predicted L_{A10} levels at NSR1, representing measurement Site 8, show a level of approximately two to three decibels more than the measured level in 2016. The difference between the L_{Aeq} and L_{A10} metrics accounts for most of the difference in measured and modelled values. Also, the model does not take into account any screening that the measurement location may be subject to, and the predicted 2018 noise level may have a greater traffic flow than in 2016. Therefore, higher noise levels would be expected in general. Taking these factors into account the predicted noise levels agree reasonably well with the measured noise levels.

4.5.5 The 2018 predicted noise (L_{A10}) levels at NSR2, which represents the 2019 measured levels at ML1 in Riverside Garden Park most closely, are approximately two decibels higher than the measured baseline L_{A10} values. Predicted noise levels, therefore, agree reasonably well with the measured noise levels.

4.5.6 The 2018 predicted noise (L_{10}) levels at NSR11, which represents the 2019 measured levels at ML2 in Riverside Garden Park most closely, are approximately five decibels higher than the measured L_{10} values. However, the modelled receptors are closer to the road than ML2, which is likely to account for most of the difference.

4.5.7 Noise levels were measured at Site 8 in the 2016 baseline survey which is the closest baseline location to that of ML1 from the 2019 survey. The L_{Aeq} levels at Site 8 are three or four decibels higher than the levels measured in 2019 at ML1. However, Site 8 is closer to the road than ML1 and was measured 4 metres above the ground rather than 1.5 metres above the ground, and so is likely to have a less obstructed view of the road and therefore be subject to higher noise levels. Also, ML1 was located behind (northeast of) the park and so was subject to some additional screening by the thick layers of trees and foliage between it and the road. It is also worth noting that on ERM's site visit 10-minute short measurements were taken on a single day, whereas full 24-hour baseline measurements were taken for two weeks during the 2016 survey. Taking these factors into account the measured noise levels agree reasonably.

Diagram 4.5.3: Measurement Location ML2

Diagram 4.5.4: Measurement Location ML2

Diagram 4.5.5: Site Photographs Riverside Garden Park Pathway

Diagram 4.5.6: Riverside Garden Park Central Open Area

Diagram 4.5.7: A23 Road Facing South East

Diagram 4.5.8: A23 Road Facing North West

Table 4.5.3: Summary of 2019 Noise Survey

Location	Time	Measurement Duration (Mins)	Wind		Comments
			Direction	Speed (m/s)	Leq
Residential Car Park (ML1)	11:16	10	NE	1.5	Aircraft take-off, traffic from A23, car leaving ML noted, natural sounds notably birdsong.
Park Car Park (ML2)	11:39	10	NE	Light Breeze / Still	Same as above with the addition of wind noise in the trees, helicopter flyover, and people talking. It was noted that the park had dense foliage which acoustically screened the traffic noise. The park was mainly used by joggers and dog walkers.
	11:52	10	NE	Light Breeze / Still	Same as first sample with the addition of wind noise in the trees and an aircraft turnaround noted.

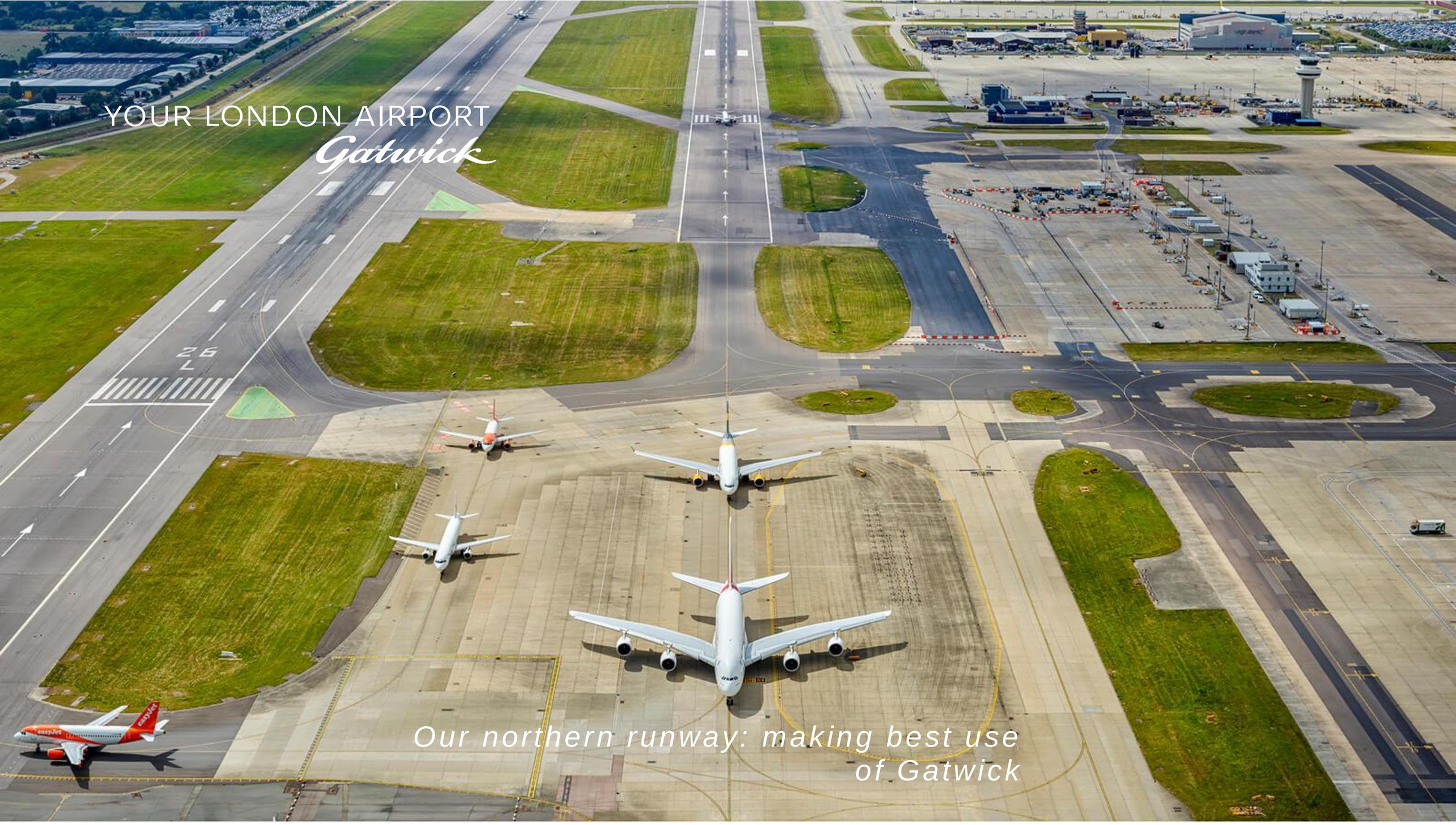
Table 4.5.4: Predicted Road Traffic Noise Levels

Scenario	Receptor ID / Description, $L_{A10,18hr}$ dB Results (Façade)													
	NSR1 - The Crescent East	NSR2 - The Crescent West	NSR3 - Woodroyd Gardens	NSR4 - Cheyne Walk	NSR5 - Longbridge Road East	NSR6 - Longbridge Road West	NSR7 - Povey Cross Road	NSR8 - Meadowcroft Close	NSR9 - B2036 Balcombe Road	NSR10 - Riverside Garden Park North (2)	NSR11 - Riverside Garden Park Centre (2)	NSR12 - Riverside Garden Park South(2)	NSR13 - Offices	NSR14 - Premier Inn
Business As Usual 2032	69.2	64.9	69.8	71.4	70.5	70.0	69.8	67.6	74.3	63.6	63.0	64.0	72.1	71.1
Business As Usual 2047	69.5	65.2	70.1	71.6	70.7	70.3	70.2	67.8	74.5	63.7	63.2	64.3	72.3	71.6
With Project 2032	71.0	66.7	71.2	72.8	72.0	70.7	70.6	68.6	73.9	66.2	65.6	65.8	71.7	72.1
With Project 2047	71.3	67.0	71.5	73.1	72.3	71.0	70.9	68.9	74.2	66.5	65.9	66.1	71.9	72.5
With Project 2032 - Business As Usual 2032 Comparison	1.8	1.8	1.4	1.4	1.5	0.7	0.8	1.0	-0.4	2.6	2.6	1.8	-0.4	1.0

Scenario	Receptor ID / Description, $L_{A10,18hr}$ dB Results (Façade)													
	NSR1 - The Crescent East	NSR2 - The Crescent West	NSR3 - Woodroyd Gardens	NSR4 - Cheyne Walk	NSR5 - Longbridge Road East	NSR6 - Longbridge Road West	NSR7 - Povey Cross Road	NSR8 - Meadowcroft Close	NSR9 - B2036 Balcombe Road	NSR10 - Riverside Garden Park North (2)	NSR11 - Riverside Garden Park Centre (2)	NSR12 - Riverside Garden Park South(2)	NSR13 - Offices	NSR14 - Premier Inn
With Project 2047 - Business As Usual 2032 Comparison	2.1	2.1	1.7	1.7	1.8	1.0	1.1	1.3	-0.1	2.9	2.9	2.1	-0.2	1.4
With Project 2032(1)	69.3	64.7	66.7	68.9	71.0	70.4	70.6	67.1	72.8	61.5	62.3	63.5	71.7	72.0
With Project 2047(1)	69.6	65.0	66.9	69.2	71.4	70.7	71.0	67.3	73.0	61.8	62.6	63.8	72.0	72.4
With Project 2032(1) - Business As Usual 2032 Comparison	0.1	-0.2	-3.1	-2.5	0.5	0.4	0.8	-0.5	-1.5	-2.1	-0.7	-0.5	-0.4	0.9
With Project 2047(1) - Business As Usual 2032 Comparison	0.4	0.1	-2.9	-2.2	0.9	0.7	1.2	-0.3	-1.3	-1.8	-0.4	-0.2	-0.1	1.3
Business As Usual 2047 - Business As Usual 2032 Comparison	0.3	0.3	0.3	0.2	0.2	0.3	0.4	0.2	0.2	0.1	0.2	0.3	0.2	0.5

(1) Scenario contains noise mitigation.

(2) Noise-sensitive receptors represent open park areas, and results are presented as free-field values.



Our northern runway: making best use of Gatwick

Preliminary Environmental Information Report
Appendix 14.9.5: Noise Envelope

September 2021

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1 Introduction

1.1.1 This document forms Appendix 14.9.5 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides details of the approach to developing a noise envelope for the Project.

Background

1.1.3 The Airports National Policy Statement (NPS) (paragraph 5.60) includes policy relating to the proposed third runway at Heathrow. The NPS requires Heathrow to put forward a noise envelope for its third runway proposal:

'Such an envelope should be tailored to local priorities and include clear noise performance targets. As such, the design of the envelope should be defined in consultation with local communities and relevant stakeholders and take account of any independent guidance such as from the Independent Commission on Civil Aviation Noise. The benefits of future technological improvements should be shared between the applicant and its local communities, hence helping to achieve a balance between growth and noise reduction. Suitable review periods should be set in consultation with the parties mentioned above to ensure the noise envelope's framework remains relevant.'

1.1.4 For Gatwick's Northern Runway Project, the Planning Inspectorate's Scoping Opinion noted that:

'The Inspectorate notes that there is no reference to a defined 'noise envelope' as referred to in paragraph 5.60 of the Airports NPS, and the Applicant should make efforts to agree the need for such provisions with relevant consultation bodies as a mechanism to manage noise effects.'

1.1.5 This appendix discusses the concept of a noise envelope, the options that have been considered for a noise envelope for the Project, the preferred option that is proposed by GAL, as summarised in Section 14.8 of Chapter 14 of the PEIR, and the requirements of Regulation (EU) 598 that have been addressed.

2 Noise Envelope Options

Requirements of a Noise Envelope

2.1.1 CAP 1129 Noise Envelopes (CAA, 2013) gives guidance as to the forms that noise envelopes can take, and how they can be implemented. CAP 1129 (2013) states that:

'To function as intended, a noise envelope should as a minimum:

- *1. be clearly defined*
- *2. be agreed among stakeholders*
- *3. be legally binding*
- *4. not be compromised by the lack of up-to-date understanding of the relationship between annoyance and the exposure to aircraft noise*
- *5. take account of new technology*
- *6. have proportionate aims which are appropriate for the airport to which it applies ie to permit growth, maintain a status quo, or manage a reduction in noise impact.'*

Approaches to Noise Envelopes

2.1.2 CAP 1129 observes there are three possible approaches to setting a noise envelope:

- restricting inputs;
- restricting noise impact; and
- restricting noise exposure.

2.1.3 Night restrictions are an example of a noise envelope already in place at Gatwick Airport that restricts inputs. In their case, the restrictions relate to numbers of night flights and total quota counts (QCs) of night flights, in the summer and winter seasons.

2.1.4 Noise envelopes that restrict or limit inputs have the advantage of being relatively easy to predict and administer, but they do not give a direct measure or limit on the noise impact experienced in the communities around the airport. Neither do they provide any incentive for the airport or airlines to bring forward quieter operating procedures.

2.1.5 Noise envelopes that restrict noise impacts can be set in terms of the extent of noise effects eg Schiphol Airport has limits of populations highly annoyed and populations sleep disturbed. However, these rely on applying dose/response relationships for the effects, which can generate uncertainty.

2.1.6 More commonly, noise envelopes that restrict noise impacts use noise contours to either limit the area of the contour or the population within it. The choice of noise contour metric should reflect the impact.

2.1.7 Setting a noise envelope in terms of the population within a given noise contour, has the advantage that it directly relates to the noise impact on the community. However, the population size (and number of properties) within the area around Gatwick Airport is not within the airport's control and a contour set on this basis could not be monitored or applied with any certainty. Using the physical size of the noise contours avoids this uncertainty.

Options for a Noise Envelope at Gatwick

2.1.8 CAP 1129 outlines the following main options for noise envelopes:

- aircraft movement caps;
- passenger throughput cap;
- noise quota count (QC) cap;
- noise level caps;
- population/dwellings exposed to noise;
- number of people annoyed (daytime);
- number of people sleep-disturbed (night-time);
- Person-Events Index (PEI);
- Average Individual Exposure (AIE);
- noise contour shape; and
- noise contour area.

2.1.9 These are discussed below.

Aircraft Movement Cap

2.1.10 CAP 1129 notes that: '*The simplicity of the movement cap is clearly attractive in terms of engaging people, but it has drawbacks as well. A key drawback is that it does not take into account the noisiness of aircraft and would therefore not offer incentives to industry to operate quieter aircraft.'*

2.1.11 It is also noted that movement caps do not encourage any other noise reduction measures such as quieter operating procedures.

Passenger Throughput Cap

2.1.12 The disadvantages of the passenger movement cap are similar to an aircraft movement cap. The intent of a passenger cap may be to use passenger numbers per flight as a proxy for noise level, but in practice there is a weak link between the two.

2.1.13 Restricting passenger throughput is also harder to administer.

Noise Quota Count (QC) Cap

2.1.14 Gatwick already has a Quota Count and movements noise envelope, for night flights under Government Night Flights Restrictions, which are in place at the designated London airports.

2.1.15 The Quota Count element of the system gives each aircraft a separate score based on its certificated noise levels for arrival and departure. Thus, for example, a particular aircraft could score 1 point on departure, and 0.5 points on arrival.

2.1.16 During the summer season, night-time (23:30-06:00 hours) air traffic movements at Gatwick are capped at 11,200 and during winter this reduces to 3,250. The night quota limits are 5,150 points in the summer (reduced from 6,200 in 2018) and 1,785 points in the winter (reduced from 2,000 in 2017/18).

2.1.17 A QC system aimed at meeting the objectives of a noise envelope would need to extend the Night Restrictions system to cover the full 24 hours and may split day and night.

2.1.18 The CAA reviewed the QC system in use at the designated airports in 2002 (ERCD Report 0204, CAA 2002) and concluded that the system was still valid, but noted: '*Ultimately the reliability of any classification system based on certification depends on the correlation between certificated and operational noise.'*

2.1.19 The CAA carried out a Quota Count validation study at Heathrow Airport (CAP 1869, CAA 2020) which compared in service noise levels and QCs for 131 aircraft types. It concluded: '*For the majority of aircraft types monitored, including new aircraft designs such as the Airbus A350 and Boeing 787, the operational arrival and departure noise levels correlated well with the QC classifications. However, large differences between the operational noise levels and the QC classifications were observed for some aircraft types, including some relatively new aircraft designs.*

… the operational approach levels of 13 aircraft types (out of 111) lie entirely above their QC bands.

On departure, the operational levels of 21 aircraft types (out of 131) lie entirely above their QC bands, including variants of the A320neo and B737 MAX 8.'

2.1.20 The QC system applies a quota count to each aircraft related to its noise levels measured at three locations during certification; 2 km from touchdown, and on departure on a side-line and 6.5 km from 'start of roll'. At Gatwick Airport, these locations are all within approximately 3 km of the airport. Two shortcomings of the QC system arise from this. As noted by the CAA review, aircraft in operation may systematically generate slightly different noise levels than during certification, due to airline procedures, leading to incorrect weightings between aircraft. Secondly, QC takes no account of aircraft noise levels more than about 3 km from the airport. Most of the people affected by noise from Gatwick airport live well beyond 3 km from the airport.

2.1.21 So, a QC limit would give no credit to an airport that develops advanced noise abatement operating procedures that reduce noise further away. Greater climb rates, for example, would go unnoticed in a QC system envelope whereas they would reduce noise levels in affected areas and potentially make for significant changes in the shape and size of noise contours.

Noise Level Caps

2.1.22 Noise contours are modelled based on noise measurements and cover entire areas affected by noise. It is possible to limit noise levels measured at particular locations, under particular arrivals and departure routes, but this has several disadvantages compared to contours. Clearly only limited locations are represented, not all communities. There may be ways to reduce noise levels at these locations that increase noise at the other locations. Measurements can also be affected by other noise and weather conditions. Noise contours, provided they are reliably predicted based on detailed information on aircraft operations, are therefore considered more appropriate than noise levels for setting a noise envelope.

Population/Dwellings Exposed to Noise

2.1.23 Setting a noise envelope in terms of the population within a given noise contour, such as $L_{eq\ 16\ hour\ day}$ and $L_{eq\ 8\ hour}$ night, has the advantage that it directly relates to the size of the noise impact on the community. However, the population within the area around Gatwick is not within the airport's control and a contour set on this basis could not be monitored or applied with any certainty. Furthermore, any new noise sensitive development under the airport flight paths should be consented with noise mitigation in place where necessary to mitigate noise impacts, but the extent to which this is achieved varies across local planning authorities and would be complex to account for when administering a noise envelope.

2.1.24 So, the potential advantage of setting a noise envelope in terms of the population within given noise contours is likely to be offset by the uncertainty it creates compared to setting a noise envelope in terms of noise contour areas.

Number of People Annoyed or Sleep Disturbed

2.1.25 Noise envelopes that restrict noise impacts can be set in terms of the extent of noise effects eg Schiphol Airport has had limits of populations highly annoyed and populations sleep disturbed. However, these rely on applying dose/response relationships for the effects, which can generate uncertainty, can vary between locations and over time, and can be subject to challenge.

2.1.26 In addition, existing housing may be fitted with sound insulation reducing sleep disturbance. Similarly, new housing may only be permitted with good sound insulation to reduce sleep disturbance. But the benefits of these would be very difficult to capture in this form of envelope.

Person-Events Index (PEI)

2.1.27 The Person Events Index is a measure developed in Australia that uses the number of noise events above a given threshold, like the Number Above metrics (N65 and N60) used in this PEIR. It then sums the results at every population point (eg home) within the community. It is a measure of the total noise load or burden the airport places on the surrounding population. However, it takes no allowance of the extent to which noise events are above the threshold and, as with noise impact metrics, uses population size and so is affected by population growth with the inherent complications/uncertainty discussed above.

Average Individual Exposure (AIE)

2.1.28 Average Individual Exposure is simply the PEI divided by the total population, ie the average number of noise events per exposed person. Like PEI it takes a simplistic account for noise level and uses population and so is affected by population growth.

Noise Contour Shape

2.1.29 In principle, a contour shape provides a contour that relates to community locations and so provides greater protection for communities. However, this would be more onerous than a contour area, placing greater restriction on an airport's operations. Fluctuations in weather or operational requirements could pose challenges. Schiphol airport is probably the most well-known example of a form of contour area limit. It has five runways providing some flexibility in implementation that would not be available at Gatwick. A contour area shape is also complex to administer, and not considered to be appropriate for a single runway airport such as Gatwick.

Noise Contour Area

2.1.30 CAP 1129 notes that:

'A clear and concise way of describing the noise exposure in the vicinity of an airport is to quote the area enclosed by the noise contour of a particular noise metric and level. Being a single numerical value, it is straightforward to set a limit on this value to restrict aircraft noise exposure in the vicinity of an airport.'

2.1.31 The choice of noise contour metric should reflect the impact. Summer season $L_{eq\ 16\ hour}$ day or $L_{eq\ 8\ hour}$ night contours are the most common contours used in the UK because their relationships to annoyance and sleep disturbance in this country are well understood. Noise event metrics such as L_{max} are less effective, because, taking no allowance for numbers of noise events, they are not good indicators of health effects when used in isolation, and provide no control on the numbers of events. Other noise metrics that accumulate noise events during the day or night are available, such as N60 and N65, but their relationship with health effects is less well understood than the L_{eq} metrics.

2.1.32 Using the areas of $L_{eq\ 16\ hour}$ day or $L_{eq\ 8\ hour}$ night contours is therefore likely to be the most appropriate noise contour option. It would incentivise the airport to use the quietest aircraft, using the quietest operating procedures, whilst allowing the airport to grow within a certain noise limit. In order to give certainty on future both day and night noise, $L_{eq\ 16\ hour}$ day and $L_{eq\ 8\ hour}$ night contours would be needed. The decision on which contour noise levels to use (eg for daytime $L_{eq\ 16\ hour}$ 51, 54, 57, 60 dB etc) would affect both its performance as an indicator of noise impact and the extent to which it incentivises good operating procedures. In theory any contour value of $L_{eq\ 16\ hour}$ day or $L_{eq\ 8\ hour}$ night relates to other values in terms of its growth, but in practice small variations are seen. A larger contour, encompassing communities affected further from the airport would better reflect community impact, and unlike a QC limit would allow the benefit of improved operating procedures such as steeper departures and low noise arrivals procedures to be measured and hence incentivised. The most appropriate contour levels are therefore the day and night Lowest Observable Adverse Effect Level (LOAEL) prescribed by DfT of $L_{eq\ 16\ hour}$ day 51 dB and $L_{eq\ 8\ hour}$ night 45 dB.

2.1.33 To avoid fluctuations from year to year due to variations in runway use because of different weather, standard mode contours should be used based on long-term average day and night runway modal splits.

2.1.34 The limiting $L_{eq\ 16\ hour}$ day and $L_{eq\ 8\ hour}$ night areas should be based on the predicted ranges of contour areas foreseeable at the time, taking account of the operating and other noise mitigation measures that the airport has committed to.

2.1.35 GAL has considered these options, and the benefits and disbenefits of each for Gatwick Airport, and the following section describes the noise envelope proposed for the Project.

3 The Proposed Noise Envelope

3.1.1 This section reproduces part of Section 14.8 of the PEIR so as to provide all the noise envelope material in a single location.

3.1.2 GAL proposes a noise envelope that sets limits in terms of the areas of the daytime LOAEL contour $L_{eq,\ 16\ hour}$ day 51 dB, and the night-time LOAEL contour $L_{eq,\ 8\ hour}$ night 45 dB. The LOAEL contours have been chosen because they represent the lowest level of observable adverse effects during the day and night.

3.1.3 The limiting $L_{eq,\ 16\ hour}$ day and $L_{eq,\ 8\ hour}$ night contour areas are proposed with reference to the forecast noise impacts reported in this PEIR, taking account of operating and other measures to limit noise[1].

3.1.4 The noise assessment reporting in Chapter 14 of the PEIR has reported the most likely noise impacts based on the central case fleet air traffic movement (ATM) forecasts, as discussed in Section 14.5. This is considered to represent the most likely rate of fleet transition based on current assumptions regarding the airlines' fleet procurement programmes and business models. The noise assessment presented in Chapter 14 also reports the noise impacts associated with a slower transition fleet that supposes the rate of fleet transition is delayed by about five years, particularly owing to uncertainties due to Covid. Whilst the central case fleet is considered most likely to occur, the slower transition fleet could still occur and therefore the noise envelope proposed is based on the noise modelling of this fleet. The slower transition fleet still builds in assumptions that the noisiest aircraft currently flying at Gatwick are phased out by the point the northern runway opens and that substantial investment in next generation aircraft will occur. For example, in 2019, around 2% of the Gatwick fleet did not meet the ICAO Chapter 4 noise standard, however, these aircraft produce the highest individual noise levels and make a disproportionate contribution to the contour areas. Therefore, the expected removal by airlines of a proportion of these aircraft will deliver a significant improvement in the noise environment.

3.1.5 The slower transition fleet supposes the rate of fleet transition is delayed by about five years, particularly owing to uncertainties due to Covid. Whilst the central case fleet is considered most likely to occur, the slower transition fleet still builds in assumptions that the noisiest aircraft currently flying at Gatwick are phased out by the point the Northern Runway opens and provides a level of certainty that is necessary given the uncertainty post Covid. Therefore the noise envelope proposed is based on the noise modelling of this fleet

3.1.6 The noise assessment has considered noise levels from the Project in 2029, 2032, 2038 and 2047 and demonstrated that for the central case the day and night noise contour areas would decrease relative to the 2019 airport in all successive assessment years with the Project. The effect of the Project on opening in 2029 is to increase the noise levels relative to the

[1] This is consistent with the approach approved by the Planning Inspectors for the Stansted planning application appeal (ref: APP/C1570/W/20/3256619) in May 2021), which consented the expansion of the airport with planning conditions that included limits on the areas of the $L_{eq,\ 16\ hour}$ day and $L_{eq,\ 8\ hour}$ night contour areas (albeit at higher noise levels of $L_{eq,\ 16\ hour}$ day 54 dB, and $L_{eq,\ 8\ hour}$ night 48 dB) based on the forecasts used in the Environmental Statement that accompanied the application.

future baseline, with maximum contour areas about three years later in 2032, before dropping slightly in 2038, the design year for the runway, when 382,000 commercial ATMs/year would be operating. GAL proposes to set the noise envelope to limit noise levels between opening of the northern runway and the peak noise year and then to set a lower noise envelope limit to provide certainty that noise levels would reduce when the runway design throughput of 382,000 ATMs/year is reached and beyond.

3.1.7 Regulation EU 598/2014 seeks to ensure that 'noise related operating restrictions' are only imposed when other measures within the balanced approach have first been considered, and where those other measures are not in themselves sufficient to attain the specific noise abatement objectives for the airport. The proposed noise envelope has been assumed to be a noise related operating restriction under the Regulation.

3.1.8 GAL propose the following noise objective for the Project:

- The Project will:
  - Avoid significant adverse impacts on health and quality of life from noise;
  - Mitigate and minimise adverse impacts on health and quality of life from noise;
  - Where possible, contribute to improvements to health and quality of life; and
  - provide certainty to the communities around Gatwick that noise will not exceed contour limits and will reduce over time,

consistent with the ICAO Balanced Approach.

3.1.9 The proposed noise envelope limits are as follows.

3.1.10 By the end of the first year after opening of the reconfigured northern runway pursuant to the Project, and thereafter, the area enclosed by the 92 day summer season average mode noise contours produced by the CAA shall not exceed the following:

- $L_{eq\ 16\ hour}$ day 51 dB: 146.7 km^2
- $L_{eq\ 8\ hour}$ night 45 dB: 157.4 km^2

3.1.11 By the end of the first year in which annual commercial ATMs exceed 382,000, and thereafter, the area enclosed by the 92 day summer season average mode noise contours produced by the CAA shall not exceed the following:

- $L_{eq\ 16\ hour}$ day 51 dB: 125.7 km^2
- $L_{eq\ 8\ hour}$ night 45 dB: 136.1 km^2

3.1.12 The area of the L_{eq} day and night contours will not exceed the limits above, and the noise envelope would provide certainty to the community that noise levels will be limited and will reduce in the future as the airport grows so as to share the benefits of that growth and new technologies with the community.

3.1.13 GAL will report on performance within the noise envelope annually and set in place internal management processes to forecast performance in the years ahead so as to pre-empt potential non-compliance and put in place operating practices and measures to reduce noise before an exceedance arises. Such measures would be subject to consultation with industry and community stakeholders if they trigger the requirements of Regulation (EU) 598/2014.

3.1.14 GAL seeks views from stakeholders on the proposed noise envelope for consideration as part of this consultation.

4 Regulation 598 Considerations

4.1 Introduction

4.1.1 Following the UK's exit from the EU, most EU Regulations relating to aviation have been adopted as UK law (so-called 'retained EU legislation'), subject to any minor amendments necessary to address the UK's sovereignty post-Brexit. This includes EU Regulation No 598/2014.[2]

4.1.2 Regulation 598 provides, where a noise problem has been identified, rules on the process to be followed for the introduction of noise-related operating restrictions in a consistent manner on an airport-by-airport basis, so as to help improve the noise climate and to limit or reduce the number of people significantly affected by potentially harmful effects of aircraft noise, in accordance with the International Civil Aviation Organisation's (ICAO) Balanced Approach.

4.1.3 As it is considered the proposed noise envelope could represent a noise operating restriction under the Regulation, a review of the proposal in accordance with Regulation 598 and its Annexes has been undertaken. The paragraphs below explain how we have taken these requirements into account.

4.1.4 The stated objectives of the Regulations are:

- to facilitate the achievement of specific noise abatement objectives, including health aspects, at the level of individual airports, while respecting relevant legislation within the United Kingdom; and
- to enable the use of operating restrictions in accordance with the Balanced Approach so as to achieve the sustainable development of the airport and air traffic management network capacity from a gate-to-gate perspective.

4.1.5 The way in which GAL manages noise at the airport following the "Balanced Approach" is discussed in Section 3 of Appendix 14.9.2. Within the Balanced Approach 'Operating Restrictions' are to be used only after all other measures have first been considered, and where those other measures are not in themselves sufficient to attain the specific noise abatement objectives for the airport.

4.1.6 The Regulations require that a Noise Objective is set for the airport. The noise objective for the Project is stated in Section 3 above.

4.1.7 The Regulations define Noise Related Actions and Operating Restrictions in Article 2 as follows.

'(5) 'noise-related action' means any measure that affects the noise climate around airports, for which the principles of the Balanced Approach apply, including other non-operational actions that can affect the number of people exposed to aircraft noise;

(6) 'operating restriction' means a noise-related action that limits access to or reduces the operational capacity

[2] Subject to minor interpretation modifications in the Airports (Noise-related Operating Restrictions) (England and Wales) Regulations 2018 and the Aviation Noise (Amendment) (EU Exit) Regulations 2019.

of an airport, including operating restrictions aimed at the withdrawal from operations of marginally compliant aircraft at specific airports as well as operating restrictions of a partial nature, which for example apply for an identified period of time during the day or only for certain runways at the airport.'

4.1.8 Paragraph 15 in the preamble to the Regulations clarifies that the implementation of the regulations:

'....should not lead to delay in the implementation of operational measures which could immediately alleviate the noise impact without substantially affecting the operational capacity of an airport. Such measures should therefore not be considered to constitute new operating restrictions'.

4.1.9 The Regulations apply to noise abatement measures that are operating restrictions where they limit access to or reduce the operational capacity of an airport, not to all noise related actions.

4.1.10 The DfT's Night Flight Restrictions include seasonal limits of ATMs and Quota Counts and thus limit airport capacity at night. They are therefore existing operating restrictions for the purpose of Regulation 598.

4.1.11 The wide range of other noise abatement measures currently adopted at Gatwick and described in Section 3 of Appendix 14.9.2 – including the proposals for revised and lowered departure noise limits - do not limit access to or the operational capacity of the airport in the view of the author. These are not considered to be operating restrictions but rather noise related actions without substantive implications on capacity or operations.

4.2 Noise Assessment

4.2.1 Where an operating restriction is proposed, the Regulations require a noise assessment and consultation with relevant stakeholders who may be affected by it. This PEIR provides that assessment for consultees to consider. The section below describes the assessment that has been carried out with reference to the requirements of the Regulations, followed by a description of how GAL will take account of feedback from this consultation on the noise envelope proposal ahead of submitting the application for development consent.

4.2.2 The requirements of a noise assessment where an operating restriction is proposed are laid out in Article 6 and the two annexes of the Regulations. Annex 1 of the Regulations requires noise impacts to be described using L_{den} and L_{night} metrics at the least but states that additional noise indicators which have an objective basis may be used. Annex 2 provides for a methodology to assess the cost-effectiveness of proposed noise related operating restrictions.

4.2.3 As the PEIR uses L_{eq} [3] day and night metrics it is proposed that the noise envelope should be based on these metrics, however, for the purposes of the consultation under the Regulations L_{den} and L_{night} contours have also been included to further describe impacts. Both L_{eq} and L_{den} average noise exposure over time: for L_{eq} this is a 92 day period in the summer; for L_{den} and L_{night} noise exposure is averaged over the calendar year.

4.2.4 The effects of the Project have been assessed by comparing the predicted noise levels with the Project against the current and future baseline noise levels in the absence of the Project. The assessment considers two future aircraft fleets referred to as the 'central case' fleet and 'slower transition case' fleet, reflecting both the likely and a slower rate of fleet transition expected in the future.

4.2.5 The rate of fleet transition in the central case reflects GAL's expectations of fleet improvement based on pre-Covid market trends, taking into account airlines' fleet procurement programmes and business models. The slower transition fleet supposes the rate of fleet transition is delayed by about five years. This allows for any uncertainty brought by Covid or other disruption within the period which could affect airline fleet procurement plans (and are outside of GAL's control).

4.2.6 The fleet transition programmes in the central case and slower transition case are summarised in Table 4.2.1 which gives the forecast percentage of Next Generation aircraft in each assessment year under the two fleet transition scenarios.

4.2.7 The central case fleet forecast anticipates that between 2019 and 2032 airline investment will increase the proportion of quieter next generation aircraft in the Gatwick fleet from 13% to 82%, and to 100% by 2038.

Table 4.2.1: Future Fleet Compositions

Year	Central Case Fleet % Next Generation Aircraft	Slower Transition Case Fleet % Next Generation Aircraft
2019	13%	13%
2029	59%	40%
2032	82%	50%
2038	100%	82%

4.2.8 For the slower transition fleet, the effect of the 5 year delay is that by 2032 some 50% of the aircraft operating are future generation types increasing to 82% by 2038.

4.2.9 The slower transition fleet therefore still builds in some assumptions that the noisiest aircraft currently flying at Gatwick are phased out by the point the northern runway opens and that substantial investment in next generation aircraft will occur. For example, in 2019, around 2% of the Gatwick fleet did not meet the ICAO Chapter 4 noise standard, however, these aircraft produce the highest individual noise levels and make a disproportionate contribution to the contour area. Therefore, the expected removal by airlines of a proportion of these aircraft will deliver a significant improvement in the noise environment.

4.2.10 UK Government research[4] has shown that whether or not people think an airport is going to get noisier has a significant influence on how annoying they find it today. The research found that this expectation factor (referred to as a non-acoustic factor) alone changed the proportion of the population highly annoyed by 30-50%. Thus, there is strong evidence that providing the communities affected by noise with certainty over future noise levels, will reduce community annoyance.

[3] In the UK the metric LAeq is used to assess the effects of air noise in terms of health and quality of life in Environmental Impact Assessment. This followed extensive Government research that no other metric correlated better with predicting community annoyance.

[4] Survey of noise attitudes 2014: Aircraft CAP 1506

4.2.11 Whilst the central case fleet is considered most likely to occur, the slower transition fleet could still occur together with higher traffic throughput, and therefore measures are proposed to ensure that effects do not exceed those assessed for this fleet so as to meet the Project noise abatement objective.

4.2.12 Gatwick has applied the balanced approach process to evaluate the available noise related actions.

4.2.13 Land use planning in the UK is focused on avoiding noise sensitive development being consented in areas of high noise unless mitigation can be provided to avoid significant effects. Land use planning is the responsibility of the local planning authorities around Gatwick and derives from Government planning policy. Planning policies adopted by local planning authorities may limit development within Gatwick's contours but that is not within Gatwick's control. It is not considered that the policies adopted by local planning authorities around Gatwick are likely to restrict development and population increase over the wider area between the 63 the 51 dB $L_{Aeq, 16\ hr}$ contours. Thus, land use planning policy, in itself, is unlikely to meet the Project noise abatement objective. This is notwithstanding that Gatwick is proposing a tiered noise insulation scheme which will be amongst the most generous in the UK.

4.2.14 The ongoing noise abatement measures adopted by the airport are summarised in Section 14.8 of Chapter 14 and Section 3 of Appendix 14.9.2 and are included in the base case noise modelling for each of the 2019 base and future assessment years. Whilst this suite of noise related actions will reduce noise impacts in the future, depending on the rate of fleet transition, and other factors, they may not in themselves prevent noise impacts greater than that modelled in the "slower transition" case.

4.2.15 Thus, a noise envelope is proposed to provide certainty that noise levels in the future are not worse than those arising from the slower transition fleet.

4.2.16 A series of noise envelope options have been reviewed as discussed earlier in this appendix. Overall, a noise envelope based on limiting potential exposure was considered to be the most appropriate option, best aligned with the Project's noise objective and in a cost-effective manner.

4.2.17 The noise envelope proposed is based on the day and night time L_{eq} contour areas for the slower transition fleet and two points relating to air transport movement throughputs, when the maximum noise contour is likely to occur, and a smaller noise contour when the development is fully built out to apply thereafter. It will limit noise exposure around Gatwick to, at the least, the area of the slower fleet transition contour.

4.2.18 The envelope proposed will not have any adverse consequences for safety, or unintended operational or environmental impacts.

4.2.19 The envelope provides an incentive to Gatwick to ensure in turn that its airline partners remain incentivised to continue investment so as to avoid more onerous interventions being required. Without the envelope, the impact of the Project could be higher, and a greater level of intervention would be required to avoid significant effects. The envelope will therefore provide certainty to the public that effects will be limited and that noise levels would have to reduce for the airport to be able to handle the ATM throughput forecast when the development is fully built out.

4.3 Consultation and next steps

4.3.1 As described in Section 2 above, GAL has developed the noise envelope taking account of the local situation at Gatwick. GAL will consult with all interested parties on the noise envelope proposal in this PEIR and will take account of feedback before submitting the noise envelope proposal within the application for development consent.

4.3.2 The Secretary of State for Transport is the Competent Authority for Regulation 598 and hence responsible for ensuring that the balanced approach has been followed prior to the introduction of any operating restrictions. The Secretary of State will be ultimately responsible for determining the application for development consent with the benefit of a recommendation from the Examining Authority.

5 References

[redacted]

Civil Aviation Authority (CAA) (2002) ERCD Report 020:4 Review of the Quota Count (QC) System: Re-Analysis of the Differences Between Arrivals and Departures [Online] Available at:

Civil Aviation Authority (CAA) (2013) CAP 1129 Noise Envelopes [Online] Available at:

[redacted]

Civil Aviation Authority (CAA) (2014) Survey of Noise Attitudes 2014: Aircraft. CAP 1506. [Online] Available at:

[redacted]

Civil Aviation Authority (CAA) (2020) CAP 1869 Quote Count Validation Study at Heathrow Airport [Online] Available at:

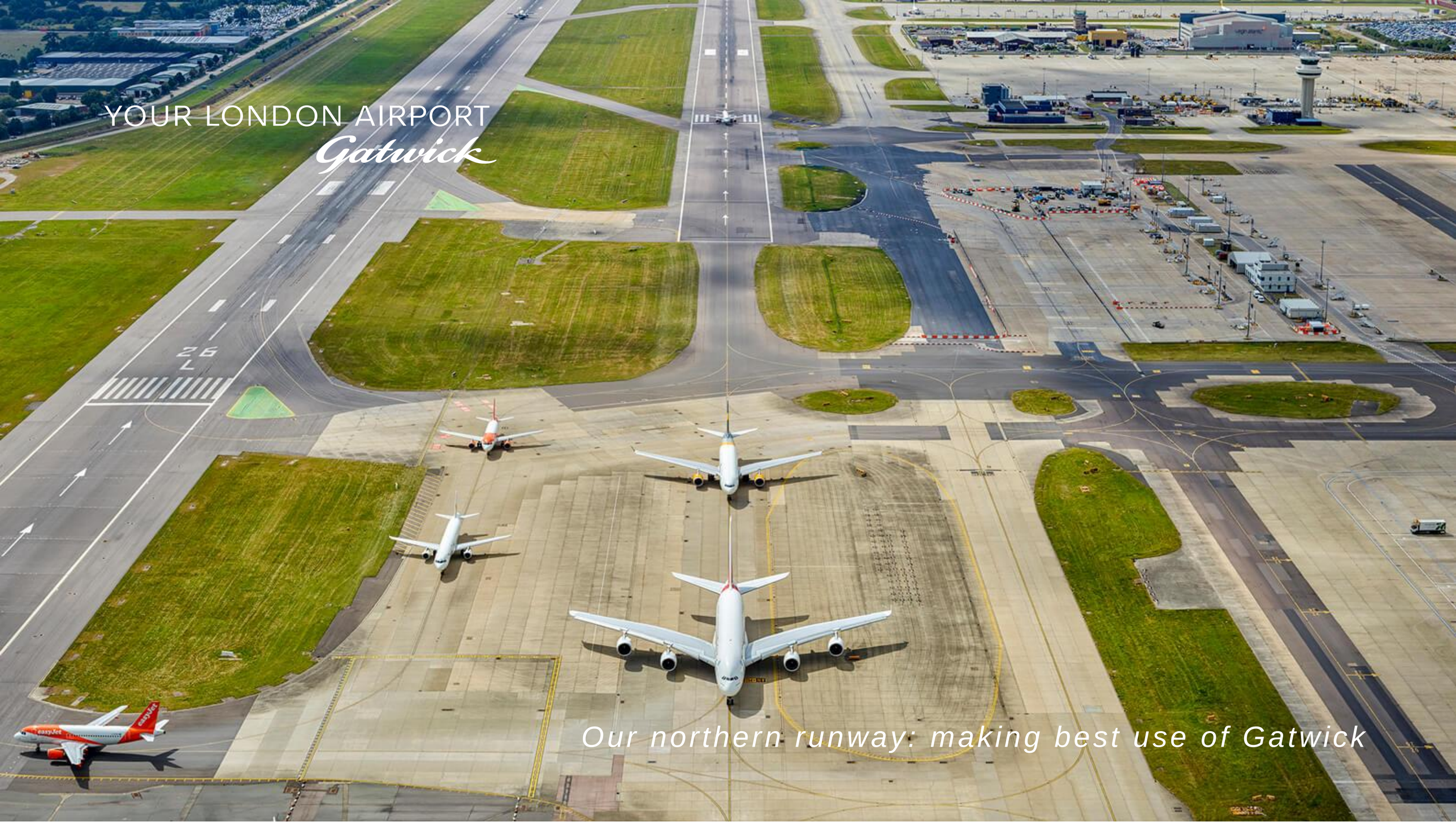
[redacted]

Department for Transport (2018a) Airports National Policy Statement: New Runway Capacity and Infrastructure at Airports in the South East of England. [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/714106/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-web-version.pdf

International Civil Aviation Organization (ICAO 8929) (2008) Guidance on the Balanced Approach to Aircraft Noise Management, Second Edition.

Planning Inspectorate (2019) Proposed Gatwick Airport Northern Runway: Scoping Opinion.

Regulation (EU) No 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC



Our northern runway: making best use of Gatwick

Preliminary Environmental Information Report.
Appendix 15.2.1: Summary of Local Planning Policy – Climate Change and Carbon

September 2021

Table of Contents

1 Introduction

1.1 General

1.1.1 This document forms Appendix 15.2.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the relevant climate change and carbon local planning policy for the Project.

2 Summary of Local Planning Policy - Climate Change and Carbon

Policy	Summary
Adopted	
Crawley 2030: Crawley Borough Local Plan 2015-2030 (Crawley Borough Council, 2015)	
ENV6 - Sustainable design and construction	All development should consider how it will: ▪ Tackle the serious water stress in the borough; and ▪ Cope with future temperature extremes and ensure it does not increase the impact of heatwave events. All developments should also aim to maximise carbon efficiency, including the following objectives: ▪ Take an active approach to reducing the need for energy consumption; ▪ Use renewable and low carbon energy technologies where appropriate; ▪ Look at ways to improve existing buildings when adding improvements or extensions; ▪ Minimise the amount of carbon emitted through the implementation and construction process and ensure any existing embedded carbon onsite is retained; and ▪ Consider the establishment of district energy networks within heat priority areas or near potential sources of waste energy.
GAT1: Development of the Airport with a Single Runway	The council will support of the development of facilities provided that: ii. satisfactory safeguards are in place to mitigate the operation of the airport on the environment including climate change.
SD1: Presumption in favour of sustainable development	The council will take a positive approach to approving development which is sustainable. Seven strategic objectives should be met for the development to be supported. Development will be supported where it meets sustainability strategic objectives, including the following objective: *"Progress towards Crawley's commitment to being carbon neutral by 2050 and adapts to climate change."*
ENV7: District energy networks	All major developments (creating over 1,000 m^2 of internal floorspace) must demonstrate that they have considered either connecting to an existing District Energy Network or developing its own system for supplying energy to any surrounding existing or planned buildings.
Reigate and Banstead Local Plan: Core Strategy 2014 (Reviewed 2019) (Reigate and Banstead Brough Council, 2014)	
CS10 - Sustainable development	States that the new developments development must be designed to reflect the need to adapt to the impacts of climate change; and to minimise the use of natural resources and contribute to a reduction in carbon emissions.
CS11: Sustainable construction	Sets out the minimum construction standards for new developments. All non-residential developments should achieve a BREEAM rating of at least 'very good'.

Policy	Summary
	The policy also promotes the development of decentralised and renewable or low carbon energy to help future developments achieve zero carbon. This includes a requirement for major developments that generate, or are near to an area which generates, significant heat density, to investigate fully the potential for creating, or connecting to, a district heat network.
Reigate and Banstead Borough Development Management Plan 2019 (Reigate and Banstead Borough Council, 2019)	
OSR2: Open space in new developments	The design of new open spaces should seek opportunities to anticipate future climate change impacts.
CCF1: Climate change mitigation	Requires new non-residential developments of 1,000 m^2 or more to include renewable or low-carbon energy generation to provide 10% of the expected energy usage of the development. It promotes the design of buildings to maximise opportunities for energy saving, and also promotes the use of sustainable construction methods and materials.
CCF2: Flood risk	Where a flood risk assessment is required it should take account of the impacts of climate change over the lifetime of the development.
Mole Valley Core Strategy 2009 (Mole valley District Council, 2009)	
CS19 - Sustainable Construction, Renewable Energy and Energy Conservation	New buildings and the redevelopment and refurbishment of the existing building stock will be required to: a. minimise energy use through its design, layout and orientation; b. maximise on-site recycling facilities and the re-use and recycling of materials used in construction; and c. meet at least Level 3 of the Code for Sustainable Homes for housing, or BREEAM 'Very Good' construction standards for all other development, or higher as dictated by future legislation and guidance (Code Level 4 from 2013 and Code 6 by 2016). This must include a 10% reduction in total carbon emissions through the on-site installation and implementation of

Policy	Summary
	decentralised and renewable or low-carbon energy sources.
Horsham District Planning Framework 2015 (Horsham District Council, 2015)	
Policy 35 - Strategic Policy: Climate change	Development will be supported where it makes a clear contribution to mitigating and adapting to the impacts of climate change.
Policy 36: Appropriate energy use	Promotes the use of the energy hierarchy and sets a requirement that commercial development should connect to existing district heating networks where available.
Policy 37: Sustainable design and construction	Proposals should seek to improve the sustainability of development, including: maximise energy efficiency and use of decentralised, renewable and low carbon energy; limit water use; encourage natural lighting and ventilation; support sustainable transport; minimise construction and demolition waste; and use recycled and low-impact materials.
Tandridge District Core Strategy 2008 (Tandridge District Council, 2008)	
CSP14: Sustainable construction	Commercial development should achieve BREEAM Very Good. Development over 5,000 m^2 should incorporate combined heat and power or similar technology.
CSP15: Environmental quality	To minimise the impact on natural resources the Council encourages the reuse of buildings before redevelopment.
Mid Sussex District Plan 2014-2031 (Mid Sussex District Council, 2018)	
DP39: Sustainable Design and Construction	The policy reflects the current Government position on sustainable development. Development proposals must seek to improve the sustainability of development and should were appropriate and feasible incorporate energy minimization through design, communal heating, use of renewable sources of energy, minimizing waste, maximizing recycling, limit water usage and demonstrate how the risks associated with future climate change have been planned for as part of the layout and design to ensure its longer term resilience.

Policy	Summary
Emerging	
Submission Draft Crawley Borough Local Plan 2021 – 2037 (Crawley Borough Council, 2021)	
Strategic Policy SD1: Presumption in Favour of Sustainable Development	In line with the planned approach to Crawley as a new town, and the spatial patterns relating to the neighbourhood principles, when considering development proposals, the council will take a positive approach to approving development which is sustainable. The council will work proactively in partnership with applicants, stakeholders and other partners to jointly find solutions which mean that development can be approved wherever possible, whilst securing development that improves the economic, social and environmental conditions of Crawley and the wider Gatwick Diamond and West Sussex and Greater Brighton sub regions. Development will be supported where it meets the objective to: 1. Progress towards Crawley's commitment to being carbon neutral by 2050 and adapts to climate change.
Strategic Policy SDC1: Sustainable Design and Construction	The policy requires climate change mitigation to include the Be Lean, Be Clean, Be Green hierarchy. The policy also sets climate change adaptation measures in the form of the requirement for sustainability statements to be submitted (for developments above certain thresholds which are explaining in the policy) and new buildings being required to cope with temperature extremes.
Policy EP1: Development and Flood Risk	*'Development must avoid areas which are exposed to an unacceptable risk from flooding, and must not increase the risk of flooding elsewhere.'* The policy goes on to state a number of requirements that all developments should meet including directing development to areas to lowest

Policy	Summary
	flood risk and the requirement for suitable assessments.
Future Mole Valley 2018-2033 Consultation Draft Local Plan (Mole Valley District Council, 2020)	
Policy S1 Presumption in Favour of Sustainable Development	1. When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in national planning policy. 2. Planning applications that are consistent with the policies in the Plan (and, where relevant, with policies in neighbourhood development plans that have been made) will be supported, unless material considerations indicate otherwise. 3. Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision, then the Council will grant permission unless material considerations indicate otherwise, taking into account whether: a. The application of national planning policies which protect areas or assets of particular importance provide a clear reason for refusing the development proposed. b. Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against national planning policies taken as a whole.
Policy EN14 Responding to the Climate Emergency	Measures to mitigate the effects of, and adapt to, climate change will be supported.
Policy INF2 Managing Flood Risk	This policy seeks to ensure development adapts to climate change and flood risk is mitigated. All developments should seek to avoid, reduce or minimise flood risk by: ▪ Applying the sequential approach to location of development and site layout, locating most vulnerable uses in areas of lowest flood risk ▪ Having regard for all sources of flooding, including fluvial, surface water, groundwater, sewers, reservoirs and ordinary watercourses ▪ Where necessary, incorporating flood alleviation measures into the design… to reduce

Policy	Summary
	cumulative impacts of flood risk in, or affecting local areas susceptible to, flooding. ▪ Being designed to be safe for the lifetime of the development, including an allowance for climate change.
Draft Horsham District Local Plan 2019-2036 (Horsham District Council, 2019)	
Strategic Policy 1 – Sustainable Development	When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work pro-actively with applicants to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.
Strategic Policy 37 – Climate Change	Climate change adaptation All major development must demonstrate how it has been designed to adapt to the impacts of climate change and reduce vulnerability, particularly in terms of flood risk, water supply and changes to the District's landscape. Such measures should include: ▪ Use of site layout. Wherever possible new buildings should be orientated to maximise the opportunities for both natural heating and ventilation and to reduce the exposure to wind and other elements; ▪ Design measures to maximise resistance and resilience to climate change, for example through the use of solar shading, thermal mass, heating and ventilation, green and brown roofs and green walls; ▪ Green infrastructure and dual use Sustainable Urban Drainage Systems (SuDS) to help absorb heat, reduce surface water runoff, provide flood storage capacity and assist habitat migration; and ▪ Measures which promote the conservation of water and/or grey water recycling.
Strategic Policy 40 – Flooding	This policy is designed to ensure development adapts to the likely changes in the future climate and flood risk is not increased. It also accords with the 'Wilder Horsham' objective to maximise opportunities from protecting and enhancing wildlife to tackling climate change and to reduce the impacts of a changing climate. 2. Development proposals will follow a sequential approach to flood risk management, where priority is given to development sites with the lowest risk of flooding and making required development safe without increasing flood risk elsewhere. Development proposals will; 1. consider flood risk at an early stage in deciding the layout and design of the site. 2. take a sequential approach to ensure most vulnerable uses are placed in lowest risk areas. 3. avoid development on the functional floodplain (Flood Zone 3b) except for water-compatible uses and essential infrastructure. 4. only be acceptable in Flood Zone 2 and 3 following completion of a sequential test and exceptions test if necessary, using a 1 in 100 annual probability flood level including an appropriate allowance for climate change. 5. not result in a net loss of flood storage capacity and not adversely affect flood routing and thereby increase flood risk elsewhere. 6. require a site-specific Flood Risk Assessment for all developments over 1 hectare in Flood Zone 1 and all proposals in Flood Zone 2 and 3. 3. Comply with the tests and recommendations set out in the Horsham District Strategic Flood Risk Assessment (SFRA). 4. Where there is the potential to increase flood risk, proposals must incorporate the use of sustainable drainage systems (SuDS) where technically feasible, or incorporate water management measures which reduce the risk of flooding and ensure flood risk is not increased elsewhere. 5. Consider the vulnerability and importance of local ecological resources such as water quality and biodiversity when determining the suitability of SuDS. New development should undertake more detailed assessments to consider the most appropriate SuDS methods for each site. Consideration should also be given to amenity value and green infrastructure. 6. Utilise drainage techniques that mimic natural drainage patterns and manage surface water as close to the source as possible. This will be required where technically feasible. 7. Be in accordance with the objective of the Water Framework Directive, and accord with the findings of the Gatwick Sub Region Water Cycle Study in order to maintain water quality and water availability in rivers and wetlands and wastewater treatment requirements
Tandridge Local Plan 2033 (Tandridge District Council, 2019)	
TLP30 Green and Blue Infrastructure	Brooks and water courses and other blue infrastructure corridors should be used to guide the creation of new network paths for the benefit of biodiversity and habitat creation, to help offset the impact of climate change and mitigate flooding.
TLP47: Sustainable Drainage and Reducing Flood Risk	We will ensure that the development in the District reduces flood risk and minimises the impact of flooding by: accounting for the impacts of future climate change. In areas at risk of flooding, development should be safe for the lifetime of the development including an allowance for climate change and should incorporate flood resilience and resistant measures into the design, layout and form of buildings to reduce the level of flood risk both on site and elsewhere.
TLP45: Energy Efficient and Low Carbon Development	The Council will support new development of all types where all reasonable steps have been taken to integrate low and zero carbon mechanisms and ensure the reduction of energy consumption.

3 References

Crawley Borough Council (2015) Crawley 2030: Crawley Borough Local Plan 2015 – 2030. [Online] Available at: https://crawley.gov.uk/sites/default/files/documents/PUB271853.pdf

Crawley Borough Council (2021) Crawley Local Plan: Draft Crawley Borough Local Plan 2021-2037, January 2021. For Submission Publication Consultation: January-February 2021. Available at: https://crawley.gov.uk/sites/default/files/2021-01/Submission%20Draft%20Local%20Plan%20January%202021.pdf Horsham District Council (2015) Horsham District Planning Framework (Excluding South Downs National Park). [Online] Available at: https://www.horsham.gov.uk/planningpolicy/planning-policy/local-plan/horsham-district-planning-framework

Horsham District Council (2019) Draft Horsham District Local Plan 2019-2036 (Reg 18). [Online] Available at: https://strategicplanning.horsham.gov.uk/consult.ti/LocalPlanReview/viewCompoundDoc?docid=10336756 Mid Sussex District Council (2018) Mid Sussex District Plan. [Online] Available at: https://www.midsussex.gov.uk/planning-building/mid-sussex-district-plan/Mole Valley District Council (2009) Core Strategy. [Online] Available at: https://www.molevalley.gov.uk/media.cfm?mediaid=9111

Mole Valley District Council (2020) Future Mole Valley Local Plan 2020-2037 (Reg18). [Online] Available at: https://futuremolevalley.org/draftlocalplan/ Reigate and Banstead Borough Council (2014) Local Plan: Core Strategy. [Online] Available at: http://www.reigate-banstead.gov.uk/downloads/file/3073/adopted_core_strategy_july_2014Reigate and Banstead Borough Council (2019) Development Management Plan. [Online] Available at: http://www.reigate-banstead.gov.uk/info/20380/current_planning_policy/888/develodevel_management_plan Tandridge District Council (2008) Core Strategy. [Online] Available at: https://www.tandridge.gov.uk/Planning-and-building/Planning-strategies-and-policies/Current-and-adopted-planning-policies/Core-strategy

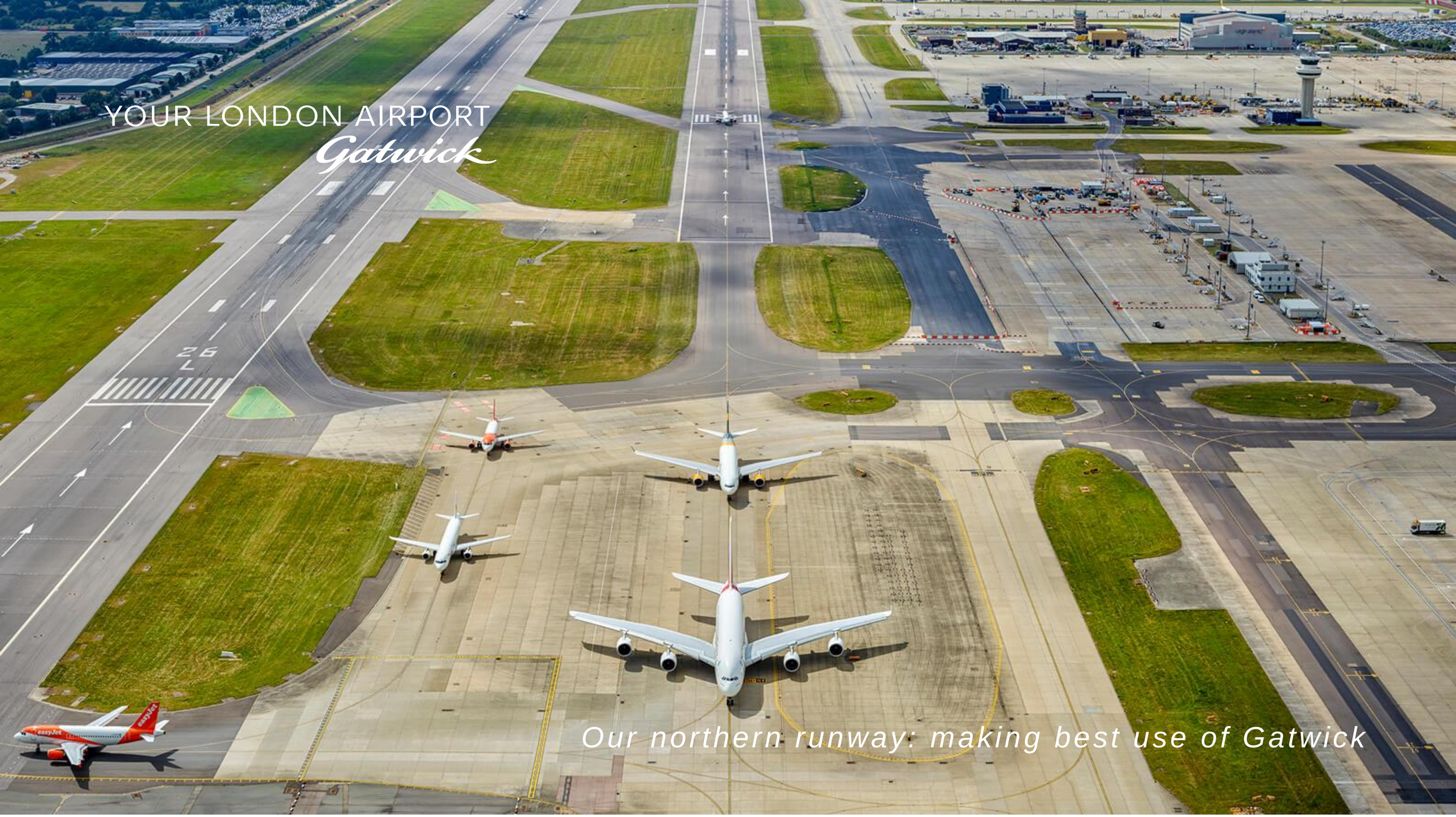
Tandridge District Council (2019) Our Local Plan 2033. [Online] Available at: https://www.tandridge.gov.uk/Portals/0/Documents/Planning%20and%20building/Planning%20strategies%20and%20policies/Local%20plan/Local%20plan%202033/Examination%20library/MAIN%20DOCUMENTS/MD1-Our-Local-Plan-2033-Submission-2019.pdf Glossary

4 Glossary

4.1 Glossary of terms

Table 4.1.1: Glossary of Terms

Term	Description
EIA	Environmental Impact Assessment
GAL	Gatwick Airport Limited
PEIR	Preliminary Environmental Impact Report
SFRA	Strategic Flood Risk Assessment
SuDS	Sustainable Urban Drainage System



Preliminary Environmental Information Report
Appendix 15.3.1: Summary of Stakeholder Scoping Responses - Climate Change and Carbon

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 15.3.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the summary of stakeholder scoping responses for climate change and carbon for the Project.

2 Summary of Stakeholder Scoping Responses for Climate Change and Carbon

Consultee	Date	Details	How/where addressed in PEIR
Charlwood Parish Council	30 September 2019	Growth of the airport has facilitated substantial growth in aviation's greenhouse gas emissions, making a significant contribution to climate change.	Historic growth of the airport is not considered within the PEIR. Chapter 15 of the PEIR considers and quantifies the GHG emissions arising from the Project, and the associated changes in energy, surface access and aviation emissions.
Crawley Borough Council	30 September 2019	The assessment of climate change and carbon should include as a key element the Government's commitment to achieving an emissions' reduction target of 100% by 2050, (as set out in the Climate Change Act 2008 (2050 Target Amendment) Order 2019). This amendment should be included as a key piece of legislation in section 7.9.8, as well as any further guidance Government on aviation and emissions. This assessment should also consider the impact of other airport expansion projects. Given the importance of reducing greenhouse gases, CBC considers that all greenhouse gases in aviation emissions, and not just C02 as proposed in paragraph 7.9.73, should be assessed.	Section 15.2 (Chapter 15 of the PEIR) provides details of the Climate Change Act 2008, including the 2019 change to a 100% reduction in GHG emissions on the 1990 baseline. This section also includes other legislation and policy of relevance. The Aviation 2050 strategy (Department for Transport, 2018) reviews the climate change policies detailed in the Aviation Policy Framework (Department for Transport, 2013). This document has recently undergone public consultation and, as such, does not represent currently adopted policy. Paragraph 3.87 of the strategy states that the Government agreed with the (then) Committee on Climate Change's (CCC's) advice to exclude international aviation emissions from carbon budgets but to leave 'headroom' to account for international aviation so that the whole economy is on a trajectory to achieve the 2050 Climate Change Act target. The paragraph also states that: *'To set a clear level of ambition for the sector, the government proposes to: accept the CCC's recommendation that emissions from UK-departing flights should be at or below 2005 levels in 2050'*.. This has now been superseded by the Sixth Carbon Budget recommendations from the CCC, and the inclusion of international aviation within the formal adoption of the Sixth Carbon Budget. The Environmental Statement (ES) will respond to this emerging policy context as it is clarified.

Consultee	Date	Details	How/where addressed in PEIR
			The assessment does not consider the aggregate impact of other airport expansion projects, but does provide context for the forecast GHG emissions arising from the Project in terms of the existing UK GHG targets. The assessment continues to assess CO_2 only for the aviation emission (and CO_2e for other emissions sources) in line with national reporting conventions and national targets for aviation. It is acknowledged that other non-CO_2 GHGs arise from combustion of aviation fuel, and the direct emissions of these accounts to an additional 1% in CO_2e emissions over the CO_2-only emissions. The assessment of significance, and the consideration of the context of national targets, can only be carried out in the context of the existing policy and carbon targets, and these are expressed in CO_2 for aviation emissions in the UK.
Crawley Borough Council	30 September 2019	CBC considers that the increase in buildings and hardstanding on the airport as a result of existing and proposed developments (Table 4.6.1) and the Project itself, may create an urban heat island effect, and that the impact from this should be included in the ICCI assessment.	Currently we understand that Gatwick Airport does not experience a significant urban heat island (UHI), and that temperature measurements from the locality of the control tower show similar values to those from surrounding rural weather observation stations. This is based on research published in CIBSE TM49 referred to in the Scoping Report. It is not expected that the relatively small changes in hardstanding and buildings will create a new UHI effect.
London Borough of Croydon	1 October 2019	The Council has recently declared a Climate Change Emergency and is undertaking a Climate Change Commission and Citizens Assembly. While Gatwick Airport is recognised for its economic contribution to the sub-region, aviation clearly has an impact on the environment. It is for Gatwick and the aviation industry more widely to ensure that it can meet current and future climate change and emissions standards and develop Gatwick in such a way as to minimise its negative impact on the environment and climate change. Taking this forward in the Scoping Report the emphasis should be on ensuring that the proposed development is focused on sustainable growth and improves the environment for now and future generations.	Section 15.9 of PEIR assesses the magnitude of GHG emissions arising from the Project, and presents these in the context of current UK carbon targets. It also provides context on the scale of these emissions against a potential future carbon target predicated on the UK's commitment to net zero by 2050.
London Borough of Croydon	1 October 2019	The scoping report refers to a commitment to include targets to increase the sustainable mode share for passengers and staff which is welcomed. How these targets will be achieved and their role in mitigating the effects of the proposed development need to be considered. Whilst mode share targets have been indicated for 2022, in the light that the Council has declared a Climate Change Emergency, all travel will need to be sustainable in the medium to long term. Further targets should be developed and agreed looking to the medium term which is provided by the Mayor of London's Transport Strategy. This sets out a target for 80% of journeys to be by sustainable means by 2041. I light of the Mayor's objectives and the Climate Change Emergency we would strongly question the intention to increase 'on airport' parking from its current 46,700. It is considered that there are significant opportunities to increase the proportion of passengers travelling via bus and coach, along with walking and cycling access improvements to the airport. The data listed in 7.6.5 does not appear to cover these modes of transport directly.	Details on mode share is provided in Chapter 12: Traffic and Transport and Appendix 12.9.1 Preliminary Transport Assessment Report.

Consultee	Date	Details	How/where addressed in PEIR
Environment Agency	20 September 2019	The production of a Flood Risk Assessment (FRA) in accordance with the planning practice guidance and National Planning Policy Framework (NPPF) is noted, this is certainly a requirement of this proposal. The FRA should incorporate the latest guidance on climate change, this aspect is referenced as part of section 7.5.15. The FRA should clearly demonstrate how the risk to flooding from both fluvial and surface water will not be increased as a result of any development on the site. Due to the timeline of this project, it is feasible that updated guidance could be released on factors such as climate change, flood risk extents and planning or policy guidance associated with flood risk during the development phase of this project. GAL should be prepared to implement new guidance/policy as appropriate, and this may result in changes to the baseline scenarios.	The FRA has shown that there is no increase in flood risk, both fluvial and pluvial, as a result of the proposed development. Further information can be found in the flood risk assessment (FRA) (Appendix 11.9.1)
Historic England	1 October 2019	Para 7.1.25 – potential climate change effects on the historic environment are dismissed but we would suggest that there may be some effects; e.g. climate generated change in hydrology and ground water conditions may affect archaeological preservation environments through drying out of soil or rapid changes in ground saturation.	These effects are considered in Chapter 7: Historic Environment of the PEIR.
Horsham District Council	27 September 2019	In relation to the Assessment of Significance, the meaning of paragraph 7.9.68 requires clarification. The paragraph refers to a 'qualified effect' to be compared against a national carbon budget. In accordance with the recommendations of IEMA guidance 2017, it is expected that the Project's carbon budget should be quantified and compared against an existing carbon budget. Will the fourth and fifth carbon budgets be used for that purpose? Are there regional or local budgets that can be used?	This terminology should have read 'quantified' not 'qualified'. The PEIR has quantified the emissions from the Project, and compares this to the relevant carbon budgets for the relevant periods of construction and operation for which carbon budgets currently exist. Some organisations have proposed carbon budgets at the Local Authority level, but these have not been formally accepted for those geographies in which GHG emissions will arise from the Project.
Mid Sussex District Council	1 October 2019	It is recommended that the relevance to the assessment of each policy or legislation is fully noted as part of the PEIR or ES.	The preliminary assessments take into account relevant policy and will continue to be taken into account throughout the EIA process
Reigate and Banstead Borough Council	27 September 2019	Following the adoption of the DMP, references to the "emerging Reigate & Banstead Borough Development Management Plan 2018-2027" should be amended to "Reigate and Banstead Development Management Plan (Reigate and Banstead Borough Council, 2019)" to ensure consistency with other adopted Local Plan documents. References to saved Borough Local Plan Policy Hr2B "Quality & Sustainable Development (within Horley)" also needs to be removed from the policies and legislative requirements section following adoption of the DMP.	The policy table 15.2.2 in the PEIR refers to *"Reigate and Banstead Development Management Plan 2019"*. The Local Plan Policy Hr2B is not referred to in the PEIR.
Reigate and Banstead Borough Council	27 September 2019	The Council notes that the justification for excluding GHG emissions from CCD stages for inward flights is that "these emissions are outside the scope of influence of the Project as the Project does not include changes to airspace…". Given our previous comments regarding airspace modernisation, we consider that there is a need to take into consideration GHG emissions from CCD stages for inward flights.	A full response to a similar comment is presented in Table 15.3.1: *"Airspace design changes fall under a different regulatory system and process. This PEIR does not include an assessment of arriving flights as recommendations on inclusion of these are only applicable to assessments of airspace design changes. In addition, there is insufficient information on future airspace changes to allow an assessment on GHG emissions to be carried out at this stage. It is proposed to consult with CAA to discuss the scope of the assessment in the EIA process and the final ES will take into account the outcomes of consultation."*
Reigate and Banstead Borough Council	27 September 2019	The Council would welcome clarity as to whether non-CO2 radiative forcing effects (including water vapour, contrails, NOX, etc.) will be taken into consideration in the scope of the assessment of carbon. If not this will result in a significant change in the figures presented in the final assessment.	The assessment is restricted to consideration of GHGs as defined by the Kyoto Protocol. It does not consider wider non-GHG effects. This is set out, along with the supporting rationale, in Paragraph 15.4.7.

Consultee	Date	Details	How/where addressed in PEIR
Reigate and Banstead Borough Council	27 September 2019	In terms of the presentation of the findings, we note that Paragraph 7.9.34 of the EIA Scoping Report states that "it is proposed that the findings of the assessment of effects on climate change and carbon would be set out as a topic chapter within the ES, supported by technical appendices where appropriate". In order to understand the non CO2 radiative forcing effects, we would find it helpful if a table were included within the chapter which specifically details the non CO2 radiative forcing impact.	The assessment is restricted to consideration of GHGs as defined by the Kyoto Protocol. It does not consider wider non-GHG effects. This is set out, along with the supporting rationale, in Paragraph 15.4.7.
Surrey County Council		The County Council is broadly content with the approach to the assessment of climatic impacts and carbon emissions set out in section 7.9 (pp.144-160) of the Scoping Report. However, the County Council would recommend that the assessment give consideration to the likely implications of the forthcoming report of the Committee on Climate Change (CCC), which is expected in the autumn. That report is expected to make recommendations for the aviation sector consistent with delivering the Government's recently legislated target for net zero carbon by 2050. Those recommendations are expected to be taken into account in the Government's final Aviation Strategy for 2050, and is therefore a key issue for the proposed development at Gatwick that should be factored into the assessment.	Section 15.9 of PEIR assesses the magnitude of GHG emissions arising from the Project, and presents these in the context of current UK carbon targets. It also provides context on the scale of these emissions against a potential future carbon target predicated on the UK's commitment to net zero by 2050. The final ES will respond to any changes in policy context and forthcoming carbon budgets.
West Sussex County Council		In reference to Section 3.2: It is considered that a "low growth" scenario should be added to account for the possibility the growth of the airport will be limited by climate change considerations and/or Brexit.	Forecast data have been provided by ICF and further details can be found within the Forecast Data Book provided as part of the consultation material.
West Sussex County Council		In reference to Paragraph 7.1.25: Climate change should be included as it is likely to affect the historic environment baseline over the assessment period through increased heat and rainfall undermining foundations and damaging buildings.	This point to be raised with Chapter 7: Historic Environment topic for response.
West Sussex County Council		In reference to Paragraph 7.9.8: The Climate Change Act 2008 (2050 Target Amendment)(Order 2019) should be included in the list of key legislation.	The amended Climate Change Act is referenced in the PEIR in section 15.2
West Sussex County Council	1 October 2019	In reference to Paragraph 7.9.11: The list of Guidance Documents should include the National Adaptation Programme.	The National Adaptation Programme (NAP) is included in the Legislation section of the PEIR
West Sussex County Council		In reference to Paragraphs 7.9.15 and 7.9.18: The ICCI assessment should consider the impact of the heat island effect resulting from works proposed to 2038 (including additional concrete/hardstanding/buildings), as set out in table 4.6.1	See comment above
West Sussex County Council		In reference to Paragraph 7.9.34: The cumulative impact of the Project along with other airport projects, particularly the Heathrow expansion, should be considered.	A cumulative assessment has not been undertaken within Chapter 15 of the PEIR – see section 15.10 for explanation.
West Sussex County Council		In reference to Paragraph 7.9.39: The assessment of future impact should consider the heat island effect of increased concrete/hardstanding/buildings.	See comment above
West Sussex County Council		In reference to Table 7.9.3: This should explicitly include: ▪ the potential impact of increased drought/storm weather on runway surfaces through cracking; ▪ overheating in buildings; ▪ health impacts on staff during construction/operation.	These points are discussed in Section 15.9
Waverley Borough Council		The climate change baseline presented in the scoping request report deals with increases in temperature and of greenhouse gas emissions. The area that would be affected by the development, in terms of the greenhouse gas	The study areas for the heritage assessment are described within Appendix 7.6.1: Historic Environment Baseline Report.

Consultee	Date	Details	How/where addressed in PEIR
		emissions attributed to the relevant boroughs should be included as part of the EIA. Aviation is set to be the biggest source of UK emissions by 2050. The assessment should include a cumulative impact of CO2 emissions arising from both the proposed Gatwick and Heathrow expansions and how these may impact on Waverley Borough residents and businesses as well as the environment, biodiversity and habitat.	
Tandridge District Council	30 September 2019	Paragraph 7.9.8 of the EIASR should include as key legislation the Climate Change Act 2008 (2050 Target Amendment) Order 2019. This sets out the Government's commitment in relation to carbon emission reductions by 2050 and should be central to the assessment of climate change in the ES.	The amended Climate Change Act is referenced in the PEIR in section 15.2

3 References

Climate Change Act (2008), c.27 (as amended).

Department for Transport (2013) Aviation Policy Framework.

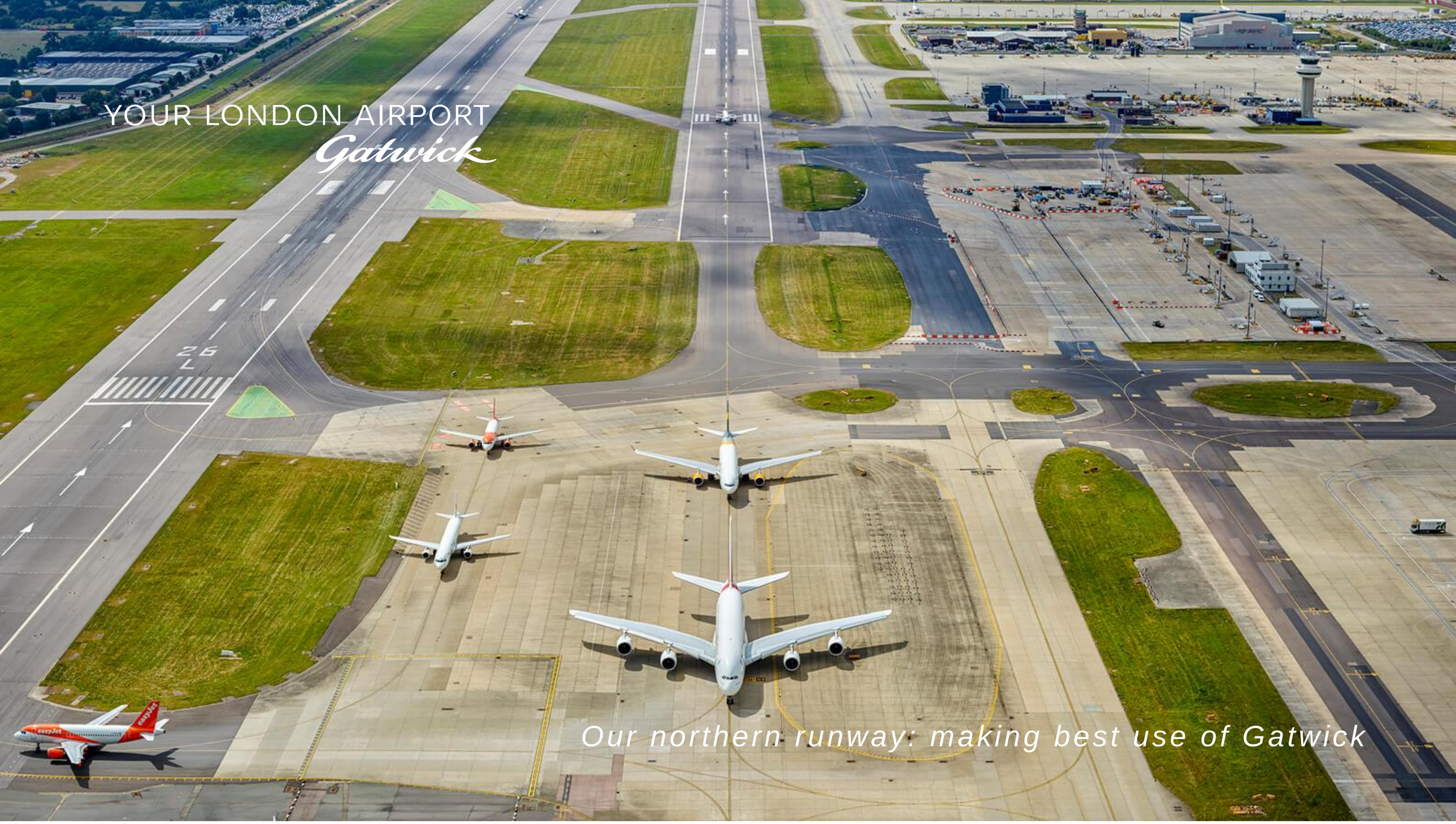
Department for Transport (2018) Aviation 2050 - the future of UK aviation.

4 Glossary

4.1 Glossary of terms

Table 4.1.1: Glossary of Terms

Term	Description
CBC	Crawley Borough Council
CCC	Committee on Climate Change
CCD	Climb-Cruise-Descent
DMP	Development Management Plan
EIA	Environmental Impact Assessment
EIASR	Environmental Impact Assessment Scoping Report
ES	Environmental Statement
FRA	Flood Risk Assessment
GAL	Gatwick Airport Limited
GHG	Green House Gas
ICCI	In-combination Climate Change Impacts
IEMA	Institute of Environmental Management and Assessment
NAP	National Adaptation Programme
NPPF	National Planning Policy Framework
PEIR	Preliminary Environmental Information Report



Preliminary Environmental Information Report
Appendix 15.4.1: Climate Change and Carbon Technical Appendix

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 15.4.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in Chapter 5: Project Description.

1.1.2 This document provides the Climate Change and Carbon Technical Appendix for the Project.

2 Baseline Development

2.1 Data Sources for 2018 Baseline

2.1.1 The following activity data sources were used to develop the 2018 baseline.

Table 2.1.1: 2018 Baseline Data Sources

Data	Source	Provider
2018 air traffic movements (ATMs)	2018 ATMs Full List	Gatwick Airport Ltd
Passenger surface access	2018 Passenger survey report	Civil Aviation Authority (CAA, 2018)
Staff surface access	Gatwick Airport Staff survey 2016	Gatwick Airport Ltd
Freight surface access	Gatwick's Economic Contribution through Trade and Investment (Oxford Economics, 2018)	Gatwick Airport Ltd
London Gatwick (LGW) 2018 corporate Greenhouse Gas (GHG) reporting	Gatwick Airport Ltd 2018 Greenhouse Gas Assessment	Gatwick Airport Ltd
EU ETS reporting for Gatwick Airport Ltd for 2018	2018 ETS Fuel Report	Gatwick Airport Ltd
3rd party energy consumption	Written enquiries to 3rd parties within the airport	Gatwick Airport Ltd
Consented project parameters	Project description	Gatwick Airport Ltd
GHG intensity factors	Greenhouse gas reporting: conversion factors 2018	Department for Business, Energy & Industrial Strategy (BEIS)

3 Future Baseline Information

3.1 Data Sources for Future Baseline

3.1.1 In addition to data sources for the 2018 baseline the following data sources and forecasts have informed the future baseline development.

Table 3.1.1: 2018 Future Baseline Data Sources

Data	Source	Provider
Forecast ATMs	Development Consent Order (DCO) Primary Forecasts – Annual data sheets	Gatwick Airport Ltd
Passenger surface access	DCO Secondary Forecasts – Annual data sheets	Gatwick Airport Ltd
Staff surface access	DCO Secondary Forecasts – Annual data sheets	Gatwick Airport Ltd
Freight surface access	DCO Secondary Forecasts – Annual data sheets	Gatwick Airport Ltd
Project programme, workforce estimates, construction plant estimates	ConVehMod2021 v1.0	Gatwick Airport Ltd
Material quantity estimated by project	Portfolio Quantities	Gatwick Airport Ltd
Building footprints / areas, hotel capacity, car parking, consented projects	Project Description	Gatwick Airport Ltd
Water usage profile	Water usage profile	Gatwick Airport Ltd
GHG intensity factors	Greenhouse gas reporting: conversion factors 2021	Department for Business, Energy & Industrial Strategy (BEIS, 2021)

4 Baseline Methodology

4.1 Methodology Notes

4.1.1 An explanation of the methodology and assumptions for each element of the baseline assessment is set out below. Specific details on the timing and shift working on specific parts of the Project are not yet developed. Conservative assumptions have been made at a Project-wide level to estimate GHG emissions impacts.

Table 4.1.1: 2018 Methodology Notes

Activity	Methodology
Air transport	
GHGs arising from the landing and takeoff (LTO) cycle in the vicinity of the airport	Emissions from LTOs were calculated in line with the methodology as set out in Chapter 13: Air Quality.
GHGs arising from the climb, cruise and decent (CCD) phases of outgoing flights only	ATM data for 2018 was provided by Gatwick airport detailing the source/destination for all flights in 2018 along with details of aircraft type. These flights were then classed as UK/EU-ETS/non-EU International, and each was assigned a modelling category reflecting the type of aircraft/engine combination used. The EMEP/EEA Air Pollution Inventory Guidebook Additional File *1.A.3.a Aviation – Annex 5 – Master emission calculator 2019* (European Environment Agency, 2019) was then used to determine CCD emissions for outgoing flights only based on the aircraft modelling category, and on the estimated distance between Gatwick Airport and the destination airport, with an allowance for additional distance due to elevation from the earth's surface and impacts of non-direct routes (5% for short-haul flights and 6% for long-haul flights). Based on these the EMEP/EEA calculation methodology provided estimates of CO_2 emissions from each modelling category. These were aggregated to provide summary emissions totals for UK, EU ETS and non-EU International flights for the baseline year of 2018. Future forecast ATMs were then used to develop an estimate of future flight distances by aircraft modelling category (scaling 2018 total flight distances per modelling category by ATMs for UK, EU ETS and non-EU International categories) for 2029, 2032 and 2038 to scale the UK, EU and non-EU International CCD emissions to provide a forecast for the relevant year.
Surface access	
Passenger surface access	Passenger survey information developed by the CAA provides a percentage breakdown of source/destination for passengers, and a mode split by vehicle type of journeys. Based on passenger numbers this was converted into an estimated km distance travel by mode for 2018. For private cars occupancy was assumed at 2.4 people per vehicle, and for taxi usage assumed at 1.8 people per vehicle. BEIS conversion factors were then used to develop a footprint for 2018. Cars were assumed to be 'average vehicle' for private cars. Future passenger numbers for the period 2020-2038 were then used to scale total vehicle km by transport mode for future years. No mode shift has been assumed for the PEIR assessment although it is expected to incorporate mitigation of surface access emissions into the final ES. The efficiency and fleet mix for future years was based on Department for Transport (DfT) forecasts as set out in Table 6.3.1; GHG emissions were calculated using BEIS carbon factors for company reporting (using 2018 factors for the 2018 baseline, and using 2021 factors for future years). Calculation of emissions from road vehicles included all of tail pipe emissions, 'Wheel-to-tank' emissions, and Transmission and Distribution losses for electricity. An allowance was made to reflect improvements in fuel efficiency of vehicles, taken from WebTAG data book Table A1.3.10 (DfT, 2021b).
Staff surface access	Staff transport details for 2016 were received from the transport modelling consultants, based on a 2016 staff travel survey, providing a modal shift and distance breakdown across all employees based at Gatwick Airport (GAL and also 3rd party staff). The data represents a single/typical day in June 2016. No allowance was made for fluctuations across the year, this was assumed to be an average day in the year. Based on this, and using BEIS carbon factors, the 2018 baseline was developed. The staff surface access future baseline was then calculated based on scaling for future years based on passenger numbers under each scenario. The efficiency and fleet mix for future years was based on DfT forecasts as set out in Table 6.3.1; GHG emissions were calculated using BEIS carbon factors for company reporting. Calculation of emissions from road vehicles included all of tail pipe emissions, 'Wheel-to-tank' emissions, and Transmissions and Distribution losses for electricity. An allowance was made to reflect improvements in fuel efficiency of vehicles, taken from WebTAG data book Table A1.3.10 (DfT, 2021b).
Freight surface access	For this PEIR only cargo freight has been estimated. Tonnage of cargo freight was obtained from Gatwick Airport Ltd and an estimated transportation distance developed from the Oxford Economics study into Trade and Investment[1]. Transport was assumed as 100% Heavy Goods Vehicles (HGV) for an 'average laden' vehicle. Emissions were calculated using BEIS carbon factors. Emissions arising from freight associated with retail are not included in this assessment but will be include in the full ES. Decarbonisation effects on freight transport have not been included in the estimation of future years within this PEIR.

[1] [redacted]

Activity	Methodology
Use of airport, buildings and facilities	
Energy and fuel use for buildings, Ground Support Equipment (GSE), Auxiliary Power Units (APUs), Ground Power Units (GPU), and Fixed Electrical Ground Power (FEGP)	The 2018 baseline for the assessment was developed based on reported energy consumption for the airport and 3rd parties based on the airport which have direct energy supply contracts. The future baseline for the airport energy consumption was developed based on assuming like-for-like energy consumption for existing buildings, plus the additional heating/cooling/power loads from new development. Further details on the Preliminary Energy Assessment and Strategy can be found in Appendix 5.2.1 of the PEIR.
Firefighting activities	These emissions have been developed using the methodology as set out in the Chapter 13: Air Quality.
Aircraft engine testing	These emissions have been developed using the methodology as set out in Chapter 13: Air Quality.
Potable water supply	Potable water supply has been forecast based on scaling the 2018 baseline consumption by passenger numbers. GHG emissions arising from these have been calculated using the BEIS carbon factor for 'Water supply'. The future baseline has assumed no change in the emissions intensity per m^3 supplied.
Pumping and treatment of wastewater	Energy consumption associated with pumping of wastewater has been included in the energy modelling for the airport. Emissions from wastewater treatment are based on scaling the 2018 wastewater discharge volumes by passenger numbers. GHG emissions arising from these have been calculated using the BEIS carbon factor for 'Water treatment'. The future baseline has assumed no change in the emissions intensity per m^3 supplied.
Waste treatment and disposal	Emissions from waste management are based on scaling the 2018 waste arisings volumes by passenger numbers. GHG emissions arising from these have been calculated using the BEIS carbon factors for 'Waste treatment' for Commercial and Industrial waste. The future baseline has assumed no change in the emissions intensity per m^3 supplied. A known limitation of this assessment is that it does not reflect all wastes from 3rd party operators within the airport, some of which have direct waste management contracts. Waste arisings also exclude those from British Airways and Virgin hangars, cargo facilities, and maintenance-related aircraft waste. Given the overall contribution from known waste quantities it is not expected that these omissions will materially change the assessment of impact.
Other aviation fuel usage	These emissions have been calculated using the methodology as set out in Chapter 13: Air Quality.
Construction emissions	
GHGs arising from the extraction, processing and manufacturing of construction materials	Floor areas of proposed development within the Capital Investment Plan as provided by Gatwick Airport Ltd and benchmarks used for estimating quantities of key construction materials within those building. Material quantities were converted to tonnes using typical density factors. Conversion factors from the ICE 3.0 database were used to calculate embodied emissions from the extraction, processing, manufacture of materials on a cradle-gate basis.
GHGs arising from transportation of materials from factory to site	Aggregated masses of construction materials were used based on the calculation process set out above. Based on typical HGV loading of 33 tonnes the number of vehicle trips required was calculated. An estimated distance of 330 km was used in the absence of more detailed information to calculate vehicle-km. Carbon emissions were then calculated based on BEIS conversion factors for average laden articulated HGV. Vehicle movements were assessed as two-way trips (at average loading)
GHGs arising from energy use in construction activities (ie operation of plant etc)	The estimated peak number of operators per month was obtained from the GAL Construction Team for the airport construction project. An assumption of 8 hours of plant operation per day, and 5 day working, was used to estimate total aggregated working hours of plant per year. Five representative plant types were used and published fuel consumption rates per hour of operation were used to calculate fuel consumption, which were then multiplied by BEIS conversion factors to develop an estimate of CO_2e emissions.
GHGs arising from transport and disposal of construction and demolition waste	Estimates of waste arisings from demolition and excavation were developed from the project material estimate provided by the GAL Construction Team. Waste quantities were averaged across the development period and an assumption made of 70% recycling offsite and 30% disposal to landfill. Waste quantities were multiplied by BEIS conversion factors for waste disposal to develop an estimate of CO2e emissions. For landfill the conversion factors cover emissions from waste collection, transport and landfill emissions and for recycling the conversion factors cover transport to an energy recovery or materials reclamation facility.
GHGs arising from surface access for construction staff arising from the Project	Peak workforce values were provided by GAL Construction Team. It is assumed that no staff live onsite during construction and all staff travel to work each day. Working days are assumed to follow a 5-day per week pattern. An average commuting distance of 35km was used representing mean distance for worker travel to site in the South East (CITB, 2019). A reasonable worst case assumption of 100% single occupancy car transport was used and BEIS conversion factors for car travel were used to estimate CO2e emissions.

4.2 Carbon Intensity Factors

4.2.1 The 2018 baseline GHG emissions arising from activities are based on the Greenhouse gas reporting: conversion factors 2018[2] developed by BEIS. These factors allow for the conversion of 'activity units' into emissions of either CO_2 and/or CO_2e. The conversion factors used in this assessment are presented in Table 4.2.1. For future baseline modelling the most recent BEIS factors (from 2021[3]) have been used.

4.2.2 It is acknowledged that the 2021 factors will change in future years, with implications for future forecast GHG emission. Where external trends suggest a continual reduction in GHG factors (eg through grid decarbonisation) then these have been modelled over time and incorporated into the future GHG emissions calculations.

4.2.3 The factors for electricity consumption and road vehicle use are influenced by external factors which is discussed in Section 6.

Table 4.2.1 2018 BEIS Conversion Factors

Activity	2018 factor	2021 factor	Unit
Average laden HGV (all HGVs)	0.11360	0.1075	$kgCO_2e$/tonne.km
Average Diesel car	0.17753	0.16843	$kgCO_2e$/km
Average Petrol car	0.18368	0.17431	$kgCO_2e$/km
Average Hybrid car	0.12568	0.11952	$kgCO_2e$/km
Average PHEV	0.12012	0.07054	$kgCO_2e$/km
Average Motorbike	0.11529	0.11355	$kgCO_2e$/km
Taxi - Regular	0.15344	0.14876	$kgCO_2e$/passenger.km
Taxi – Black cab	0.21420	0.20416	$kgCO_2e$/passenger.km
Average local Bus	0.10097	0.10227	$kgCO_2e$/passenger.km
National Rail	0.04424	0.03594	$kgCO_2e$/passenger.km
Wheel-to-tank Average Petrol Car	0.04985	0.04104	$kgCO_2e$/km
Wheel-to-tank Average Diesel Car	0.04196	0.04885	$kgCO_2e$/km
Wheel-to-tank Average Hybrid Car	0.03186	0.03132	$kgCO_2e$/km
Wheel-to-tank Average PHEV Car	0.02651	0.02657	$kgCO_2e$/km
Consumption of aviation fuel	2.53883	2.54514	$kgCO_2e$/litre
Consumption of aviation fuel[4]	2.51370	2.51973	$kgCO_2$/litre
Grid electricity	0.28307	0.21233	$kgCO_2e$/kWh
Natural gas consumption in buildings	0.20437	0.20297	$kgCO_2e$/kWh
Diesel consumption in plant (average biofuel blend)	0.26349	0.25165	$kgCO_2e$/kWh
Potable water supply	0.344	0.149	$kgCO_2e$/m3
Wastewater treatment	0.708	0.272	$kgCO_2e$/m3
Waste disposal: Recycling (average construction closed loop)	1.0192	0.989	$kgCO_2e$/tonne
Waste disposal: Landfill (average construction) - assumed	1.277	1.239	$kgCO_2e$/tonne
Waste disposal: Recycling (Commercial and Industrial waste closed loop)	21.3842	21.294	$kgCO_2e$/tonne
Waste disposal: Landfill (Commercial and Industrial waste)	99.7729	467.046	$kgCO_2e$/tonne
Waste disposal: Landfill (typical, excluding soils, mineral oil, plasterboard, tyres, wood)	1.277	1.239	$kgCO_2e$/tonne

4.2.4 Carbon emissions factors vary over time and are published annually by UK Government for use in relation to corporate reporting of that specific year's emissions. Future emissions factors will differ from these, and in many cases will reduce in line with wider national trends towards decarbonisation, and through improved efficiency of vehicles etc. The significant expected future effects (electricity decarbonisation, vehicle efficiency) are reflected in the individual future baseline and assessment models.

4.2.5 The estimation of GHG emission arising from the extraction, processing and manufacture of construction materials are based on the emissions factors set out in Table 5.1.2. No assessment of mitigation through the choice of specific materials has yet been made – this will be considered in the ES when the Project design is more developed.

[2] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018

[3] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021

[4] aviation fuel is converted into either CO_2 or CO_2e depending on the context of the assessment (CO2 used for aviation emissions reporting)

Table 4.2.2 Construction Material Assumptions

Material	ICE Database[5] Description	Embodied emissions ($kgCO_2e/kg$)	Source
Pavement concrete	General in-situ concrete	0.10	ICE 3.0 (2019)
Structural concrete	25% blast furnace slag, RC40/50	0.14	ICE 3.0 (2019)
Mastic asphalt	Mastic asphalt	0.10	ICE 3.0 (2019)
Hot rolled asphalt	Asphalt, for roads	0.02	ICE 3.0 (2019)
Aggregate	Aggregates and sand	0.02	ICE 3.0 (2019)
Soil	General (rammed) soil	0.02	ICE 3.0 (2019)
Aluminium	Aluminium sheet, European mix	6.58	ICE 3.0 (2019)
Steel	Engineering steel	1.27	ICE 3.0 (2019)

5 2018 Baseline

5.1 Summary of Baseline Emissions

5.1.1 The 2018 baseline is set out in Table 5.1.1 to Table 5.1.3. Construction emissions are assumed as zero for the baseline assessment.

Table 5.1.1: 2018 Baseline: Air Transport

Activity	2018 baseline emissions ($MtCO_2e$)
Air transport	
UK domestic flights LTO CCD Total	 0.027 0.050 0.077
Non-domestic EEA flights LTO CCD	 0.225 1.346
Total	1.571
Non-EEA International flights LTO CCD Total	 0.146 2.927 3.073
Traded flight emissions (UK+EEA)	1.648
Non-traded flight emissions (Non EEA International)	3.073
Total international flight emissions	4.644
Total air transport emissions	4.721

Table 5.1.2: 2018 baseline: Surface Access

Activity	2018 baseline emissions ($MtCO_2e$)
Surface access	
Passenger surface access	0.256
Staff surface access	0.048
Freight surface access	0.004
Total surface access emissions	**0.308**

Table 5.1.3: 2018 Baseline: Other Usage

Activity	2018 baseline emissions ($MtCO_2e$)
Use of airport, buildings and facilities ('other usage')	
Energy and fuel use for buildings, GSE, APUs, GPU, FEGP, firefighting and engine testing	0.0799
Potable water supply	0.0002
Pumping and treatment of wastewater	0.0005
Waste treatment and disposal	0.0004
Total other usage emissions	**0.0810**

5.2 Traded and Non-traded Sector Emissions

5.2.1 The Airports National Policy Statement (NPS) (Department for Transport, 2018), requires emissions to be split into traded sector and non-traded sector. 'Traded' emissions are those that fall under Emissions Trading schemes. Until 2021 the UK participated in the EU ETS, which was replaced with the UK ETS in 2021.

5.2.2 Traded emissions included in this reporting (under both the historic EU ETS participation, and the current UK ETS) are:

- Emissions for departing flights which are domestic flights, or intra-EEA flights
- Emissions which fall under Gatwick Airport Ltd EU ETS reporting

5.2.3 Other emissions which fall under EU or UK ETS are considered beyond the scope of this assessment (including industrial emissions from manufacturing facilities for construction materials, and emissions associated with power generation outside the operations of Gatwick Airport).

5.2.4 The majority of EU ETS emissions associated with operation of Gatwick Airport, excluding emissions from aviation, arise from combustion of natural gas. In 2018 EU ETS reporting for Gatwick Airport Ltd the emissions from natural gas consumption represented 98% of reported EU ETS emissions. A small portion (2%) arises from use of fuels (gas oil and propane). EU ETS emissions for 3rd parties operating in the airport have not been estimated and are assumed to be small compared to the traded sector emissions from Gatwick Airport Ltd. Emissions associated with electricity for use in private electric vehicles (from transmission and distribution) have been excluded from the reported traded emissions.

5.2.5 The 2018 traded sector emissions are shown in Table 5.2.1.

[5] Material descriptions as set out in Circular Ecology Ltd. & University of Bath (2019) Embodied energy and carbon – The ICE database version 3.

Table 5.2.1: 2018 Traded Sector Emissions

Emissions category	2018 baseline emissions ($MtCO_2e$)
Traded emissions	
Departing domestic and intra-EEU flights	1.648
GAL EU ETS emissions	0.010
Total traded emissions	1.658

6 Future Baseline and Assessment Assumptions

6.1 Methodology of Future Baseline and Assessments

6.1.1 Generally the development of the future baseline and the assessment scenarios follow the same approach as for development of the baseline year, albeit activity data for future years is developed from a range of data sources provided by Gatwick Airport Ltd and the project design team, including specialists such as transport consultants and air quality specialists.

6.1.2 Construction was zero in the 2018 baseline, and for the future baseline considers only projects that are expected to be brought forward under existing consenting. The methodology for assessing the future baseline and assessment for construction activities is set out below.

Table 6.1.1: Future baseline and assessment assumptions

Activity	Methodology
Construction	
GHGs arising from the extraction, processing and manufacturing of construction materials	Floor areas of proposed development were provided by Gatwick Airport Ltd and benchmarks used for estimating quantities of key construction materials within those building. Material quantities were converted to tonnes using typical density factors. Conversion factors from the ICE 3.0 database were used to calculate embodied emissions from the extraction, processing, manufacture of materials on a cradle-gate basis.
GHGs arising from transportation of materials from factory to site	Aggregated masses of construction materials were used based on the calculation process set out above. Based on typical HGV loading of 33 tonnes the number of vehicle trips required was calculated. An estimated distance of 330 km was used in the absence of more detailed information to calculate vehicle-km. Carbon emissions were then calculated based on BEIS conversion factors for average laden articulated HGV. Vehicle movements were assessed as two-way trips (one full vehicle and one empty vehicle)
GHGs arising from energy use in construction activities (ie operation of plant etc)	The estimated peak number of operators per month was obtained from the GAL Construction Team for the airport construction project. An assumption of 8 hours of plant operation per day, and 5 day working, was used to estimate total aggregated working hours of plant per year. Five representative plant types were used and published fuel consumption rates per hour of operation were used to calculate fuel consumption, which were then multiplied by BEIS conversion factors to develop an estimate of CO_2e emissions.
GHGs arising from transport and disposal of construction and demolition waste	Estimates of waste arisings from demolition and excavation were developed from the project material estimate provided by the GAL Construction Team. Waste quantities were averaged across the development period and an assumption made of 70% recycling offsite and 30% disposal to landfill. Waste quantities were multiplied by BEIS conversion factors for waste disposal to develop an estimate of CO2e emissions. For landfill the conversion factors cover emissions from waste collection, transport and landfill emissions and for recycling the conversion factors cover transport to an energy recovery or materials reclamation facility.
GHGs arising from surface access for construction staff arising from the Project	Peak workforce values were provided by GAL Construction Team. It is assumed that no staff live onsite during construction and all staff travel to work each day. Working days are assumed to follow a 5-day per week pattern. An average commuting distance of 35km was used representing mean distance for worker travel to site in the South East (CITB, 2019). A reasonable worst case assumption of 100% single occupancy car transport was used and BEIS conversion factors for car travel were used to estimate CO2e emissions.

6.2 Grid decarbonisation assumptions

6.2.1 The future decarbonisation of the national grid is an influence on future emissions from the airport. The source of information used for this is the UK Government Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions (BEIS, 2019) for appraisal which provides forecasts for the carbon intensity of grid electricity in the future. This was most recently updated in April 2019; from which Table 6.2.1 provides carbon intensities for grid electricity.

Table 6.2.1: Green Book Supplementary Guidance – Table 1: Grid Average Commercial/Public Sector Consumption-Based Emissions Factors (extract)

Year	Factor ($kgCO_2e/kWh$)
2018	0.177
2019	0.143
2020	0.138
2021	0.113
2022	0.105
2023	0.110
2024	0.102
2025	0.103
2026	0.097
2027	0.103
2028	0.098
2029	0.090
2030	0.081

Year	Factor (kgCO_2e/kWh)
2031	0.072
2032	0.060
2033	0.056
2034	0.048
2035	0.040
2036	0.040
2037	0.040
2038	0.040

6.3 Future Vehicle Fleet

6.3.1 The future make-up of the UK vehicle fleet has been taken from the UK Government TAG data book Table A 1.3.9 (BEIS, 2021a) which provides proportions of vehicle kilometres by fuel type for the period to 2038. The data are represented in Table 6.3.1.

Table 6.3.1: Web TAG Data Book – Table A 1.3.9 (extract)

Year	Cars		
	Petrol	Diesel	Electric
2018	48.10%	51.20%	0.70%
2019	48.34%	50.72%	0.93%
2020	48.69%	50.11%	1.19%
2021	48.97%	49.32%	1.71%
2022	49.25%	48.40%	2.35%
2023	49.53%	47.33%	3.13%
2024	49.80%	46.13%	4.08%
2025	49.97%	44.74%	5.28%
2026	50.00%	43.23%	6.76%
2027	49.89%	41.64%	8.47%
2028	49.67%	40.05%	10.28%
2029	49.33%	38.48%	12.19%
2030	48.80%	36.91%	14.29%
2031	48.17%	35.47%	16.36%
2032	47.45%	34.16%	18.39%
2033	46.65%	32.97%	20.38%
2034	45.79%	31.86%	22.34%
2035	44.90%	30.86%	24.24%
2036	43.99%	29.93%	26.08%
2037	43.06%	29.07%	27.87%
2038	42.13%	28.28%	29.59%

6.4 Surface Access Assumptions

6.4.1 The future surface access passenger/vehicle transport modes and distances have been linearly scaled in line with forecast passenger growth. The modal split has been assumed to remain the same as for the 2018 baseline, although this assumption will be re-examined as part of the production of the final ES. Resultant emissions have been calculated accounting for the changes in future vehicle fleet and improvements in vehicle efficiency set out in Table 6.3.1.

6.5 Construction Material Assumptions

6.5.1 In the absence of detailed design information benchmark building and infrastructure metrics set out in Table 6.5.1 have been applied to convert footprint estimates to material quantities.

Table 6.5.1: Assumed Building Material Quantity Benchmarks

Building type	Concrete (m3/m2)	Steel section & beams (tonne/m2)	Cladding (m2/m2)	Roofing (m2/m2)
Terminal	1.149	0.212	0.101	0.274
Pier	1.475	0.084	0.475	0.274
Multi Storey Car Park	0.617	0.046	0.038	0.274
Ancillary	1.475	0.084	0.475	0.274

6.6 Construction Waste Generation

6.6.1 All forecast material arising from demolition, breakout of existing surfaces, or excavation is assumed to be disposed offsite (albeit with high recycling rates). In reality mitigation is likely to identify on-site reuse/recycling of much of this material, however, that reuse has not taken into account within the PEIR. It will be considered and assessed within the ES.

6.6.2 No assumption has been made at this stage for construction material wastage and this has been assumed as zero for the PEIR assessment. This will be reviewed in preparation for the ES.

6.7 Freight, Construction Transport and Waste Transport

6.7.1 Vehicle transport distances have been calculated based on forecast growth in freight, and the construction and waste estimates set out above. The efficiency and fleet fuel mix of HGVs has been assumed as constant throughout the assessment period.

6.8 Energy Strategy

6.8.1 Gatwick airport is currently developing its future energy strategy. The interim outputs from this work have been used to inform the future baseline and future assessed scenarios in terms of energy and fuel use in the airport.

6.8.2 The energy model has included forecast energy demand from new development, as set out in Chapter 5: Project Description, and the associated increases in heating and cooling loads associated with increase passengers and ATMs under both the do-minimum and the do-something scenarios.

6.8.3 The energy modelling has considered a number of measures to reduce the overall building energy emissions in future. These are summarised in Table 6.8.1.

Table 6.8.1: Energy Model Assumptions

Energy component	Modelling assumption
Energy efficiency improvements	Limited improvements to the existing estate
New building performance	20% improvement in new buildings over current benchmarks
Heating strategy (existing buildings)	Heating technology remains as is, but with improvements in gas boiler efficiencies
Heating strategy (new buildings)	Use of air source heat pumps supplying 100% of annual heat
Cooling strategy (existing and new)	Increase in cooling plant efficiency by 21% between 2020 and 2035
Electrification of vehicles	30% electrification of airside vehicles by 2040
Onsite solar photovoltaic	Installation of 5MWp on canopies on some open car parking areas

6.9 Aviation Emissions

6.9.1 Aviation emissions in future years have been assumed to grow in line with the main project forecasts and have been calculated to

reflect the expected split in domestic and international flights and aircraft fleet mix.

6.9.2 Aircraft efficiencies are represented within calculations up to 2038 based on expected changes in aircraft fleet through this period. After 2038 aircraft emissions are calculated based on changes in ATMs only through to 2050, and are additionally calculated incorporating a 1.4% p.a. efficiency in line with the Balanced Pathway Scenario within the CCC Sixth Carbon Budget report (CCC, 2020).

7 Future Baseline Emissions by Category

7.1 Introduction

7.1.1 The future baseline, in the absence of the Project, has been developed in line with the methodology and assumptions set out in Section 6 of this Appendix. The tables below set out the detailed estimation of emission for the future baseline scenario.

7.2 Construction

7.2.1 Several construction projects will be taken forward in the absence of the Project, under existing consents, as detailed in the Project Description in Chapter 5. Principally these are:

- the construction of an extension to Pier 6
- construction of an extension to South Terminal International Departures
- construction of two multi-storey car parks
- extensions to two hotels within the boundary of the airport

7.2.2 Other consented works have not been included in the future baseline assessment at this stage but will be reviewed and considered for inclusion in the Environmental Statement. These are not considered likely to be of such scale as to affect the overall assessment of impact.

7.2.3 Construction related emissions have been calculated across six source categories:

- embodied carbon in the extraction and manufacture of materials/products;
- operation of plant for construction, including operation of the construction compounds;
- transportation of construction materials to the Project site;
- transportation of construction workers to/from the Project site;
- construction waste management; and
- water us in construction.

7.2.4 The future construction-related emissions for the Project are presented in these categories in Table 7.2.1 to Table 7.2.6.

Table 7.2.1: Project Construction Emissions for Embodied Carbon of Materials

Year	Embodied carbon of construction materials (cradle-gate) ktCO2e
2019	0.00
2020	0.00
2021	26.41
2022	26.41
2023	11.83
2024	0.00
2025	0.00
2026	0.00
2027	0.00
2028	0.00
2029	0.00
2030	0.00
2031	0.00
2032	0.00
2033	0.00
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

Table 7.2.2: Project Construction Emissions for Energy Use during Construction

Year	Construction energy (ktCO2e)
2019	0.00
2020	0.00
2021	7.73
2022	7.73
2023	3.46
2024	0.00
2025	0.00
2026	0.00
2027	0.00
2028	0.00
2029	0.00
2030	0.00
2031	0.00
2032	0.00
2033	0.00
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

Table 7.2.3: Project Construction Emissions for Transportation of Materials

Year	Transportation of construction materials (ktCO2e)
2019	0.00
2020	0.00
2021	4.88
2022	4.88
2023	2.18
2024	0.00
2025	0.00
2026	0.00
2027	0.00
2028	0.00
2029	0.00
2030	0.00
2031	0.00
2032	0.00
2033	0.00
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

Table 7.2.4: Project Construction Emissions for Commuting of Construction Workers

Year	Construction worker transport (ktCO2e)
2019	0.00
2020	0.00
2021	0.79
2022	0.79
2023	0.35
2024	0.00
2025	0.00
2026	0.00
2027	0.00
2028	0.00
2029	0.00
2030	0.00
2031	0.00
2032	0.00
2033	0.00
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

Table 7.2.5 Project Construction Emissions for Construction Waste Management

Year	Construction waste management (ktCO2e)
2019	0.00
2020	0.00
2021	1.62
2022	1.62
2023	0.73
2024	0.00
2025	0.00
2026	0.00
2027	0.00
2028	0.00
2029	0.00
2030	0.00
2031	0.00
2032	0.00
2033	0.00
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

Table 7.2.6 Project Construction Emissions for Water Use in Construction

Year	Construction water use (ktCO2e)
2019	0.00
2020	0.00
2021	0.01
2022	0.01
2023	0.00
2024	0.00
2025	0.00
2026	0.00
2027	0.00
2028	0.00
2029	0.00
2030	0.00
2031	0.00
2032	0.00
2033	0.00
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

7.3 Airport Operation

7.3.1 Emissions from energy consumption for operation of airport buildings, 3rd party buildings within the study area, and use of fuel in vehicles and equipment are set out in Table 7.3.1.

Table 7.3.1: Emissions from Energy Use

Year	Operational emissions by source (ktCO2e)				
	Grid electricity (Gatwick Airport Ltd)	Grid electricity (3rd parties)	Natural Gas (Gatwick Airport Ltd)	Natural Gas (3rd parties)	Fuel use of vehicles
2018	24.24	2.54	10.52	3.38	7.69
2019	18.46	2.64	9.77	4.07	7.15
2020	1.52	2.54	0.83	4.07	0.93
2021	9.20	2.08	6.00	4.07	5.33
2022	10.05	1.93	7.02	4.07	5.74
2023	11.72	2.02	7.78	4.07	5.99
2024	11.89	1.88	8.40	4.07	6.21
2025	12.94	1.90	8.97	4.07	6.47
2026	12.96	1.78	9.49	4.07	6.77
2027	14.70	1.90	9.99	4.07	7.05
2028	14.62	1.87	10.40	4.38	7.25
2029	13.44	1.72	10.27	4.38	7.14
2030	12.24	1.55	10.28	4.38	7.05
2031	10.88	1.37	10.39	4.38	6.95
2032	9.24	1.16	10.50	4.46	6.86
2033	8.63	1.08	10.58	4.46	6.77
2034	7.54	0.94	10.65	4.46	6.68
2035	6.29	0.78	10.73	4.46	6.58
2036	6.34	0.78	10.81	4.46	6.49
2037	6.38	0.78	10.90	4.46	6.39
2038	6.43	0.78	10.98	4.46	6.30

7.4 Water, Waste Water and Waste Management

7.4.1 Emissions from potable water, waste water treatment and waste management are set out in Table 7.4.1.

Table 7.4.1: Emissions from Water Supply, Wastewater Treatment and Waste Management

Year	Operational emissions by source (ktCO2e)		
	Water supply	Waste water treatment	Waste management
2018	0.237	0.450	0.294
2019	0.243	0.462	0.302
2020	0.108	0.182	0.311
2021	0.111	0.187	0.319
2022	0.114	0.192	0.328
2023	0.117	0.197	0.336
2024	0.120	0.202	0.344
2025	0.123	0.207	0.352
2026	0.126	0.211	0.361
2027	0.131	0.220	0.376
2028	0.136	0.229	0.391
2029	0.141	0.238	0.406
2030	0.143	0.240	0.410
2031	0.144	0.243	0.414
2032	0.146	0.245	0.418
2033	0.147	0.248	0.422
2034	0.148	0.250	0.426
2035	0.150	0.252	0.430
2036	0.151	0.255	0.434
2037	0.153	0.257	0.439
2038	0.154	0.259	0.443

7.5 Other Fuel Use

7.5.1 Emissions from other fuel uses within the study area are set out in Table 7.5.1.

Table 7.5.1: Emissions from Other Fuel Uses

Year	Operational emissions by source (ktCO2e)			
	APUs	Engine testing	GSE	Fire training
2018	22.63	0.34	8.49	0.07
2019	22.80	0.34	8.44	0.07
2020	22.98	0.34	8.38	0.07
2021	23.16	0.34	8.33	0.07
2022	23.33	0.35	8.27	0.07
2023	23.51	0.35	8.22	0.07
2024	23.69	0.35	8.16	0.07
2025	23.87	0.35	8.11	0.07
2026	24.04	0.36	8.05	0.07
2027	24.22	0.36	7.99	0.07
2028	24.40	0.36	7.94	0.07
2029	24.57	0.36	7.88	0.07
2030	24.29	0.36	7.78	0.07
2031	24.00	0.35	7.68	0.07
2032	23.71	0.35	7.58	0.07
2033	23.68	0.35	7.48	0.07
2034	23.64	0.35	7.37	0.07
2035	23.60	0.35	7.27	0.07
2036	23.57	0.35	7.16	0.07
2037	23.53	0.34	7.06	0.07
2038	23.49	0.34	6.95	0.07

7.6 Surface Access

7.6.1 Surface access emissions are set out in Table 7.6.1.

Table 7.6.1: Emissions from Surface Access

Year	Surface access emissions by type (ktCO2e)		
	Passengers	Staff	Freight
2018	256.16	48.42	3.56
2019	260.35	47.93	3.68
2020	262.74	47.50	3.79
2021	266.98	47.10	3.91
2022	270.97	46.65	4.03
2023	275.29	46.33	4.15
2024	279.59	46.03	4.27
2025	283.48	45.61	4.39
2026	287.86	45.38	4.51
2027	297.80	45.64	4.72
2028	307.29	45.80	4.93
2029	317.22	46.12	5.14
2030	318.46	45.78	5.21
2031	319.40	45.36	5.28
2032	320.95	45.13	5.34
2033	322.64	44.95	5.41
2034	324.00	44.67	5.48
2035	325.90	44.56	5.55
2036	327.88	44.47	5.61
2037	329.49	44.28	5.68
2038	331.59	44.24	5.75

7.7 Aircraft Emissions

7.7.1 Future baseline emissions from aviation are set out in Table 7.7.1.

Table 7.7.1: Emissions from Aviation

Year	Aviation emissions (ktCO2e)					
	UK		Non-domestic EEA		Non-EEA International	
	LTO	CCD	LTO	CCD	LTO	CCD
2018	27.2	49.5	225.2	1,345.9	145.9	2,927.5
2019	26.9	49.3	226.9	1,360.9	147.1	2,986.3
2020	3.3	6.2	28.8	173.5	18.7	384.1
2021	19.2	35.7	168.6	1,018.1	109.4	2,272.4
2022	21.8	40.9	195.5	1,184.4	126.9	2,665.0
2023	23.9	45.1	218.4	1,327.2	141.8	3,010.1
2024	25.3	48.0	235.5	1,435.5	153.0	3,280.6
2025	25.0	47.7	237.2	1,450.4	154.1	3,339.4
2026	24.7	47.5	238.9	1,465.4	155.3	3,398.3
2027	24.4	47.2	240.7	1,480.3	156.5	3,457.1
2028	24.0	47.0	242.4	1,495.2	157.7	3,516.0
2029	23.7	46.7	244.1	1,510.2	158.9	3,574.8
2030	23.5	46.5	241.1	1,507.5	154.8	3,573.2
2031	23.3	46.3	238.2	1,504.9	150.7	3,571.5
2032	23.1	46.1	235.2	1,502.2	146.7	3,569.8
2033	23.1	45.9	235.2	1,506.6	146.7	3,602.7
2034	23.1	45.7	235.2	1,511.0	146.7	3,635.7

Year	Aviation emissions (ktCO2e)					
	UK		Non-domestic EEA		Non-EEA International	
	LTO	CCD	LTO	CCD	LTO	CCD
2035	23.1	45.5	235.2	1,515.4	146.7	3,668.6
2036	23.1	45.2	235.2	1,519.8	146.7	3,701.5
2037	23.1	45.0	235.2	1,524.1	146.7	3,734.5
2038	23.1	44.8	235.2	1,528.5	146.7	3,767.4

7.8 Future Traded Sector Emissions

7.8.1 Traded emissions in the future baseline from aviation and from operation of the airport by Gatwick Airport Ltd are presented in Table 7.8.1.

Table 7.8.1: Traded Sector Emissions in the Absence of the Project

Year	Traded sector emissions (ktCO2e)
2018	1,658.3
2019	1,673.7
2020	212.7
2021	1,247.6
2022	1,449.6
2023	1,622.5
2024	1,752.7
2025	1,769.3
2026	1,785.9
2027	1,802.5
2028	1,819.0
2029	1,834.0
2030	1,828.9
2031	1,823.0
2032	1,817.1
2033	1,821.3
2034	1,825.6
2035	1,829.8
2036	1,834.1
2037	1,838.4
2038	1,842.6

8 Assessment of Effects from Project Construction

8.1 Categorised Project Construction Emissions

8.1.1 Construction related emissions have been calculated across six source categories:

- embodied carbon in the extraction and manufacture of materials/products;
- operation of plant for construction, including operation of the construction compounds;
- transportation of construction materials to the Project site;
- transportation of construction workers to/from the Project site;
- construction waste management; and
- water use in construction.

8.1.2 The future construction-related emissions for the Project are presented in these categories in Table 8.1.1 to Table 8.1.6.

Table 8.1.1: Project Construction Emissions for Embodied Carbon of Materials

Year	Embodied carbon of construction materials (cradle-gate) ktCO2e
2019	0.00
2020	0.00
2021	0.00
2022	0.00
2023	0.00
2024	117.14
2025	166.61
2026	82.67
2027	67.31
2028	67.98
2029	62.18
2030	95.48
2031	163.68
2032	111.62
2033	46.22
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

Table 8.1.2: Project Construction Emissions for Energy Use during Construction

Year	Construction energy (ktCO2e)
2019	0.00
2020	0.00
2021	0.00
2022	0.00
2023	0.00
2024	33.05
2025	29.65
2026	51.81
2027	43.57
2028	46.09
2029	35.69
2030	18.39
2031	14.40
2032	11.91
2033	7.92
2034	4.05
2035	3.11
2036	0.00
2037	0.00
2038	0.00

Table 8.1.3: Project Construction Emissions for Transportation of Materials

Year	Transportation of construction materials (ktCO2e)
2019	0.00
2020	0.00
2021	0.00
2022	0.00
2023	0.00
2024	22.73
2025	47.45

Year	Transportation of construction materials (ktCO2e)
2026	24.96
2027	13.34
2028	15.59
2029	12.59
2030	15.92
2031	24.48
2032	13.82
2033	5.33
2034	3.70
2035	0.06
2036	0.00
2037	0.00
2038	0.00

Table 8.1.4: Project Construction Emissions for Commuting of Construction Workers

Year	Construction worker transport (ktCO2e)
2019	0.00
2020	0.00
2021	0.00
2022	0.18
2023	0.74
2024	3.33
2025	2.79
2026	4.04
2027	3.51
2028	3.59
2029	3.29
2030	3.15
2031	2.10
2032	1.39
2033	0.92
2034	0.56
2035	0.48
2036	0.00
2037	0.00
2038	0.00

Table 8.1.5: Project Construction Emissions for Construction Waste Management

Year	Construction waste management (ktCO2e)
2019	0.00
2020	0.00
2021	0.00
2022	0.00
2023	0.00
2024	10.46
2025	24.05
2026	12.67
2027	3.12
2028	2.84
2029	3.62
2030	3.82
2031	3.74
2032	0.01
2033	0.01
2034	0.01
2035	0.01
2036	0.00
2037	0.00
2038	0.00

Table 8.1.6: Project Construction Emissions for Water Use in Construction

Year	Construction water use (ktCO2e)
2019	0.00
2020	0.00
2021	0.00
2022	0.00
2023	0.00
2024	0.03
2025	0.06
2026	0.05
2027	0.04
2028	0.05
2029	0.03
2030	0.04

Year	Construction water use (ktCO2e)
2031	0.01
2032	0.01
2033	0.00
2034	0.00
2035	0.00
2036	0.00
2037	0.00
2038	0.00

8.2 Construction Emissions Time Series

8.2.1 The aggregated construction emissions are presented in Table 8.2.1.

Table 8.2.1: Aggregated Project Construction Emissions by Year

Year	Aggregated construction emissions (ktCO2e)
2019	0.00
2020	0.00
2021	0.00
2022	0.18
2023	0.74
2024	186.74
2025	270.60
2026	176.20
2027	130.87
2028	136.13
2029	117.41
2030	136.79
2031	208.41
2032	138.76
2033	60.41
2034	41.15
2035	5.59
2036	0.00
2037	0.00
2038	0.00

8.3 2029 Assessment of Construction Emissions

8.3.1 The 2029 construction assessment is set out in Table 8.3.1.

Table 8.3.1: 2029 Assessment of Construction

Activity	Construction emissions (ktCO2e)
Construction	
GHGs arising from the extraction, processing and manufacturing of construction materials	62.18
GHGs arising from energy use in construction activities (ie operation of plant etc)	35.69
GHGs arising from transportation of materials from factory to site	12.59
GHGs arising from surface access for construction staff arising from the Project	3.29
GHGs arising from waste management of construction and demolition waste	3.62
Water use in construction	0.03
Total construction emissions	**117.41**

8.4 2038 Assessment of Construction Emissions

8.4.1 There is no construction within the Project in 2038 and therefore all construction emissions are taken to be zero.

8.5 Aggregated Construction Emissions

8.5.1 The aggregated construction emission across the full construction period for the Project (excluding baseline construction emissions) and incorporating all sources set out above, are **1,610 ktCO$_2$e**.

9 Assessment of Effects from Operation with the Project

9.1 Airport Operation

9.1.1 Emissions from energy consumption for operation of airport buildings, 3rd party buildings and use of fuel in vehicles and equipment for the Project are set out in Table 9.1.1.

Table 9.1.1: Emissions from Energy Use

Year	Operational emissions by source (ktCO2e)				
	Grid electricity (Gatwick Airport Ltd)	Grid electricity (3rd parties)	Natural Gas (Gatwick Airport Ltd)	Natural Gas (3rd parties)	Fuel use of vehicles
2018	24.24	2.54	10.52	3.38	7.69
2019	18.23	2.64	9.01	4.07	6.96
2020	1.39	2.54	0.73	4.07	0.90
2021	9.03	2.08	3.27	4.07	5.03
2022	9.83	1.93	3.61	4.07	5.34
2023	11.42	2.02	3.79	4.07	5.48
2024	11.52	1.88	3.87	4.07	5.59
2025	12.49	1.90	3.91	4.07	5.72
2026	12.49	1.78	3.99	4.07	5.87
2027	14.11	1.90	3.97	4.07	5.99
2028	14.07	2.02	3.94	5.01	6.03
2029	13.87	2.09	3.55	5.46	6.18
2030	13.29	1.89	3.34	5.46	6.25
2031	12.33	1.66	3.17	5.46	6.29
2032	10.87	1.49	3.00	6.08	6.27
2033	10.15	1.38	2.84	6.08	6.01
2034	8.89	1.20	2.66	6.08	5.75
2035	7.40	0.99	2.49	6.08	5.49
2036	7.46	0.99	2.33	6.08	5.23
2037	7.53	0.99	2.16	6.08	4.96
2038	7.59	0.99	1.99	6.08	4.70

9.2 Water, Wastewater and Waste Management

9.2.1 Emissions from potable water, wastewater treatment and waste management for the Project are set out in Table 9.2.1.

Table 9.2.1: Emissions from Water Supply, Wastewater Treatment and Waste Management

Year	Operational emissions by source (ktCO2e)		
	Water supply	Wastewater treatment	Waste management
2018	0.237	0.450	0.294
2019	0.243	0.462	0.302
2020	0.108	0.182	0.311
2021	0.111	0.187	0.319
2022	0.114	0.192	0.328
2023	0.117	0.197	0.336
2024	0.120	0.202	0.344
2025	0.123	0.207	0.352
2026	0.126	0.211	0.361
2027	0.134	0.226	0.385
2028	0.143	0.240	0.410
2029	0.151	0.255	0.435
2030	0.155	0.261	0.446
2031	0.159	0.268	0.457
2032	0.163	0.275	0.468
2033	0.167	0.281	0.480
2034	0.171	0.288	0.491
2035	0.175	0.294	0.502
2036	0.179	0.301	0.513
2037	0.183	0.307	0.525
2038	0.187	0.314	0.536

9.3 Other fuel use

9.3.1 Emissions from other fuel uses for the Project are set out in Table 9.3.1

Table 9.3.1: Emissions from Other Fuel Uses

Year	Operational emissions by source (ktCO2e)			
	APUs	Engine testing	GSE	Fire training
2018	22.63	0.34	8.49	0.07
2019	22.99	0.34	8.34	0.07
2020	23.35	0.35	8.19	0.07
2021	23.71	0.35	8.04	0.07
2022	24.08	0.35	7.89	0.07
2023	24.44	0.36	7.73	0.07
2024	24.80	0.36	7.58	0.07
2025	25.16	0.37	7.43	0.07
2026	25.53	0.37	7.28	0.07
2027	25.89	0.37	7.13	0.07
2028	26.25	0.38	6.97	0.07
2029	26.62	0.38	6.82	0.07
2030	27.42	0.39	6.85	0.07
2031	28.23	0.41	6.89	0.07
2032	29.03	0.42	6.92	0.07
2033	28.97	0.42	6.63	0.07
2034	28.91	0.41	6.35	0.07
2035	28.84	0.41	6.06	0.07
2036	28.78	0.41	5.77	0.07
2037	28.72	0.41	5.48	0.07
2038	28.65	0.41	5.19	0.07

9.4 Surface Access

9.4.1 Surface access emissions for the Project are set out in Table 9.4.1

Table 9.4.1: Emissions from Surface Access

Year	Surface access emissions by type (ktCO2e)		
	Passengers	Staff	Freight
2018	256.16	48.42	3.56
2019	260.35	47.93	3.68
2020	262.74	47.50	3.79
2021	266.98	47.10	3.91
2022	270.97	46.65	4.03
2023	275.29	46.33	4.15
2024	279.59	46.03	4.27
2025	283.48	45.61	4.39
2026	287.86	45.38	4.51
2027	305.35	46.16	4.89
2028	322.28	46.81	5.28
2029	339.56	47.61	5.66
2030	346.25	47.60	5.85
2031	352.54	47.50	6.03
2032	359.43	47.59	6.21
2033	366.44	47.72	6.39
2034	373.02	47.75	6.57
2035	380.19	47.94	6.75
2036	387.41	48.16	6.93
2037	394.15	48.26	7.11
2038	401.45	48.51	7.29

9.5 Aircraft Emissions

9.5.1 Future emissions from aviation for the Project are set out in Table 9.5.1.

Table 9.5.1: Emissions from Aircraft

Year	Aviation emissions (ktCO2e)					
	UK		Non-domestic EEA		Non-EEA International	
	LTO	CCD	LTO	CCD	LTO	CCD
2018	27.2	49.5	225.2	1,345.9	145.9	2,927.5
2019	26.9	49.5	227.8	1,369.0	148.0	3,014.5
2020	3.4	6.2	29.1	175.6	18.9	391.2
2021	19.3	36.2	170.7	1,035.9	111.5	2,334.2
2022	22.0	41.7	198.7	1,211.7	130.1	2,759.8
2023	24.2	46.3	222.8	1,365.1	146.2	3,141.5
2024	25.6	49.5	241.2	1,484.2	158.6	3,449.4
2025	25.3	49.5	243.8	1,507.2	160.7	3,536.4
2026	25.1	49.5	246.5	1,530.2	162.8	3,623.4
2027	24.8	49.5	249.1	1,553.3	165.0	3,710.4
2028	24.6	49.5	251.8	1,576.3	167.1	3,797.4
2029	24.3	49.5	254.5	1,599.3	169.2	3,884.4
2030	25.3	51.2	263.9	1,670.3	173.1	4,089.2
2031	26.2	53.0	273.3	1,741.2	177.0	4,294.1
2032	27.2	54.7	282.7	1,812.1	180.9	4,498.9
2033	27.2	54.4	282.7	1,815.4	180.9	4,530.0
2034	27.2	54.1	282.7	1,818.7	180.9	4,561.0
2035	27.2	53.9	282.7	1,822.0	180.9	4,592.1
2036	27.2	53.6	282.7	1,825.3	180.9	4,623.2
2037	27.2	53.3	282.7	1,828.6	180.9	4,654.3
2038	27.2	53.0	282.7	1,831.9	180.9	4,685.4

9.6 Future Traded Sector Emissions

9.6.1 Traded sector emissions for the Project from aviation and from operation of the airport by Gatwick Airport Ltd are presented in Table 9.6.1.

Table 9.6.1: Traded Sector Emissions for the Project

Year	Traded sector emissions (ktCO2e)
2018	1,658.3
2019	1,682.3
2020	215.0
2021	1,265.5
2022	1,477.7
2023	1,662.1
2024	1,804.3
2025	1,829.8
2026	1,855.3
2027	1,880.7
2028	1,906.1
2029	1,931.1
2030	2,014.0
2031	2,096.9
2032	2,179.8

Year	Traded sector emissions (ktCO2e)
2033	2,182.6
2034	2,185.4
2035	2,188.3
2036	2,191.1
2037	2,194.0
2038	2,196.8

10 Assessment of 'Worst Case' Year

10.1 Aggregated Emissions

10.1.1 The Airports NPS requires consideration of 'worst case' year. The aggregated emissions from all sources are summarised below. This includes all construction activity (both the baseline construction activities and with the inclusion of Project construction emissions).

Table 10.1.1: Aggregated Emissions from the Project versus Baseline Emissions

Year	Baseline emissions ($ktCO_2$)	Project emissions ($ktCO_2$)	Difference from baseline ($ktCO_2$)
2018	5,110	5,110	0
2019	5,184	5,221	+ 37
2020	971	981	+ 10
2021	4,042	412	+ 81
2022	4,659	4,785	+ 126
2023	5,175	5,351	+ 176
2024	5,573	5,985	+ 412
2025	5,655	6,189	+ 534
2026	5,736	6,214	+ 478
2027	5,825	6,304	+ 478
2028	5,912	6,443	+ 530
2029	5,998	6,557	+ 560
2030	5,985	6,875	+ 890
2031	5,972	7,245	+ 1,273
2032	5,959	7,474	+ 1,514
2033	5,997	7,435	+ 1,438
2034	6,034	7,454	+ 1,421
2035	6,071	7,458	+ 1,387
2036	6,110	7,493	+ 1,383
2037	6,149	7,534	+ 1,385
2038	6,188	7,575	+ 1,387

10.1.2 The year with highest emissions is 2038, where aggregate emissions total 7,575 $ktCO_2e$. This is 1,387 $ktCO_2e$ higher than the baseline for that year.

10.1.3 The year where Project emissions exceed baseline emissions to the greatest extent is 2032, where aggregate emissions total 7,474 $ktCO_2e$, which is 1,514 $ktCO_2e$ greater than the baseline.

11 Projected UK Aviation Emissions to 2050

11.1.1 An estimate of emissions from aviation in 2050 based on the delivery of the Project has been developed based on expected changes in ATMs through to 2050. For the main case no changes in efficiency between 2038 and 2050 have been assumed. A second scenario has been modelled which includes for improved efficiency of aircraft over that period in line with the CCC Balanced Pathway for Net Zero, which assumed an improvement of 1.4% per year. No SAF replacement is assumed in the figures below. Summary aviation emissions for the period 2038 to 2050 with, and without, the efficiency trend are presented in Tables 11.1.1 and 11.1.2 respectively.

Table 11.1.1: Projected UK Aviation Emissions to 2050 with no Efficiency Improvement between 2038 and 2050 and with No Use of SAF

Year	Domestic flights ($MtCO_2$)	All flights ($MtCO_2$)
2038	0.080	7.061
2039	0.080	7.103
2040	0.080	7.145
2041	0.081	7.186
2042	0.081	7.227
2043	0.081	7.267
2044	0.081	7.308
2045	0.081	7.349
2046	0.081	7.390
2047	0.081	7.431
2048	0.081	7.471
2049	0.081	7.512
2050	0.081	7.512

Table 11.1.2: Projected UK Aviation Emissions to 2050 with 1.4% p.a. Efficiency Improvement between 2038 and 2050 and with No Use of SAF

Year	Domestic flights ($MtCO_2$)	All flights ($MtCO_2$)
2038	0.080	7.061
2039	0.080	7.103
2040	0.079	7.045
2041	0.078	6.986
2042	0.077	6.927
2043	0.076	6.869
2044	0.075	6.811
2045	0.074	6.753
2046	0.073	6.695
2047	0.072	6.638
2048	0.071	6.581
2049	0.071	6.524
2050	0.070	6.433

12 References

Circular Ecology Ltd. (2019) Embodied energy and carbon – The ICE database version 3.

Civil Aviation Authority (2018) 2018 Passenger survey report.

Committee on Climate Change (CCC) (2019) Net Zero – the UK's contribution to stopping global warming.

Construction Industry Training Board (2019) Workforce Mobility and Skills in the UK Construction Sector 2018/19.

Department for Business, Energy & Industrial Strategy (2018) BEIS GHG conversion factors.

Department for Business, Energy & Industrial Strategy (2021) BEIS GHG conversion factors.

Department for Business, Energy & Industrial Strategy (2019) Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal.

Department for Transport (2018) Airports National Policy Statement

Department for Transport (2021a) TAG Data Book. Forecasts for efficiency Webtag data book, tab A1.3.9

Department for Transport (2021b) TAG Data Book. Forecasts for efficiency Webtag data book, tab A1.3.10

European Environment Agency (2019) EMEP/EEA air pollutant emission inventory guidebook 2019: Technical guidance to prepare national emission inventories. Inventory Guidebook Additional File 1.A.3.a Aviation – Annex 5 – Master emission calculator 2019. No 13/2019.

Gatwick Airport Ltd 2018 Greenhouse Gas Assessment (RSK, 2019)

Oxford Economics (2018) Gatwick' economic contribution.

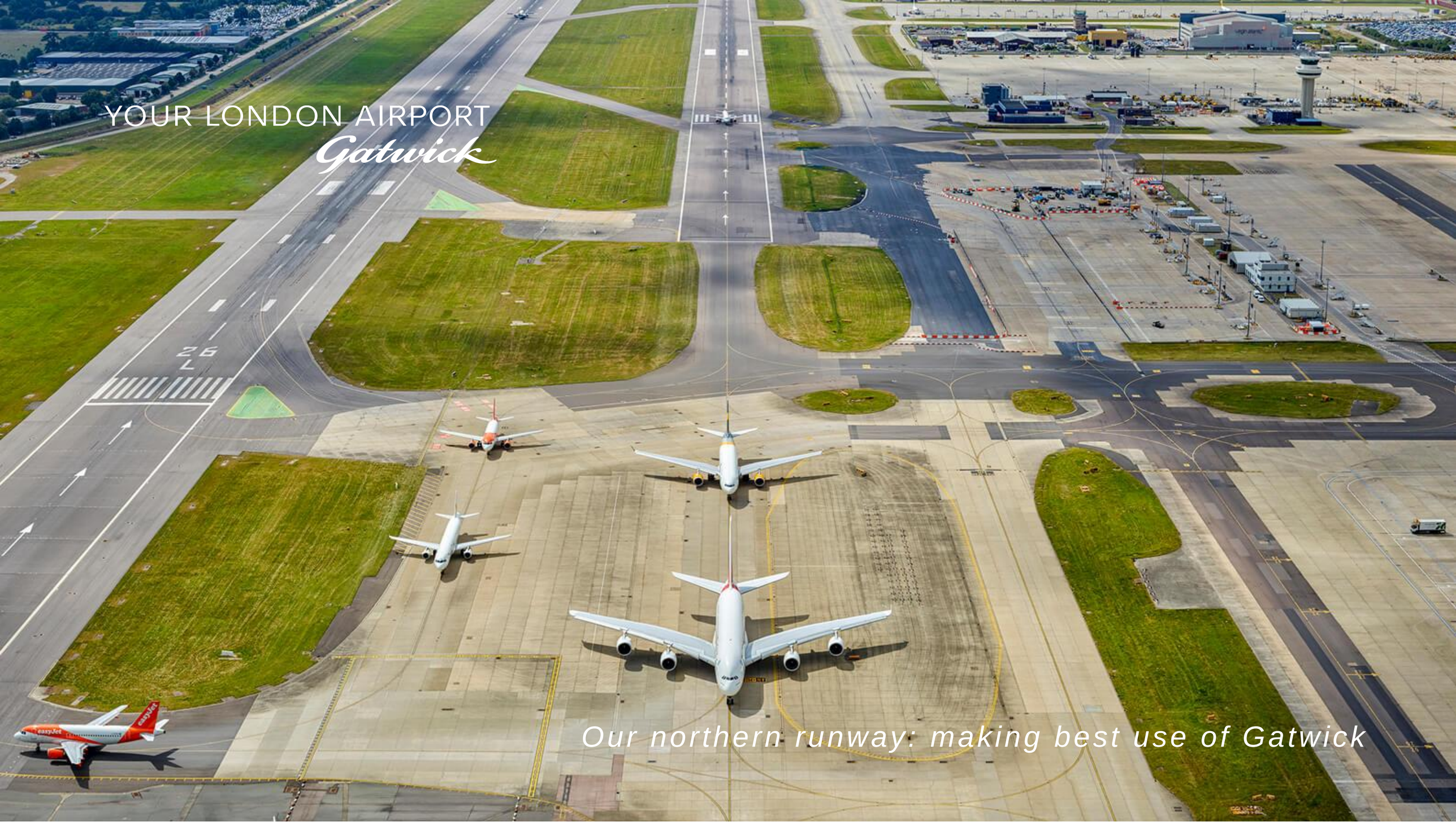
Term	Description
FEGP	Fixed Electrical Ground Power
GHG	Greenhouse Gas
GPU	Ground Power Unit
GSE	Ground Support Equipment
HGV	Heavy Goods Vehicle
ICE	Inventory of Carbon and Energy
LGW	London Gatwick
LTO	Landing and Take Off
PEIR	Preliminary Environmental Information Report
PHEV	Plug-in Hybrid Electric Vehicle
RIBA	Royal Institute of British Architects
TAG	Transport Analysis Guidance

13 Glossary

13.1 Glossary of terms

Table 13.1.1: Glossary of Terms

Term	Description
APU	Auxiliary Power Unit
ATM	Air Traffic Movement
BEIS	UK Government Department for Business Energy and Industrial Strategy
BEV	Battery Electric Vehicles
CAA	Civil Aviation Authority
CCD	Climb, Cruise and Descent
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DCO	Development Consent Order
EEA	European Economic Area
EMEP	European Monitoring and Evaluation Programme
ES	Environmental Statement
EU ETS	European Union Emissions Trading Scheme



Our northern runway: making best use of Gatwick

Preliminary Environmental Information Report
Appendix 15.4.2: Climate Change Resilience (CCR) Definitions

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 15.4.2 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the climate change resilience definitions for the Project.

2 Key terms for the Climate Change Resilience (CCR) and In-combination climate change impacts (ICCI) assessments

2.1.1 **Climate hazard**: a weather or climate related event which has potential to do harm to environmental or community receptors or assets, for example increased winter precipitation.

2.1.2 **Climate change impact**: an impact from a climate hazard which affects the ability of the receptor or asset to maintain its function or purpose.

2.1.3 **Consequence**: any effect on the receptor or asset as a result of the climate hazard having an impact

3 Climate Change Resilience (CCR) definitions

3.1 Definition of asset types

3.1.1 As part of the CCR assessment, an asset has been defined as each individual structure that will be constructed or re-configured as part of the development, ie Pier 7 or re-configuration of Taxiway Juliet. All the individual assets have been grouped into asset types as presented in Table 3.2.1.

3.2 Hazards considered in the CCR assessment

3.2.1 The hazards that have been considered as part of the CCR assessment include: high temperatures, low temperatures, high precipitation, low precipitation, extreme winds and lightning.

3.2.2 Table 3.2.2 below presents the asset types and which hazards are applicable to each asset type.

Table 3.2.1: Assets included in each asset group

Asset Group	List of assets included in asset type
Airport infrastructure	Northern runway, taxiways Juliet, Lima, Tango, Whiskey, Victor and Zulu, exit taxiways, end around taxiways, aircraft holding area, Pier 6 and 7, stands, motor transport facilities, airfield surface transport facilities, emergency air traffic control tower and rendezvous point north, satellite airport fire protection service, extension to North and South terminals, including baggage hall areas, forecourts and transition space, new hotels and extensions to existing hotel, new office blocks, Internal access routes, car parks (surface and multi-storey), surface access improvements, Changes to the surface water strategy, alignments and additional runoff and treatment areas.
Airport operation	CARE facilities, ground maintenance facilities, cargo, engine running areas, fire training ground.
Electronic equipment	Electronic equipment within new buildings.
Earthworks	Landscape/ ecological planting and cut/ fill strategy Details to be confirmed at a later date.

Table 3.2.2: Climate hazards applicable to each asset group

Asset group	High temperature	Low temperature	High precipitation	Low precipitation	Extreme winds	Lightning
Airport infrastructure		X	X		X	X
Airport operation	X	X				
Electronic equipment	X	X				
Earthworks			X	X		
Flights	X				X	X

4 Assets scoped into the ICCI assessment

4.1 Scope

4.1.1 The ICCI assessment considered the extent to which climate change exacerbates effects on topic receptors which have already been identified in the other discipline chapters. The scope of and receptors identified for the ICCI assessment are outlined in Table 4.1.1.

Table 4.1.1: Disciplines scoped into the ICCI assessment

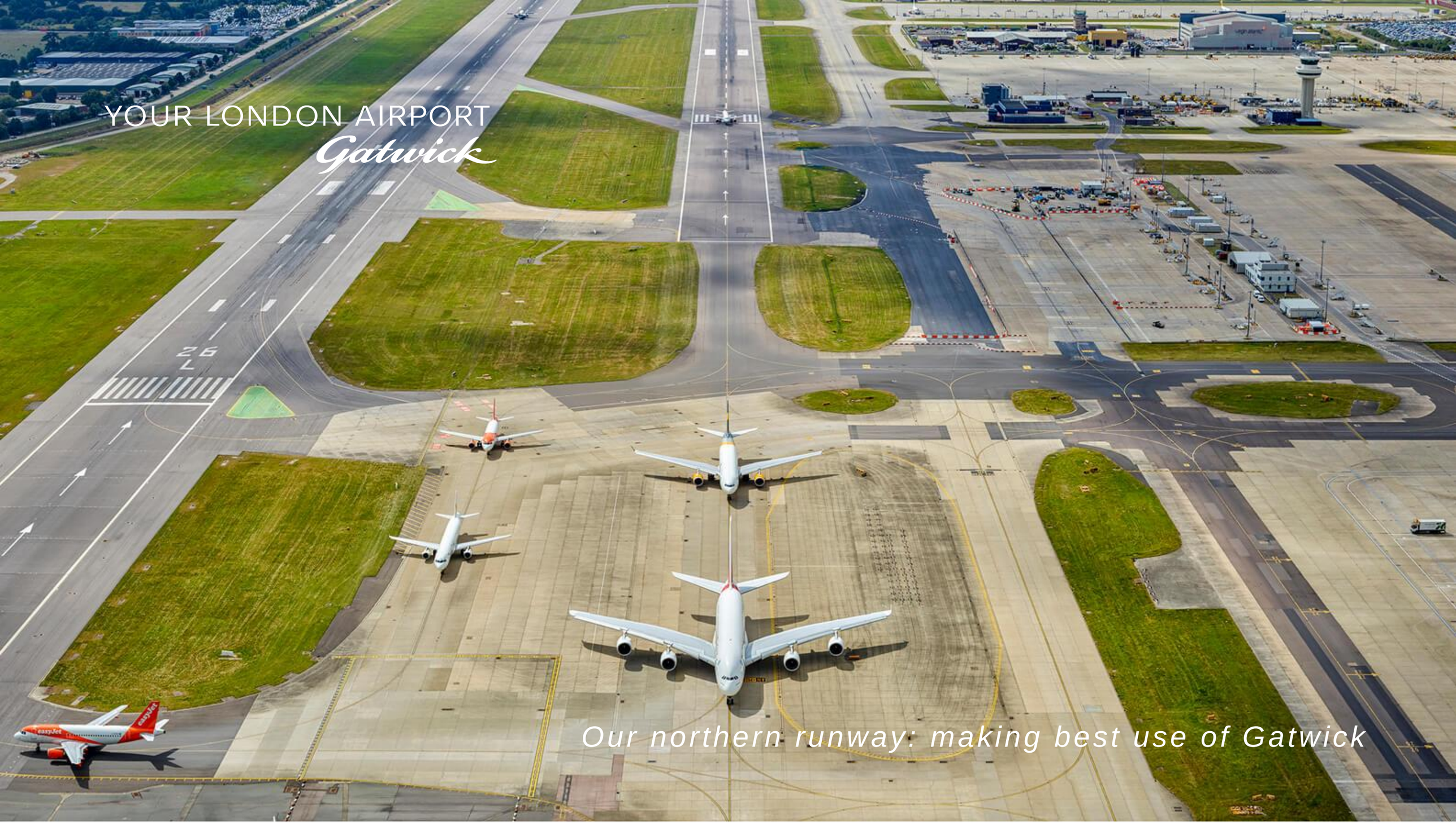
Asset Group	List of assets included in asset type
Ch.7 Historic environment	Archaeology, built heritage and historic areas and the historic landscape
Ch.8 Landscape, townscape and visual	Landscape character and visual effects
Ch.9 Ecology and nature conservation	Habitats and wildlife species
Ch.10 Ground conditions	Geology and ground conditions
Ch.11 Water Environment	Geomorphology, groundwater, water quality, flood risk, surface water drainage and wastewater
Ch.12 Traffic and transport	Surface access and transport
Ch.13 Air quality	Atmosphere, people, ecology and communities
Ch.14 Noise	Residential properties and community facilities
Ch.15 Carbon and climate change	Aircraft, surface access, construction and operation
Ch.16 Socioeconomics	Existing and new residents and community assets
Ch.17 Health and wellbeing	People and communities
Ch.18 Agriculture and recreation	Agricultural land, walking, cycling and bridle routes and public open spaces

5 Glossary

5.1 Glossary of Terms

Table 5.1.1: Glossary of Terms

Term	Description
CCR	Climate Change Resilience
EIA	Environment Impact Assessment
GAL	Gatwick Airport Limited
ICCI	In-combination Climate Change Impacts
PEIR	Preliminary Environment Information Report



Preliminary Environmental Information Report
Appendix 15.9.1: Climate Change Resilience (CCR) Assessment

September 2021

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1 Introduction

1.1.1 This document forms Appendix 15.9.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

2 Climate Change Resilience Assessment

2.1 Introduction

2.1.1 The full climate change resilience (CCR) assessment is presented in Table 2.1.1 below. The assessment considers how resilient the development is against projected climate change.

2.1.2 A risk analysis-based approach has been undertaken. The risk assessment uses a combination of likelihood and consequence to determine the level of risk.

2.1.3 The full CCR methodology is presented in Section 15.4 of Chapter 15 and the criteria to assess the likelihood of the climate change impact and the consequence of the climate change impact can be found in Table 15.4.5 and Table 15.4.6 of Chapter 15: Climate Change and Carbon.

2.1.4 The likelihood of the climate impact occurring has been assessed qualitatively, based on expert judgement and in discussion with the design team as well as accounting for existing or embedded mitigation.

2.1.5 The risk level is determined based on a combination of the likelihood and consequence of the climate change impact as set out in the risk matrix in Table 15.4.7 in Chapter 15: Climate Change and Carbon.

Table 2.1.1: Climate Change Resilience Assessment

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
1	Construction	Increased number of extremely hot days.	Increasing trend Likely	Temporary buildings for construction workers and site offices	Increased risk of overheating in temporary building accommodation for constructions workers during construction (14-year period) of the Project, negative impacts of working conditions.	No information currently regarding existing or embedded mitigation measures.	No resilience measures in place.	Likely	Major	High	Initial assessment is **Likely** as heatwaves are expected to **occur several times** over the course of the construction period and are likely to cause overheating unless mitigated against through the design of the buildings or implementation of Code of Construction Practice (CoCP)	**Major** as could cause **delays > 1 day** due to buildings becoming unusable and/or create **public disputes** with contractors using the buildings	It is recommended that cooling and ventilation systems are included in the design of temporary office buildings during construction that are sufficient to deal with projected climate changes over this period, for example using the appropriate guidance from the Chartered Institution of Building Services Engineers (CIBSE). Or evidence of climate change projections to be considered in risk assessments and CoCP. Design of resilience measures to be developed during next Phase and assessed as part of the Environment Statement (ES).	
2	Construction	Increased probability of extreme weather events (e.g.	Increasing trend Likely	Construction processes	Disruption or hinderance of construction processes	No information currently regarding existing or embedded mitigation measures.	No resilience measures in place.	Likely	Major	High	*Initial assessment is **Likely** as impacts are likely to occur several times during the construction period unless*	*Potentially **Major** due to disruption and delays caused*	Mitigation should comprise requirements for high level risk assessments of extreme weather impacts on construction processes.	

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
		heatwaves, flooding).									*enhanced mitigation measures are in place*		It should also provide details on measures considered necessary to appropriately manage extreme weather events including training for staff. Design of resilience measures to be developed during next Phase and assessed as part of the ES.	
3	Operation	Increased number of extremely hot days.	Increasing trend Very likely	Airport Operation	Increased risk of overheating in terminal buildings, hotels, and other buildings, posing risk of thermal discomfort and heat stress for passengers and staff during operation of the airport; negative impacts on passenger experience.	No detailed mitigation to reduce overheating risk has been developed	No resilience measures in place.	Likely	Major	High	*Initial assessment is **Likely** because heatwaves are expected to **occur several times** over the course of operation and are likely to cause overheating unless mitigated against through the design of the buildings*	**Major** as could cause **delays > 1 da**y due to buildings becoming unusable and/or create **public disputes** with staff and passengers	The heating and cooling strategies for existing buildings needs to be considered as part of the design of proposed buildings to ensure future climate impacts can be accounted for. Resilience measures for reducing overheating risk are expected to be developed during the next Phase and reported on as part of the ES.	
4	Operation	Increased number of extremely hot days.	Increasing trend Very likely	Airport infrastructure	In hot weather, air is less dense which means there are less molecules for the wings of the plane	Mitigation has not yet been considered	No resilience measures in place.	Likely	Moderate/ Major	Medium/ High	*Initial assessment is **likely** because increased temperatures are expected to occur*	**Moderate** as changing flight times to cooler times of the day or changing weight	Consideration of the impact of warmer temperatures on take off procedures is key to ensuring the aircraft infrastructure is resilient	

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
					to push down and produce lift. If a plane is taking off in such conditions, then it must travel much faster before it is able to generate enough thrust to take off and may therefore require a longer runway, or rescheduling flights during cooler times of the day or increased weight restrictions on flights.						*during the operation period*	restrictions will result in lower revenues on flights	to future changes in temperature. More information is required to better understand the nature of resilience measures. This impact will be reviewed and developed as part of the next Phase and reported on in the ES.	
5	Operation	Increased number of extremely hot days.	Increasing trend Very likely	Electronic Equipment	Sensitive electronic equipment and mechanical operating mechanisms may fail to operate correctly due to high temperatures.	Electronic equipment is designed to current temperature ranges based on existing standards. Upgrades will be completed as part of BAU operations for existing equipment reaching the end of its design life. New/ upgraded products will be sourced	Resilience achieved through existing specifications	Unlikely	Major	Medium	**Unlikely** as future design will address future climate risks. It is assumed that the industry would change its design standards in line with projected changes to the climate to ensure equipment is resilient to climate change	**Major** as could cause **delays > 1 day** due to sensitive electronic equipment and mechanical operating mechanisms failing	Embedded mitigation measures are likely to be sufficient.	

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
						based on latest design standards.								
6	Operation	Increased number of extremely hot days.	Increasing trend Likely	Flights	Flashpoint of aviation fuel exceeded on hot days, leading to delays in re-fueling procedures.	The Airside Fire Service is embedded in Gatwick's Heat Plan as set out in the Airside Operations Adverse Weather Plan (GAL, 2020)	Resilience achieved through existing procedures.	Unlikely	Moderate	Low	***Unlikely** because Gatwick has existing procedures in place to minimise the risk of fuel combustion during hot weather*	***Moderate** as could cause delays of **up to 2hrs on multiple days** and **> 2hrs on one single day***	Embedded mitigation measures are likely to be sufficient.	Airside Operations Adverse Weather Plan (GAL, 2020)
7	Operation	Increased number of extremely hot days.	Increasing trend Likely	Flights	Possible increase in occurrence of days outside the acceptable range of temperatures affects aircraft and their utilisation schedule, due to air pressure changes affecting maximum take-off weight capacity.	Measures relating to allowances in maximum take-off weight and maximum plane operating temperature are managed by standard flight operation procedures	Resilience achieved through existing procedures.	Unlikely	Major	Medium	**Unlikely** impact as mitigation measures are sufficient	**Major** because it could result in closure of runway during peak heat hours	Embedded mitigation measures are likely to be sufficient.	
8	Operation	Extreme cold weather.	Decreasing trend Very unlikely	Electronic Equipment	Sensitive electronic equipment and mechanical operating mechanisms may fail to operate correctly due to low temperatures or freezing	Electronic equipment is already specified for low temperatures expected to be experienced under future climate conditions	Resilience achieved through existing specifications	Unlikely	Major	Medium	**Unlikely** as future cold weather is not expected to be more extreme than current cold events.	**Major** as could cause **delays > 1 day** due to sensitive electronic equipment and mechanical operating mechanisms failing	Embedded mitigation measures are likely to be sufficient.	

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
9	Operation	Extreme cold weather.	Decreasing trend Very unlikely	Airport Infrastructure	Reliability of journeys may reduce at low temperatures due to cracking of pavement surfaces and snow/ice accretion on aircraft and runways/airfield pavements causing delays.	Gatwick has snow clearance and deicing plans in place as part of the Airside Operations Adverse Weather Plan (GAL, 2020)	Resilience achieved through implementing the snow clearance contingency plan and de-icing procedures which has proven to work in the past when no operational hours were lost during a period of cold weather	Unlikely	Major	Medium	**Unlikely** as low temperatures are less likely in future and Gatwick already has sufficient snow and de-icing mechanisms in place to mitigate against this hazard	**Major** as could cause **delays > 1 day** and **major financial loss** due to reduced number of take offs and landings	Embedded mitigation measures are likely to be sufficient.	Airside Operations Adverse Weather Plan (GAL, 2020)
10	Operation	Extreme cold weather.	Decreasing trend Very unlikely	Airport Operation	Possible negative health implications for passengers and staff, disruption to service operation.	Existing operational procedures are in place to ensure health and wellbeing of passengers and staff during cold weather	Resilience provided by the procedures set out in the Adverse Weather Plan	Unlikely	Moderate	Low	**Unlikely** as low temperatures are less likely in future and Gatwick has sufficient measures in place to ensure health and wellbeing during cold spells.	**Moderate** as could result in the inability to work and moderate financial loss	Embedded mitigation measures are likely to be sufficient.	Airside Operations Adverse Weather Plan (GAL, 2020)
11	Operation	Extreme cold weather.	Decreasing trend Very unlikely	Airport Infrastructure	Possible increase in number of days outside the normally acceptable range of conditions for	Assumed that HVAC equipment will be designed to cope with current range of cold temperatures, but		Unlikely	Minor	Very Low	**Unlikely** as low temperatures are less likely in future and HVAC equipment is likely to be designed to	**Minor** as the impacts on persons is considered to be short term.	Embedded mitigation measures are likely to be sufficient, but this will be confirmed as part of the ES.	

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
					heating systems and increased risk of heating, ventilation and air conditioning (HVAC) failure.	have not yet obtained any information regarding existing or embedded mitigation measures					cope with cold temperatures			
12	Operation	Increased frequency of flooding from river, surface- and ground-water sources.	Increasing trend Likely	Airport Infrastructure	Flooding of infrastructure during operation: inundation of airfield, airport building basements and sub-structures, utility cables/tunnels	Infrastructure assets will be designed for the climatic conditions experienced at the end of their life cycle using appropriate climate change allowances. Permanent site drainage proposals include allowance for projected climate change. This will help mitigate the risk to underground structures being exceeded during operation. Gatwick's Airside Operations Adverse Weather Plan contains mitigation measures to monitor flood risk on airside and landside operations is in	Resilience achieved through design of assets	Unlikely	Major	Medium	**Unlikely** as flood resilience has been built into the design of infrastructure assets and Gatwick has procedures in place to mitigate any potential flood risk	**Major** as could cause **delays > 1 day** and **extensive damage** to infrastructure	If further mitigation is required, following further refinement of flood mitigation during Phase 2 this will be updated as part of the ES.	Airside Operations Adverse Weather Plan (GAL, 2020)

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
						place as good practice								
13	Operation	Increased frequency of flooding from river, surface and groundwater sources.	Increasing trend Likely	Airport Infrastructure	Flooding of road infrastructure connecting to the airport during operation: inundation of access roads and railways. Effects of infrastructure interdependencies	Road infrastructure assets will be designed to the climatic conditions experienced at the end of their life cycle using appropriate climate change allowances.	Resilience achieved through design of flood drainage to the correct EA climate change allowances	Unlikely	Major	Medium	**Unlikely** as flood resilience has been built into the design of road infrastructure assets	**Major** as could cause **delays > 1 day** and **extensive damage** to infrastructure	If further mitigation is required, following further refinement of flood mitigation during Phase 2 this will be updated as part of the ES.	
14	Operation	Increased frequency of flooding from river, surface and groundwater sources.	Increasing trend Likely	Airport Operation	Flooding of electrical equipment and mechanical operating mechanisms	The FRA sets out a fluvial flood mitigation strategy and surface water management strategy to increase flood storage capacity at site and reduce flood risk for all assets including electrical equipment and/ or mechanical operating mechanisms.	Resilience will be achieved by creating additional compensatory flood areas to improve flood storage capacity for fluvial flooding and provision of additional attenuation storage and flow control measures to reduce surface water flood risk.	Unlikely	Major	Medium	**Unlikely** to occur as impact will be mitigated, via compensatory flood storage areas, additional attenuation storage and flow control measures.	**Major** as could cause the runway to be closed for **1 day**	These existing approaches will be reviewed against the flood risk modelling, during the next Phase, to check their future suitability and incorporate additional mitigation if required. Further assessment will be undertaken and included as part of the ES.	Airside Operations Adverse Weather Plan (GAL, 2020)

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
15	Operation	Increased risk of drought.	Increasing trend Likely	Landscaping	Increased heat stress to plants/landscaped areas	Planting schemes for the proposed development will select species that are resistant to warmer temperatures	Resilience will be achieved by planting vegetation that is resilient to warmer conditions	Unlikely	Major	Medium	**Unlikely** as embedded mitigation measures will comprise vegetation that is resilient to drought conditions and therefore the event is not expected to occur more than once during the lifetime of the Project	**Major** could result in **widespread damage** to asset requiring substantial replacement work	No additional resilience measures required.	
16	Operation	Increased risk of drought.	Increasing trend Likely	Airport Operation	Increased water stress for new buildings (hotel and office space)	No information obtained currently regarding existing or embedded mitigation measures.	No resilience measures in place.	Likely	Major	Very high	Initial assessment is **Likely** because droughts are likely to occur more often in future and there is no evidence to suggest that proposed building design considers the impact of increased water stress during the lifetime of the Project	**Major** as could cause delays of > 1 day	It is recommended that the design of new buildings consider the potential impact of increased water stress. An assessment of this impact will be completed as part of the next phase and reported in the ES.	
17	Operation	Extreme wind speeds	Possible – low certainty	Airport Infrastructure	Possible debris on runways and other airport infrastructure causing delays	Gatwick's wind plan ensures save operation on the Aerodrome during a wind event and includes monitoring	Current resilience measures in place, with emergency planning	As likely as not	Moderate	Medium	**As likely as not** as changes to wind speeds remain uncertain and therefore this impact could occur during	**Moderate** as impact could result in delays of >2 hours and damage to infrastructure	Embedded mitigation measures are likely to be sufficient.	Airside Operations Adverse Weather Plan (GAL, 2020)

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
					(foreign object debris).	of equipment areas and infrastructure, implement wind monitoring plan, safety briefings to airside staff, produce procedures to prevent loose and insecure equipment becoming a risk on airside areas					the operational phase of the development	requiring minor repair		
18	Operation	Extreme wind speeds	Possible – low certainty	Airport Infrastructure	Vegetation fall due to strong winds leading to road and rail disruption	Highways England and Network Rail manage mitigation plans for road and rail disruption respectively.	Resilience measures currently in place are considered sufficient	As likely as not	Moderate	Medium	**As likely as not** as changes to wind speeds remain uncertain and therefore this impact could occur during the operational phase of the development	**Moderate** as fallen vegetation could block road/rail infrastructure leading to **widespread damage and loss of service**.	No additional resilience measures required.	
19	Operation	Extreme wind speeds	Possible – low certainty	Airport Infrastructure	Failure or damage to parts of structure or infrastructure as a result of changes in strong winds and gustiness.	Gatwick's wind plan ensures save operation on the Aerodrome during a wind event and includes monitoring of equipment areas and infrastructure, implement wind monitoring plan, safety briefings to airside staff, produce procedures	Current resilience measures in place, with emergency planning	Unlikely	Major	Medium	**Unlikely** as Gatwick's Adverse Weather Plan has procedures in place to limit the risk of this impact	**Major** as could cause extensive damage to service or delays > 1 day	Embedded mitigation measures are likely to be sufficient.	Airside Operations Adverse Weather Plan (GAL, 2020)

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
						to prevent loose and insecure equipment becoming a risk on airside areas								
20	Operation	Extreme wind speeds	Possible – low certainty	Flights	Aircrafts not permitted to land or take off, causing delays.	Existing procedures are in place (see Wind Plan) for BAU operations, these are considered sufficient to cope with extreme events in future	Resilience achieved through implementation of procedures	Unlikely	Major	Medium	**Unlikely** as mitigation measures in place to minimise the impact	**Major** as could cause delays of 1 day due to aircraft not being permitted to take off or land	No additional resilience measures required.	Airside Operations Adverse Weather Plan (GAL, 2020)
21	Operation	Increased risk of lightning strikes.	Possible – low certainty	Airport Infrastructure	Indirect and direct damage to buildings, infrastructure, aircraft, equipment from lightning strikes.	Gatwick's Adverse Weather Plan includes cumulonimbus (CB) Activity which provides procedures and processes for dealing with lightning strikes. For new assets lightning protection is also included within the design standard	Resilience achieved through implementation of procedures and processes	Very unlikely	Moderate	Low	**Very unlikely** as damage from lightning strikes only occurs in exceptional circumstances	**Moderate** as could lead to partial loss of local infrastructure but damage is recoverable by maintenance and minor repair	No additional resilience measures required.	Airside Operations Adverse Weather Plan (GAL, 2020)
22	Operation	Increased risk of lightning strikes.	Possible – low certainty	Flights	Suspension of activities on the ramp by ground handling agents, delaying the service and turnaround times for aircraft and	Gatwick's Adverse Weather Plan includes CB Activity which provides procedures and processes for dealing with lightning strikes	Resilience achieved through implementation of procedures and processes	Very unlikely	Moderate	Low	**Very unlikely** as the Gatwick Adverse Weather Plan provides mitigation to reduce the impact from potential lightning strikes	**Moderate** as could lead to partial loss of local infrastructure but damage is recoverable by	No additional resilience measures required.	Airside Operations Adverse Weather Plan (GAL, 2020)

Risk ID	Construction / Operation Stage	Climate Change Hazard	Trend or Likelihood of Climate Hazard occurring	Asset Type	Climate Change Impact	Existing or Embedded Mitigation Measure	Result of Mitigation Measure on Resilience	Assessment of Climate Change Impact		Risk Rating	Justification		Proposed Additional Resilience Measure (only if Risk Rating = 'High' (4) or 'Very high' (5))	Reference Documenting Relevant Mitigation
								Likelihood	Consequence		For the Likelihood of the Hazard Impact	For the Consequence of the Hazard Impact		
					stressing terminal/ gatehouses.							maintenance and minor repair		

3 References

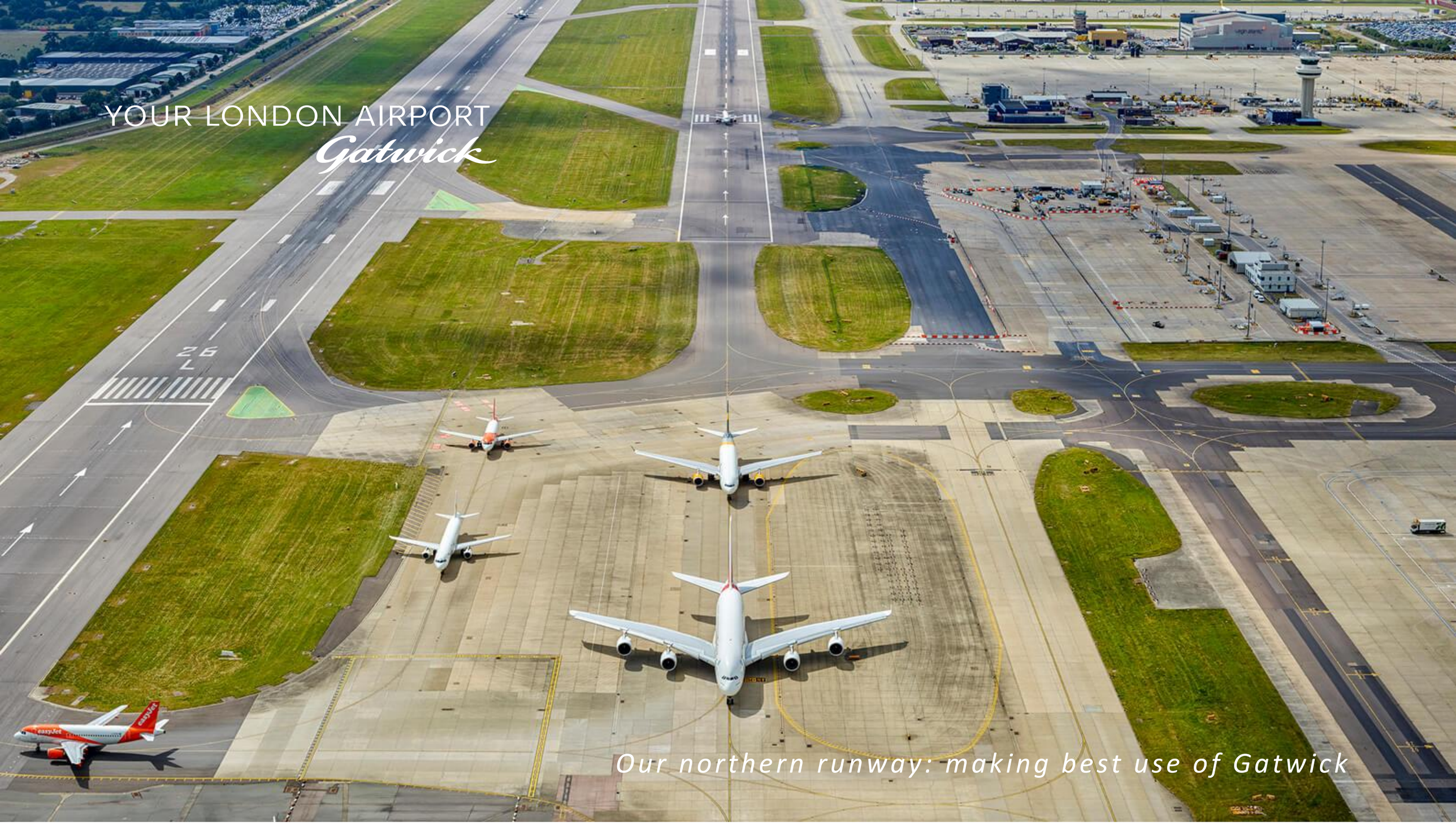
Gatwick Airport Limited (2020). Gatwick Operations Adverse Weather Plan [Online}. Available at: https://s3.amazonaws.com/helpscout.net/docs/assets/59f9ae61042863319924181d/attachments/60c863e7af164f7b537ce483/Adverse-Weather-Plan-2020---21-v7.0.pdf

4 Glossary

4.1 Glossary of Terms

Table 4.1.1: Glossary of Terms

Term	Description
CB	Cumulonimbus
CCR	Climate Change Resilience
CIBSE	Chartered Institution of Building Services Engineers
CoCP	Code of Construction Practice
EIA	Environment Impact Assessment
GAL	Gatwick Airport Limited
PEIR	Preliminary Environment Information Report



Our northern runway: making best use of Gatwick

Preliminary Environmental Information Report
Appendix 15.9.2: In-combination Climate Change Impacts (ICCI) Assessment

September 2021

Table of Contents

1 In-combination Climate Change Impacts Assessment

1.1 Introduction

1.1.1 This document forms Appendix 15.9.2 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 The in-combination climate change impacts (ICCI) assessment is presented in Table 1.1.1 below. The assessment considers the extent to which climate change exacerbates an effect on an environmental receptor.

1.1.3 The ICCI assessment follows the same approach to assessing impacts and determining significance as for each of the PEIR disciplines, but with the added consideration of future climate change projections.

1.1.4 The full ICCI methodology is presented in Section 15.4 of Chapter 15: Climate Change and Carbon. Phase 1 aims to screen out any ICCIs that are considered to unlikely to occur and therefore do not require further assessment. Only ICCI considered to be likely have been presented in the table below.

1.1.5 The likelihood of each potential ICCI occurring was assessed using expert judgement based on the climate hazard assessment and the likelihood of the climate impact changing an effect already identified by another PEIR discipline.

1.1.6 Phase 2 assesses the consequence of the likely ICCI's identified in Phase 1 to determine significance of each ICCI.

Table 1.1.1: In-combination Climate Change Impacts Assessment

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
Historic Environment (Chapter 7)	Increase in frequency and intensity of heavy rainfall events/ flooding	Waterlogged deposits/ paleo-channels could be impacted by changes in river flows and routes	Mitigation will be undertaken during construction to ensure that waterlogged conditions are maintained. Based on our current understanding the consequence of this ICCI is minimal. Ground investigation will be completed for the Environmental Statement (ES) and will confirm the level of mitigation required, and this ICCI classification will therefore be reviewed during the ES.	Not significant
	Drier/drought conditions	Drought conditions could lead to a drying out of the ground which would lead to the loss of significance of sites as they will be less well preserved but alternatively changes in soil moisture due to hotter conditions could also uncover new archaeological finds (such as cropmarks and parch marks)		Not significant
	Drier/drought conditions	Potential shrinkage of ground could affect foundations of buildings	Potential shrinkage is unlikely because ground conditions comprise Weald clay and sands. Additionally, buildings in the vicinity have shallow or no footings; therefore, limited foundations available to be impacted by drying out of soils. The consequence of this ICCI is considered to be minimal.	Not significant
	Increase in frequency and intensity of heavy rainfall events/ flooding	This could lead to flooding and subsequent damage to the building fabric (ie timber framed buildings)	The design of the Project will not increase flood risk to the local area and therefore the consequence of this ICCI is considered to be minimal.	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
	Drier/drought conditions	Excavation during construction could lead to drying out of waterlogged ground	Spraying of fines during the excavation as part of the construction phase will maintain waterlogged conditions. Based on our current understanding the consequence of this ICCI is minimal. Ground investigation will be completed for the ES and will confirm the level of mitigation required, and this ICCI classification will therefore be reviewed during the ES.	Not significant
	Increase in frequency and intensity of heavy rainfall events/ flooding	Increased likelihood of rainfall events could lead to soil erosion negatively impacting the historic landscape	Mitigation to ensure that arable and pasture boundaries are maintained can minimise soil erosion therefore retaining the wider historic landscape. The consequence of this ICCI is deemed minimal.	Not significant
Landscape, townscape and Visual Resources (Chapter 8)	Drier/drought conditions	Some plants may not survive repeated drought conditions leading to loss of vegetation and defoliation. Plants could become more vulnerable to disease, which could further disrupt views to and from the site.	The planting proposals include matric planting, using a native species planting pallet. This will include planting of several different species, including drought resistant species, to maximise resilience of plants against pests and disease. Based on our current understanding, the consequence of this ICCI is considered minimal. Mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
		Drought tolerant trees (ie native woodland) may become more prevalent and therefore change landscape character	Drought tolerant species will be included as part of the planting proposals to minimise the risk of drought to tree species and ensure minimal impact to the landscape character. Based on our current understanding, the consequence of this ICCI is considered minimal.	Not significant
		Wetland adjacent to the River Mole may disappear (also dependent on elevation and spilt type) and certain soil types may be less readily available.	During the construction phase, mitigation will be included in the Code of Construction Practice (CoCP) to limit the amount of dewatering (Chapter 10: Ground conditions) to reduce the drying out of wetland areas during the construction phase During operation, flood attenuation areas and new ponds will be designed to have permanently damp and wet areas to support species reliant on these conditions and reduce the potential for these areas to dry out during drought conditions. Based on our current understanding, the consequence of this ICCI is considered minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Hotter and wetter conditions	Could lead to an increase in pests and diseases, leading to loss of vegetation and defoliation making species more susceptible to external stress	The planting proposals will include matric planting, using a native species planting pallet. This will include planting of several different species to maximise resilience of the plant species against pests and disease. Additionally, planting proposals for species selection will specify selection of drought-resistant species. Based on our current understanding, the consequence of this ICCI is considered minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Increase in frequency and intensity of heavy rainfall events/ flooding	Flood events can be disruptive and cause erosion, therefore leading to loss of species in certain areas,	Flood risk mitigation in the form of flood compensation and storage areas will be developed as part of the Project to minimise erosion rates during flood events. The consequence of this ICCI is considered to be minimal.	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
		because soils become water-saturated and can no longer support existing species		
Ecology and Nature Conservation (Chapter 9)	Hotter and wetter conditions	Leading to an increase in invasive species in the local area and/ or increase in the risk of pests and diseases to ancient woodland and/or other habitats	Planting proposals (Chapter 8: Landscape, townscape and visual effects) will incorporate multiple plant and tree species to reduce the risk of potential invasive species dominating the native species at the site and maximising resilience against potential for pests and diseases. Additionally, planting proposals for species selection will specify selection of drought-resistant species. Based on our current understanding, the consequence of this ICCI is considered minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Drier/ drought conditions	Reduction in river flows and water levels could impact invertebrates, fish and water voles and otters	Flood risk mitigation (Chapter 11: Water Environment) includes re-alignment of the River Mole channel providing a more natural profile, improving the plan form and increasing resilience to future drought events. The consequence of this ICCI is considered to be minimal.	Not significant
		The wetter areas, the River Mole corridor, the biodiversity wetland area and ponds around the site could be showing signs of lower water levels during summer and complete drying out occurring earlier in ponds resulting in the reduction of species populations that live in these habitats	The flood attenuation areas and new ponds will be designed to have permanently damp and wet areas to support species reliant on these conditions, eg the construction of a new pond will create suitable breeding sites for great crested newts, increasing breeding area and subsequently population of this species. Creating a more stable population that is less likely to be affected by drought conditions in future. The consequence of this ICCI is considered to be minimal.	Not significant
		decline in distinctive wet grasslands communities (relevant to habitats proposed within the flood attenuation areas	The design of flood attenuation features (Chapter 11: Water Environment) will ensure sufficient storage of flood waters to minimise drying out of "wet" habitats. The consequence of this ICCI is therefore considered to be minimal.	Not significant
Geology and Ground Conditions (Chapter 10)	Increased intensity of extreme precipitation events; increase in mean winter rainfall	Flash flooding during construction works when soils are exposed could lead to erosion of soils	Erosion of soil from flooding events during construction works will be mitigated by covering exposed soil and stockpiles and ensuring the timely reinstatement of hardstanding and vegetation to minimise the risk of soil erosion. Given the implementation of these mitigation measures, the consequence of this ICCI is considered minimal.	Not significant
		Impacts on human health and controlled waters receptors in relation to the contamination of surface waters from accidental spillages to the ground during construction	Environmental measures are in place during construction to ensure appropriate storage and handling of materials and products are in line with the Control of Pollution Regulations 2001. This impact is possible but the end use of the Project will be hardstanding and best practice measures will be in place should any spillages occur during operation. The consequence of this impact is considered to be minimal.	Not significant
		Damage to newly installed infrastructure from aggressive ground conditions (such as sulphate attack on concrete) or swelling and shrinkage of ground during construction and operation could be	The Project will be designed in accordance with requirements of relevant UK and European design standards. Detailed design will account for the ground type and water table level as well as projections of future flooding, calculated as part of the flood modelling assessment, that will feed into the design of below ground structures. Based on our current understanding the	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
		exacerbated by climate change. Increased surface water flooding could increase potential for sulphate attack or lead to water clogging and corrosion of structures.	consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	
	Drier / drought conditions	Dry and windy conditions during construction could increase dust generation during construction	Mitigation measures included within the CoCP will include damping down to prevent the generation of dust, therefore the consequence of this ICCI is considered to be minimal.	Not significant
	Increased temperatures	Potential for increased volatisation of volatile organic compound (VOC) contamination under warmer temperatures	No significant VOC contamination has been identified at present, ground investigation has been proposed and if any VOC contamination is identified then it will be remediated. Based on our current understanding, the consequence of this ICCI is considered minimal. Ground investigation will be completed for the ES and will confirm the level of mitigation required, if considered necessary, and this ICCI classification will therefore be reviewed during the ES.	Not significant
Water Environment (Chapter 11)	Increased frequency or severity of drought and flood events	Potential to alter the hydrological regime of watercourses resulting if different patterns of erosion and deposition	It is likely that the adjustment to the hydrological regime would remain localised and of relatively low magnitude given the channel types. Overall, the potential effect of climate change is unlikely to change the outcome of the assessment and the consequence of this ICCI is considered to be minimal.	Not significant
	Increased drought intensity	Potentially drier summers could lead to increasing soil moisture deficit and reduce groundwater storage and thus overall groundwater levels	The CoCP will ensure dewatering activities are minimised during construction to limit any reduction in groundwater recharge. Changes in future groundwater recharge have been considered in the Water Environment assessment. Environment Agency (EA) Climate Change scenarios have been used to show there is no change to the significance of the ICCI identified. Based on our current understanding, the consequence of this ICCI is considered minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Increased intensity of extreme precipitation events Increased mean winter rainfall	Changes in groundwater flow and levels	It is likely that the adjustment to the hydrological regime would remain localised and of relatively low magnitude given the channel types. Overall, the potential effect of climate change is unlikely to change the outcome of the assessment and the consequence of this ICCI is considered to be minimal.	Not significant
	Increase in frequency and intensity of heavy rainfall events/ flooding	Increased flood risk, increased discharge volume, increased surface water run-off	Flood mitigation areas and additional surface water storage areas will be constructed to reduce the risk of flooding during construction works and where required temporary buildings will be protected from flood risk with a bund. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
		Increase the risk of fluvial and surface water flooding	Mitigation to reduce flood risk includes compensatory flood storage areas and construction of additional pond areas. Environment Agency climate change allowances have been used as part of the design to reduce flood risk. Highways assets have been designed to a 1 in 100 year event with a 70% climate change allowance and all other assets have been designed to a 1 in 100 year event with a 35% climate change allowance in line with the corresponding design lives of the assets. The consequence of this ICCI is therefore considered to be minimal.	Not significant
		storm runoff from the small contributing areas discharging to the foul sewerage system would increase the flows in the network and potentially exceed the capacity of the gravity sewers or pumping stations	The potential impact was tested using the Design Year 2038 case as this exhibits the highest normal flows in the system. The Environment Agency predicts an upper end potential increase in precipitation of 20 per cent for the year 2039 and the storm flows were increased by this percentage and the performance of the system was compared to the equivalent baseline, and also the absolute impact was assessed. The increase to the storm flows increases the overall flows in the foul sewerage system by approximately 10 per cent: as a result, there are some minor increases to surcharging of the gravity pipes, and the pumps have to run for longer in order to deal with the flow, but there is no predicted flooding or significant detriment to the operation of the network. Compared to the incremental baseline with the same rainfall uplift applied, the flows are 7 per cent lower and the predicted stress on the network is considerably less due to the proposed mitigation works and changes in land use associated with the Project which will divert storm flow out of the foul system. The impact on the foul sewerage system does not change as there is no increased risk of flooding, but the system will experience higher degrees of surcharge. Based on this assessment the consequence of this ICCI is considered to be minimal	Not significant
	Increased intensity of extreme summer drought and winter precipitation events and pluvial flooding	Increased intensity of flooding could increase erosion of sediments into the water, reducing water quality and increasing pollutant load Summer droughts could also reduce water quality from reduced dilution of pollutants during the summer therefore increasing pollutants when precipitation events occur	Construction works will have a limited impact on water quality due to mitigation measures implemented through the CoCP. Based on our current understanding, the consequence of this ICCI is considered minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Extreme events (cold spells during winter)	The potential for cold spells of the same magnitude as today and the increase in air traffic movements could increase the use of deicer and lead to more contaminated runoff into water bodies	Whilst it is important to note that winters are anticipated to become warmer on average, cold spells will still occur. To mitigate the impact of increased contaminated runoff during cold spells when more de-icer is used, a discharge control monitoring system will be constructed to store additional contaminated runoff. Given the implementation of these mitigation measures, the consequence of this ICCI is considered minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
Traffic and Transport (Chapter 12)	Increased frequency of extreme weather events (inundation from flooding)	Airfield construction: Increase construction traffic in relation to the airfield plus flooding which could lead to road closures and delay in the construction process of the airfield	There is additional traffic on the network related to the airfield construction, but traffic modelling shows that this is manageable. Capacity on the highway network therefore stays the same. Flood mapping shows that there is limited surface water (pluvial) flood risk along the A23 with exception of the North Terminal roundabout. The approach for mitigating potential flood risk during construction works will be defined at a later design stage and include input from the contractor. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES	Not significant
		Highway construction: Increased construction traffic and temporary road closures during highway construction works plus flooding could increase stress on network	There will be limited additional traffic on the network related to the highway construction works but there will be redistribution effects on the airport and background traffic related to narrow lane running and lane closures. Whilst the drainage has been resolved for the end state junction design, drainage and flood risk during construction has not yet been considered in detail. The Project Description (Chapter 5) states that temporary drainage will be provided during construction to prevent any temporary increase in flood risk because of the works. This is likely to consist of SuDS features and possibly some drainage and pumps. The approach for mitigating potential flood risk during construction works will be fully refined at a later design stage and include input from the contractor. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Increased temperatures Increased frequency and magnitude of heatwaves	Open windows due to increased temperatures leads to negative impact on human health from traffic fumes	Traffic modelling shows there will be limited additional traffic on the network related to the highway and airfield construction works. There is not considered to be any additional negative impacts to human health and no change in the significance of the impact. During construction the consequence of this ICCI is considered to be negligible. Noise insulation (Chapter 14: Noise), will be offered to qualifying buildings which will also act as mitigation against potential traffic fumes. Details of this will be included in the CoCP. In addition, the Air Quality assessment (Chapter 13: Air Quality) shows that the future vehicle mix will have a greater proportion of cleaner fuel sources (ie electric vehicles) which will reduce the impact of traffic fumes. Given the implementation of these mitigation measures, the consequence of this ICCI is considered to be minimal.	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
Air Quality (Chapter 13)	Increased frequency of extreme weather events (ie flooding)	Adverse effect from increased stress on the existing road network in combination with frequency of extreme weather events causing flooding of roads	Highway improvement schemes have been developed as part of the Project design and will reduce the stress on the existing network. In addition, new highway infrastructure will be designed to appropriate climate change allowances, minimising any future flood risk to the highway network during operation of the Project. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Increased temperatures Increased number of hot days Increased frequency and magnitude of heatwaves	Bitumen materials are susceptible to softening in heatwaves	Highways assets will be designed to standard road material specifications in line with the design life of the asset and climate change regulations as set out in the Design Manual for Roads and Bridges (DMRB). The effects of warmer temperatures on road materials in future is therefore considered to be negligible.	Not significant
	Increased number of hot days	There may be increased dust production during the construction phase due to extended dry periods of weather. There could also be a reduction in the availability of water for dust suppression measures.	This would be mitigated as far as reasonably practicable through dust suppression methods in the CoCP. Given the implementation of these mitigation measures, the consequence of this ICCI is considered minimal.	Not significant
		An increase in hot, dry weather conditions has the potential to change concentrations of pollutants (eg NOx, PM10, PM2.5 and ozone (O_3)). The conditions are likely to cause an increase in O_3, which will affect NO_2 concentrations.	Any increase in pollutant concentrations as a result of the increase in number of hot days would be offset by the expected long-term reduction in concentrations arising from cleaner fuels and engines for aircraft and road transport. This hazard is not expected to change the results of the air quality assessment and is not expected to cause a significant effect. No additional mitigation is required. Based in on the findings of this assessment the consequence of this ICCI is considered to be minimal.	Not significant
		An increase in the number of hot days leading to changes in wind speed and direction, has the ability to affect local pollutant levels during construction and operation.	There is uncertainty in future climate projection of changes in wind speed and direction. Increase in channeling that may be caused by changes in wind direction will increase concentrations at some receptors and decrease these at others. Due to the uncertainty of the future projections of wind data this hazard will not change the results of the air quality assessment and will not cause a significant effect. No additional mitigation is required. Based on our current understanding, the consequence of this ICCI is considered minimal.	Not significant
	Increased likelihood of extreme weather events (i.e. extreme hot or cold temperatures)	Change in auxiliary power unit (APU) usage, under extreme weather conditions.	Current practice for limiting APU usage in hot weather includes pre-cooling aircraft at the stand to reduce the need to use APU when taxiing to the runway and getting aircraft to take off in a timely manner, reducing the time of aircraft taxiing so that the cooling system uses energy from the aircraft engines rather than the APU. This is considered sufficient mitigation and this ICCI is considered to be not significant.	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
Noise and Vibration (Chapter 14)	Increase frequency of heatwaves	Climate Change may require greater cooling or warming of aircraft as they taxi which could increase APU usage.	APU noise is considered to be insignificant in relation to the engine noise when taxiing, and when the aircraft are at the stands, they generally do not operate the APU as they are connected to Ground Power Units (GPUs). Any change, therefore, in the use of the APU as a result of climate change, assuming there is no increase in its use at the stands, would be insignificant in terms of the assessment and results presented in Chapter 14: Noise. Based on our current understanding, the consequence of this ICCI is considered minimal.	Not significant
		Potential to exacerbate noise effects (leading to more sleep disturbance) on communities in terms of individual dwellings and on a wider community, due to windows being open more often when temperatures are warmer	As part of the Project, Gatwick's Noise Insulation Scheme will be extended to a three tier scheme to also offer ventilation in the form of acoustic ventilators that allow fresh air in when the windows are closed but do not increase noise. This scheme provides acoustic and ventilation provision to reduce noise impacts and any potential future risk of overheating for dwellings that sign up to the scheme. Given the implementation of these mitigation measures, the consequence of this ICCI is considered minimal.	Not significant
	Increased temperatures	Could affect aircraft performance and hence climb rates which could alter noise levels on the ground	An increase in temperature would have an insignificant increase on aircraft performance and there is not considered to be a change in noise level on the ground. Based on our current understanding the consequence of this ICCI is considered to be minimal.	Not significant
	Increased temperatures and changes in humidity	Potential effect on noise levels during construction caused by change in the sound absorption properties of the air, arising from an increase in temperature and humidity	Construction noise will be limited to daytime hours and construction traffic routes will be chosen to avoid villages and minor roads minimising the negative impacts of noise to local residents. In addition, Gatwick are offering a Noise Insulation Scheme as part of the project to reduce additional noise. With the implementation of these measures, the consequence of this ICCI is considered to be minimal.	Not significant
		Changes in temperature and humidity could affect the propagation of noise from airborne aircraft to the ground, and subsequently noise levels at receptors.	Modelling an increase in temperature in summer temperature of 4 degrees Celsius (with a corresponding reduction in relative humidity of 8%) gave noise levels within 1 dB of current weather conditions, so these effects are likely to be insignificant. Changes in climate could increase heatwaves in the summer months and lead to more residents opening windows more frequently for cooling in the day and at night. This could lead to greater impacts in terms of disturbance to indoor activities and sleep. The proposed enhanced noise insulation scheme for homes within the forecast $L_{eq,\ 16\ hour}$ 54 dB daytime noise contour includes acoustic ventilators to allow residents to keep windows closed. The scheme is voluntary, and it may be that climate change would increase uptake, allowing for greater mitigation of noise impacts. With the implementation of these measures the consequence of this ICCI is considered to be minimal.	Not significant
	Change in wind speed and direction	Could change the runway modal split and associated changes to ground noise.	The results of modelling runway modal splits from 50% to 90% westerly are given in Chapter14: Noise and show variations in contours areas of 3% for daytime $L_{eq,\ 16\ hour}$ 51 dB contours and 2% for night-time $L_{eq,\ 8\ hour}$ 45 dB contours. The variation in contours populations are 22% for daytime $L_{eq,\ 16\ hour}$ 51 dB contours and 2% for night-time $L_{eq,\ 8\ hour}$ 45 dB contours. An increase in wind speed could reduce noise impacts at ground level as there would be more uplift causing aircraft to rise sooner and therefore become quieter more quickly. It is not known to what extent climate	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
			change could affect runway modal split, but this analysis suggests that in itself it is not likely to have major changes in the noise impacts of the Project. Based on our current understanding the consequence of this ICCI is considered to be minimal.	
Climate Change and Carbon (Chapter 15)	Change in jet stream	Change flight times due to changes in the strength of the jet stream, requires more energy to during flights travelling against the direction of the jet stream (i.e. London to New York)	Future changes in the strength of the jet stream remain uncertain and it is likely that GAL and aircraft operators already have, and will further develop as needed, operational processes in place that can adequately deal with changes in the jet stream and the associated increase in carbon emissions of some journeys. If the strength of the jet stream does change then GAL and aircraft operators should be aware that this could have an impact on carbon emissions and may require additional offsetting or alternative methods to ensure additional emissions have been adequately mitigated.	Not significant
	Increased temperatures/ droughts	Increased water use in hotels and office buildings during drought periods	By 2050 the water sector is expected to be largely decarbonised, therefore any increase in water consumption is not expected to contribute to additional carbon emissions. In addition, design of airport building is likely to consider a water strategy that would seek to reduce water consumption during operation. Once the design is sufficiently progressed, we will be better able to review the significance of this ICCI. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Increased temperatures, increased number of hot days (heatwaves)	Increased overheating risk, therefore increased use of cooling systems in terminal buildings, offices and hotels, increasing carbon emissions	By 2050 the electricity sector is expected to be largely decarbonised, therefore any increase in energy from cooling system usage is not expected to contribute to additional carbon emissions. In addition, the design of mechanical ventilation systems may choose lower carbon options (eg passive system) that would mitigate increased carbon emissions. This ICCI will be reviewed once the design of mechanical ventilation for airport buildings have been sufficiently developed and any change in the significance and associated mitigation will be developed as part of the ES.	Not significant
Socio-economic Effects (Chapter 16)	Increase in frequency and intensity of heavy rainfall events/ flooding	Access to the site being severed from flooding during construction works	Mitigation is expected to be designed to reduce the risk of flooding during construction works. The design of this mitigation will be undertaken between the PEIR and ES. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
		Access to car parking and land being severed from flooding at the site and in the surrounding area	The Project will include upgrades to local road transport infrastructure and flood risk mitigation will be incorporated into the design of new infrastructure to reduce the flood risk potential in future (See Chapter 12: Traffic and Transport). Assets have been designed to EA climate change allowances (Chapter 11: Water Environment) to ensure there is no increased risk of flooding during operation. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
		Could negatively affect journey times to the site and to nearby locations of employment	Construction works will include mitigation in the form of flood compensation areas (Chapter11: Water Environment) to ensure there is no increased risk of flooding. The Project will include upgrades to local road transport infrastructure and flood risk mitigation will be incorporated into the design of new infrastructure to reduce the flood risk potential in future (See Chapter 12: Traffic and Transport). Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES	Not significant
	Increase in the frequency of extreme events (heatwaves, flooding)	Adverse effect from the increase in frequency of extreme weather events in combination with direct and indirect job creation during operation leading to increased stress of local infrastructure	The Project will include upgrades to local road transport infrastructure and flood risk mitigation will be incorporated into the design of new infrastructure to reduce the flood risk potential in future (See Chapter 12: Traffic and Transport). Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
		Could change public behaviour and the pattern of use of public spaces.	Mitigation will be provided in the form of re-provision of open space lost as part of the Project. The newly designed public space is likely to enhance existing conditions (see Chapter 18: Agricultural Land Use and Recreation for more detail) and therefore reduce negative effects of extreme events on public behaviour and patterns of use. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Drier/drought conditions	Could lead to loss of vegetation and defoliation of public space	Th provision of new areas of open space in the vicinity of the land lost from Riverside Garden Park during the North Terminal Roundabout improvement works, will better address any potential negative impacts and is considered to enhance the baseline. Planting proposals (Chapter 8: Landscape, townscape and visual effects) will incorporate multiple plant and tree species to reduce the risk of drought conditions impacting on local flora. The inclusion of multiple species maximises resilience against drought conditions reducing negative impacts to vegetation in the public realm. Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
Health and Wellbeing (Chapter 17)	Increase in temperatures	Greater number of people sleeping with windows open, may alter propagation characteristics of sound through air.	It is unlikely that changes in humidity and hotter temperatures will increase noise levels in the local area during construction works because mitigation measures include restricting use of noisy plant to daytime where possible, use of low noise plant, location of plant further from noise	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
			sensitive receptors, temporary noise barriers and enclosure of stationary plant. With the implementation of these mitigation measures, the consequence of the ICCI is considered minimal.	
		Potential for ticks and other insects to carry and spread disease to the workforce	There will be provision of an Occupational Health Management plan to mitigate any potential risks to vulnerable receptors during construction and operation. Based on our current understanding the consequence of this ICCI is considered to be minimal. This potential ICCI will be assessed in further detail, during the ES once we have received further information on the contents of the Occupational Health Management Plan.	Not significant
		Change the dispersion of air pollutants in the air reducing local air quality	The Air Quality team indicate that future emissions are likely to be lower in future due to cleaner fuels and therefore this would be less of an issue on health and wellbeing during the operational phase. Based on the current understanding, the consequence of this ICCI is considered to be minimal.	Not significant
	Increase in frequency of extreme weather events (eg drought, flooding, heat waves)	Potential impact of flooding and increased storm events leading to isolation via reduction of active travel options	Surface transport infrastructure will be designed to Environment Agency guidance on Flood risk assessments including climate change allowances (Chapter 11: Water Environment). Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
		Hotter summer extremes and cold winter extremes may increase summer and winter mortality rates	There will be provision of an Occupational Health Management plan to mitigate any potential risks to vulnerable receptors during construction and operation. Based on our current understanding the consequence of this ICCI is considered to be minimal. This classification will be reviewed during the ES, once we have received further information on the contents of the Occupational Health Management Plan.	Not significant
	Increase in frequency and intensity of heavy rainfall events	Increased frequency and intensity of storm events lead to reduced opportunity for the additional workforce to access and enjoy open space and nature, reduced suitability of conditions for active travel options	Surface transport infrastructure will be designed to Environment Agency guidance on Flood risk assessments including climate change allowances (Chapter 12: Water Environment). Based on our current understanding the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Hotter and drier/drought conditions	Potential for temporary buildings to suffer from overheating due to increased temperatures and leading to less ambient working conditions during construction	Mitigation will be designed to ensure temporary buildings are resilient to overheating during construction works. This is addressed in the CCR assessment. Based on this, the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
Agricultural Land Use and Recreation (Chapter 18)	Increased intensity of extreme precipitation events	Increased intensity of rainfall events could result in flash flooding as water won't be able to infiltration into the clay soils fast enough	Exposed soils are not particularly eroding because they are predominantly clay. There will also be a soil management strategy to maintain soil drainage and minimise damage to the soil structure. Given the existing ground conditions and implementation of mitigation measures, the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES	Not significant

Discipline	Phase 1		Phase 2	
	Climate change hazard	**Likely ICCI identified**	**Consequence of ICCI considering embedded environmental measures/ good practice**	**Significance of ICCI effects**
	Increase in mean winter rainfall		and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	
	Increased temperatures Increased likelihood of heatwaves	Increased warming trends could extend the summer season for outdoor activities which could increase erosion	The soil structure is predominantly clay based which reduces the potential for erosion of soils and there will also be a Soil Management Strategy implemented to minimise degradation of soils. Given the existing ground conditions and implementation of mitigation measures, the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
	Drier/ drought conditions	More walkers during drier weather episodes could deplete current vegetation and increase soil disturbance	The soil structure is predominantly clay based which reduces the potential for erosion of soils and there will also be a Soil Management Strategy implemented to minimise degradation of soils. There will also be a vegetation strategy minimise the loss of vegetation under drier conditions. Given the existing ground conditions and implementation of mitigation measures, the consequence of this ICCI is considered to be minimal. This ICCI will be reviewed during the ES and mitigation may be proposed, if considered necessary, following any Project refinements and further assessment as part of the ES.	Not significant
		Lower water levels in water courses, could reduce the availability of fish for fishing - negative impacts on fishing recreational activities	Flood risk mitigation includes re-alignment of the River Mole channel providing a more natural profile, improving the plan form and increasing resilience of local water bodies to future drought events. Based on our current understanding, the consequence of this ICCI is considered to be minimal.	Not significant
		Land could be used for longer periods and there could be a change in the mix of land uses	Given the land use types and Agricultural policies for Weald Clay it is likely that there will only be minor changes in land use in future. The consequence of this ICCI is therefore considered to be minimal.	Not significant

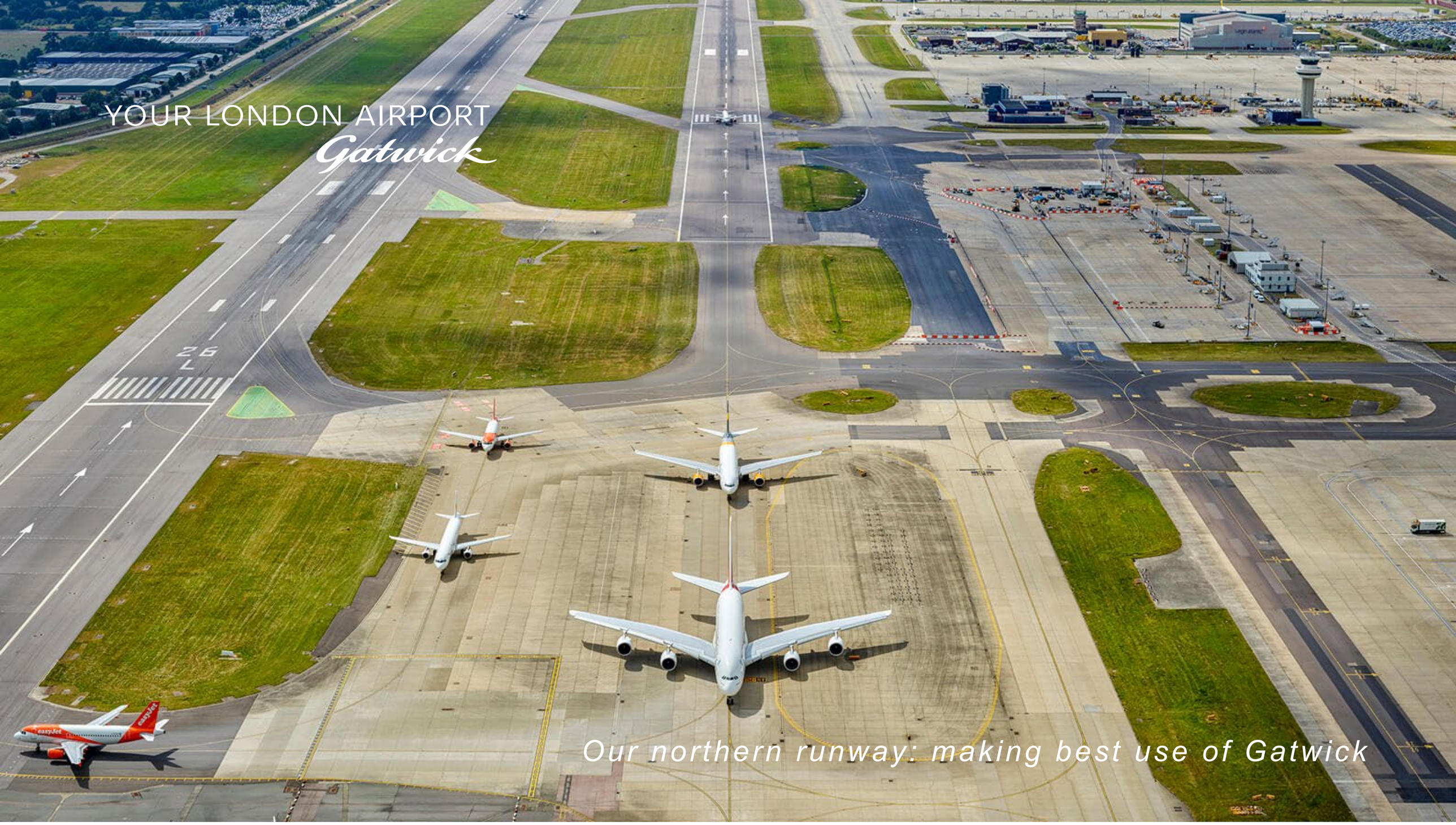
2 Glossary

2.1 Glossary of Terms

Table 2.1.1: Glossary of Terms

Term	Description
APU	Auxiliary Power Unit
CoCP	Code of Construction practice
EA	Environment Agency
EIA	Environmental impact Assessment

Term	Description
ES	Environmental Statement
GAL	Gatwick Airport Limited
GPU	Ground Power Unit
ICCI	In-Combination Climate Change Impact
O_3	Ozone
PEIR	Preliminary Environmental information Report
VOC	Volatile Organic Compound



Preliminary Environmental Information Report
Appendix 16.2.1: Summary of Local Planning Policy: Socio-Economics

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 16.2.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the relevant socio-economic local planning policy for the Project.

2 Policy Review

2.1 Local Planning Policy

Table 2.1.1: Local Planning Policy Review

Policy	Summary
Adopted Policy	
Crawley 2030: Crawley Borough Local Plan 2015 – 2030 (2015)	
Policy GAT1 Development of the Airport with a Single Use Runway: *"Within the airport boundary as set out on the Local Plan Map, the council will support the development of facilities which contribute to the safe and efficient operation of the airport as a single runway, two terminal airport up to 45 million passengers per annum."* ***Policy GAT4 Employment Uses at Gatwick:*** *"Permission for the loss of airport-related office floorspace within the airport boundary will only be permitted if it can be demonstrated that it will not have a detrimental effect on the long-term ability of the airport to meet the operational needs of the airport as it expands.* *Permission for the creation of any non-airport related commercial floorspace within the airport boundary will only be permitted if it can be demonstrated that it will not have a detrimental effect on the long term ability of the airport to meet the floorspace need necessary to meet the needs of the airport as it expands and will not have an unacceptable impact on the roles and function of Crawley Town Centre or Manor Royal."* ***Policy EC1 Sustainable Economic Growth****: "Crawley's role as the key economic driver for the Gatwick Diamond will be protected and enhanced. The council will ensure that all suitable opportunities within the borough are fully explored to enable existing and new businesses to grow and prosper.* *Opportunities for approximately 23ha of employment land are identified within the Borough, meeting short term economic growth needs for the town over the early part of the plan period. As a minimum, an additional 35ha of land for business uses is required to order to secure future economic growth at Crawley."*	The Crawley Borough Local Plan sets out how the Council will guide development in the Borough between 2015 and 2030. The document includes several policies that are pertinent to the Project. These policies focus on how much development at Gatwick the Council will support; the principles for managing employment uses at Gatwick; and how the Borough will play its role in delivering prosperity within the Gatwick Diamond.

Policy	Summary
Reigate and Banstead Local Plan: Adopted Core Strategy (2014)	
Policy CS5 Valued People and Economic Development: Outlines that the Council will support continued and sustainable economic growth in Reigate and Banstead. This would include: *"Recognising and nurturing the distinctive economic role of different parts of the borough (in particular raising the profile of Redhill as a commercial location), and working with adjoining authorities and other partners to maximise the opportunities arising from our position within the Gatwick Diamond, the Coast to Capital Local Enterprise Partnership, Surrey Connects and our proximity to London."* ***Policy CS9 Gatwick Airport:*** *"The Council will support the development of Gatwick Airport, within the existing airport boundary and existing legal limits, including the development of facilities that contribute to the safe and efficient operation of the airport."*	The Core Strategy outlines the spatial strategy for Reigate and Banstead from 2012-2027. Policies pertaining to the Project and the assessment of socio-economic effects from the Strategy include outlining how the Council aims to grow the local economy; and will support the development of Gatwick.
Reigate and Banstead Borough Development Management Plan 2018-2027 (2019)	
Policy HOR9 Land West of Balcombe Road: *The 83ha site is allocated for "a mix of business space for strategic employment purposes and suitable for a range of occupiers within Class B1 uses. A complimentary range of commercial, retail and leisure facilities to serve and facilitate the main business use of the site. At least 5ha of new high quality public open space, including parkland and outdoor sports facilities."* ***Policy EMP1 Principal Employment Areas:*** *"Planning permission will be granted for change of use to offices, industrial and distribution and for the development of new, upgraded or extended floor space within these use classes."* ***Policy EMP2 Local Employment Areas****: "Planning permission will be granted for change of use to or development of new or extended accommodation for the following uses provided the proposal is of an appropriate scale for the area and does not conflict with the amenity or operation of neighbouring land uses:* ▪ *Industrial and distribution uses* ▪ *Offices* ▪ *Financial and professional services* ▪ *Any other employment-generating uses."* ***Policy EMP5 Secure Local Skills and Training Opportunities****: "Developers of new residential development of 25 units or more, and non-residential development in excess of 1,000sqm size (gross), will be required to agree with the council, and implement, a Training and Employment Plan demonstrating how the development will:* *Provide or enable the delivery of new construction apprenticeships and other on-site training opportunities.* *For non-residential schemes, provide or support local training and placement schemes targeted at local residents in respect of any jobs created through the end use."*	The Development Management Plan provides supplementary planning policies to the Core Strategy, covering the same period from 2012-2027. Policies relevant to the Project include the designation of a large employment site within the DCO boundary and support new training and employment opportunities through development.
Mole Valley Core Strategy (2009)	
Policy CS12 Sustainable Economic Development: "*The sustainable growth of the district's economy will be supported through the provision of a flexible supply of land to meet the varying needs of the economic sectors by:*	The Core Strategy is the main planning policy document in the Mole Valley Local Development Framework. Policies pertaining to the Project include CS12, which outlines how the Council will enable economic development in a sustainable manner.

Policy	Summary
Working with partners and supporting initiatives and development which assists in improving the skills base of local residents especially in those localities where there is a significant disparity in the skills of residents and the types of local jobs opportunities available.	
Mole Valley Local Plan 2000 (saved policies) (2000)	
Policy E1 Existing Industrial and Commercial Land Uses: *"The maintenance and renewal of Mole Valley's economy will be met primarily by encouraging the re-use of suitably located land in built-up areas already in industrial and commercial use."* ***Policy E2 Safeguarding Existing Industrial and Commercial Land:*** *"The loss of existing suitably located industrial and commercial land in built-up areas to other uses will not be permitted unless its retention for industrial and/or commercial use has been fully explored without success."*	Policies from the Local Plan were saved to operate alongside the main Core Strategy. Policies that are relevant to the Project include how Mole Valley will re-use and safeguard existing commercial and industrial land.
Horsham District: Planning Framework (excluding South Downs National Park) (2015)	
Policy 7 Economic Growth: Outlines that sustainable employment development within the District will be achieved through a number of measures including: *"Redevelopment, regeneration, intensification and smart growth of existing employment sites.* *Retention of key employment areas, for employment uses.* *Promotion of the district as an attractive place to stay and visit to increase the value of the tourism economy"* **Policy 9 Employment Development:** This policy seeks to balance the need to ensure the District ensures there is a sufficient supply of employment land of businesses while enabling the redevelopment of unviable sites for other uses.	The Planning Framework represents the Council's main existing planning policy document. Policies relevant to the Project focus on how the District will sustainable economic development and plan for employment land use.
Tandridge District Core Strategy (2008)	
Policy CSP 22 The Economy: Sets out how the Council will seek to develop a sustainable economy through means such as getting the best use out of existing commercial and industrial sites, encouraging working from home and supporting premises that are suitable for occupation by small businesses.	The Core Strategy is the main planning policy document for the District. Pertinent policies include how the Council will plan to develop the economy through methods like encouraging home working.
Mid Sussex District Plan 2014 – 2031 (2018)	
Policy DP1 Sustainable Economic Development: The purpose of the policy is to promote the District as a place which is attractive to all businesses, can help local companies thrive and lower out-commuting. Measures to enable these factors include encouraging new high-quality development and infrastructure and drawing further inward investment.	The District Plan is the main planning policy document in the District. Policies pertaining to the Project include outlining how the Council will enable sustainable economic development.
Mid Sussex District Local Plan 2004 (saved policies) (2004)	
Policy E1 Business: This policy allocates sites for new or extended business development which could involve an increase in the quantum of business floorspace.	Policies from the Local Plan were saved and remain in place until they are superseded by another planning policy document. Policy E1 is considered to be relevant to the Project.
Emerging Policy	
Draft Crawley Borough Local Plan 2021-2037 (2021)	
Policy SD2 Enabling Healthy Lifestyles and Wellbeing: "*New development must be designed to achieve healthy, inclusive and safe places, which enable and support healthy lifestyles and address health and wellbeing needs in Crawley, as identified in the Crawley Joint Strategic Needs Assessment.*"	The Draft Local Plan once adopted will replace the existing Crawley Local Plan. The Plan includes a number of policies pertinent to the assessment of socio-economic effects linked the development with regard to open space and community facilities, sustainable economic growth, provision of commercial floorspace, visitor accommodation and the future development of Gatwick.

Policy	Summary
Policy OS1 Open Space, Sport and Recreation: "*Proposals that benefit the use of existing open space, sport and recreational spaces will be supported. However, proposals that remove or affect the continued use of existing open space, sport and recreational spaces will not be permitted unless:* - *An assessment of the needs for open space, sport and recreation clearly show the site to be surplus to requirements; or* - *The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or* - *The development is for alternative sports and recreational provision, the needs for which clearly outweigh the loss.*" *Whilst a site may be surplus to requirements as open space it may still be of environmental or cultural value; or the site's development may have unacceptable visual or amenity impact, or adversely affect its wider green infrastructure functions, including for climate change mitigation. Therefore, applicants should also carefully consider the character, landscape, biodiversity and other environmental policies in the Plan.* **Policy OS2 Provision of Open Space and Recreational Facilities:** "*Where development is on existing open space which is not identified as surplus and is therefore required to be replaced through Policy OS1, a S106 agreement will also be sought to secure the replacement open space and to provide and improve the Public Rights of Way network both within the development and connecting to the surrounding countryside/open spaces.*" **Policy OS3 Rights of Way and Access to the Countryside**: "*Unless it can be clearly shown that a Public Right of Way is unnecessary or not needed, proposals which result in the loss of a public right of way must ensure re-provision of equal or better value.*" **Policy EC1 Sustainable Economic Growth**: "*Crawley's role as the key economic driver for the Gatwick Diamond will be protected and enhanced. The council will ensure that suitable opportunities within the borough are fully explored to enable existing and new businesses to grow and prosper.*" **Policy EC2 Economic Growth in Main Employment Areas**: "*As a key economic driver in the sub-region, Crawley's Main Employment Areas make a significant contribution to the economy of the town and the wider area, and are designated as a focus for sustainable economic growth."* The Main Employment Areas include (inter alia) Gatwick Airport. *"Employment generating development will be supported in the Main Employment Areas where it makes for an efficient use of land or buildings and it contributes positively to sustainable economic growth in the main employment area, and to the overall economic function of Crawley.* *Development that would involve a net loss of employment land or floorspace in any Main Employment Area will only be permitted where it is demonstrated that:* *i. the site is no longer suitable, nor viable, nor appropriate for employment purposes, or that a limited loss of employment floorspace will support the wider economic use of the site; and* *ii. the loss of any land or floorspace will result in wider social, environmental or economic benefit to the town which clearly outweighs the loss; and*	

Policy	Summary
iii. there would be no adverse impact on the economic function of the Main Employment Area, nor the wider economic function of Crawley." **Policy EC5 Employment and Skills Development:** *"All major developments will be required to contribute to meeting the objectives of the most up-to-date Crawley Employment and Skills Programme through:* *i. Committing at the Planning Application stage to prepare and submit a site-specific Employment and Skills Plan, the content of which must be agreed by the council prior to the commencement of development. This will detail how the development, through its construction and (for commercial development where there is a known occupier) end user phases, will support initiatives identified in the Crawley Employment and Skills Programme. This commitment will form part of the obligations on a planning permission and will be secured by way of a S106 legal agreement.* *ii. The making of a proportionate financial contribution towards employment and skills initiatives in Crawley.* *The requirements of parts i. and ii. above should be satisfied in accordance with the Local Plan Planning Obligations Annex"* **Policy EC6 High Quality Office Provision**: *"Development that adds to the supply and variety of high quality Grade A office space in Crawley, including the refurbishment and improvement of existing office floorspace and the provision of new office floorspace, will be supported in the Main Employment Areas.* *The sequential test will not be required where new Grade A office floorspace is proposed within the Main Employment Areas, or where it is located within 500 metres of a public transport interchange.* *At Gatwick Airport, non-airport related office development should meet the requirements of Policy GAT3".* **Policy EC7 Hotel and Visitor Accommodation**: "*Where hotel and visitor accommodation is proposed within the Gatwick Airport boundary,* *it will be necessary to demonstrate that the development will not have a detrimental impact on the long-term ability of the airport to meet its operational land and floorspace requirements as it grows. Car parking related to on-airport hotel development must meet the requirements of Policy GAT3.* *Where hotel and visitor accommodation is proposed in Manor Royal it will be necessary to demonstrate that the development will cater specifically for the business needs of Manor Royal, including through the provision of business support facilities and staff amenities as per the requirements of Local Plan Policy EC3 (Manor Royal)."* **Policy EC11 Employment Development and Residential Amenity**: "*Proposals for the development, redevelopment or change of use of sites for employment use adjacent to residential areas will be permitted where there is no adverse harm to the amenity, function and setting of nearby residential uses.*" **Policy EC13 Rural Economy**: *"Beyond the Built-Up Area Boundary, development that enhances Crawley's rural economy will be supported provided it:* *a) is of a scale and function that is appropriate to, and consistent with, the character of the countryside; and* *b) would not result in an urbanising impact that would undermine the intrinsic character and beauty of the countryside; and*	

Policy	Summary
c) would not result in the loss of valued landscapes, sites of biodiversity or geological value, trees and woodland, or the best and most versatile agricultural land; and d) would not result in the loss of connectivity or function of the green infrastructure network and/or sites of biodiversity value." **Policy GAT1 Development of the Airport with a Single Use Runway:** *"Within the airport boundary as set out on the Local Plan Map, the council will support the development of facilities which contribute to the sustainable growth of Gatwick Airport as a single runway, two terminal airport provided that:* *i. The proposed use is appropriate within the airport boundary and contributes to the safe, secure and efficient operation of the airport; and* *ii. The impacts of the operation of the airport on the environment, including noise, air quality, flooding, surface access, visual impact, biodiversity and climate change, are minimised, where necessary satisfactory safeguards are in place to ensure they are appropriately mitigated and, as a last resort, fair compensation is secured; and* *iii. Adequate supporting infrastructure, particularly for surface access, can be put in place; and* *iv. Benefits to Crawley's local economy and community are maximised.* *The control or mitigation of impacts, compensation, infrastructure and benefits will be secured through appropriate planning conditions and/or S106 obligations. Where development to enable sustainable growth at Gatwick Airport will be a Nationally Significant Infrastructure Project, such as the use of the northern runway, i-iv above will be expected to be met by the airport operator and secured through appropriate requirements or S106 obligations."* **Policy GAT2 Safeguarding for a Second Runway:** *"The Local Plan Map identifies land that is safeguarded from development which would be incompatible with expansion of the airport to accommodate the construction of an additional wide spaced runway (if required by national policy) together with a commensurate increase in facilities that contribute to the safe and efficient operation of the expanded airport.* *Small scale development within this area, such as residential extensions, will normally be acceptable. The airport operator will be consulted on all planning applications within the safeguarded area.* *Planning applications for noise sensitive development will be considered on the basis of Air Noise Map – Additional Runway – Summer Day – 2040 as shown at Plan 31 of the Gatwick Airport Master Plan and in the Local Plan Noise Annex."* **Policy GAT3 Gatwick Airport Related Parking:** *"The provision of additional or replacement airport-related parking will only be permitted where:* *i) it is located within the airport boundary; and* *ii) it is justified by a demonstrable need in the context of proposals for achieving a sustainable approach to surface transport access to the airport.* **Policy GAT4 Employment Uses at Gatwick**: "*The loss of airport-related office floorspace within the airport boundary will be permitted where it can be demonstrated that development will not have a detrimental impact on the long-term ability of the airport to meet the floorspace need necessary to meet the operational needs of the airport as it grows.* *New non-airport related commercial floorspace within the airport boundary will only be permitted where it can be demonstrated that:*	

Policy	Summary
i. this will not have a detrimental effect on the long term ability of the airport to meet the land and floorspace requirements necessary to meet the needs of the airport as it grows; and *ii. it will not have an unacceptable impact on the role and function of the other Main Employment Areas within Crawley Borough and town centres and employment areas beyond Crawley's boundaries."*	
Draft Horsham District Local Plan 2019-2036 (Regulation 18 Document) (2020)	
Strategic Policy 6 – Economic Growth: The policy outlines that sustainable growth in the District will be enabled up to 2036 by: - *Providing a sufficient supply of employment land to meet the councils identified B class needs;* - *Retaining, regenerating intensifying and enabling the smart growth of existing employment sites; and* - *Taking a positive approach to the creation of small start-up businesses and home-working.* **Strategic Policy 7 – Employment Development:** The policy sets out **"***proposals for the upgrading and refurbishment of existing offices, industrial/business estates, premises and sites, that enable them to meet modern business standards and enhance the attractiveness of the District as a business location and appropriately resolve any issues arising from badly sited uses will be supported*". **Strategic Policy 11: Tourism Facilities and Visitor Accommodation:** *"Proposals which enhance the visitor economy through the redevelopment of an existing site, or the provision of new facilities for visitor accommodation and/or tourism facilities will be supported where it can be demonstrated that proposals:* *Reinforce the local distinctiveness, and demonstrate how the District's tourist offer will be improved or enhanced. This may include the retention of heritage assets within the District, including the return of a historic property to active use;* *Contribute to the retention and enhancement of existing facilities;* *Increase accessibility to the District's tourist facilities and/or visitor accommodation through sustainable modes of travel;* *Relate well to their surroundings and are sensitively designed to avoid harm to the townscape or landscape character and the wider environment".*	The Draft Local Plan once adopted will replace the Current Horsham District Development Framework. The plan includes several relevant policies to Socio-economic effects in the context of this Project.
Future Mole Valley 2018-2033 Reg 18 Consultation Draft (2020)	
Policy EC1 - Supporting the Economy: *"The sustainable growth of Mole Valley's economy will be promoted to meet the varying needs of different economic sectors by:* *Supporting regeneration within the main towns.* *Safeguarding sufficient employment sites and encouraging the recycling of land to meet the needs of the economy.* *Supporting the creation of new employment floorspace where appropriate.* *Safeguarding local shopping centres as well as smaller parades and individual shops that support the local needs of communities.* *Supporting and promoting a high-quality visitor economy.* *Supporting and retaining employment opportunities.* *Supporting initiatives to improve information and communications technology connectivity."* **Policy EC7 - Leisure and Tourism:** *"1.Tourism, recreation and visitor-related development in the built up area and rural areas will be encouraged, provided the scale and impact of the development is appropriate to its setting and consistent with other policies of the Plan.* *2. Development which facilitates the enjoyment of the natural, historic and cultural assets of Mole Valley and which provides for the protection of features that make Mole Valley attractive to visitors will be supported, subject to its compatibility with Green Belt, countryside and heritage policies.*	The Draft Local Plan once adopted will replace the Current Mole Valley Local Plan. The plan includes several relevant policies to Socio-economic effects in the context of this Project.

Policy	Summary
3. Facilities for outdoor sport and outdoor recreation which preserve the openness of the Green Belt and the largely undeveloped character of the countryside will be supported, provided there is no detrimental impact on local amenity, transport and the environment."	
Tandridge District Council - Our Local Plan: 2033 (2019)	
***Policy TLP20 Supporting a Prosperous Economy**: "The council will seek to deliver sustainable growth of the local economy, supported by providing a flexible supply of employment land and premises to meet the varying needs of different economic sectors by:* *Encouraging the improvement and redevelopment of land within existing employment areas in order to enable business growth and improve the attractiveness of these areas."*	The Plan, once adopted, will become the main planning policy document for the District. Policies pertaining to the Project include one which outlines how the Council will develop the economy in the future.

3 References

Crawley Borough Council (2015) Crawley 2030: Crawley Borough Local Plan 2015 – 2030.

Crawley Borough Council (2021) Draft Crawley Borough Local Plan 2021-2037 For Submission Publication, January 2021.

Horsham District: Planning Framework (excluding South Downs National Park) (2015)

Horsham District Council (2020) Draft Horsham District Local Plan 2019-2036 (Regulation 18 Document)

Mid Sussex District Council (2004) Mid Sussex District Local Plan 2004 (saved policies)

Mid Sussex District Council (2018) Mid Sussex District Plan 2014-2031

Mole Valley District Council (2000) Mole Valley Local Plan 2000 (saved policies)

Mole Valley District Council (2009) Mole Valley Core Strategy

Mole Valley District Council (2020) Future Mole Valley 2018-2033 Reg 18 Consultation Draft, May 2020.

Reigate and Banstead Borough Council (2014) Reigate and Banstead Local Plan: Adopted Core Strategy

Reigate and Banstead Borough Council (2019) Reigate and Banstead Borough Development Management Plan 2018-2027

Tandridge District Council (2008) Tandridge District Core Strategy

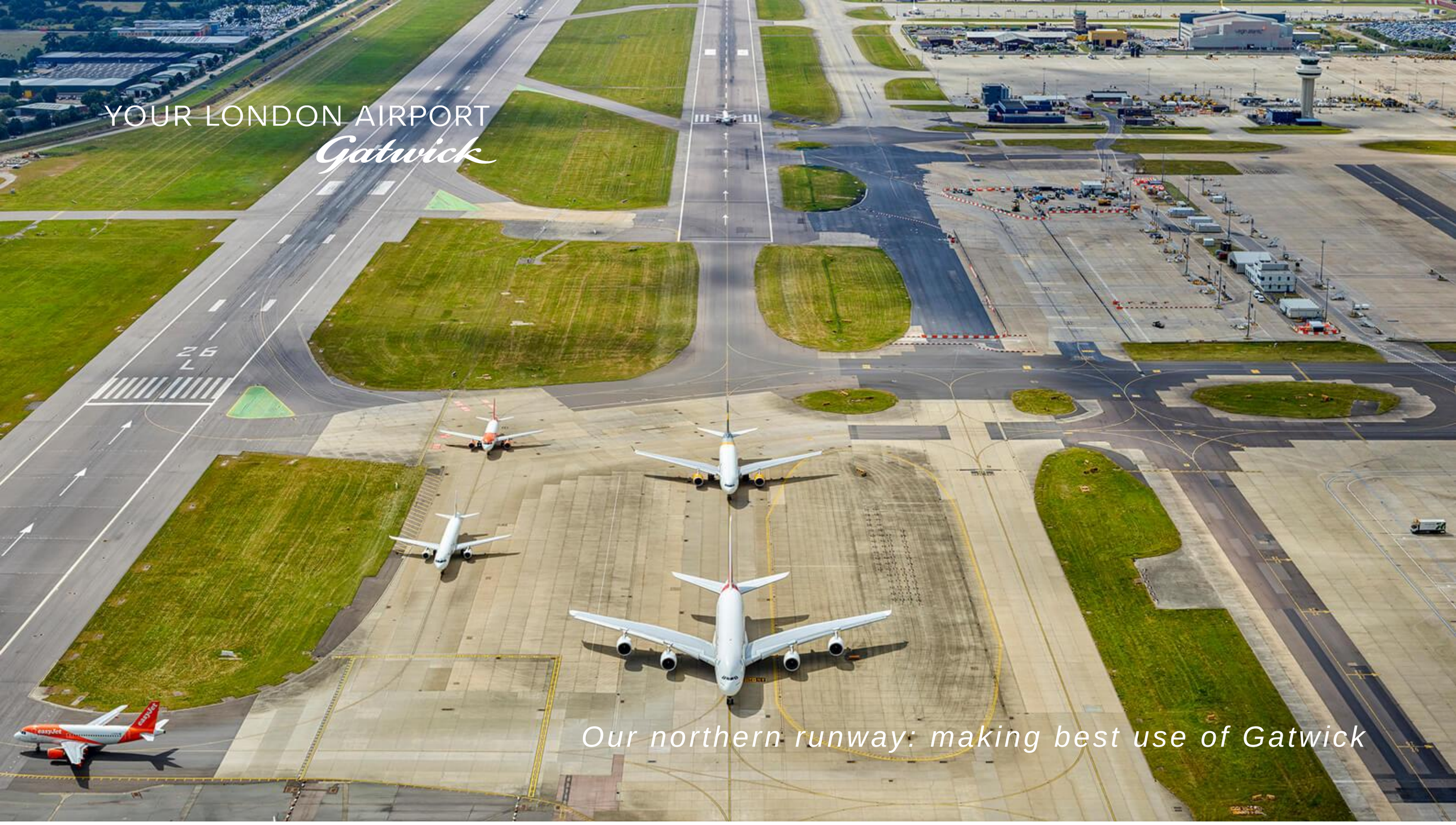
Tandridge District Council (2019) Our Local Plan: 2033

4 Glossary

4.1 Glossary of terms

Table 4.1.1: Glossary of Terms

Term	Description
EIA	Environmental Impact Assessment
GAL	Gatwick Airport Limited
PEIR	Preliminary Environmental Information Report



Preliminary Environmental Information Report
Appendix 16.3.1: Summary of Stakeholder Scoping Responses - Socio-economics

September 2021

Table of Contents

1 Introduction

1.1 General

1.1.1 This document forms Appendix 16.3.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the summary of stakeholder scoping responses for socio-economic for the Project.

2 Summary of Stakeholder Scoping Responses for Socio-economics

Consultee	Date	Details	How/where addressed in PEIR
Burstow Parish Council	28 September 2019	It is accepted that Gatwick Airport is economically very important to this area of the south east and long may it continue to serve business, jobs and customers alike but it would appear to us that the proposed increased use of the Northern runway is not a viable proposition for either Burstow Parish Council to the east or Charlwood Parish Council to the west.	The PEIR Chapter 16 considers a range of socio-economic effects of the Projects across a range of impact areas. These are defined at para 16.4.6.
Crawley Borough Council	30 September 2019	From the Topic Working Group meeting, CBC understood that Lichfields are undertaking an assessment of on and off-airport employment anticipated to be generated by the Project which is important to understand the impact on the local economy. Para 7.10.15 refers to an Oxera study, but it is not clear if this includes the Lichfield work, nor the detail of this study which should also consider the impacts on employment floorspace need off-airport to maximise benefits in the area. This work should be linked to the Transport modelling work.	The PEIR Chapter 16 presents the additional employment that will be generated by the project on-site and that generated off-site in the identified impact areas. This draws on various technical studies and assessments including the Oxera Economic Impact Report (2021). An Airport-Related Employment Land Study (ARELS) which will assess the potential impacts of the Project on floorspace requirements is being prepared separately.
Crawley Borough Council	30 September 2019	Impact on Labour Market assessments, (Tables 7.10.2, 7.10.3), should include the impact of potential local labour shortages created by the new jobs created at Gatwick. This is particularly likely in the low-skilled sectors where Gatwick in the past has been able to pay higher wages than local facilities, such as care homes, and they therefore struggle to find staff, impacting businesses and the local population who may be without services as a result. This could be exacerbated with new jobs created at Gatwick, both in the construction and operational phases and should be assessed.	Breakdowns of the numbers and types of jobs for the construction and operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9 of Chapter 16.
Crawley Borough Council	30 September 2019	Increasing jobs at the airport should result in benefits to the local economy and the local population. However, in the Community section of these assessments, consideration should be given to the impact of an increase in jobs at the airport, many of which will be low-skilled, on aspiration and achievement locally. Social mobility is a problem for Crawley, as identified in para 7.10.7 and therefore ought to be scoped into the ES to determine whether growth of the airport will exacerbate or can be an opportunity to help address this problem. Para 7.10.21 states that *"measures that can enhance the beneficial effects of the Project will also be identified"*. CBC welcome this, and would like to be involved in developing these measures.	Breakdowns of the numbers and types of jobs for the construction and operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9. As detailed in Table 16.8.1, an Outline Employment, Skills and Business Strategy is being developed for the Project.
Crawley Borough Council	30 September 2019	CBC is particularly concerned about the intention to scope out effects of the Project on population, (para 7.10.24), on the basis that it is not proposing residential development and therefore, would not directly give rise to population effects in terms of changing population levels within the assessment areas. The assertion that *"Future labour demand will be distributed across a wide labour*	Potential effects on the population are included within the baseline (Section 16.6) and assessment (Section 16.9). Appendix 16.6.2 provides an Assessment of Population and Employment Effects.

Consultee	Date	Details	How/where addressed in PEIR
		catchment area so no significant impacts on population levels or housing and community infrastructure needs are expected" is questioned as the majority of staff at Gatwick live close to the airport.	
Crawley Borough Council	30 September 2019	Given the anticipated 2,000 construction jobs and increase of 3,000 jobs directly on airport, (information provided at the Topic Working Groups), it is important that the potential effects on housing demand in the local area are thoroughly assessed. The nature of the jobs being created should be clarified as part of this assessment, as low skilled jobs do not tend to attract long distance commuters because of the cost of those journeys which exacerbates housing pressure locally, in an area already facing considerable difficulty meeting housing needs, especially for affordable housing. Growth at Gatwick should also generate economic growth with new indirect job creation in the surrounding areas. This will also have an impact on housing needs. The correlation between increased jobs and housing needs should be thoroughly assessed and therefore should not be scoped out. Any new housing required will also create associated infrastructure pressures on transport and community infrastructure, schools, health facilities etc, which should be part of the ES.	Breakdowns of the numbers and types of jobs for the construction and operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9. Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Chapter 16.
Crawley Borough Council	30 September 2019	7.10.6: CBC understands that a Housing Implications Study is being prepared by GAL, which should be referred to in the EIASR, and this issue should be required to be scoped in until the conclusions of this study have been fully understood.	This is contained at Appendix 16.6.2: Assessment of Population and Housing Effects, and has been used to inform the assessment in Section 16.9 of Chapter 16.
Crawley Borough Council	30 September 2019	7.10.7: CBC understands that a Housing Implications Study is being prepared by GAL, which should be referred to in the EIASR, and this issue should be required to be scoped in until the conclusions of this study have been fully understood.	This is contained at Appendix 16.6.2: Assessment of Population and Housing Effects, and has been used to inform the assessment in Section 16.9 of Chapter 16.
London Borough of Croydon	1 October 2019	It is likely that the Borough would supply many of the people, skills and supply chain goods that Gatwick Airport would need, and the Council would expect the Scoping Report to be able to reflect how the support for Croydon businesses and residents would continue with this development. Paragraph 7.10.3 explains that the data collated to date is about *"the local population, local economy and travel to workflows"* with the data for the labour market area, including Croydon are being collated. For this reason the Scoping Report should clearly indicate that baseline data collected will include the wider region as shown in figure 7.10.2, including the whole of the London Borough of Croydon so that the baseline characteristics of the wider socio economic impacts are properly recorded.	A review of baseline conditions for all of the assessment areas is set out in Section 16.6 of Chapter 16.
Horsham District Council	27 September 2019	GAL is reporting that the housing implications of the proposed expansion are intended to be scoped out. This cannot be correct given the relationship between economic growth, jobs and population growth. Until this relationship has been fully assessed it is not possible to assume there is no impact. There is considerable uncertainty about the scale and location of future growth in the region beyond.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Horsham District Council	27 September 2019	It should be noted that airport expansion will take place in a region of the UK which has very low unemployment rates and therefore these jobs will likely require the migration of employees to the area to fulfil these additional roles. This, in turn, will create additional pressure for housing in a geographical region that is already suffering severe housing stress and the effects of high house prices.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Horsham District Council	27 September 2019	Additional housing also leads to a greater requirement to provide the supporting social infrastructure, such as education and health facilities. The references to the number of jobs that will be created as a result of	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report

Consultee	Date	Details	How/where addressed in PEIR
		the expansion appears to be inconsistent between the details featured in the Gatwick Airport Master Plan and the later content shared during the Topic Working Groups. It is imperative that the impact on the delivery of employment on and off-site remains in scope.	inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Horsham District Council	27 September 2019	An increased requirement for lower skill level jobs at the airport causes knock-on impacts for existing businesses in the local area. These additional pressures must be fully understood and where appropriate, suitable mitigation should be required. There should be some reference to the impact in the section on 'Effects proposed to be assessed'.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Chapter 16.
Horsham District Council	27 September 2019	It is reasonable to assume that an expanded airport with this level of investment, will be increasingly attractive to new businesses. It may be difficult to quantify but there should be some explicit reference to the improved offer in the area and that the degree of economic growth and additional jobs is not just airport related.	Chapter 16 presents the anticipated economic output and jobs that will be created by the Project (on- and off site), including direct, indirect and catalytic employment and GVA.
Horsham District Council	27 September 2019	A significant concern for the Council is the placing of population out of scope. The effects of the project on the population during the construction and operational phases must be scoped in to the assessment as it is wholly inappropriate to scope them out without further evidence of the potential requirement for housing in the region as a result of expansion.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Horsham District Council	27 September 2019	The need to consider the impact on the surrounding population is particularly important given that the districts and boroughs in close proximity to Gatwick Airport are expected to deliver increased housing development as part of their local plans. These numbers are set through the Standard Method calculation. Horsham District alone will be required to identify land to deliver 974 homes each year as part of the next Local Plan. Although the precise locations of these developments have not been identified, a number of strategic sites have been promoted for consideration as future development locations. Hence this should be taken into account when assessing the cumulative effects and should consider the impact on the key strategic locations which have been promoted to Horsham District Council. At this stage we would draw your attention in particular to the West of Ifield development being promoted by Homes England. This is because of the scale of this potential project, 10,000 homes, and it's very close proximity with the airport.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. This report considers all the current housing trajectories of the impact areas (including sensitivity testing) and the Standard Method Scenario alongside a variety of other scenarios in assessing the housing delivery over the next 20 years and the impacts that this could have in the labour market. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Horsham District Council	27 September 2019	Updates to the Council's Infrastructure Delivery Plan, Economic Growth Assessment and Strategic Housing Market Assessment and updated documents should all be taken into consideration to inform studies once they have been finalised.	PEIR Chapter 16 and the accompanying technical reports are based on the latest (at the time of drafting) policy documents and associated evidence base, as set out at Table 16.6.2.
Horsham District Council	27 September 2019	The definition of the local study area is presented as a fait accompli. There is nothing which explains how the boundary has been fixed. It does seem quite narrow definition, particularly as the study area in terms of impact on residents seems to be confined to the local study area.	The local study area comprises areas within, but not the full entirety, of six local authorities. Further details are provided at paragraph 16.4.5 and in the figures that accompany Chapter 16.
Horsham District Council	27 September 2019	The potential mitigation strategies for socio-economic effects such as planning contributions, provision of apprenticeships and training opportunities during construction phase and compensation measures for business and residents do not go far enough and do no spread the benefits of expansion more equitably amongst the communities that will be affected by the proposals. The Council would wish to see a stronger commitment to providing more long-term career development opportunities for the local community. The EIA, therefore, needs to incorporate wider research into the economic and employment potential that expansion of the airport would create.	As detailed in Table 16.8.1 of Chapter 16, an Outline Employment, Skills and Business Strategy has been prepared which includes measures in relation to training, job opportunities, skills and measures for businesses.

Consultee	Date	Details	How/where addressed in PEIR
Horsham District Council	27 September 2019	GAL has also proposed that there could be compensation measures for businesses and residents adversely affected by the Project. This is considered to be vague.	At this stage, no specific compensation measures have been defined. These will be considered in more detail at a later assessment stage.
Horsham District Council	27 September 2019	In paragraph 7.10.24 it states the impact of the Project on property values would be scoped out, this seems to suggest that the longer-term socio-economic impacts will not be mitigated and GLA is only considering mitigating the shorter-term impacts of the construction phase. The Council do not agree that is it appropriate to scope out the impact on property values. The Council strongly recommends that this issue should be scoped into the assessment.	The issues of flightpath changes and their likely impacts are considered fully in the Noise Chapter, together with the mitigation appropriate to address the assessed impacts in line with other airport DCO applications. The PEIR and the ES will not attempt to look beyond this to potential effects on individual properly values.
Mid Sussex District Council	1 October 2019	GAL has not satisfactorily demonstrated why it is proposing to scope out housing implications of the Project. A clear analysis of the existing employment patterns and how future jobs will be filled is required to fully understand the population impacts. Until this relationship has been fully assessed it is not possible to assume there is no impact. Therefore, the Council objects to GALs current position on this matter.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Mid Sussex District Council	1 October 2019	The 'local study area' should be spatially defined by listing the output areas.	A list of the output areas comprising the 'local study area' is included in Appendix 16.6.1 – Table 1.1.1.
Mid Sussex District Council	1 October 2019	It is also recommended that there is full consistency in the naming of the study areas, for example, between the main body of text in Volume 1 and the figures in Volume 3.	We have ensured that there is consistency on naming of the impact areas and the associated figures.
Mid Sussex District Council	1 October 2019	Another sub-heading should be included for temporal scope (as done for the spatial scope/study area) in which the temporal scope for the assessment is clearly defined.	The temporal scope of the assessment is detailed within the key Project parameters that form the basis of the assessment (Section 16.7 of Chapter 16). This is based on the indicative phasing information included in Chapter 5: Project Description.
Mid Sussex District Council	1 October 2019	The factors (listed in Chapter 6) to be considered when determining the sensitivity of a receptor should be detailed in the context of socio-economics.	See Table 16.4.4 of Chapter 16.
Mid Sussex District Council	1 October 2019	The way in which policy, standards and other applicable guidance will be used to determine the magnitude of effects should be made more explicit.	See para 16.4.19 and Table 16.4.4 of Chapter 16.
Mid Sussex District Council	1 October 2019	Where necessary, references and dates should be added to the baseline.	The baseline assessment includes dates and references.
Mid Sussex District Council	1 October 2019	Clarification should be sought on whether the most up to date information has been used to provide a description of baseline conditions.	See 16.4.10 of Chapter 16
Mid Sussex District Council	1 October 2019	Information on GVA generated by employment at Gatwick airport (which will require existing employee numbers) and qualitative information on the level of local spend by employees should be included in the baseline assessment.	See Section 16.9 for the GVA effects arising from the operational phase of the Proposed Development.
Mid Sussex District Council	1 October 2019	Baseline analysis should be undertaken for the 'project site boundary', 'labour market' and 'five authorities' study areas as this may reveal the need to assess further potential environmental effects.	A review of baseline conditions for all of the assessment areas is set out in Section 16.6 of Chapter 16.
Mid Sussex District Council	1 October 2019	A summary of the consultation undertaken in relation to the socio-economic effects could be added to the chapter, although this is not essential.	See Table 16.6.2 of Chapter 16.
Mid Sussex District Council	1 October 2019	If embedded mitigations relevant to socio-economics exist, they should be added to the chapter, or it should be stated if they do not exist.	See section 16.8 of Chapter 16.
Mid Sussex District Council	1 October 2019	It is recommended that a potential enhancing measure prioritising the use of local supply chains to be included in the list of potential mitigating/enhancement measures.	As detailed at Table 16.8.1 of Chapter 16, the Project will include the adoption of an Outline Employment, Skills and Business Strategy. This includes procurement and supply chain measures.

Consultee	Date	Details	How/where addressed in PEIR
Mid Sussex District Council	1 October 2019	Clarification should be provided, prior to any assessment being undertaken, to determine where the majority of workers will travel from.	As detailed at para 16.4.6 of Chapter 16, a labour market area for the Project has been defined using ONS 2011 Census Origin and Destination commuting data and Gatwick Airport's in-house passholder database.
Mid Sussex District Council	1 October 2019	The effect on population should be scoped in or out based on the results of this study. The justification for scoping in or out should then be given consistently in a scoping note.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Mid Sussex District Council	1 October 2019	The effect on property values within the 'project site boundary' should be scoped into the assessment of effects.	As noted in Table 16.4.2 of Chapter 16, it is not considered that there are likely to be direct impacts in property values inside the Project site boundary due to the very limited change in flight paths and therefore the potential for effects to arise is limited. The issues of flightpath changes and their likely impacts are considered fully in the Noise Chapter, together with the mitigation appropriate to address the assessed impacts in line with other airport DCO applications. The PEIR and the ES will not attempt to look beyond this to potential effects on individual properly values.
Mid Sussex District Council	1 October 2019	The effect on property values outside the 'project site boundary' should be assessed based on the worst-case scenario of flight path changes.	As noted in Table 16.4.2 of Chapter 16, it is not considered that there are likely to be direct impacts on property values outside the Project site boundary due to the very limited change in flight paths and therefore the potential for effects to arise is limited. The issues of flightpath changes and their likely impacts are considered fully in the Noise Chapter, together with the mitigation appropriate to address the assessed impacts in line with other airport DCO applications. The PEIR and the ES will not attempt to look beyond this to potential effects on individual properly values.
Mid Sussex District Council	1 October 2019	Effects on GVA generated by additional jobs and additional local spend due to the Project should be scoped in.	See Section 16.9 of Chapter 16 for the GVA effects arising from the operational phase of the Proposed Development.
Mole Valley District Council	30 September 2019	Paragraph 7.6.6: Existing baseline conditions should also take account of the significant number of employees that work on-airport.	Baseline conditions have been considered.
Mole Valley District Council	30 September 2019	Paragraph 7.10.5: The baseline conditions should include the existing number of employees and the predicted number of employees anticipated from the baseline scenario.	Breakdowns of the numbers and types of jobs for the operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9. These are based on the Oxera Economic Impact Report (2021) that identifies the employment effects of the Project over and above the baseline position.
Mole Valley District Council	30 September 2019	Paragraph 7.10.24: The Applicant has proposed to scope out the effect of the development on the population during both construction and operational phases. The Council opposes this proposal; it is our belief that the increase in the number of on-airport jobs, as well as further indirect employment growth, has the potential to increase the demand for housing in the immediate locality to the airport. It is yet to be proven that a wide	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.

Consultee	Date	Details	How/where addressed in PEIR
		labour catchment area will see no significant impacts on population levels or housing and community infrastructure needs, and this should therefore be included in the scope of the EIA.	
Mole Valley District Council	30 September 2019	Paragraph 7.10.16 – The Applicant should assess the impacts of on-airport job generation on the local labour market. There is a concern that job growth at the airport could exacerbate the labour shortage of lower skilled workers in the local area and have negative consequences on other non-airport related employment sectors.	Breakdowns of the numbers and types of jobs for the construction and operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9 of Chapter 16.
Public Health England	30 September 2019	Demand for temporary accommodation by the construction work force should be identified and an assessment made regarding the impact on local housing supply and affordability, particularly in relation to homelessness provision of short-term housing supply. Given the number of other large developments near the study area the cumulative impact on housing provision should be included.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Chapter 16 of Chapter 16.
Public Health England	30 September 2019	The ES should identify a clear strategy and action plan that addresses barriers to employment within the local population and enables opportunity for employment within Gatwick Airport.	As detailed in Table 16.8.1 of Chapter 16, an Outline Employment, Skills and Business Strategy has been prepared which includes measures in relation to training, job opportunities, skills and measures for businesses.
Reigate and Banstead Borough Council	27 September 2019	Following the adoption of the DMP, references to the *"emerging Reigate & Banstead Borough Development Management Plan 2018-2027"* should be amended to *"Reigate and Banstead Development Management Plan (Reigate and Banstead Borough Council, 2019)"* to ensure consistency with other adopted Local Plan documents. Also following the adoption of the DMP, reference to saved Borough Local Plan Policy Em11 *"Airport Related Development"* should be removed from Paragraph 7.10.1 of the EIA Scoping Report following adoption of the DMP	The latest (at the time of drafting) adopted and emerging policies have been included within the analysis and particularly in Section 16.2 of Chapter 16 and Appendix 16.2.1: Summary of Local Planning Policies.
Reigate and Banstead Borough Council	27 September 2019	We strongly consider that the effect of the Project on the population during the construction phase should be included within the scope of the assessment given: ▪ GAL anticipates a twelve-year construction programme and an average construction workforce of 700 personnel (rising to 2,000 during peak construction)44. ▪ The specialist nature of construction suggests a need for a specialised construction workforce. ▪ The tight local labour market (as referenced in Paragraph 7.10.7 of the EIA Scoping Report) means that the local economy will not be able to provide the ▪ construction workforce required to deliver the Project. ▪ Table 7.10.2 of the EIA Scoping Report recognises that there will be an *"introduction of a temporary construction workforce"*.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Reigate and Banstead Borough Council	27 September 2019	We also strongly believe that the effect of the Project on the population during the operational phase should be included within the scope of the assessment given that: ▪ Whilst no housing development was planned as part of second runway scheme proposed by GAL as part of the Airports Commission (Gatwick R-2), the potential impact on population was scoped into the assessments. We note that Paragraph 4.1 of the A Second Runway for Gatwick Appendix A4: Local Economy Impacts report produced as part of the airports commission work states that *"a second runway will … increase labour demand in the study area. Dependent on what occurs (or what assumptions are made) in relation to factors such as commuting, unemployment and growth in the working population in the study area, this could result in an increase in in-migration, a growth in the number of households and an increased need for housing"* and that GAL assumed as part of their economic assessment of the potential impact of the second runway a ratio of around one additional	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.

Consultee	Date	Details	How/where addressed in PEIR
		house per 1.6 additional jobs (we also note that the Airports Commission assumed a ratio of one additional house per additional job). No justification has been provided within the Scoping to deviate from this approach. ▪ Paragraph 7.10.7 of the EIA Scoping Report demonstrates already high economic activity rates and low unemployment in the local study area suggesting that improvements in economic activity/ unemployment cannot be relied upon to absorb the anticipated job growth. Additional population will therefore inevitably be required to support the additional labour demand, with consequential housing impacts. ▪ Figure 7.10.3 of the EIA Scoping Report shows that the greatest number of people working at the airport live within the boroughs/ districts immediately adjacent to the airport (Crawley, Reigate & Banstead, Mole Valley, Tandridge, Horsham and Mid Sussex), therefore the assertion that *"future labour demand will be distributed across a wide labour catchment area so no significant impacts on population levels or housing … are expected"* is not only untested at this stage but also manifestly flawed given the existing evidence available.	
Reigate and Banstead Borough Council	27 September 2019	We also consider that there is a need for the scope of the assessment to include the potential impact on population and housing during both the construction and operation phase given the tight local housing market – host authorities of Crawley and Reigate & Banstead have recently adopted local plans which are unable to meet objectively assessed housing needs due to long-recognised planning, environmental and geographic constraints and host authority of Tandridge has an emerging local plan currently at examination which suggests that it is also unable to meet its standard method housing need.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Reigate and Banstead Borough Council	27 September 2019	The Council notes that GAL is proposing to scope out the effect of the Project on FDI and trade as *"Government guidance (Department for Transport, 2016) notes that there is not sufficient evidence to quantify the impact of FDI, and as such does not currently provide guidance for analysis of such impacts"* and that *"in the absence of an established methodology and guidance, it is proposed that these impacts are scoped out of the assessment"*. The Council however considers that the potential impact of FDI should be considered given that: ▪ It was considered as part of the economic impact analysis for the second runway Airports Commission work47 and no evidence has been provided for taking a different approach for this project. ▪ Heathrow proposed scoping out 'the effects of increased trade, FDI and tourism to the UK as a result of improved connectivity and aviation capacity' and the Planning Inspectorate considered that they should not be scoped out. ▪ Neither Luton nor Manston proposed screening out the effect of their airport capacity projects on FDI for this reason. ▪ GAL is anticipating expansion into the emerging markets of India, Asia and Africa. Such expansion will open up new trading links and therefore likely bring FDI into the local economy.	As noted at Table 16.4.2 of Chapter 16, there is potentially a positive relationship between investment in transport infrastructure and FDI and trade. However, Government guidance (Department for Transport, 2016) notes that there is not sufficient evidence to quantify the impact of FDI, and as such does not currently provide guidance for the analysis of such impacts. In the absence of an established methodology and guidance, these impacts are scoped out of the assessment but are considered in qualitative terms in the Oxera Economic Impact Report (2021).
Reigate and Banstead Borough Council	27 September 2019	The Council notes that GAL proposes excluding the effect of the Project on property value within the Project site boundary as *"the value of property is variable due to the multiple drivers that can influence residential and commercial property markets trends. Drivers such as macro-economic and market cycles, changes in Government fiscal policy and external events (e.g. Brexit) represent exogenous factors that may influence property values to varying degrees"*. Whilst the Council recognises this, we are concerned that GAL proposes excluding the effect of the Project on property value within the Project site given that this boundary doesn't correlate to the current site area and includes land outside of GAL's current ownership.	As noted in Table 16.4.2 of Chapter 16, it is not considered that there are likely to be direct impacts in property values inside the Project site boundary due to the very limited change in flight paths and therefore the potential for effects to arise is limited. The issues of flightpath changes and their likely impacts are considered fully in the Noise Chapter, together with the mitigation appropriate to address the assessed impacts in line with other airport DCO applications. The PEIR and the ES will not attempt to look beyond this to potential effects on individual properly values.

Consultee	Date	Details	How/where addressed in PEIR
		The Council also notes that GAL proposes excluding the effect of the Project on property values on residential and commercial properties outside of the Project site boundary given that no changes in flight paths are proposed and therefore the potential for effects to arise is limited50. Given our previous comments on airspace modernisation in this response we do not consider that this justification is a sufficient reason for excluding the effect of the Project on property values.	
Reigate and Banstead Borough Council	27 September 2019	The Council notes that Paragraph 7.10.2 of the EIA Scoping Report states that the Employment Densities Guide 3rd Edition (HCA, 2015) will be used to inform the assessment of socio-economic effects. We consider that there is also a need to take into consideration local evidence, for example densities on current employment sites within existing employment areas surrounding the airport – to inform the DMP we assessed the local circumstances and compared this to published research (including the HCA guidance) and identified more appropriate local employment densities. The economic evidence was considered 'sound' by the independent Planning Inspector and should be given due regard in any assessments.	Employment generation has been estimated based on forecasts produced by ICF, Cambridge Econometrics and Oxera.
Reigate and Banstead Borough Council	27 September 2019	The Council notes that Paragraph 7.10.9 of the EIA Scoping Report provides great detail on the existing locations of workers commuting to Gatwick Airport. We consider that the existing baseline information should be split by quality of job/ sector of employment as we think that this would be useful in helping us understand the potential impact of the Project on population/ housing.	The Economic Impact Report produced by Oxera presents a split of the existing and future jobs by skill levels. In addition, potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Reigate and Banstead Borough Council	27 September 2019	We also consider that the baseline information should take into consideration local authority monitoring data (for example, the Council's bi-annual industrial estate monitoring information which provides information on current occupiers, uses, floorspace and planned developments).	Recent housing trajectories have been considered within the assessment. Monitoring information varies by area and this creates data consistency limitations. An extensive baseline analysis is presented in PEIR Chapter 16 - Section 16.6 and Appendices 16.6.1 and 16.6.2
Reigate and Banstead Borough Council	27 September 2019	With regards to assumptions regarding cargo throughput in the baseline information, we consider that only current cargo levels should feed into the baseline information and not anticipated cargo associated with growth under the existing configuration of the airport unless there is firm commitment from suppliers/ operators to deliver this cargo throughput.	Cargo throughput is not a direct input assumption that is referred to for the purposes of Chapter 16.
Reigate and Banstead Borough Council	27 September 2019	We note that Paragraph 7.10.12 of the EIA Scoping Report states that *"the future baseline component of the study would draw on published projections and forecasts to consider future changes in population, employment and labour market characteristics"*. Given that Figure 7.10.3 and Paragraph 7.10.9 of the EIA Scoping Report identify that the largest flows of workers commuting to the airport originate from the Crawley and Horley urban areas and given that Crawley and Reigate & Banstead Borough Councils have recently adopted local plans which are unable to meet their objectively assessed housing needs, we consider that there is a need to also take into consideration dwelling constrained housing and economic forecasts.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Reigate and Banstead Borough Council	27 September 2019	The Council considers that there is a need for a wider consideration of the impacts of the Project upon the viability and deliverability of planned (including allocated) employment sites within the scope of the assessment. We note for example, if the delivery of the allocated Horley Strategic Employment site were impacted by the delivery of the Project then this would impact upon the provision of an estimated 4,473	Proposed developments and strategic employment allocations have been considered as part of the cumulative assessment at section 16.11 of Chapter 16, including Horley Business Park.

Consultee	Date	Details	How/where addressed in PEIR
		annual construction jobs (20 year construction programme) and 11,985 FTE operational jobs which would seriously influence the net economic benefit/ economic effect of the Project.	
Reigate and Banstead Borough Council	27 September 2019	We also consider that there is a need to take into consideration the potential for business displacement due to the Project (for example due to increased transport impacts, cost of employment premises due to increased competition, competition for workforce etc.). We note for example that a recent business survey undertaken by the Council found that over two-thirds of businesses that responded to the survey from across Reigate & Banstead borough did not feel that proximity to Gatwick Airport benefited their business53 and that recent engagement with commercial agents suggested that businesses looking to relocate to the Gatwick Diamond are not necessarily looking to do so due to the presence of Gatwick Airport but rather due to the proximity to London and the buoyant market across the South East.	Noted and this will be reconsidered at an ES stage.
Reigate and Banstead Borough Council	27 September 2019	We also consider that the scope of the assessment should include indirect and induced effects of the Project (including the effects of proposed cargo throughput). In line with the Planning Inspectorate's comments to the Luton Airport proposed growth, we consider that detail should be provided within the ES with regards to the multipliers used to assess the indirect and induced effects.	See Section 16.9 of Chapter 16 for the indirect and induced effects arising from the operational phase of the Proposed Development.
Reigate and Banstead Borough Council	27 September 2019	The Council considers that there is insufficient justification for the extent of the local study area as proposed in the Scoping. We note that the local study area proposed is different to the study area used for the Airports Commission work and question why a different study area is being proposed/ different method being proposed to identify an appropriate study area.	As detailed at 16.4.8 of Chapter 16, parts of Reigate and Banstead are included within the Local Study Area, and the whole of Reigate and Banstead is included in the Labour Market Area. These areas have been defined on the basis of the socio-economic effects being considered within Chapter 16.
Reigate and Banstead Borough Council	27 September 2019	From a Reigate & Banstead perspective, we consider that the scope of the study area should be expanded to include, as a minimum, Redhill and Reigate which are residential neighbourhoods (and commercial/employment locations) with direct transport links to Gatwick Airport and clear commuting relationships with Gatwick as demonstrated by travel to work area analysis in Figure 7.10.3 of the EIA Scoping Report.	As detailed at 16.4.8 of Chapter 16, parts of Reigate and Banstead are included within the Local Study Area, and the whole of Reigate and Banstead is included in the Labour Market Area (i.e. in which commuting relationships to Gatwick Airport exist).
Reigate and Banstead Borough Council	27 September 2019	The Council notes that Paragraph 7.10.21 states that *"mitigation and enhancement measures will be reviewed during the ongoing assessment"*. We think that this should be extended to include ongoing review of mitigation and enhancement measures throughout the operation and construction phases.	Noted. The PEIR includes mitigation measures such as the Outline Employment, Skills and Business Strategy that will be under ongoing review as the Project progresses.
Reigate and Banstead Borough Council	27 September 2019	We note that Paragraph 7.10.22 of the EIA Scoping Report states that *"measures for mitigating and enhancing potentially significant adverse and beneficial effects could include … measures to invest in supporting the viability of community assets during the construction and operational phases through mechanisms such as planning contributions and the Gatwick Airport Community Trust; commitments to provide a certain number of apprenticeships and training opportunities for local residents during the construction phase; and confirming compensation measures for businesses and residents adversely affected by the Project"*. We note that a number of these measures are already used to mitigate the impacts of the airport and stress the need for additionality in order for local residents to feel a benefit from the Project. We would also welcome specificity in the ES with regards to for example the multipliers that will be used to provide apprenticeship opportunities.	The proposed mitigation and enhancement measures detailed at Table 16.8 of Chapter 16 form part of the consultation process and will be developed in parallel with ES assessment. This includes the Outline Employment, Skills and Business Strategy which is subject to ongoing engagement with stakeholders including education providers, planning authorities, businesses, skills and training bodies.
Reigate and Banstead Borough Council	27 September 2019	In line with Heathrow's proposed approach, we also consider that the scope of the mitigation proposed should be informed by engagement with local residents, planning authorities, businesses, education providers, skills and training bodies etc.	The proposed mitigation and enhancement measures detailed at Table 16.8 of Chapter 16 form part of the consultation process and will be developed in parallel with ES assessment. This includes the Outline Employment, Skills and Business Strategy which is subject to ongoing engagement with

Consultee	Date	Details	How/where addressed in PEIR
			stakeholders including education providers, planning authorities, businesses, skills and training bodies.
Reigate and Banstead Borough Council	27 September 2019	We note that the southern part of the site (which includes the access to the site from the strategic road network which is required in the policy allocation) is included within the proposed Project site. We note that as part of the DCO process GAL can compulsory purchase land. Such compulsory purchase could either 'ransom strip' the business park or lead to it being an undeliverable allocation which would severely impact upon the local economy. Given that it seeks to deliver 4,473 annual construction jobs (20 year construction programme) and 11,985 FTE operational jobs and supports the ability of local authorities to meet their employment needs (the business park will accommodate Reigate & Banstead and Crawley's strategic office need), we would therefore welcome clarity and ongoing dialogue with GAL regarding access to the site, GAL's need/ proposed uses for the site and timeframes for use of the site etc. Any detrimental impact of the Project on the delivery of the Strategic Business Park (e.g. delay to timing of delivery or adverse impact on the potential job generation from the site) should, in our view, be factored into economic assessments.	Based on the current information available it is not anticipated that access to Horley Business Park will be compromised. The scheme is part of the cumulative assessment and socio-economic impacts have been considered as appropriate. GAL will continue ongoing dialogue with the Council as the Project progresses.
South Downs National Park Authority	8 October 2019	Paragraph 7.10.9 of the Scoping Report (Main Text) lists the Local Planning Authorities which fall within the scope of this part of the assessment. This list should include the SDNPA which covers parts of Horsham, Chichester, Mid Sussex, Adur, Worthing, Arun and Lewes as well as areas outside of the scope of the assessment in Hampshire and East Sussex. The SDNPA is the Local Planning Authority for the areas it covers.	Reference to the SDNPA is now included at para 16.4.6 of Chapter 16.
West Sussex County Council		In reference to Table 5.4.1: The increase in employee numbers during the operational phase has not been specified in the Scoping Report. Paragraph 4.2.25 identifies the number of existing employees, and paragraph 3.2.17 states that the Project would have *"increased employment and economic benefits to the local area"* but no attempt has been made to quantify this. GAL must include the change in the number of on-airport employees during the operational phase in the summary of key parameters to ensure the impacts of additional employees are taken into account. The number of employees required to achieve the baseline should also be clarified. The increase in staff numbers would have a range of impacts, including socio-economic impacts (and demand for local services), and on the highway network. Employees are more likely to live locally, and therefore employment-related trips to originate locally, having a disproportionate impact on the local transport network. The Project would increase the number of on-airport employees and include facilities (e.g. car parking) to facilitate this.	Breakdowns of the numbers and types of jobs for the construction and operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9 of Chapter 16. Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Chapter 16.
West Sussex County Council		In reference to Table 7.10.1: As well as local plan allocations, future baseline sources should include the West of Ifield development being promoted by Holmes England. Demographic/Labour Market: the Future Baseline Sources should include ONS mid-year population estimates. Community Facilities: the Suture Baseline Sources should include reference to the DfE's 'Assessing the Net Capacity of Schools' and or Building Bulletin 103 which gives guideline sizes for school accommodation. WSCC's most up to date 'Planning School Places' should be referred to for baseline sources.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Chapter 16.

Consultee	Date	Details	How/where addressed in PEIR
West Sussex County Council		In reference to Paragraph 7.10.5: The baseline conditions must specify existing employee numbers and predicted employee numbers resulting from the baseline scenario.	Breakdowns of the numbers and types of jobs for the operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9 of Chapter 16. These are based on the Oxera Economic Impact Report (2021) that identifies the employment effects of the Project over and above the baseline position.
West Sussex County Council		In reference to Table 7.10.2: The effect of new jobs being created at Gatwick resulting in local labour shortages should be considered, particularly in relation to low-skilled sectors.	Breakdowns of the numbers and types of jobs for the construction and operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9 of Chapter 16.
West Sussex County Council		In reference to Paragraph 7.10.22: It will be important to include and where possible agree specific, long term measures for mitigating and enhancing the potentially significant socio-economic effects that have been identified. These should consider (but not be limited to) housing, education, health, community safety, and prioritising the use of local supply chains.	Proposed mitigation and enhancement measures relating to potential socio-economic effects are detailed in Table 16.8.1. These include an Outline Employment, Skills and Business Strategy has been prepared which includes measures in relation to training, job opportunities, skills and measures for businesses.
		In reference to Paragraph 7.10.24: WSCC strongly opposes the scoping out of the effect of the Project on the population during either the construction or operational stages. Paragraph 4.2.25 of the Scoping Report notes that 24,000 staff work at the airport, including 3,000 employed directly by GAL, and paragraph 3.2.17 of the Scoping Report highlights that the Project would result in 'increased employment and economic benefits to the local area'. However, no indication has been given of the likely staff numbers as a result of the airport expansion so it is impossible to establish whether there would be a significant socio-economic impact purely relating to increased employees. Further, the majority of staff working at Gatwick live close to the airport so it is difficult to understand the statement that 'future labour market will be distributed across a wide labour catchment area'. Given the lack of detail provided, it is difficult to be definitive, but it is considered that the Project has the potential to result in significant effects on the local population and the population further afield. The airport is a significant employer for the population of West Sussex and beyond, so the proposed expansion has the potential to increase employment numbers, with the resulting impact on demand for houses and local services, as well as economic benefits.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Tandridge District Council	30 September 2019	TDC does not support the scoping out of the effect of the Project on population (construction and operational phases). Increased employment at the airport is likely to result in benefits to the local area and local economy, including within this District and the wider East Surrey of which it is a part. However, with the lack of detail which currently exists over the number and type of jobs which will be created, and at which point during the assessment years they will come onstream, the potential socio-economic effects cannot be assessed. Growth at Gatwick will have an effect on both the local labour market and, of particular concern to this District, the demand for housing. As the exact nature of the jobs created will have a bearing on the type of housing required, as lower skilled work is likely to result in demand for housing more locally to the airport than more highly skilled jobs (where longer commutes would be	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16. Breakdowns of the numbers and types of jobs for the construction and operational phases are highlighted in separate tables for each phase of the assessment in Section 16.9 of Chapter 16.

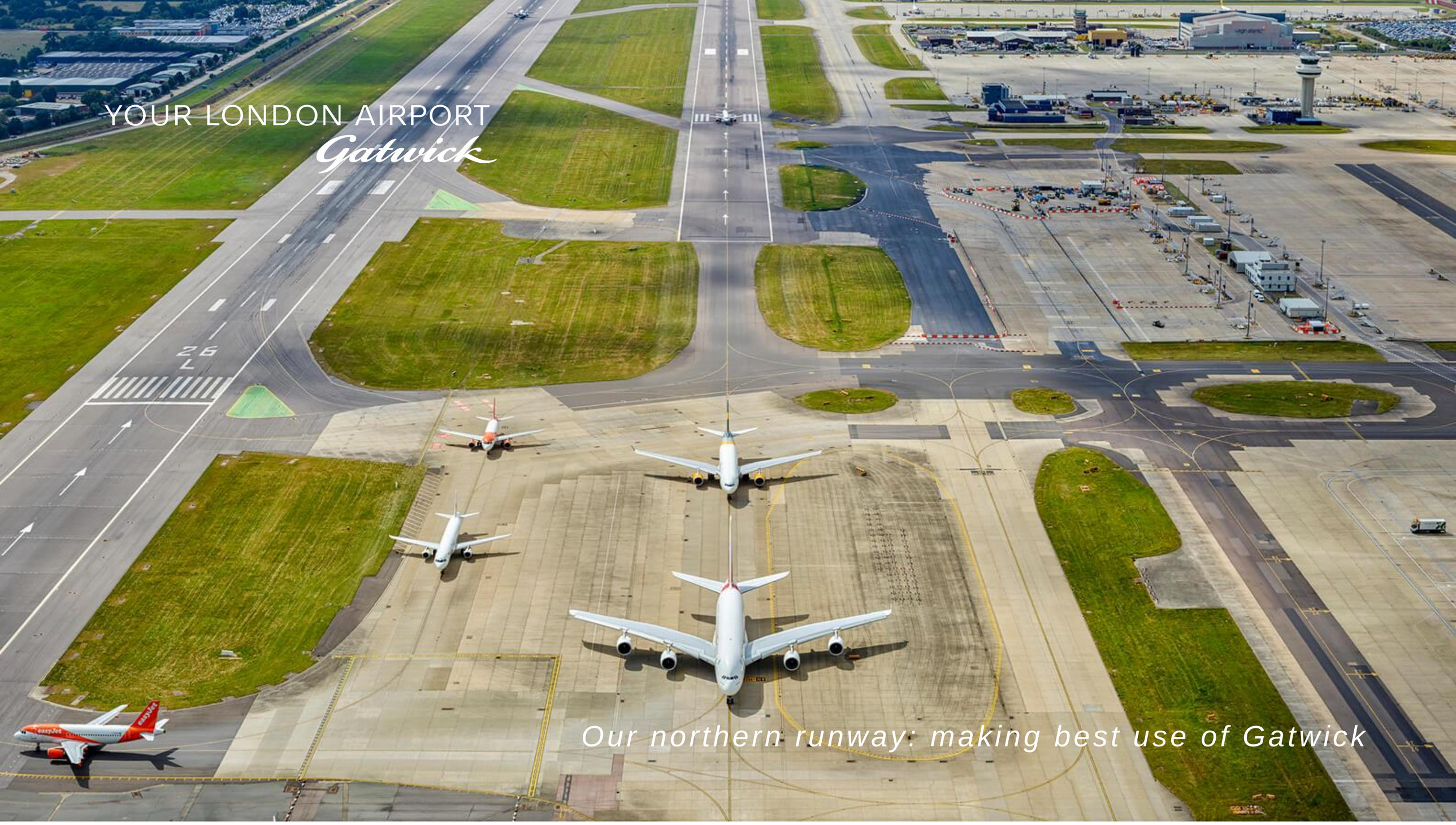
Consultee	Date	Details	How/where addressed in PEIR
		expected) and affordability is a key factor, it is important that the nature of the jobs for which total figures have been provided is clarified. Any new housing which is required as a result of growth at Gatwick will also have implications for infrastructure (schools, health services, community infrastructure etc), and the effects on transport infrastructure and potential improvements required cannot be fully assessed without further details in this regard.	
Tandridge District Council	30 September 2019	It is understood that a Housing Implications Study is being prepared by the applicant. The results of this study are key to understanding the likely effect of the development on population across the areas of the host and neighbouring authorities (and potentially further afield). This issue should be scoped in until the study's conclusions have been produced and their implications understood.	Potential effects on the population are included in detail in Appendix 16.6.2: Assessment of Population and Housing Effects. The findings of this report inform the assessment of the population and housing impacts in Section 16.9 of Chapter 16.
Tandridge District Council	30 September 2019	Paragraph 7.10.24 refers to the effect of the development on property values on residential and commercial properties outside the Project area and concludes that as there would be no change to flight paths the potential for effects to arise in this respect is limited. However, there is the potential for properties to be newly overflown and for the intensification of flights on existing flightpaths, which includes routes within Tandridge. It is considered therefore that the effects on property prices should be included in the assessment.	As noted in Table 16.4.2 of Chapter 16, it is not considered that there are likely to be direct impacts in property values outside the Project site boundary due to the very limited change in flight paths and therefore the potential for effects to arise is limited. The issues of flightpath changes and their likely impacts are considered fully in Chapter 14: Noise and Vibration, together with the mitigation appropriate to address the assessed impacts in line with other airport DCO applications. The PEIR and the ES will not attempt to look beyond this to potential effects on individual properly values.

3 Glossary

3.1 Glossary of terms

Table 3.1.1: Glossary of Terms

Term	Description
DCO	Development Consent Order
DMP	Development Management Plan
EIASR	Environmental Impact Assessment Scoping Response
EIA	Environmental Impact Assessment
ES	Environmental Statement
FDI	Foreign Direct Investment
FTE	Full-Time Equivalent
GAL	Gatwick Airport Limited
GLA	Greater London Authority
GVA	Gross Value Added
HCA	Homes and Communities Agency
PEIR	Preliminary Environmental Information Report



Preliminary Environmental Information Report
Appendix 16.6.1: Socio-Economic Data Tables

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 16.6.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the socio-economic data tables for the Project.

Table 1.1.1: Output Areas comprising the Local Study Area

Output Areas References											
E00160997	E00161027	E00161057	E00161087	E00161118	E00161147	E00161177	E00167692	E00161745	E00155953	E00155983	E00155716
E00160998	E00161028	E00161058	E00161088	E00161119	E00161148	E00161178	E00167693	E00157124	E00155954	E00155984	E00155717
E00160999	E00161029	E00161059	E00161089	E00161120	E00161149	E00161179	E00167694	E00157125	E00155955	E00155985	E00155718
E00161000	E00161030	E00161060	E00161090	E00161121	E00161150	E00161180	E00167695	E00157126	E00155956	E00155986	E00155719
E00161001	E00161031	E00161062	E00161091	E00161122	E00161151	E00161181	E00167696	E00157127	E00155957	E00155987	E00155720
E00161002	E00161032	E00161063	E00161092	E00161123	E00161152	E00161182	E00167697	E00157128	E00155958	E00155988	
E00161003	E00161033	E00161064	E00161093	E00161124	E00161153	E00161183	E00167698	E00157129	E00155959	E00155989	
E00161004	E00161034	E00161065	E00161094	E00161125	E00161155	E00161184	E00167699	E00157130	E00155960	E00155990	
E00161005	E00161035	E00161066	E00161095	E00161126	E00161156	E00161185	E00167700	E00157131	E00155961	E00155991	
E00161006	E00161036	E00161067	E00161096	E00161127	E00161157	E00161186	E00167701	E00157132	E00155962	E00155992	
E00161007	E00161037	E00161068	E00161097	E00161128	E00161158	E00161187	E00167702	E00157133	E00155963	E00155993	
E00161008	E00161038	E00161069	E00161098	E00161129	E00161159	E00161188	E00167703	E00157134	E00155964	E00155994	
E00161009	E00161039	E00161070	E00161099	E00161130	E00161160	E00161189	E00167704	E00157135	E00155965	E00155995	
E00161010	E00161040	E00161071	E00161100	E00161131	E00161161	E00161190	E00167705	E00157137	E00155966	E00155996	
E00161011	E00161041	E00161072	E00161101	E00161132	E00161162	E00161191	E00167706	E00155938	E00155967	E00155997	
E00161012	E00161043	E00161073	E00161102	E00161133	E00161163	E00161192	E00161533	E00155939	E00155968	E00155998	
E00161013	E00161044	E00161074	E00161103	E00161134	E00161164	E00161193	E00161537	E00155940	E00155969	E00155999	
E00161014	E00161045	E00161075	E00161104	E00161135	E00161165	E00161194	E00161732	E00155941	E00155970	E00156000	
E00161015	E00161046	E00161076	E00161106	E00161136	E00161166	E00161195	E00161733	E00155942	E00155971	E00156001	
E00161017	E00161047	E00161077	E00161107	E00161137	E00161167	E00161196	E00161734	E00155943	E00155972	E00156002	
E00161018	E00161048	E00161078	E00161108	E00161138	E00161168	E00161197	E00161735	E00155944	E00155974	E00156003	
E00161019	E00161049	E00161079	E00161109	E00161139	E00161169	E00161198	E00161736	E00155945	E00155975	E00156004	
E00161020	E00161050	E00161080	E00161110	E00161140	E00161170	E00161199	E00161737	E00155946	E00155976	E00156005	
E00161021	E00161051	E00161081	E00161111	E00161141	E00161171	E00161200	E00161738	E00155947	E00155977	E00156006	
E00161022	E00161052	E00161082	E00161112	E00161142	E00161172	E00161201	E00161739	E00155948	E00155978	E00170404	
E00161023	E00161053	E00161083	E00161114	E00161143	E00161173	E00161202	E00161740	E00155949	E00155979	E00170405	
E00161024	E00161054	E00161084	E00161115	E00161144	E00161174	E00167689	E00161741	E00155950	E00155980	E00170406	
E00161025	E00161055	E00161085	E00161116	E00161145	E00161175	E00167690	E00161742	E00155951	E00155981	E00155714	

Output Areas References										
E00161026	E00161056	E00161086	E00161117	E00161146	E00161176	E00167691	E00161743	E00155952	E00155982	E00155715

Source: Office for National Statistics (ONS) 2011 Census (Census, 2011)

2 Socio-economics Data Tables

2.1 Data Tables

Table 2.1.1: Resident Population – 2011 and 2019

Age Group	Number of residents (2011)	Age profile of residents (2011)	Number of residents (2019)	Age profile of residents (2019)	% Change in population 2011 - 2019
Local Study Area					
0-15	28,256	20.1%	32,211	21.4%	14.0%
16-64	93,521	66.4%	95,728	63.7%	2.4%
65+	19,021	13.5%	22,305	14.8%	17.3%
Total	**140,798**	**~**	**150,244**	**~**	**6.7%**
Labour Market Area					
0-15	369,550	18.6%	395,176	18.7%	6.9%
16-64	1,260,675	63.5%	1,299,239	61.5%	3.1%
65+	355,963	17.9%	418,641	19.8%	17.6%
Total	**1,986,188**	**~**	**2,113,056**	**~**	**6.4%**
Five Authorities Area					
0-15	783,295	18.6%	842,432	18.8%	7.5%
16-64	2,641,920	62.7%	2,717,947	60.5%	2.9%
65+	785,698	18.7%	929,506	20.7%	18.3%
Total	**4,210,913**	**~**	**4,489,885**	**~**	**6.6%**
England					
0-15	10,030,130	18.9%	10,816,679	19.2%	7.8%
16-64	34,347,372	64.7%	35,116,566	62.4%	2.2%
65+	8,729,667	16.4%	10,353,716	18.4%	18.6%
Total	**53,107,169**	**~**	**56,286,961**	**~**	**6.0%**

Source: ONS (2019) Mid-Year Estimates (ONS, 202f)

Table 2.1.2: Ethnicity (all residents) - 2011

Ethnicity	Local Study Area		Labour Market Area		Five Authorities Area	
	Total	Percentage	Total	Percentage	Total	Percentage
White	116,564	83.1%	1,706,651	86.1%	3,900,217	92.8%
Mixed/multiple ethnic groups	3,670	2.6%	55,943	2.8%	75,697	1.8%
Asian/Asian British	14,962	10.7%	114,869	5.8%	159,867	3.8%
Black/African/Caribbean/Black British	3,840	2.7%	89,061	4.5%	42,892	1.0%
Other ethnic group	1,182	0.8%	15,358	0.8%	24,389	0.6%
Total	**140,218**		**1,981,882**		**4,203,062**	

Source: ONS 2011 Census (KS201EW) (ONS, 2011)

Table 2.1.3: Religion - 2011

Belief	Local Study Area		Labour Market Area		Five Authorities Area	
	Total	Percentage	Total	Percentage	Total	Percentage
Has religion	94,054	67.1%	1,269,897	64.1%	2,722,633	64.8%
Christian	78,750	56.2%	1,149,630	58.0%	2,557,612	60.9%
Buddhist	541	0.4%	10,356	0.5%	20,810	0.5%
Hindu	5,144	3.7%	34,586	1.7%	36,622	0.9%
Jewish	142	0.1%	6,050	0.3%	10,010	0.2%
Muslim	8,146	5.8%	54,341	2.7%	61,274	1.5%
Sikh	772	0.6%	3,376	0.2%	15,985	0.4%
Other religion	559	0.4%	11,558	0.6%	20,320	0.5%
No religion	36,886	26.3%	556,050	28.1%	1,160,926	27.6%
Religion not stated	9,278	6.6%	155,935	7.9%	319,503	7.6%
Total	**140,218**		**1,981,882**		**4,203,062**	

Source: ONS 2011 Census (KS209EW) (ONS, 2011)

Table 2.1.4: Economic Activity Rate, Employment and Unemployment – 2011 and 2019/20

		Local Study Area	Labour Market Area					Five Authorities Area					England				
		2011 (Census)	2011 (Census)	Jan 2019-Dec 2019 (APS)	Apr 2019-Mar 2020 (APS)	Jul 2019-Jun 2020 (APS)	Oct 2019 – Sep 2020 (APS)	2011 (Census)	Jan 2019-Dec 2019 (APS)	Apr 2019-Mar 2020 (APS)	Jul 2019-Jun 2020 (APS)	Oct 2019 – Sep 2020 (APS)	2011 (Census)	Jan 2019-Dec 2019 (APS)	Apr 2019-Mar 2020 (APS)	Jul 2019-Jun 2020 (APS)	Oct 2019 – Sep 2020 (APS)
All age 16 and over	Economically active	70.5%	64.5%	65.0%	65.5%	65.2%	65.1%	63.6%	65.0%	64.9%	64.5%	64.6%	63.6%	64.0%	64.3%	64.2%	64.1%
	Of which in employment	93.8%	93.9%	97.0%	97.0%	96.9%	96.1%	94.3%	96.9%	96.8%	96.6%	96.4%	92.6%	96.1%	96.0%	96.0%	95.7%
	Of which unemployed	6.2%	6.1%	3.0%	3.0%	3.1%	3.9%	5.7%	3.1%	3.2%	3.4%	3.6%	7.4%	3.9%	4.0%	4.0%	4.3%

		Local Study Area	Labour Market Area					Five Authorities Area					England				
		2011 (Census)	2011 (Census)	Jan 2019-Dec 2019 (APS)	Apr 2019-Mar 2020 (APS)	Jul 2019-Jun 2020 (APS)	Oct 2019 – Sep 2020 (APS)	2011 (Census)	Jan 2019-Dec 2019 (APS)	Apr 2019-Mar 2020 (APS)	Jul 2019-Jun 2020 (APS)	Oct 2019 – Sep 2020 (APS)	2011 (Census)	Jan 2019-Dec 2019 (APS)	Apr 2019-Mar 2020 (APS)	Jul 2019-Jun 2020 (APS)	Oct 2019 – Sep 2020 (APS)
Age 16 to 64	Economically active	82.5%	79.3%	81.4%	82.1%	82.1%	82.0%	78.9%	82.2%	82.3%	82.2%	82.3%	77.0%	79.2%	79.4%	79.5%	79.4%
	Of which in employment	93.8%	93.7%	96.9%	96.9%	96.7%	95.9%	94.1%	96.8%	96.7%	96.5%	96.3%	92.4%	96.0%	95.9%	95.9%	95.6%
	Of which unemployed	6.2%	6.3%	3.1%	3.1%	3.3%	4.1%	5.9%	3.2%	3.3%	3.5%	3.7%	7.6%	4.0%	4.1%	4.1%	4.4%

Source: ONS 2011 Census (LC6107EW); ONS Annual Population Survey (Table T01) (obtained April 2021) (ONS, 2011 and ONS, 2020a)

Table 2.1.5: Jobseekers Allowance Claimants – Total – January 2019-February 2021

	Local Study Area*	Labour Market Area	Five Authorities Area	England
January 2019	410	4,510	12,645	247,080
February 2019	395	4,240	11,260	220,585
March 2019	375	4,035	10,480	206,060
April 2019	360	3,870	9,930	194,525
May 2019	335	3,690	9,400	184,230
June 2019	310	3,490	8,940	174,270
July 2019	305	3,385	8,570	167,000
August 2019	305	3,285	8,210	160,350
September 2019	295	3,095	7,780	151,690
October 2019	335	3,300	7,970	150,150
November 2019	320	3,130	7,585	143,720
December 2019	305	2,950	7,270	139,660
January 2020	310	2,940	7,240	138,665
February 2020	290	2,920	7,185	137,315
March 2020	285	2,915	7,110	136,645
April 2020	695	6,625	14,000	225,655
May 2020	815	7,595	15,965	248,415
June 2020	885	8,030	16,835	258,845
July 2020	945	8,370	17,435	265,835
August 2020	1,100	9,185	18,810	278,530
September 2020	1,335	10,160	20,500	290,620
October 2020	1,305	9,335	18,860	265,850
November 2020	1,400	9,490	19,095	264,000
December 2020	1,350	8,870	17,810	248,155
January 2021	1,410	9,175	18,325	254,225
February 2021	1,390	8,935	17,860	248,320

Source: ONS Job Seekers Allowance data (obtained April 2021). *Based on a 'best-fit' of Lower Super Output Areas (LSOAs) to the Local Study Area. (ONS, 2021)

Table 2.1.6: Jobseekers Allowance Claimants by Sought Occupation – March 2020 and February 2021

Sought occupation	Local Study Area*				Labour Market Area				Five Authorities Area				England			
	March 2020		February 2021		March 2020		February 2021		March 2020		February 2021		March 2020		February 2021	
0: Occupation unknown	60	21.1%	30	2.2%	790	27.1%	335	3.7%	1,705	24.0%	765	4.3%	25,135	18.4%	10,460	4.2%
1: Managers and Senior Officials	20	7.0%	35	2.5%	165	5.7%	210	2.4%	590	8.3%	670	3.8%	7,760	5.7%	8,300	3.3%
2: Professional Occupations	0	0.0%	0	0.0%	15	0.5%	20	0.2%	30	0.4%	40	0.2%	785	0.6%	800	0.3%
3: Associate Professional and Technical Occupations	0	0.0%	0	0.0%	30	1.0%	25	0.3%	60	0.8%	50	0.3%	1,615	1.2%	1,415	0.6%
4: Administrative and Secretarial Occupations	10	3.5%	10	0.7%	105	3.6%	125	1.4%	285	4.0%	275	1.5%	6,265	4.6%	5,710	2.3%
5: Skilled Trades Occupations	5	1.8%	0	0.0%	55	1.9%	50	0.6%	170	2.4%	145	0.8%	2,775	2.0%	2,465	1.0%
6: Personal Service Occupations	0	0.0%	0	0.0%	30	1.0%	30	0.3%	80	1.1%	70	0.4%	1,955	1.4%	1,690	0.7%
7: Sales and Customer Service occupations	160	56.1%	240	17.3%	1,470	50.4%	1,630	18.2%	3,530	49.6%	3,595	20.1%	71,405	52.3%	66,840	26.9%
8: Process, Plant and Machine Operatives	5	1.8%	5	0.4%	45	1.5%	40	0.4%	135	1.9%	125	0.7%	2,930	2.1%	2,545	1.0%
9: Elementary Occupations	25	8.8%	1,065	76.6%	210	7.2%	6,480	72.5%	530	7.5%	12,130	67.9%	16,025	11.7%	148,095	59.6%
Total	**285**		**1,390**		**2,915**		**8,935**		**7,110**		**17,860**		**136,645**		**248,320**	

Source: ONS Job Seekers Allowance data (obtained April 2021). *Based on a 'best-fit' of Lower Super Output Areas (LSOAs) to the Local Study Area. (ONS 2021)

Table 2.1.7: Resident Occupation (residents in employment age 16 and over) – 2011 and 2019/20

Standard occupational classification		Local Study Area	Labour Market Area					Five Authorities Area				
		2011 (Census)	2011 (Census)	January 2019-December 2019 (APS)	April 2019-March 2020 (APS)	July 2019-June 2020 (APS)	October 2019 – September 2020 (APS)	2011 (Census)	January 2019-December 2019 (APS)	April 2019-March 2020 (APS)	July 2019-June 2020 (APS)	October 2019 – September 2020 (APS)
1. Managers, directors and senior officials		10.0%	12.1%	12.7%	12.6%	13.2%	13.2%	12.6%	13.7%	14.1%	13.9%	13.5%
2. Professional occupations		12.9%	18.6%	22.6%	23.3%	23.6%	24.0%	18.3%	22.4%	22.4%	22.8%	22.3%
3. Associate professional and technical occupations		12.5%	14.2%	18.1%	17.9%	17.1%	16.7%	13.8%	17.2%	17.2%	16.6%	17.1%
4. Administrative and secretarial occupations		12.6%	12.0%	9.3%	10.1%	10.7%	11.1%	11.6%	9.2%	9.8%	10.2%	10.4%
5. Skilled trades occupations		9.9%	10.8%	8.7%	7.9%	7.9%	8.1%	11.3%	8.9%	8.3%	8.4%	8.8%
6. Caring, leisure and other service occupations		11.9%	10.3%	9.3%	9.1%	9.7%	10.2%	9.8%	8.8%	8.9%	9.3%	9.7%
7. Sales and customer service occupations		10.0%	8.1%	6.6%	6.9%	6.2%	6.2%	7.8%	6.8%	6.8%	6.7%	6.4%
8. Process plant and machine operatives		7.4%	5.0%	4.3%	4.0%	3.9%	3.5%	5.4%	4.8%	4.3%	4.0%	3.7%
9. Elementary occupations		13.0%	9.0%	8.3%	8.0%	7.8%	7.2%	9.3%	8.4%	8.2%	8.2%	8.0%
Totals	1-3	35.3%	44.9%	35.3%	35.9%	36.8%	37.2%	44.7%	36.0%	36.5%	36.7%	35.8%
	4-6	34.4%	33.1%	36.2%	35.9%	35.6%	35.8%	32.7%	35.2%	35.2%	35.2%	36.4%
	7-9	30.3%	22.0%	20.3%	20.1%	19.8%	19.9%	22.6%	20.3%	20.1%	20.0%	19.8%

Source: ONS 2011 Census (LC6112EW); ONS Annual Population Survey (Table T15a) (obtained April 2021). (ONS, 2011 and ONS, 2020a)

Table 2.1.8: Qualifications - 2011 and 2019

Highest level of qualification	Local Study Area		Labour Market Area			Five Authorities Area		
	2011 (Census)		2011 (Census)		January 2019-December 2019 (APS)	2011 (Census)		January 2019-December 2019 (APS)
	16 and over	16-64	16 and over	16-64	16-64	16 and over	16-64	16-64
NVQ4+	22.6%	24.2%	30.6%	33.1%	45.1%	29.4%	31.8%	43.1%
NVQ3	11.7%	13.2%	12.5%	14.8%	17.1%	12.5%	14.8%	16.9%
NVQ2	17.3%	19.2%	16.0%	17.7%	15.4%	16.2%	18.1%	15.9%
NVQ1	17.6%	19.8%	13.5%	15.4%	9.4%	13.6%	15.6%	9.8%
Other qualifications*	11.3%	10.9%	8.6%	7.8%	7.6%	8.5%	7.7%	8.2%
No qualifications	19.5%	12.7%	18.7%	11.3%	5.4%	19.8%	12.0%	6.1%

Source: ONS 2011 Census (QS501EW and LC5102EW); ONS Annual Population Survey (Table T19) (obtained April 2021). No APS Data available for April 2019-March 2020 onwards or for over 65s. *'Other qualifications' includes Apprenticeships. This is because 'Apprenticeships' are recorded as one category in the Census but can fall under either NVQ Level 2, 3, 4 or 6 depending on whether they are intermediate, advanced, higher or degree-level respectively. (ONS, 2011 and ONS, 2020a)

Table 2.1.9: Gross Weekly Earnings – 2010 and 2020

Resident		
	Labour Market Area	Five Authorities Area
2010	£436.27	£438.84
2020	£497.57	£503.53
Change 2010-20	+£61.3	+£64.69
Change 2010-20 (%)	+14.1%	+14.7%
Workplace		
	Labour Market Area	Five Authorities Area
2010	£393.28	£393.98
2020	£468.70	£464.87
Change 2010-20	+£75.42	+£70.89
Change 2010-20 (%)	+19.2%	+18.0%

Source: ONS Annual Survey of Hours and Earnings (obtained April 2021). Refers to the average for each area's constituent local authorities.(ONS, 2020b)

Table 2.1.10: Total Employment – 2008-2020

	Local Study Area*			Labour Market Area			Five Authorities Area		
	Total jobs	**Annual Change**	**Annual % Change**	**Total jobs**	**Annual Change**	**Annual % Change**	**Total jobs**	**Annual Change**	**Annual % Change**
2008				962,963	7,742	0.81%	2,082,284	16,522	0.80%
2009				927,912	-35,051	-3.64%	2,053,979	-28,305	-1.36%
2010				946,921	19,009	2.05%	2,072,550	18,571	0.90%
2011				926,374	-20,547	-2.17%	2,085,856	13,306	0.64%
2012				976,259	49,885	5.38%	2,138,758	52,902	2.54%
2013				958,637	-17,622	-1.81%	2,113,133	-25,625	-1.20%
2014				980,999	22,362	2.33%	2,181,201	68,068	3.22%
2015	101,000			998,795	17,796	1.81%	2,220,331	39,130	1.79%
2016	109,000	8,000	7.9%	1,035,519	36,724	3.68%	2,302,176	81,845	3.69%
2017	108,000	-1,000	-0.9%	1,027,226	-8,293	-0.80%	2,266,739	-35,437	-1.54%
2018	111,000	3,000	2.8%	1,015,927	-11,299	-1.10%	2,219,662	-47,077	-2.08%
2019	111,000	0	0.0%	1,055,377	39,450	3.88%	2,335,127	115,465	5.20%
2020				1,033,010	-22,367	-2.12%	2,279,663	-55,464	-2.38%
Total change – 10 year periods									
2008-18				~	52,964	5.5%	~	137,378	6.6%
2009-19				~	127,465	13.7%	~	281,148	13.7%
2010-20				~	86,089	9.1%	~	207,113	10.0%

Source: ONS Business Register and Employment Survey (BRES) (obtained April 2021) and Cambridge Econometrics (March 2021). *Local Study Area data from BRES, which only provides data back to 2015. Based on a 'best-fit' of Lower Super Output Areas (LSOAs) to the Local Study Area as BRES data is not published down to Output Area (OA). (ONS, 2020c)

Table 2.1.11: Employment by Sector – 2015-2019 – Local Study Area

Industry	2015		2016		2017		2018		2019	
	Total jobs	% of jobs	Total jobs	% of jobs	Total jobs	% of jobs	Total jobs	% of jobs	Total jobs	% of jobs
Agriculture, forestry & fishing (A)	125	0.1%	50	0.0%	125	0.1%	150	0.1%	175	0.2%
Mining, quarrying & utilities (B, D and E)	1,500	1.5%	1,750	1.6%	1,750	1.6%	1,500	1.4%	1,500	1.4%
Manufacturing (C)	5,000	5.0%	7,000	6.4%	7,000	6.5%	8,000	7.2%	8,000	7.2%
Construction (F)	3,500	3.5%	4,000	3.7%	4,500	4.2%	4,500	4.1%	5,000	4.5%
Motor trades (Part G)	2,000	2.0%	1,750	1.6%	1,750	1.6%	2,000	1.8%	2,250	2.0%
Wholesale (Part G)	4,000	4.0%	4,500	4.1%	3,500	3.2%	4,000	3.6%	3,500	3.2%
Retail (Part G)	9,000	8.9%	9,000	8.3%	10,000	9.3%	10,000	9.0%	10,000	9.0%
Transport & storage (inc postal) (H)	22,000	21.8%	23,000	21.1%	22,000	20.4%	24,000	21.6%	25,000	22.5%
Accommodation & food services (I)	9,000	8.9%	9,000	8.3%	9,000	8.3%	9,000	8.1%	10,000	9.0%
Information & communication (J)	4,000	4.0%	4,000	3.7%	3,500	3.2%	3,500	3.2%	4,000	3.6%
Financial & insurance (K)	3,500	3.5%	3,000	2.8%	3,000	2.8%	2,500	2.3%	3,000	2.7%
Property (L)	800	0.8%	900	0.8%	800	0.7%	700	0.6%	600	0.5%
Professional, scientific & technical (M)	6,000	5.9%	6,000	5.5%	5,000	4.6%	6,000	5.4%	6,000	5.4%
Business administration & support services (N)	15,000	14.9%	18,000	16.5%	19,000	17.6%	19,000	17.1%	16,000	14.4%
Public administration & defence (O)	2,250	2.2%	2,250	2.1%	2,500	2.3%	2,250	2.0%	2,250	2.0%
Education (P)	6,000	5.9%	6,000	5.5%	5,000	4.6%	6,000	5.4%	6,000	5.4%
Health (Q)	6,000	5.9%	6,000	5.5%	7,000	6.5%	7,000	6.3%	7,000	6.3%
Arts, entertainment, recreation & other services (R, S, T and U)	2,500	2.5%	2,500	2.3%	2,500	2.3%	2,500	2.3%	2,250	2.0%
Total	**101,000**		**109,000**		**108,000**		**111,000**		**111,000**	

Source: ONS Business Register and Employment Survey (BRES) (obtained April 2021). Based on a 'best-fit' of Lower Super Output Areas (LSOAs) to the Local Study Area as BRES data is not published down to Output Area (OA). (ONS, 2020c)

Table 2.1.12: Employment by Sector – 2008-2020 – Labour Market Area and Five Authorities Area

Sector	Labour Market Area													
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2020 (%)**
Agriculture etc	6,907	7,544	5,724	6,411	8,168	5,094	11,134	7,590	7,201	8,511	7,085	9,214	7,207	0.7%
Mining & quarrying	1,084	1,087	735	1,118	2,520	2,163	1,214	585	468	495	401	781	585	0.1%
Manufacturing	55,546	46,744	47,990	46,252	46,717	42,808	44,673	43,977	49,471	48,425	47,910	50,611	50,609	4.9%
Electricity, gas & water	7,734	8,058	9,521	9,307	8,773	8,275	8,193	7,331	9,594	11,372	11,814	11,695	11,767	1.1%
Construction	74,774	74,688	75,237	64,492	65,614	70,835	68,826	68,211	80,303	84,042	73,548	75,977	76,991	7.5%
Distribution	151,981	146,395	141,082	139,516	147,855	148,181	149,079	149,093	150,943	149,031	148,259	149,397	151,954	14.7%
Transport & storage	47,397	44,573	44,564	47,741	51,388	48,177	48,599	51,097	54,501	54,978	55,156	58,842	54,911	5.3%
Accommodation & food services	60,842	58,613	58,524	64,897	69,430	65,240	67,850	69,025	69,122	66,751	71,451	76,650	71,617	6.9%
Information & communications	40,730	36,653	36,174	37,543	38,659	39,680	41,393	48,932	48,799	47,144	44,995	42,922	44,153	4.3%
Financial & business services	215,561	207,737	213,524	204,070	221,749	215,686	225,977	222,260	240,450	224,004	226,502	237,850	223,837	21.7%
Government services	238,020	241,467	259,917	248,686	252,690	251,564	251,367	262,594	265,164	266,038	266,522	275,739	274,834	26.6%
Other services	62,386	54,352	53,928	56,342	62,696	60,935	62,694	68,096	59,502	66,435	62,282	65,698	64,549	6.2%
Total	**962,963**	**927,912**	**946,921**	**926,374**	**976,259**	**958,637**	**980,999**	**998,795**	**1,035,519**	**1,027,226**	**1,015,927**	**1,055,377**	**1,033,010**	
Sector	**Five Authorities Area**													
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2020 (%)**
Agriculture etc	25,344	26,477	20,989	22,270	26,999	19,199	33,883	24,996	24,631	28,004	24,076	28,877	22,499	0.7%
Mining & quarrying	1,825	1,619	1,416	1,691	3,728	3,461	1,832	1,252	1,324	1,318	865	1,889	1,390	0.0%
Manufacturing	130,968	122,907	123,212	119,035	119,875	108,633	114,959	113,937	122,837	124,054	121,318	126,624	125,471	4.9%
Electricity, gas & water	17,291	18,279	23,617	22,489	20,940	18,933	20,686	19,713	24,615	27,795	23,425	24,414	25,066	1.1%
Construction	171,710	171,111	171,758	149,786	146,585	158,210	158,241	152,087	181,547	191,319	167,771	177,082	181,758	7.3%
Distribution	342,093	328,936	319,863	323,485	331,335	334,438	335,716	332,444	343,998	331,181	333,205	338,022	345,765	14.8%
Transport & storage	97,955	90,650	90,927	96,975	102,552	93,392	100,118	103,244	114,587	109,271	110,082	115,467	105,205	5.6%
Accommodation & food services	134,035	125,081	125,003	141,522	147,388	139,179	144,719	150,245	151,407	145,798	156,151	171,003	158,435	7.2%
Information & communications	84,243	77,122	74,825	82,952	83,809	88,087	86,836	105,333	103,315	97,664	94,988	94,340	97,446	4.3%
Financial & business services	427,817	434,383	434,541	436,022	473,842	463,499	495,630	489,877	520,209	480,168	476,946	515,240	485,013	21.2%
Government services	517,169	537,238	570,718	561,548	546,884	553,645	547,592	573,053	579,013	579,273	573,168	594,359	587,447	26.6%
Other services	131,837	120,177	115,675	128,066	134,818	132,459	140,981	154,149	134,689	150,897	137,667	147,804	144,175	6.3%
Total	**2,082,284**	**2,053,979**	**2,072,550**	**2,085,856**	**2,138,758**	**2,113,133**	**2,181,201**	**2,220,331**	**2,302,176**	**2,266,739**	**2,219,662**	**2,335,127**	**2,279,663**	

Source: Cambridge Econometrics (March 2021) (CE, 2021)

Table 2.1.13: Method of Travel to Work (age 16-74, in employment) - 2011

Method of Transport	Local Study Area*		Labour Market Area		Five Authorities Area	
	Total	**%**	**Total**	**%**	**Total**	**%**
Work mainly at or from home	2,707	3.7%	64,965	6.7%	141,140	6.9%
Underground, metro, light rail, tram	128	0.2%	13,275	1.4%	6,917	0.3%
Train	6,181	8.4%	119,400	12.3%	201,857	9.9%
Bus, minibus or coach	6,636	9.0%	68,239	7.0%	84,820	4.2%
Taxi	375	0.5%	3,524	0.4%	7,400	0.4%
Motorcycle, scooter or moped	484	0.7%	7,711	0.8%	17,324	0.9%
Driving a car or van	45,367	61.4%	515,712	53.1%	1,199,612	58.9%
Passenger in a car or van	3,578	4.8%	38,708	4.0%	91,153	4.5%
Bicycle	1,820	2.5%	24,085	2.5%	47,623	2.3%
On foot	6,211	8.4%	109,003	11.2%	226,315	11.1%
Other method of travel to work	388	0.5%	6,128	0.6%	12,630	0.6%
Total	**73,875**		**970,750**		**2,036,791**	

Source: ONS 2011 Census (QS701EW). (ONS, 2011)

Table 2.1.14: Dwellings and Household Accommodation Type - 2011

Dwelling/accommodation type		Local Study Area		Labour Market Area		Five Authorities Area	
		Number	**%**	**Number**	**%**	**Number**	**%**
Dwelling type (shared and unshared)	Unshared dwelling	57,515	99.97%	861,419	99.87%	1,831,232	99.91%
	Shared dwelling: Two household spaces	9	0.02%	296	0.03%	410	0.02%
	Shared dwelling: Three or more household spaces	7	0.01%	864	0.10%	1,179	0.06%
	Total (dwellings)	**57,531**		**862,579**		**1,832,821**	
Household spaces (with usual residents and with no usual residents)	Household spaces with at least one usual resident	56,394	98.0%	836,778	96.5%	1,760,488	95.7%
	Household spaces with no usual residents	1,166	2.0%	30,315	3.5%	78,465	4.3%
	Total (household spaces)	**57,560**		**867,093**		**1,838,953**	
Household spaces (type)	Detached	10,781	18.7%	214,151	24.7%	514,328	28.0%
	Semi-detached	13,575	23.6%	218,618	25.2%	509,023	27.7%
	Terraced	20,153	35.0%	178,858	20.6%	378,309	20.6%
	Flat, maisonette or apartment: Purpose-built	11,933	20.7%	173,015	20.0%	301,245	16.4%
	Flat, maisonette or apartment: Part of a converted or shared house (including bed-sits)	634	1.1%	65,814	7.6%	99,313	5.4%
	Flat, maisonette or apartment: In a commercial building	354	0.6%	12,095	1.4%	23,197	1.3%
	Caravan or other mobile or temporary structure	130	0.2%	4,542	0.5%	13,538	0.7%
	Total (household spaces)	**57,560**		**867,093**		**1,838,953**	

Source: ONS 2011 Census (KS401EW). (ONS, 2011)

Table 2.1.15: Household Tenure - 2011

Tenure	Local Study Area		Labour Market Area		Five Authorities Area		England	
	Number of households	% of households	Number of households	% of households	Number of households	% of households	Number of households	% of households
Owned (outright or with mortgage)	35,309	62.6%	560,531	67.0%	1,209,152	68.7%	13,975,024	63.3%
Shared ownership (part owned, part rented)	727	1.3%	7,749	0.9%	15,883	0.9%	173,760	0.8%
Social rented	11,499	20.4%	110,769	13.2%	224,144	12.7%	3,903,550	17.7%
Private rented	8,218	14.6%	147,519	17.6%	288,561	16.4%	3,715,924	16.8%
Living rent free	641	1.1%	10,210	1.2%	22,748	1.3%	295,110	1.3%
Total	**56,394**	~	**836,778**	~	**1,760,488**	~	**22,063,368**	~

Source: ONS 2011 Census (KS402EW). (ONS, 2011)

Table 2.1.16: Household Composition - 2011

Household Type	Local Study Area		Labour Market Area		Five Authorities Area		England	
	Number of households	% of Households	Number of households	% of Households	Number of households	% of Households	Number of households	% of Households
Over 65s	9,905	17.6%	188,020	22.5%	413,434	23.5%	4,576,776	20.7%
Single (<65)	9,671	17.1%	146,474	17.5%	284,767	16.2%	3,940,897	17.9%
Couples (no children)	9,749	17.3%	144,934	17.3%	324,246	18.4%	3,892,382	17.6%
Households with children	23,789	42.2%	313,279	37.4%	658,434	37.4%	8,533,351	38.7%
Other	3,280	5.8%	44,071	5.3%	79,607	4.5%	1,119,962	5.1%
Total	**56,394**	~	**836,778**	~	**1,760,488**	~	**22,063,368**	~

Source: ONS 2011 Census (KS105EW). *Households with children includes one family households with dependent or non-dependent children and 'other' types of household that contain dependent children. (ONS, 2011).

Table 2.1.17: Total number of Enterprises – 2010-2020

	Local Study Area*			Labour Market Area			Five Authorities Area			England		
	Number	Annual change	Annual change (%)	Number	Annual change	Annual change (%)	Number	Annual change	Annual change (%)	Number	Annual change	Annual change (%)
2010	-			73,555			162,965			1,797,910		
2011	-			73,070	-485	-0.7%	161,810	-1,155	-0.7%	1,780,825	-17,085	-1.0%
2012	-			75,440	2,370	3.2%	166,815	5,005	3.1%	1,842,665	61,840	3.5%
2013	-			75,800	360	0.5%	167,620	805	0.5%	1,862,100	19,435	1.1%
2014	-			78,770	2,970	3.9%	173,920	6,300	3.8%	1,950,030	87,930	4.7%
2015	-			85,160	6,390	8.1%	186,580	12,660	7.3%	2,116,295	166,265	8.5%
2016	5,495			88,710	3,550	4.2%	193,070	6,490	3.5%	2,213,650	97,355	4.6%
2017	5,785	290	5.3%	91,575	2,865	3.2%	197,980	4,910	2.5%	2,320,885	107,235	4.8%
2018	5,815	30	0.5%	91,730	155	0.2%	198,875	895	0.5%	2,318,060	-2,825	-0.1%

	Local Study Area*			Labour Market Area			Five Authorities Area			England		
	Number	Annual change	Annual change (%)	Number	Annual change	Annual change (%)	Number	Annual change	Annual change (%)	Number	Annual change	Annual change (%)
2019	5,980	165	2.8%	93,735	2,005	2.2%	202,745	3,870	1.9%	2,360,780	42,720	1.8%
2020	6,035	55	0.9%	95,425	1,690	1.8%	205,190	2,445	1.2%	2,390,970	30,190	1.3%
2016-20	540	540	9.8%	6,715	6,715	7.6%	12,120	12,120	6.3%	177,320	177,320	8.0%
2010-20	~	~	~	21,870	21,870	29.7%	42,225	42,225	25.9%	593,060	593,060	33.0%

Source: UK Business Counts (obtained April 2021). *Figures for Local Study Area based on a best-fit of MSOAs. Data for Local Study Area prior to 2016 not available. (ONS, 2020g)

Table 2.1.18: Enterprises by Broad Industrial Group - 2020

Broad industrial group	Local Study Area*		Labour Market Area		Five Authorities Area	
	Number of enterprises	% of enterprises	Number of enterprises	% of enterprises	Number of enterprises	% of enterprises
1: Agriculture, forestry & fishing (A)	100	1.7%	2,220	2.3%	5,920	2.9%
2: Mining, quarrying & utilities (B, D and E)	65	1.1%	385	0.4%	910	0.4%
3: Manufacturing (C)	275	4.6%	3,915	4.1%	8,865	4.3%
4: Construction (F)	905	15.0%	13,515	14.2%	29,765	14.5%
5: Motor trades (Part G)	205	3.4%	2,280	2.4%	5,295	2.6%
6: Wholesale (Part G)	265	4.4%	3,210	3.4%	7,105	3.5%
7: Retail (Part G)	345	5.7%	8,830	9.3%	15,005	7.3%
8: Transport & storage (inc postal) (H)	405	6.7%	2,515	2.6%	6,520	3.2%
9: Accommodation & food services (I)	295	4.9%	4,875	5.1%	10,335	5.0%
10: Information & communication (J)	585	9.7%	9,935	10.4%	20,035	9.8%
11: Financial & insurance (K)	145	2.4%	1,865	2.0%	4,750	2.3%
12: Property (L)	145	2.4%	3,190	3.3%	7,065	3.4%
13: Professional, scientific & technical (M)	990	16.4%	18,005	18.9%	39,935	19.5%
14: Business administration & support services (N)	650	10.8%	8,530	8.9%	18,625	9.1%
15: Public administration & defence (O)	10	0.2%	170	0.2%	545	0.3%
16: Education (P)	115	1.9%	1,810	1.9%	3,725	1.8%
17: Health (Q)	200	3.3%	3,690	3.9%	7,370	3.6%
18: Arts, entertainment, recreation & other services (R, S, T and U)	340	5.6%	6,490	6.8%	13,415	6.5%
Total	**6,035**		**95,425**		**205,190**	

Source: ONS UK Business Counts (obtained April 2021) (ONS, 2020g)

Table 2.1.19: Enterprises by Size - 2020

Enterprise Size	Local Study Area*		Labour Market Area		Five Authorities Area	
	Number of enterprises	% of enterprises	Number of enterprises	% of enterprises	Number of enterprises	% of enterprises
Micro (0 to 9)	5,375	89.1%	87,005	91.2%	186,060	90.7%
Small (10 to 49)	500	8.3%	6,970	7.3%	15,700	7.7%

Enterprise Size	Local Study Area*		Labour Market Area		Five Authorities Area	
	Number of enterprises	% of enterprises	Number of enterprises	% of enterprises	Number of enterprises	% of enterprises
Medium-sized (50 to 249)	115	1.9%	1,155	1.2%	2,735	1.3%
Large (250+)	40	0.7%	290	0.3%	695	0.3%
Total	**6,035**		**95,425**		**205,190**	

Source: ONS UK Business Counts (obtained April 2021). *Figures for Local Study Area based on a best-fit of MSOAs. (ONS, 2020g)

Table 2.1.20: Enterprises by Turnover Band - 2020

Turnover Band (£000s)	Labour Market Area		Five Authorities Area	
	Number of Enterprises	% of Total Enterprises	Number of Enterprises	% of Total Enterprises
0 to 49	14,295	15.0%	29,945	14.6%
50 to 99	21,660	22.7%	45,030	21.9%
100 to 199	33,385	35.0%	71,375	34.8%
200 to 499	11,860	12.4%	26,185	12.8%
500 to 999	6,570	6.9%	14,715	7.2%
1000 to 1999	3,575	3.7%	8,085	3.9%
2000 to 4999	2,350	2.5%	5,565	2.7%
5000 to 9999	805	0.8%	2,010	1.0%
10000 to 49999	695	0.7%	1,705	0.8%
50000+	235	0.2%	575	0.3%
Total	**95,430**		**205,190**	
£500,000+	14,230	14.9%	32,655	15.9%
£5m+	1,735	1.8%	4,290	2.1%

Source: ONS UK Business Counts (obtained April 2021) (ONS, 2020g)

Table 2.1.21: Early Years Education providers within the Local Study Area

Name	Address	Location (district)	Age	Capacity	Number of pupils	Shortfall/ surplus	Ofsted Rating
Children's Centres							
Bewbush Children and Family Centre	Dorsten Square, Crawley, RH11 8XW	Crawley					
Broadfield Children and Family Centre	Creasys Drive, Crawley, RH11 9HJ	Crawley					
Horley Community Sure Start Children's Centre	Meath Green Infant School, Horley, RH6 8JG	Reigate & Banstead					
Langley Green and Ifield Children & Family Centre	Langley Green Centre, Crawley, RH11 7PF	Crawley					
Maidenbower Children and Family Centre	Maidenbower Children and Family Centre, Crawley, RH10 7RA	Crawley					
Maidenbower and Pound Hill Children & Family Centre	Pound Hill School Campus, Crawley, RH10 7EB	Crawley					
Northgate Children & Family Centre	Northgate Children and Family Centre, Crawley, RH10 8DP	Crawley					
Southgate Children & Family Centre	Barrington Road, Crawley, RH10 6DG	Crawley					
The Windmill Sure Start Children's Centre	Burstow Primary School, Horley, RH6 9PT	Tandridge					

Name	Address	Location (district)	Age	Capacity	Number of pupils	Shortfall/ surplus	Ofsted Rating
Primary Schools with minimum age of 2 or 3 years							
Broadfield Primary Academy	Vulcan Close, Crawley, RH11 9PD	Crawley	3-11	630	583	47	Good
Burstow Primary School	Wheelers Lane, Horley, RH6 9PT	Tandridge	3-11	446	432	14	Good
Desmond Anderson Primary Academy	Anderson Road, Crawley, RH10 5EA	Crawley	2-11	440	411	29	Good
Langley Green Primary	Stagelands, Crawley, RH11 7PF	Crawley	3-11	480	473	7	Good
Manorfield Primary and Nursery School	Sangers Drive, Horley, RH6 8AL	Reigate & Banstead	2-11	300	294	6	Good
Northgate Primary School	Green Lane, Crawley, RH10 8DX	Crawley	3-11	630	585	45	Requires improvement
Seymour Primary School	Seymour Road, Crawley, RH11 9ES	Crawley	3-11	592	498	94	Good
Three Bridges Primary School	Gales Place, Crawley, RH10 1QG	Crawley	3-11	630	678	-48	Good
Trinity Oaks Church of England Primary School	Brookfield Drive, Horley, RH6 9NS	Reigate & Banstead	3-11	210	210	0	Good
Waterfield Primary School	Waterfield Gardens, Crawley, RH11 8RA	Crawley	3-11	382	361	21	~
Westvale Park Primary Academy	Cavell Way, Horley, RH6 8SU	Reigate & Banstead	2-11	472	~	~	~
Other Schools with minimum age of 2 or 3 years							
Copthorne Preparatory School (Independent, including Boarding)	Effingham Lane, Crawley, RH10 3HR	Tandridge	2-13	360	352	8	~
Manor Green Primary School (Community Special School)	Lady Margaret Road, Crawley, RH11 0DU	Crawley	2-11		211	~	Outstanding

Source: Department for Education (DfE) Get Information About Schools Portal (obtained April 2021) (DfE, 2021)

Table 2.1.22: Primary Schools within the Local Study Area

Name	Address	Location (district)	Age	Capacity	Number of pupils	Shortfall/ surplus	Ofsted Rating
Broadfield Primary Academy	Vulcan Close, Crawley, RH11 9PD	Crawley	3-11	630	583	47	Good
Brook Infant School	Salterns Road, Crawley, RH10 7JE	Crawley	4-7	180	169	11	Good
Burstow Primary School	Wheelers Lane, Horley, RH6 9PT	Tandridge	3-11	446	432	14	Good
Charlwood Village Primary School	Chapel Road, Horley, RH6 0DA	Mole Valley	5-11	105	104	1	Good
Copthorne CofE Junior School	Church Road, Copthorne, RH10 3RD	Mid Sussex	7-11	240	216	24	Good
Desmond Anderson Primary Academy	Anderson Road, Crawley, RH10 5EA	Crawley	2-11	440	411	29	Good
Fairway Infant School, Copthorne	Fairway, Crawley, RH10 3QD	Mid Sussex	5-7	180	156	24	Good
Forge Wood Primary School	Somerley Drive, Crawley, RH10 3SW	Crawley	4-11	420	172	248	Outstanding
Gossops Green Primary	Kidborough Road, Crawley, RH11 8HW	Crawley	4-11	585	572	13	Good
Hilltop Primary School	Ditchling Hill, Crawley, RH11 8QL	Crawley	4-11	420	607	-187	Good
Horley Infant School	Lumley Road, Horley, RH6 7JF	Reigate and Banstead	4-7	300	296	4	Good
Langley Green Primary	Stagelands, Crawley, RH11 7PF	Crawley	3-11	480	473	7	Good
Langshott Primary School	Smallfield Road, Horley, RH6 9AU	Reigate and Banstead	5-11	420	419	1	Good
Maidenbower Infant School	Harvest Road, Crawley, RH10 7RA	Crawley	4-7	270	259	11	Outstanding
Maidenbower Junior School	Harvest Road, Crawley, RH10 7RA	Crawley	7-11	600	588	12	Good
Manorfield Primary and Nursery School	Sangers Drive, Horley, RH6 8AL	Reigate and Banstead	2-11	300	294	6	Good
Meath Green Infant School	Kiln Lane, Horley, RH6 8JG	Reigate and Banstead	4-7	270	271	-1	Outstanding
Meath Green Junior School	Greenfields Road, Horley, RH6 8HW	Reigate and Banstead	7-11	360	360	0	Good

Name	Address	Location (district)	Age	Capacity	Number of pupils	Shortfall/ surplus	Ofsted Rating
Northgate Primary School	Green Lane, Crawley, RH10 8DX	Crawley	3-11	630	585	45	Requires improvement
Our Lady Queen of Heaven Catholic Primary School, Crawley	Hare Lane, Crawley, RH11 7PZ	Crawley	4-11	362	377	-15	Good
Pound Hill Infant Academy	Crawley Lane, Crawley, RH10 7EB	Crawley	4-7	270	267	3	~
Pound Hill Junior School, Crawley	Crawley Lane, Crawley, RH10 7EB	Crawley	7-11	390	380	10	Good
Seymour Primary School	Seymour Road, Crawley, RH11 9ES	Crawley	3-11	592	498	94	Good
St Andrew's CofE Primary School	Weald Drive, Crawley, RH10 6NU	Crawley	4-11	210	201	9	Good
St Francis of Assisi Catholic Primary School, Crawley	Southgate Drive, Crawley, RH10 6HD	Crawley	4-11	420	418	2	Good
St Margaret's CofE Primary School	The Mardens, Crawley, RH11 0AQ	Crawley	4-11	420	398	22	Requires improvement
Southgate Primary	Barrington Road, Crawley, RH10 6DG	Crawley	4-11	420	364	56	Requires improvement
The Bewbush Academy	Dorsten Place, Crawley, RH11 8XW	Crawley	4-11	630	572	58	Good
The Mill Primary Academy	Ifield Drive, Crawley, RH11 0EL	Crawley	4-11	420	494	-74	Good
The Oaks Primary School & Nursery	Loppets Road, Crawley, RH10 5DP	Crawley	4-11	420	461	-41	Good
Three Bridges Primary School	Gales Place, Crawley, RH10 1QG	Crawley	3-11	630	678	-48	Good
Trinity Oaks Church of England Primary School	Brookfield Drive, Horley, RH6 9NS	Reigate and Banstead	3-11	210	210	0	Good
Waterfield Primary School	Waterfield Gardens, Crawley, RH11 8RA	Crawley	3-11	382	361	21	~
West Green Primary School	West Green Drive, Crawley, RH11 7EL	Crawley	4-11	210	207	3	Good
Yattendon School	Oakwood Road, Horley, RH6 7BZ	Reigate and Banstead	7-11	390	388	2	Good
Total (for schools with known pupil numbers)				**13,652**	**13,241**		
Milton Mount Primary School*	Grattons Drive, Crawley, RH10 3AG	Crawley	4-11	630	~		~
Westvale Park Primary Academy*	Cavell Way, Horley, RH6 8SU	Reigate & Banstead	2-11	472	~		~

Source: Department for Education (DfE) Get Information About Schools Portal (obtained April 2021). *Data for pupil numbers at these schools is missing. (DfE, 2021)

Table 2.1.23: Secondary Schools within the Local Study Area

Name	Address	Location (district)	Age	Capacity	Number of pupils	Shortfall/ surplus	Ofsted Rating
Secondary only							
Oakwood School	Balcombe Road, Horley, RH6 9AE	Reigate and Banstead	11-16	1,500	1,184	316	Good
Secondary including post-16 education							
Hazelwick School	Hazelwick School Close, Crawley, RH10 1SX	Crawley	11-18	1,847	1,822	25	Good
Holy Trinity CofE Secondary School, Crawley	Buckswood Drive, Crawley, RH11 8JE	Crawley	11-18	1,308	1,232	76	Good
Ifield Community College	Crawley Avenue, Crawley, RH11 0DB	Crawley	11-18	1,250	1,055	195	Good
Oriel High School	Matthews Drive, Crawley, RH10 7XW	Crawley	11-18	1,450	1,396	54	Good
St Wilfrid's Catholic Comprehensive School, Crawley	St Wilfrid's Way, Crawley, RH11 8PG	Crawley	11-18	949	956	-7	Good
Thomas Bennett Community College	Ashdown Drive, Crawley, RH10 5AD	Crawley	11-18	1,450	1,018	432	Requires improvement
Total				**9,754**	**8,663**	**1,091**	

Source: Department for Education (DfE) Get Information About Schools Portal (obtained April 2021). (DfE, 2021)

Table 2.1.24: Post-16 Education Providers within the Local Study Area

Name	Address	Location (district)	Details
Crawley College	College Road, Crawley, RH10 1NR	Crawley	Offers T Levels, Apprenticeships, Higher Education, Adult Education and Short/Professional Courses

Source: Department for Education (DfE) Get Information About Schools Portal (obtained April 2021). (DfE, 2021)

Table 2.1.25: Other Schools within the Local Study area (All-through, Special and Independent Schools)

Name (type)	Address	Location (district)	Age	Capacity	Number of pupils	Shortfall/ surplus	Ofsted Rating
The Gatwick School (All-through)	23 Gatwick Road, Crawley, RH10 9TP	Crawley	4-16	1,020	761	259	Good
Manor Green College (Community Special School)	Lady Margaret Road, Crawley, RH11 0DX	Crawley	11-19	213	215	-2	Good
Manor Green Primary School (Community Special School)	Lady Margaret Road, Crawley, RH11 0DU	Crawley	2-11	~	211	~	Outstanding
Aurora Redehall School (Independent Special School)	Redehall Road, Surrey, RH6 9QA	Tandridge	6-19	44	44	0	Good
Atelier 21 Future School (Independent School)	Broadfield Park, Crawley, RH11 9RZ	Crawley	4-14	120	~	~	~
Copthorne Preparatory School (Independent School, including Boarding)	Effingham Lane, Crawley, RH10 3HR	Tandridge	2-13	360	352	8	~

Source: Department for Education (DfE) Get Information About Schools Portal (obtained April 2021). Some data missing. (DfE, 2021)

Table 2.1.26: GP Surgeries with the Local Study Area – December 2020

GP Surgery	Registered Patients (2020)	FTE GPs	Registered Patients per FTE GP
Bewbush Medical Centre	7,019	0.9	7,993
Birchwood Medical Practice	17,511	14.1	1,243
Bridge Medical Centre	11,029	4.2	2,607
Coachmans Medical Practice	10,813	5.6	1,930
Furnace Green Surgery	7,333	6.7	1,101
Gossops Green Medical Centre	7,488	3.2	2,313
Ifield Medical Practice	10,034	6.4	1,564
Langley Corner Surgery	11,168	8.6	1,300
Leacroft Medical Practice	12,045	6.2	1,928
Pound Hill Medical Group (including Copthorne Surgery)	16,016	9.3	1,721
Saxonbrook Medical Centre (including Northgate Surgery)	17,576	8.3	2,115
Smallfield Surgery	7,256	6.3	1,156
Southgate Medical Group	10,071	3.7	2,744
Wayside Medical Practice	5,549	1.1	4,910
Woodlands and Clerklands Partnership	15,764	8.8	1,784
Total	**166,672**	**93**	**1,783**
England	*60,473,289*	*33,937*	*1,782*

Source: NHS General Practice Workforce - December 2020 (obtained April 2021) (NHS, 2020)

Table 2.1.27: Dental Surgeries within the Local Study Area

Dental Surgery	Address	Accepting new patients?
Bewbush Dental Practice	Goodwin Close, Crawley, RH11 8XU	Unknown
Broadfield Dental Care	Broadfield Barton, Crawley, RH11 9BA	Unknown
Broadway Dental Care	The Broadway, Crawley, RH10 1HG	Unknown
Crabtree Road Dental Practice	Crabtree Rd, Crawley RH11 7HL	Unknown
Crawley Dental Clinic	Buckswood Drive, Crawley, RH11 8JF	Unknown
Denistree Horley	High Street, Horley, RH6 7BB	Unknown
Family Dental Centre Partnership	Brighton Road, Crawley, RH10 6AE	Unknown
Gossops Drive Dental Practice	Gossops Drive, Crawley, RH11 8LJ	Accepting children (up to the age of 18). Not accepting adults.
Hollybush Dental Clinic	Hollybush Road, Crawley, RH10 8DU	Unknown
Horley and Gatwick Dental Centre	Massetts Road, Horley, RH6 7DQ	Unknown
Katoomba Dental Practice	Russells Crescent, Horley, RH6 7DJ	Not accepting children or adults
Mill Road Dental Surgery	Mill Road, Crawley, RH10 1ND	Unknown
Northgate Dental Clinic	Woolborough Road, Northgate, Crawley, RH10 8EZ	Unknown
Pembroke Practice Limited	Tomlin Court, Crawley, RH10 1AH	Unknown
Smilecare Dental Centre	Furnace Drive, Crawley, RH10 6JD	Unknown
Sussex Community NHS Trust Emergency Out of Hours at Crawley Hospital	West Green Drive, Crawley, RH11 7DH	Not applicable
Tilgate Dental Centre Ltd	Tilgate Dental Clinic, Ashdown Drive, Tilgate, Crawley, RH10 5EX	Unknown
Victoria Road Dental Care	Victoria Road, Horley, RH6 7AB	Unknown
Worth Park Dental Clinic	Worth Park Avenue, Crawley, RH10 3DG	Unknown

Source: NHS Services Search Portal (obtained April 2021). 'Accepting new patients' based on information provided on NHS Services website or practice website. (NHS, 2021)

Table 2.1.28: Hospitals within the Local Study Area

Facility Name	Description of Facility
Crawley Hospital	Hospital run by Sussex Community NHS Trust, Has Urgent Treatment Centre (UTC) but no Accident and Emergency (A&E) department.
Langley Green Hospital	Hospital for those with acute mental health illnesses run by Sussex Partnership NHS Foundation Trust. No accident and emergency department.
Farmfield Hospital	Private secure hospital run by Elysium Healthcare for the treatment of adult males with mental health illnesses.
Spire Gatwick Park Hospital	Private hospital run by Spire Healthcare Network.

Source: NHS Services Search Portal (obtained April 2021). (NHS, 2021)

Table 2.1.29: Emergency Service Facilities within the Local Study Area (excluding Hospitals)

Service	Facility Name (details)
Fire Service	Horley Fire Station (run by West Sussex Fire and Rescue Service – training centre only)
	Crawley Fire Station (West Sussex Fire Service)
	Gatwick Airport (Fire and Rescue Service, including training centre)
Police Service	Crawley Police Station (Sussex Police)
	Gatwick Police Station (Sussex Police and British Transport Police)

Source: Police UK Police Station Finder; Fire Service Fire Station Finder (obtained April 2021) (Police UK, 2021 and Fire Services, 2021)

Table 2.1.30: Community Spaces within the Local Study Area

Community Space	Facilities
Bewbush Centre	▪ 2 halls ▪ 1 meeting room ▪ Kitchen facilities ▪ Garden area
Broadfield Youth and Community Centre	▪ 1 main hall for up to 200 people standing or 140 people seated ▪ 5 smaller rooms
Furnance Green Community Centre	▪ 2 halls
Gossops Green Community Centre	▪ 1 main hall ▪ A stage ▪ Garden area
Ifield Drive Community Centre	▪ 1 main hall ▪ Garden area
Ifield West Community Centre	▪ Main hall ▪ Stage ▪ Garden area
Langley Green Centre	▪ 2 main halls for up to 300 people standing ▪ 1 meeting room for up to 30 people seated
Maidenbower Community Centre	▪ 1 main hall ▪ Coffee lounge
Maidenbower Pavillion	▪ 1 main hall ▪ 1 small hall ▪ 1 meeting room ▪ Café
Milton Mount Community Centre	▪ 1 main hall
Northgate Community Centre	▪ 1 main hall
Pound Hill Community Centre	▪ 1 main hall for up to 100 people standing or 90 people seated ▪ 1 small hall ▪ Kitchen facilities
Regent House	▪ 1 main hall for up to 200 people ▪ 1 small meeting room for up to 10 people
Southgate Community Centre	▪ 1 main hall for up to 100 people seated or standing
Three Bridges Community Centre	▪ 1 main hall for up to 100 people standing or 75 people seated ▪ 1 small hall ▪ Kitchen facilities
Tilgate Community Centre	▪ 1 main hall for up to 100 people seated or standing ▪ 1 small hall
Wakehams Green Community Centre	▪ 1 main hall for up to 75 people standing or 50 people seated

Source: Crawley Borough Council (2021)

Table 2.1.31: Places of Worship within the Local Study Area

Place of Worship	Theology	Facilities
Copthorne Chapel	Christianity	Facilities available to hire.
Crawley Baptist Church	Christianity	N.A.
Crawley Community Church	Christianity	N.A.
Crawley Mosque	Islam	N.A.
Crawley Spiritualist Church and Healing Centre	Other	N.A.
Crawley United Reformed Church	Christianity	Hosts Brownies and Worth Park play group.
Elim Church Crawley	Christianity	Hosts Trinity tots and Connect Lunch.
Gatwick Islamic Centre	Islam	N.A.
Horley Baptist Church	Christianity	Hosts community groups such as a food bank provider, toddler group and winter night shelter.
Horley Methodist Church	Christianity	N.A.
Interfaith Chapel Gatwick	Other	Interfaith facility.
Kingdom Faith Church Crawley	Christianity	N.A.
Lee Street Church	Christianity	Hosts a pre-school group.
Maidenbower Baptist Church	Christianity	N.A.
New Life Church Crawley	Christianity	Hosts a toddler group.
Noor Mosque	Islam	N.A.
Sanatan Madir	Hindu	N.A.
Siri Guru Singh Sabha Gurdwara	Sikh	N.A.
Solution Chapel	Christianity	N.A.
Solution International Christian Centre	Christianity	N.A.
Sri Swarna Kamadchy Amman Temple	Hindu	N.A.
St Barnabas Church	Christianity	N.A.
St John the Evangelist	Christianity	N.A.
St Mary's Southgate	Christianity	Facilities include a coffee shop and hosts a toddler group.
St Nicholas	Christianity	N.A.
St Richards	Christianity	Facilities available to hire.
Swaminarayan Manor Gatwick	Hindu	N.A.
Three Bridges Free Church	Christianity	N.A.
Three Bridges Spiritualist Church and Psychic Centre	Other	N.A.

Source: Yell (2021)

Table 2.1.32: Libraries within the Local Study Area

Name	Address	Opening Hours	Facilities
Crawley Library	Southgate Avenue, Crawley, RH10 6HG	Monday to Saturday (Thursday by appointment only)	▪ Free Wi-Fi ▪ Public Computers ▪ Photocopier ▪ Amazon Locker ▪ Study Space
Broadfield Library	Broadfield Barton, Broadfield, Crawley, RH11 9BA	Monday to Saturday (Friday by appointment only)	▪ Free Wi-Fi ▪ Internet Access ▪ Public Computers ▪ Photocopier ▪ Study Space
Horley Library	Victoria Road, Horley, RH6 7QH	Tuesday to Saturday	▪ Computers ▪ Free Wi-Fi ▪ Printers ▪ Photocopiers ▪ Laminators

Source: West Sussex County Council and Surrey County Council (obtained April 2021)

Table 2.1.33: Sports, Leisure and Recreation Facilities within the Local Study Area

Facility Type	Number of Facilities	
	Within DCO Boundary	Within Local Study Area
Artificial Grass Pitch	0	9
Athletics Tracks	0	2
Golf	0	6
Grass Pitches	0	105
Health and Fitness Suite	3	18
Indoor Bowls	0	2
Indoor Tennis Centre	0	1
Sports Hall	0	26
Squash Courts	0	3
Studio	0	18
Swimming Pool	0	11
Tennis Courts	0	10
Total	**3**	**211**

Source: Active Power Places (2021)

Table 2.1.34: Open Spaces

Open Space Type	Within Project Site Boundary		Within Local Study Area	
	Number of facilities	Area (ha)	Number of facilities	Area (ha)
Allotments or Community Growing Spaces	0	~	24	14.3
Bowling Green	0	~	6	2.2
Golf Course	0	~	4	216.3
Other Sports Facility	1	0.1	17	16.5
Play Space	0	~	111	8.4
Playing Field	0	~	35	132.1
Public Park or Garden	1	1.2	22	151.4
Tennis Court	0	~	9	2.5
Total	**2**	**1.2**	**217**	**543.7**

Source: Ordnance Survey (2021) Open Greenspace

Table 2.1.35: Median House Prices 2000-2020

Local authority	Median price paid (year to September)											Change (%)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	5 year (2015-20)	10 year (2010-20)
Adur	£200,000	£205,000	£210,000	£220,000	£230,000	£260,000	£285,000	£300,000	£305,000	£312,500	£315,000	21%	58%
Arun	£209,000	£203,000	£208,000	£215,000	£225,000	£240,000	£264,995	£275,000	£285,000	£285,000	£287,500	20%	38%
Ashford	£189,475	£180,000	£185,000	£194,000	£212,500	£230,500	£242,500	£265,000	£285,000	£280,000	£290,000	26%	53%
Brighton and Hove	£235,000	£240,000	£240,000	£249,500	£270,000	£295,000	£320,000	£345,000	£345,000	£360,000	£365,000	24%	55%
Canterbury	£199,995	£200,000	£203,000	£208,000	£222,500	£240,000	£265,000	£285,000	£295,000	£300,000	£312,750	30%	56%
Chichester	£250,000	£266,000	£268,000	£270,500	£288,000	£310,800	£335,000	£355,000	£370,000	£360,000	£380,000	22%	52%
Crawley	£180,000	£181,725	£186,000	£195,000	£220,000	£245,000	£265,525	£280,000	£295,000	£290,000	£295,000	20%	64%
Croydon	£215,000	£220,000	£226,000	£235,000	£250,000	£295,000	£331,000	£360,000	£375,000	£386,000	£390,000	32%	81%
Dartford	£180,000	£185,000	£193,000	£200,000	£214,998	£246,250	£275,500	£305,950	£308,000	£310,000	£320,000	30%	78%
Dover	£165,000	£155,000	£160,000	£165,000	£182,000	£192,000	£210,000	£226,000	£244,000	£250,000	£250,000	30%	52%
Eastbourne	£180,000	£175,000	£175,000	£172,500	£184,000	£199,475	£218,000	£229,950	£238,000	£242,500	£250,000	25%	39%
Elmbridge	£395,000	£385,000	£405,000	£430,000	£450,000	£495,000	£526,700	£570,500	£570,000	£580,000	£600,000	21%	52%
Epsom and Ewell	£309,950	£318,750	£315,000	£324,500	£355,000	£402,000	£450,000	£472,725	£475,000	£470,000	£485,000	21%	56%
Folkestone and Hythe	£175,000	£175,000	£175,000	£180,000	£185,000	£200,000	£220,000	£245,000	£250,000	£260,000	£265,000	33%	51%
Gravesham	£175,000	£179,498	£180,000	£189,950	£199,995	£222,000	£255,000	£279,500	£290,000	£291,000	£295,000	33%	69%
Guildford	£295,000	£299,950	£305,750	£310,000	£335,000	£372,000	£410,000	£430,000	£450,000	£430,000	£450,000	21%	53%
Hastings	£147,000	£148,000	£150,500	£155,000	£162,000	£167,500	£189,950	£205,000	£218,450	£225,000	£230,000	37%	56%
Horsham	£260,000	£257,500	£270,000	£282,500	£308,000	£335,000	£355,000	£370,000	£380,000	£375,000	£395,000	18%	52%
Lewes	£220,000	£230,000	£228,000	£235,000	£249,950	£274,975	£291,500	£308,000	£320,000	£320,000	£320,000	16%	45%
Maidstone	£200,000	£197,875	£202,000	£207,500	£220,550	£245,000	£265,000	£294,995	£309,000	£313,000	£315,000	29%	58%

Local authority	Median price paid (year to September)											Change (%)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	5 year (2015-20)	10 year (2010-20)
Mid Sussex	£247,000	£250,000	£248,375	£265,000	£290,000	£315,000	£350,000	£365,000	£370,000	£380,000	£375,000	19%	52%
Mole Valley	£337,500	£350,000	£360,000	£380,000	£385,000	£420,000	£475,000	£499,950	£480,000	£475,000	£516,500	23%	53%
Reigate and Banstead	£275,000	£275,000	£265,000	£287,995	£315,500	£347,375	£380,000	£395,000	£405,000	£410,000	£425,000	22%	55%
Rother	£215,000	£215,000	£217,000	£225,000	£229,950	£245,000	£267,248	£273,000	£285,000	£290,000	£310,000	27%	44%
Runnymede	£250,000	£269,975	£259,950	£275,000	£312,000	£335,000	£370,000	£399,950	£400,000	£390,000	£415,000	24%	66%
Sevenoaks	£259,000	£284,000	£283,250	£287,500	£313,500	£350,000	£360,000	£384,000	£416,544	£390,000	£415,000	19%	60%
Spelthorne	£242,000	£249,950	£250,000	£260,000	£279,975	£320,000	£365,000	£394,950	£382,000	£386,400	£402,000	26%	66%
Surrey Heath	£273,000	£273,000	£282,750	£295,000	£311,750	£345,000	£370,000	£397,250	£412,250	£423,000	£430,000	25%	58%
Swale	£159,200	£155,000	£160,000	£163,000	£179,000	£190,000	£218,000	£235,000	£245,000	£250,000	£249,999	32%	57%
Tandridge	£292,000	£300,000	£285,000	£305,000	£329,950	£375,000	£390,000	£415,000	£415,000	£426,000	£440,000	17%	51%
Thanet	£160,000	£153,000	£156,000	£157,000	£168,500	£179,250	£198,000	£216,950	£229,000	£239,995	£247,725	38%	55%
Tonbridge and Malling	£234,498	£240,000	£232,250	£247,500	£267,000	£284,000	£319,995	£340,000	£345,000	£350,000	£350,000	23%	49%
Tunbridge Wells	£250,000	£240,000	£250,000	£250,000	£265,000	£299,995	£335,000	£357,500	£370,000	£380,000	£390,000	30%	56%
Waverley	£315,000	£329,950	£330,000	£340,000	£358,000	£390,000	£425,000	£440,000	£475,000	£460,000	£480,000	23%	52%
Wealden	£236,995	£234,000	£233,500	£239,995	£249,950	£267,000	£285,000	£310,000	£316,000	£312,500	£325,000	22%	37%
Woking	£249,999	£250,000	£250,000	£262,250	£289,950	£331,950	£375,000	£400,000	£390,000	£390,000	£400,000	21%	60%
Worthing	£195,000	£195,000	£199,973	£204,950	£220,000	£241,000	£259,000	£279,725	£295,000	£286,000	£292,750	21%	50%
Labour Market Area	£231,212	£232,588	£234,275	£245,139	£262,132	£288,952	£313,751	£332,330	£340,286	£341,464	£351,196	22%	52%
Five Authorities Area	£232,128	£234,616	£236,730	£245,809	£263,320	£289,113	£316,303	£337,386	£346,201	£347,025	£357,895	24%	54%
England	£180,000	£180,000	£181,500	£185,000	£195,000	£209,500	£220,000	£230,000	£239,950	£242,000	£249,000	19%	38%
Local Study Area*	£208,438	£207,461	£212,053	£221,371	£237,896	£266,767	£292,836	£311,047	£318,731	£314,377	£319,098	20%	53%

Source: ONS House Price Statistics (obtained April 2021). *Local Study Area prices based on an average for the LSOAs which are a best-fit to the Local Study Area. This is because ONS house price data is not available down to OA level. (ONS, 2020d)

Table 2.1.36: Housing Affordability Ratios (ratio of house prices to earnings) – resident-based and workplace-based

Local authority	Median workplace-based affordability ratio			Median resident-based affordability ratio		
	2010	2020	% Change	2010	2020	% Change
Adur	9.36	11.58	23.7%	9.44	10.47	10.9%
Arun	9.63	11.41	18.5%	8.71	9.96	14.4%
Ashford	8.24	10.09	22.5%	7.64	9.56	25.1%
Brighton and Hove	9.21	10.96	19.0%	8.49	10.85	27.8%
Canterbury	8.5	11.19	31.6%	7.64	10.39	36.0%
Chichester	10.62	14.09	32.7%	9.94	12.54	26.2%

Local authority	Median workplace-based affordability ratio			Median resident-based affordability ratio		
	2010	2020	% Change	2010	2020	% Change
Crawley	6.29	8.16	29.7%	6.76	9.39	38.9%
Croydon	7.52	11.34	50.8%	7.17	10.41	45.2%
Dartford	6.31	8.57	35.8%	6.2	8.4	35.5%
Dover	6.26	7.03	12.3%	5.92	7.29	23.1%
Eastbourne	7.17	8.4	17.2%	7.03	7.92	12.7%
Elmbridge	12.73	16.38	28.7%	11.14	14.17	27.2%
Epsom and Ewell	10.18	17.38	70.7%	9.41	13.26	40.9%
Folkestone and Hythe	7.18	10.83	50.8%	7.17	8.36	16.6%
Gravesham	6.38	8.4	31.7%	6.02	9.81	63.0%
Guildford	10.05	12.21	21.5%	8.58	10.8	25.9%
Hastings	6.77	9.31	37.5%	6.77	8.73	29.0%
Horsham	10.85	12.39	14.2%	8.56	11.29	31.9%
Lewes	9.19	11.5	25.1%	7.89	10.31	30.7%
Maidstone	8.05	10	24.2%	6.87	9.68	40.9%
Mid Sussex	8.75	12.62	44.2%	8.19	10.16	24.1%
Mole Valley	9.64	14.74	52.9%	9.37	16.84	79.7%
Reigate and Banstead	9.24	12.26	32.7%	7.94	10.56	33.0%
Rother	10.06	12.75	26.7%	8.26	10.66	29.1%
Runnymede	7.45	9.86	32.3%	7.54	11.08	46.9%
Sevenoaks	10.45	12.59	20.5%	7.97	11.76	47.6%
Spelthorne	8.23	12.44	51.2%	7.63	11.6	52.0%
Surrey Heath	9.51	11.03	16.0%	7.81	10.84	38.8%
Swale	6.09	9.32	53.0%	5.94	8.02	35.0%
Tandridge	11.48	13.94	21.4%	9.82	11.74	19.6%
Thanet	8.37	10.13	21.0%	7.55	8.97	18.8%
Tonbridge and Malling	8.69	11.79	35.7%	7.89	9.72	23.2%
Tunbridge Wells	9.91	13.27	33.9%	8.08	9.15	13.2%
Waverley	12.63	16.67	32.0%	8.63	11.64	34.9%
Wealden	10.15	11.57	14.0%	7.7	9.35	21.4%
Woking	9.47	10.17	7.4%	8.66	9.83	13.5%
Worthing	8.1	9.47	16.9%	7.73	9.73	25.9%
Labour Market Area average	9.0	11.5	26.7%	8.2	10.6	29.8%
Five Authorities Area average	8.9	11.5	29.1%	8.0	10.4	30.7%
England	6.85	7.84	14.5%	6.85	7.84	14.5%

Source: ONS Affordability Ratios (obtained April 2021). (ONS, 2020e)

Table 2.1.37: Housing Affordability Ratio – Local Study Area – resident-based

MSOA name	Median Affordability Ratio (2018)
Crawley 001	9.36
Crawley 002	7.56
Crawley 003	11.05
Crawley 004	7.18
Crawley 005	8.36
Crawley 006	8.87
Crawley 007	8.23
Crawley 008	8.85
Crawley 009	9.19
Crawley 010	9.09
Crawley 011	9.45
Crawley 012	8.23
Crawley 013	8.17
Horsham 001	9.41
Mid Sussex 002	9.81
Reigate and Banstead 016	11.14
Reigate and Banstead 017	9.93
Reigate and Banstead 018	6.98
Tandridge 011	12.67
Local Study Area*	**9.13**

Source: ONS Housing affordability ratios for middle layer super output areas, England and Wales, year ending March 2018 (obtained April 2021). Figures above are not directly comparable with local authority affordability ratios because MSOA affordability is based on resident net annual income.
*Local Study Area based on the average of the constituent MSOAs as ONS affordability data is not published below MSOA level. (ONS, 2018a)

Table 2.1.38: Dwelling stock – 2009-2019

Local authority	Dwelling stock											Change			
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year increase	10 year increase (%)	Annual increase	Annual increase (%)
Adur	27,489	27,570	27,653	27,846	27,997	28,089	28,186	28,217	28,281	28,395	28,508	1,019	3.7%	102	0.37%
Arun	69,301	69,695	70,190	70,914	71,396	71,763	72,375	73,280	73,898	74,611	75,220	5,919	8.5%	592	0.85%
Ashford	48,579	49,136	49,747	50,380	50,664	50,801	51,206	52,228	52,924	53,515	54,393	5,814	12.0%	581	1.20%
Brighton and Hove	123,676	124,095	124,417	124,726	125,100	125,536	126,117	126,804	127,157	127,601	127,981	4,305	3.5%	431	0.35%
Canterbury	63,230	63,475	63,859	64,484	65,009	65,546	65,879	66,175	66,592	67,731	68,161	4,931	7.8%	493	0.78%
Chichester	52,907	53,305	53,813	54,166	54,464	54,693	55,154	55,734	56,298	56,988	57,623	4,716	8.9%	472	0.89%
Crawley	42,722	43,107	43,464	43,665	43,744	43,911	44,126	44,682	45,278	45,647	46,159	3,437	8.0%	344	0.80%
Croydon	146,152	147,249	148,099	148,806	149,697	150,992	152,515	154,559	157,394	159,470	161,060	14,908	10.2%	1,491	1.02%
Dartford	40,630	40,826	41,220	41,543	41,965	42,567	43,132	44,103	45,265	46,296	47,309	6,679	16.4%	668	1.64%

Local authority	Dwelling stock											Change			
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year increase	10 year increase (%)	Annual increase	Annual increase (%)
Dover	50,532	51,035	51,453	51,695	51,916	52,107	52,465	53,210	53,622	54,068	54,514	3,982	7.9%	398	0.79%
Eastbourne	46,977	47,271	47,469	47,686	47,847	48,092	48,252	48,465	48,668	48,795	48,925	1,948	4.1%	195	0.41%
Elmbridge	55,213	55,395	55,731	56,028	56,284	56,535	56,785	57,025	57,292	57,415	57,842	2,629	4.8%	263	0.48%
Epsom and Ewell	30,110	30,250	30,538	30,827	31,344	31,575	31,775	31,934	32,241	32,401	32,566	2,456	8.2%	246	0.82%
Folkestone and Hythe	49,247	49,411	49,568	49,775	49,981	50,079	50,403	50,717	51,375	51,820	52,266	3,019	6.1%	302	0.61%
Gravesham	41,323	41,514	41,699	41,876	42,277	42,412	42,658	42,838	43,003	43,277	43,569	2,246	5.4%	225	0.54%
Guildford	55,738	55,930	56,080	56,388	56,618	56,750	56,950	57,338	57,839	58,138	58,490	2,752	4.9%	275	0.49%
Hastings	42,345	42,594	42,771	43,131	43,279	43,427	43,594	43,838	44,029	44,233	44,417	2,072	4.9%	207	0.49%
Horsham	55,865	56,227	56,516	56,777	57,261	58,087	58,941	60,153	60,949	62,081	63,473	7,608	13.6%	761	1.36%
Lewes	43,375	43,619	43,847	44,094	44,313	44,426	44,703	44,989	45,193	45,504	45,858	2,483	5.7%	248	0.57%
Maidstone	64,048	64,688	65,526	66,399	67,029	67,454	68,036	68,557	69,702	70,988	72,134	8,086	12.6%	809	1.26%
Mid Sussex	58,004	58,394	58,712	59,488	60,032	60,669	61,291	62,176	63,176	63,790	64,455	6,451	11.1%	645	1.11%
Mole Valley	36,687	36,831	36,971	37,206	37,380	37,507	37,697	37,855	38,062	38,446	38,772	2,085	5.7%	208	0.57%
Reigate and Banstead	56,371	56,718	57,053	57,508	57,977	58,413	58,833	59,368	59,885	60,431	60,966	4,595	8.2%	460	0.82%
Rother	43,603	43,746	44,016	44,193	44,291	44,448	44,632	44,878	45,161	45,347	45,602	1,999	4.6%	200	0.46%
Runnymede	33,891	34,152	34,246	34,425	34,588	34,658	34,782	35,187	35,347	36,101	36,548	2,656	7.8%	266	0.78%
Sevenoaks	47,815	48,061	48,376	48,554	48,696	48,929	49,129	49,547	49,871	50,259	50,514	2,699	5.6%	270	0.56%
Spelthorne	40,649	40,804	40,887	41,046	41,216	41,407	41,672	41,980	42,327	42,577	42,866	2,217	5.5%	222	0.55%
Surrey Heath	34,679	34,701	34,733	34,912	35,129	35,256	35,360	35,622	35,843	36,067	36,435	1,756	5.1%	176	0.51%
Swale	56,742	57,504	57,989	58,386	58,677	59,044	59,583	60,172	60,727	61,312	61,986	5,244	9.2%	524	0.92%
Tandridge	34,417	34,572	34,718	34,841	35,062	35,319	35,461	35,779	35,993	36,284	36,528	2,111	6.1%	211	0.61%
Thanet	63,352	63,991	64,998	65,318	65,512	65,833	66,216	66,566	66,955	67,193	67,489	4,137	6.5%	414	0.65%
Tonbridge and Malling	49,299	49,646	49,972	50,416	50,806	51,375	51,854	52,766	53,596	54,762	55,184	5,885	11.9%	589	1.19%
Tunbridge Wells	48,148	48,430	48,922	49,134	49,128	49,112	49,435	49,882	50,342	50,786	51,339	3,191	6.6%	319	0.66%
Waverley	51,069	51,327	51,545	51,665	51,895	52,032	52,262	52,494	52,897	53,416	53,752	2,683	5.3%	268	0.53%
Wealden	63,804	64,295	65,159	65,776	66,450	67,010	67,642	68,162	68,726	69,188	70,029	6,225	9.8%	623	0.98%
Woking	40,318	40,544	40,652	40,826	41,100	41,470	41,536	41,862	42,261	42,606	42,837	2,519	6.2%	252	0.62%
Worthing	47,703	48,013	48,311	48,454	48,626	48,871	49,222	49,700	50,047	50,529	50,821	3,118	6.5%	312	0.65%

Local authority	Dwelling stock											Change			
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year increase	10 year increase (%)	Annual increase	Annual increase (%)
Labour Market Area total	852,542	857,655	862,579	867,787	872,882	878,685	885,361	894,189	902,707	910,772	918,755	66,213	7.8%	6,621	0.78%
Five Authorities Area total	1,809,858	1,820,870	1,832,821	1,844,548	1,855,053	1,865,203	1,877,344	1,894,283	1,910,822	1,928,598	1,945,531	135,673	7.5%	13,567	0.75%
England	22,693,802	22,838,672	22,976,066	23,110,962	23,235,684	23,372,289	23,542,982	23,732,627	23,949,972	24,172,166	24,413,501	1,719,698	7.6%	171,970	0.76%

Source: MHCLG Live Table 125 Dwelling stock estimates by local authority district 2001-19 (obtained April 2021). (MHCLG, 2019)

Table 2.1.36: Projected population (ONS 2018-based Sub-National Population Projections, re-based to 2019)

Local authority	Future Population																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	64,301	64,505	64,718	64,906	65,105	65,287	65,449	65,607	65,741	65,859	65,955	66,052	66,147	66,225	66,317	66,435	66,554	66,702	66,859	67,036
Arun	160,758	162,325	163,831	165,241	166,611	167,954	169,273	170,539	171,723	172,841	173,927	174,960	175,980	176,947	177,920	178,893	179,804	180,696	181,598	182,474
Brighton and Hove	290,885	291,794	292,275	292,540	292,717	292,936	293,322	293,903	294,654	295,362	295,984	296,684	297,477	298,064	298,437	298,759	299,101	299,370	299,529	299,534
Crawley	112,409	112,882	113,312	113,706	114,032	114,313	114,532	114,717	114,873	115,013	115,120	115,230	115,342	115,462	115,640	115,817	115,993	116,167	116,374	116,612
Croydon	386,710	387,570	388,516	389,237	389,754	390,121	390,207	390,256	390,247	390,386	390,632	390,891	391,251	391,695	392,262	392,947	393,658	394,376	395,218	396,192
Eastbourne	103,745	104,011	104,275	104,559	104,858	105,151	105,453	105,750	106,082	106,395	106,689	106,990	107,273	107,523	107,763	108,014	108,266	108,520	108,774	109,038
Horsham	143,791	145,193	146,533	147,786	148,941	149,998	150,949	151,881	152,803	153,650	154,461	155,231	155,943	156,664	157,399	158,109	158,759	159,361	160,007	160,678
Lewes	103,268	103,809	104,324	104,840	105,320	105,777	106,195	106,585	106,987	107,400	107,760	108,098	108,445	108,799	109,194	109,609	109,991	110,370	110,760	111,152
Mid Sussex	151,022	149,507	148,419	147,364	146,312	145,395	144,511	143,699	142,947	142,238	141,468	140,742	140,092	139,564	139,096	138,633	138,182	137,804	137,511	137,313
Mole Valley	87,245	87,751	88,210	88,580	88,836	89,041	89,212	89,376	89,516	89,698	89,801	89,887	90,043	90,202	90,427	90,648	90,834	91,033	91,237	91,453
Reigate and Banstead	148,748	149,707	150,566	151,304	151,928	152,533	153,033	153,457	153,747	154,063	154,387	154,644	154,830	155,039	155,335	155,625	155,893	156,262	156,593	156,956
Tandridge	88,129	88,476	88,831	89,129	89,404	89,609	89,858	90,000	90,155	90,248	90,413	90,527	90,665	90,812	90,980	91,161	91,280	91,459	91,621	91,839
Wealden	161,475	162,614	163,643	164,610	165,449	166,296	167,068	167,759	168,412	169,045	169,678	170,235	170,809	171,396	171,994	172,533	173,044	173,549	174,090	174,674
Worthing	110,570	111,212	111,815	112,398	112,936	113,454	113,929	114,386	114,812	115,232	115,661	116,098	116,532	116,948	117,404	117,840	118,289	118,740	119,193	119,650
Labour Market Area total	**2,113,056**	**2,121,356**	**2,129,269**	**2,136,200**	**2,142,202**	**2,147,866**	**2,152,991**	**2,157,915**	**2,162,699**	**2,167,429**	**2,171,935**	**2,176,269**	**2,180,830**	**2,185,339**	**2,190,167**	**2,195,021**	**2,199,648**	**2,204,407**	**2,209,365**	**2,214,602**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2

Table 2.1.39: Projected labour supply generated by projected population (ONS 2018-based Sub-National Population Projections, re-based to 2019)

Local authority	Future Labour Supply																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	33,209	33,311	33,463	33,590	33,724	33,911	34,081	34,271	34,449	34,590	34,682	34,752	34,806	34,799	34,816	34,853	34,876	34,890	34,902	35,007
Arun	78,099	78,807	79,567	80,252	80,993	81,682	82,433	83,212	83,866	84,540	85,052	85,352	85,765	86,114	86,435	86,732	87,023	87,311	87,662	88,152
Brighton and Hove	167,505	167,844	168,169	168,407	168,588	168,749	169,007	169,506	169,953	170,450	170,757	171,063	171,362	171,627	171,780	171,968	172,091	172,197	172,256	172,388
Crawley	62,880	63,182	63,416	63,717	63,932	64,155	64,384	64,677	64,890	65,139	65,242	65,382	65,492	65,619	65,709	65,845	65,961	66,000	66,078	66,201
Croydon	205,905	206,411	207,017	207,551	207,992	208,364	208,568	208,932	209,107	209,258	209,373	209,516	209,606	209,897	210,183	210,629	211,039	211,403	211,821	212,568
Eastbourne	50,490	50,541	50,566	50,621	50,723	50,794	50,933	51,113	51,279	51,390	51,499	51,559	51,599	51,599	51,578	51,590	51,603	51,608	51,618	51,718
Horsham	77,307	78,078	78,716	79,391	79,981	80,495	81,068	81,654	82,236	82,680	83,079	83,412	83,687	83,978	84,314	84,673	84,996	85,290	85,635	86,164
Lewes	52,207	52,473	52,747	53,095	53,425	53,651	53,966	54,301	54,614	54,884	55,055	55,099	55,228	55,269	55,379	55,543	55,629	55,745	55,890	56,161
Mid Sussex	82,456	81,210	80,263	79,557	78,816	78,243	77,804	77,557	77,346	77,029	76,612	76,202	75,822	75,504	75,197	74,914	74,587	74,303	74,068	74,017
Mole Valley	46,420	46,924	47,333	47,699	47,983	48,174	48,400	48,667	48,889	49,096	49,176	49,222	49,279	49,328	49,413	49,555	49,639	49,685	49,781	49,966
Reigate and Banstead	81,433	81,963	82,415	82,856	83,218	83,637	84,024	84,447	84,757	85,086	85,303	85,482	85,613	85,736	85,893	86,114	86,289	86,467	86,634	86,903
Tandridge	47,584	47,755	47,926	48,087	48,253	48,411	48,609	48,758	48,923	49,032	49,139	49,233	49,289	49,353	49,418	49,539	49,622	49,707	49,814	49,999
Wealden	83,130	83,735	84,225	84,785	85,199	85,638	86,139	86,689	87,168	87,505	87,733	87,888	88,084	88,287	88,463	88,662	88,799	88,960	89,200	89,624
Worthing	57,838	58,282	58,629	59,048	59,406	59,738	60,120	60,425	60,727	60,966	61,164	61,320	61,497	61,611	61,716	61,860	62,017	62,132	62,275	62,480
Labour Market Area total	**1,126,462**	**1,130,517**	**1,134,452**	**1,138,656**	**1,142,232**	**1,145,641**	**1,149,536**	**1,154,209**	**1,158,207**	**1,161,646**	**1,163,866**	**1,165,482**	**1,167,128**	**1,168,722**	**1,170,293**	**1,172,478**	**1,174,169**	**1,175,699**	**1,177,635**	**1,181,348**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2

Table 2.1.40: Projected jobs supported based on labour supply generated by projected population (ONS 2018-based Sub-National Population Projections, re-based to 2019)

Local authority	Future Jobs																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	27,068	27,151	27,275	27,378	27,488	27,640	27,778	27,933	28,079	28,194	28,268	28,325	28,369	28,364	28,377	28,408	28,426	28,438	28,448	28,533
Arun	57,907	57,890	58,448	58,951	59,496	60,002	60,554	61,126	61,606	62,101	62,477	62,698	63,001	63,257	63,493	63,712	63,925	64,137	64,395	64,755
Brighton and Hove	172,173	171,437	171,768	172,011	172,197	172,360	172,624	173,134	173,591	174,098	174,412	174,725	175,029	175,300	175,457	175,649	175,774	175,883	175,942	176,077
Crawley	103,595	103,232	103,613	104,104	104,456	104,821	105,195	105,674	106,022	106,429	106,596	106,825	107,006	107,213	107,359	107,583	107,771	107,834	107,962	108,164
Croydon	146,506	147,794	148,228	148,610	148,926	149,192	149,338	149,599	149,724	149,832	149,915	150,017	150,081	150,290	150,494	150,814	151,108	151,368	151,668	152,202
Eastbourne	47,310	47,209	47,232	47,283	47,379	47,445	47,575	47,743	47,899	48,003	48,104	48,160	48,198	48,197	48,178	48,189	48,201	48,206	48,215	48,308
Horsham	71,243	72,027	72,616	73,239	73,783	74,257	74,786	75,326	75,863	76,273	76,641	76,948	77,201	77,471	77,780	78,112	78,409	78,681	78,999	79,487
Lewes	47,883	48,027	48,277	48,596	48,898	49,105	49,394	49,700	49,986	50,233	50,390	50,430	50,549	50,586	50,687	50,837	50,915	51,022	51,155	51,403
Mid Sussex	69,261	68,006	67,213	66,622	66,001	65,521	65,154	64,947	64,770	64,504	64,155	63,812	63,493	63,228	62,970	62,734	62,460	62,222	62,025	61,982
Mole Valley	56,416	57,087	57,585	58,030	58,376	58,607	58,883	59,208	59,478	59,730	59,827	59,883	59,952	60,012	60,116	60,288	60,390	60,446	60,563	60,788
Reigate and Banstead	85,657	86,569	87,047	87,513	87,895	88,338	88,746	89,193	89,520	89,868	90,098	90,286	90,425	90,555	90,720	90,953	91,138	91,327	91,503	91,787
Tandridge	45,388	45,411	45,574	45,727	45,884	46,034	46,223	46,365	46,522	46,625	46,727	46,816	46,869	46,931	46,992	47,107	47,186	47,267	47,369	47,545
Wealden	68,502	69,143	69,547	70,010	70,351	70,714	71,128	71,582	71,978	72,256	72,444	72,572	72,734	72,901	73,047	73,211	73,324	73,457	73,655	74,005
Worthing	56,468	56,961	57,300	57,710	58,059	58,384	58,757	59,055	59,350	59,584	59,778	59,929	60,102	60,214	60,317	60,458	60,611	60,724	60,863	61,064
Labour Market Area total	**1,055,377**	**1,057,943**	**1,061,724**	**1,065,785**	**1,069,188**	**1,072,421**	**1,076,134**	**1,080,584**	**1,084,389**	**1,087,731**	**1,089,832**	**1,091,428**	**1,093,011**	**1,094,519**	**1,095,987**	**1,098,054**	**1,099,639**	**1,101,011**	**1,102,763**	**1,106,101**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2. Does not align with Cambridge Econometrics Economic Forecasts because this projection is a trend-based demographic projection, from which estimates of labour supply and jobs are generated (the population is translated into labour supply based on projected economic activity rates and this labour supply in turn is translated into jobs based on unemployment rates and commuting patterns). This is different to the approach adopted by economic forecasters which are generally led by macro-economic trends, not by underlying population.

Table 2.1.41: Projected population generated based on current housing trajectories

Local authority	Future Population																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	64,301	64,324	65,240	66,412	67,340	67,921	68,543	68,867	69,087	69,318	69,450	69,545	69,469	69,292	69,687	70,112	70,519	70,946	71,371	71,797
Arun	160,758	161,715	162,814	165,322	169,037	171,549	174,147	177,072	180,118	182,945	185,350	187,580	189,260	191,542	193,881	196,181	198,447	200,732	203,049	205,381
Brighton and Hove	290,885	293,704	295,721	297,980	301,260	303,582	305,924	308,180	310,654	312,858	315,164	317,450	317,942	318,210	318,462	318,813	319,165	320,454	321,741	322,986
Crawley	112,409	113,543	114,624	115,299	117,169	118,586	118,998	119,066	119,212	119,429	119,312	118,831	118,811	118,755	118,825	118,828	118,915	119,016	119,133	119,299
Croydon	386,710	391,122	397,950	403,191	408,423	413,413	413,558	413,704	413,754	414,102	414,470	414,909	415,474	416,140	416,757	417,517	418,274	419,147	421,323	423,686
Eastbourne	103,745	104,115	104,609	105,139	105,321	105,428	105,685	105,919	106,164	106,413	106,665	106,890	107,106	107,318	107,506	107,741	107,997	108,241	108,520	108,796
Horsham	143,791	145,671	146,980	147,568	149,303	151,835	154,718	155,857	156,850	157,145	157,380	157,545	157,502	158,716	159,927	161,133	162,307	163,461	164,696	165,951
Lewes	103,268	103,648	104,403	104,840	105,320	105,791	106,320	106,796	107,194	107,726	108,222	108,698	109,191	109,753	110,357	110,961	111,523	112,112	112,695	113,304
Mid Sussex	151,022	153,014	155,497	157,331	159,107	160,898	162,771	164,672	166,475	168,253	169,955	171,719	173,481	175,382	177,294	179,182	181,113	183,067	185,131	187,132
Mole Valley	87,245	87,629	88,421	88,913	89,356	89,855	90,341	90,840	91,278	91,764	92,216	92,631	93,139	93,647	94,223	94,765	95,292	95,839	96,382	96,949
Reigate and Banstead	148,748	149,946	152,457	153,717	154,581	154,893	155,320	155,766	155,649	156,377	157,073	157,767	158,406	159,019	159,737	160,381	161,042	161,829	162,592	163,418
Tandridge	88,129	88,650	90,024	90,947	91,144	90,995	90,940	91,358	91,774	92,105	92,493	92,855	93,197	93,544	93,890	94,234	94,580	94,938	95,292	95,702

Local authority	Future Population																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Wealden	161,475	163,740	165,711	167,327	168,838	170,506	172,185	173,811	175,359	176,897	178,537	180,224	181,925	183,634	185,302	186,936	188,596	190,252	191,988	193,761
Worthing	110,570	111,332	111,544	111,921	113,433	114,014	114,861	115,242	115,770	116,343	116,901	117,503	118,048	118,648	119,246	119,849	120,476	121,080	121,778	122,454
Labour Market Area total	**2,113,056**	**2,132,152**	**2,155,995**	**2,175,908**	**2,199,633**	**2,219,265**	**2,234,312**	**2,247,149**	**2,259,339**	**2,271,674**	**2,283,188**	**2,294,149**	**2,302,952**	**2,313,602**	**2,325,095**	**2,336,633**	**2,348,244**	**2,361,112**	**2,375,691**	**2,390,616**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2.

Table 2.1.42: Projected labour supply generated by population generated based on current housing trajectories

Local authority	Future Labour Supply																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	33,209	33,196	33,797	34,545	35,127	35,542	35,977	36,242	36,445	36,631	36,718	36,762	36,685	36,496	36,694	36,918	37,111	37,287	37,450	37,698
Arun	78,099	78,437	78,957	80,320	82,484	83,853	85,338	87,064	88,771	90,388	91,588	92,483	93,154	94,162	95,168	96,123	97,084	98,062	99,115	100,342
Brighton and Hove	167,505	169,117	170,474	172,046	174,300	175,849	177,382	178,958	180,483	181,899	183,233	184,496	184,491	184,431	184,384	184,469	184,487	185,172	185,898	186,799
Crawley	62,880	63,624	64,286	64,760	65,992	66,941	67,250	67,415	67,578	67,841	67,759	67,474	67,480	67,481	67,496	67,519	67,582	67,580	67,611	67,701
Croydon	205,905	208,614	212,849	216,109	219,349	222,415	222,439	222,654	222,682	222,803	222,857	223,001	223,125	223,487	223,750	224,209	224,625	225,069	226,312	227,932
Eastbourne	50,490	50,603	50,765	50,963	50,989	50,942	51,052	51,193	51,307	51,381	51,466	51,484	51,488	51,469	51,421	51,429	51,450	51,452	51,480	51,591
Horsham	77,307	78,392	79,007	79,240	80,209	81,692	83,522	84,215	84,801	84,835	84,814	84,719	84,484	85,087	85,730	86,409	87,063	87,703	88,413	89,303
Lewes	52,207	52,372	52,799	53,096	53,425	53,660	54,046	54,433	54,741	55,084	55,337	55,463	55,678	55,842	56,073	56,343	56,528	56,761	57,010	57,401
Mid Sussex	82,456	83,560	84,961	86,087	87,099	88,159	89,368	90,726	92,005	93,116	94,103	95,112	96,089	97,141	98,163	99,202	100,206	101,216	102,297	103,497
Mole Valley	46,420	46,843	47,473	47,920	48,324	48,704	49,130	49,609	50,014	50,404	50,694	50,936	51,200	51,453	51,739	52,061	52,337	52,578	52,862	53,245
Reigate and Banstead	81,433	82,120	83,657	84,423	84,910	85,101	85,410	85,825	85,848	86,438	86,892	87,348	87,761	88,131	88,544	88,974	89,380	89,803	90,220	90,766
Tandridge	47,584	47,867	48,692	49,244	49,340	49,249	49,237	49,554	49,880	50,133	50,373	50,614	50,786	50,965	51,129	51,340	51,554	51,739	51,953	52,248
Wealden	83,130	84,432	85,499	86,445	87,247	88,162	89,187	90,276	91,263	92,105	92,892	93,676	94,496	95,313	96,064	96,851	97,602	98,376	99,257	100,331
Worthing	57,838	58,359	58,456	58,746	59,729	60,097	60,710	60,956	61,312	61,640	61,909	62,158	62,392	62,610	62,791	63,026	63,281	63,475	63,758	64,085
Labour Market Area total	**1,126,462**	**1,137,536**	**1,151,673**	**1,163,945**	**1,178,525**	**1,190,365**	**1,200,048**	**1,209,120**	**1,217,129**	**1,224,698**	**1,230,636**	**1,235,725**	**1,239,308**	**1,244,067**	**1,249,145**	**1,254,872**	**1,260,290**	**1,266,273**	**1,273,636**	**1,282,938**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2

Table 2.1.43: Projected jobs supported by labour supply generated by population generated based on current housing trajectories

Local authority	Future Jobs																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	27,068	27,057	27,547	28,157	28,631	28,969	29,324	29,540	29,706	29,857	29,928	29,963	29,901	29,747	29,909	30,091	30,248	30,392	30,525	30,726
Arun	57,907	57,618	58,000	59,001	60,591	61,597	62,688	63,956	65,209	66,397	67,278	67,936	68,429	69,169	69,908	70,610	71,316	72,034	72,807	73,709
Brighton and Hove	172,173	172,736	174,123	175,729	178,030	179,612	181,179	182,788	184,346	185,792	187,155	188,444	188,439	188,378	188,331	188,417	188,436	189,136	189,877	190,797
Crawley	103,595	103,954	105,035	105,809	107,821	109,372	109,878	110,147	110,413	110,843	110,709	110,243	110,254	110,255	110,279	110,316	110,419	110,416	110,467	110,615
Croydon	146,506	149,371	152,404	154,738	157,058	159,253	159,270	159,424	159,444	159,531	159,570	159,673	159,761	160,021	160,209	160,537	160,835	161,153	162,043	163,203
Eastbourne	47,310	47,267	47,419	47,604	47,628	47,584	47,686	47,818	47,924	47,994	48,074	48,090	48,093	48,076	48,031	48,039	48,058	48,060	48,086	48,190
Horsham	71,243	72,317	72,885	73,099	73,993	75,361	77,050	77,689	78,230	78,261	78,241	78,154	77,937	78,493	79,086	79,713	80,316	80,906	81,562	82,382

Local authority	Future Jobs																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Lewes	47,883	47,934	48,325	48,597	48,899	49,114	49,467	49,821	50,103	50,417	50,648	50,764	50,960	51,110	51,322	51,569	51,738	51,952	52,180	52,538
Mid Sussex	69,261	69,973	71,147	72,089	72,937	73,825	74,837	75,975	77,045	77,976	78,802	79,648	80,466	81,346	82,202	83,072	83,913	84,759	85,664	86,669
Mole Valley	56,416	56,989	57,755	58,299	58,791	59,252	59,771	60,353	60,846	61,321	61,674	61,968	62,289	62,597	62,945	63,337	63,673	63,966	64,311	64,778
Reigate and Banstead	85,657	86,735	88,359	89,168	89,682	89,884	90,211	90,648	90,673	91,296	91,775	92,257	92,694	93,084	93,520	93,974	94,404	94,850	95,291	95,867
Tandridge	45,388	45,518	46,302	46,827	46,918	46,832	46,820	47,122	47,431	47,672	47,901	48,130	48,293	48,464	48,619	48,820	49,023	49,199	49,403	49,683
Wealden	68,502	69,719	70,600	71,381	72,043	72,798	73,645	74,544	75,359	76,054	76,704	77,352	78,029	78,703	79,323	79,973	80,593	81,232	81,960	82,847
Worthing	56,468	57,036	57,130	57,414	58,375	58,734	59,333	59,574	59,922	60,242	60,505	60,749	60,978	61,190	61,367	61,597	61,846	62,036	62,313	62,632
Labour Market Area total	**1,055,377**	**1,064,224**	**1,077,030**	**1,087,912**	**1,101,398**	**1,112,188**	**1,121,158**	**1,129,398**	**1,136,651**	**1,143,653**	**1,148,965**	**1,153,369**	**1,156,521**	**1,160,634**	**1,165,051**	**1,170,066**	**1,174,819**	**1,180,091**	**1,186,488**	**1,194,636**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2

Table 2.1.44: Forecast jobs – Cambridge Econometrics

Local authority	Future Jobs																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	27,068	26,370	26,459	26,549	26,703	26,895	27,037	27,164	27,276	27,386	27,496	27,614	27,726	27,838	27,951	28,065	28,177	28,284	28,391	28,498
Arun	57,907	56,134	56,264	56,562	56,878	57,255	57,521	57,745	57,946	58,138	58,327	58,534	58,726	58,915	59,104	59,292	59,476	59,650	59,824	59,998
Brighton and Hove	172,173	168,024	168,167	168,857	169,993	171,493	172,636	173,668	174,628	175,560	176,483	177,442	178,369	179,285	180,206	181,119	182,016	182,884	183,752	184,620
Crawley	103,595	100,818	100,826	99,724	99,699	99,927	100,195	100,404	100,579	100,743	100,906	101,099	101,275	101,452	101,641	101,834	102,028	102,211	102,394	102,577
Croydon	146,506	145,989	146,671	147,508	148,446	149,348	149,929	150,374	150,777	151,162	151,547	151,967	152,370	152,769	153,174	153,585	153,993	154,378	154,763	155,148
Eastbourne	47,310	46,285	46,505	46,756	47,044	47,390	47,623	47,802	47,958	48,105	48,249	48,401	48,543	48,682	48,822	48,962	49,099	49,230	49,361	49,492
Horsham	71,243	69,744	69,857	69,998	70,301	70,695	70,978	71,234	71,463	71,685	71,904	72,142	72,366	72,587	72,809	73,030	73,247	73,453	73,659	73,865
Lewes	47,883	46,567	46,659	46,880	47,232	47,671	47,986	48,268	48,524	48,773	49,019	49,278	49,525	49,770	50,016	50,261	50,502	50,733	50,964	51,195
Mid Sussex	69,261	67,506	67,638	67,870	68,213	68,614	68,881	69,111	69,315	69,516	69,716	69,933	70,138	70,342	70,547	70,753	70,956	71,151	71,346	71,541
Mole Valley	56,416	55,238	55,416	55,555	55,850	56,193	56,451	56,696	56,915	57,126	57,332	57,550	57,754	57,953	58,150	58,344	58,534	58,712	58,890	59,068
Reigate and Banstead	85,657	83,828	84,535	84,964	85,581	86,295	86,782	87,213	87,594	87,969	88,335	88,728	89,095	89,459	89,822	90,184	90,541	90,878	91,215	91,552
Tandridge	45,388	44,066	44,154	44,358	44,733	45,127	45,390	45,610	45,797	45,983	46,163	46,357	46,544	46,729	46,916	47,103	47,290	47,464	47,638	47,812
Wealden	68,502	66,365	66,324	66,704	67,451	68,250	68,798	69,297	69,744	70,193	70,635	71,111	71,574	72,036	72,501	72,968	73,431	73,868	74,305	74,742
Worthing	56,468	56,076	56,405	56,623	56,817	57,133	57,290	57,391	57,472	57,547	57,619	57,701	57,773	57,842	57,912	57,982	58,051	58,114	58,177	58,240
Labour Market Area total	**1,055,377**	**1,033,010**	**1,035,880**	**1,038,908**	**1,044,941**	**1,052,286**	**1,057,497**	**1,061,977**	**1,065,988**	**1,069,886**	**1,073,731**	**1,077,857**	**1,081,778**	**1,085,659**	**1,089,571**	**1,093,482**	**1,097,341**	**1,101,010**	**1,104,679**	**1,108,348**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2

Table 2.1.45: Labour supply needed to support forecast jobs (Cambridge Econometrics)

Local authority	Future Labour Supply																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	33,209	32,353	32,462	32,572	32,761	32,997	33,171	33,327	33,464	33,599	33,734	33,879	34,016	34,154	34,292	34,432	34,570	34,701	34,832	34,964
Arun	78,099	76,417	76,594	76,999	77,430	77,943	78,305	78,610	78,883	79,145	79,402	79,684	79,945	80,203	80,460	80,716	80,966	81,203	81,440	81,677
Brighton and Hove	167,505	164,503	164,643	165,319	166,431	167,899	169,018	170,029	170,969	171,881	172,785	173,724	174,631	175,528	176,430	177,324	178,202	179,052	179,902	180,751
Crawley	62,880	61,705	61,710	61,036	61,020	61,160	61,324	61,452	61,559	61,659	61,759	61,877	61,985	62,093	62,209	62,327	62,446	62,558	62,670	62,782
Croydon	205,905	203,890	204,843	206,012	207,322	208,582	209,393	210,015	210,577	211,115	211,653	212,239	212,802	213,360	213,925	214,499	215,069	215,607	216,144	216,682
Eastbourne	50,490	49,552	49,787	50,056	50,364	50,735	50,984	51,176	51,343	51,500	51,654	51,817	51,969	52,118	52,268	52,418	52,564	52,704	52,845	52,985
Horsham	77,307	75,603	75,725	75,878	76,206	76,634	76,940	77,218	77,466	77,707	77,944	78,202	78,445	78,685	78,925	79,165	79,400	79,623	79,847	80,070
Lewes	52,207	50,878	50,978	51,220	51,604	52,084	52,428	52,736	53,016	53,288	53,557	53,840	54,110	54,377	54,646	54,914	55,177	55,430	55,682	55,934
Mid Sussex	82,456	80,613	80,771	81,048	81,457	81,936	82,255	82,530	82,773	83,013	83,252	83,511	83,756	84,000	84,245	84,491	84,733	84,966	85,199	85,432
Mole Valley	46,420	45,404	45,550	45,664	45,907	46,189	46,401	46,602	46,782	46,956	47,125	47,304	47,472	47,636	47,797	47,957	48,113	48,259	48,406	48,552
Reigate and Banstead	81,433	79,367	80,037	80,443	81,027	81,703	82,164	82,572	82,933	83,288	83,635	84,007	84,354	84,699	85,043	85,385	85,723	86,042	86,361	86,680
Tandridge	47,584	46,341	46,433	46,648	47,042	47,456	47,733	47,964	48,161	48,357	48,546	48,750	48,947	49,141	49,338	49,534	49,731	49,914	50,097	50,280
Wealden	83,130	80,371	80,321	80,782	81,686	82,654	83,317	83,922	84,463	85,007	85,542	86,119	86,679	87,239	87,802	88,367	88,928	89,457	89,987	90,516
Worthing	57,838	57,377	57,714	57,937	58,135	58,458	58,619	58,722	58,805	58,882	58,956	59,040	59,113	59,184	59,256	59,327	59,398	59,462	59,527	59,591
Labour Market Area total	**1,126,462**	**1,104,374**	**1,107,568**	**1,111,613**	**1,118,394**	**1,126,430**	**1,132,054**	**1,136,875**	**1,141,196**	**1,145,397**	**1,149,544**	**1,153,993**	**1,158,225**	**1,162,415**	**1,166,635**	**1,170,856**	**1,175,020**	**1,178,979**	**1,182,937**	**1,186,896**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2

Table 2.1.46: Population needed to generate labour supply needed to support forecast jobs (Cambridge Econometrics)

Local authority	Future Population																			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	64,301	62,999	63,114	63,243	63,498	63,733	63,883	63,970	64,024	64,119	64,269	64,473	64,689	64,991	65,277	65,564	65,875	66,218	66,585	66,828
Arun	160,758	158,382	158,845	159,686	160,423	161,349	161,898	162,262	162,694	162,997	163,518	164,370	165,014	165,709	166,465	167,266	168,021	168,742	169,401	169,827
Brighton and Hove	290,885	286,779	287,012	287,934	289,501	291,616	293,225	294,524	295,981	297,300	298,825	300,490	302,229	303,803	305,345	306,781	308,319	309,769	311,206	312,375
Crawley	112,409	110,672	110,723	109,610	109,515	109,590	109,637	109,509	109,446	109,309	109,355	109,380	109,445	109,501	109,688	109,817	109,981	110,241	110,493	110,712
Croydon	386,710	383,506	384,962	386,638	388,505	390,281	391,357	391,860	392,522	393,335	394,323	395,362	396,558	397,512	398,616	399,590	400,636	401,703	402,813	403,516
Eastbourne	103,745	102,365	102,951	103,561	104,183	104,965	105,449	105,777	106,121	106,522	106,903	107,388	107,874	108,393	108,943	109,450	109,957	110,471	110,988	111,362
Horsham	143,791	141,386	141,776	142,057	142,618	143,346	143,733	144,057	144,341	144,760	145,208	145,758	146,328	146,900	147,439	147,930	148,432	148,905	149,380	149,624
Lewes	103,268	101,284	101,473	101,761	102,266	103,067	103,489	103,809	104,132	104,522	105,013	105,708	106,270	106,980	107,638	108,241	108,927	109,547	110,146	110,552
Mid Sussex	151,022	148,633	149,042	149,379	149,984	150,624	150,910	150,946	150,965	151,181	151,517	151,895	152,307	152,764	153,285	153,773	154,349	154,910	155,510	155,900
Mole Valley	87,245	85,437	85,481	85,419	85,553	85,834	85,931	85,950	85,985	86,081	86,282	86,535	86,833	87,147	87,477	87,724	88,019	88,370	88,661	88,839
Reigate and Banstead	148,748	145,756	146,890	147,490	148,376	149,306	149,872	150,244	150,585	150,921	151,428	151,968	152,484	153,042	153,642	154,146	154,694	155,305	155,917	156,405
Tandridge	88,129	86,275	86,483	86,818	87,407	87,977	88,326	88,583	88,779	89,004	89,294	89,582	89,946	90,305	90,697	91,015	91,334	91,684	91,995	92,239
Wealden	161,475	157,180	157,277	157,975	159,488	161,079	162,037	162,768	163,480	164,413	165,507	166,722	167,885	169,069	170,329	171,509	172,762	173,922	175,029	175,888
Worthing	110,570	109,790	110,354	110,601	110,858	111,327	111,424	111,528	111,572	111,695	111,882	112,163	112,388	112,693	113,052	113,339	113,617	113,951	114,252	114,462
Labour Market Area total	**2,113,056**	**2,080,443**	**2,086,385**	**2,092,171**	**2,102,175**	**2,114,093**	**2,121,172**	**2,125,789**	**2,130,628**	**2,136,159**	**2,143,326**	**2,151,793**	**2,160,253**	**2,168,809**	**2,177,892**	**2,186,146**	**2,194,921**	**2,203,738**	**2,212,376**	**2,218,528**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2

Table 2.1.47: Difference between labour supply generated by current housing trajectories and labour supply needed to support Cambridge Econometrics job forecast across labour market area – key reporting years

	2019 (base year)	2024 (commencement of main construction phase)	2029 (first year of opening)	2032 (interim assessment year)	2038 (design year)
Labour supply generated by planned housing numbers	1,126,462	1,190,365	1,230,636	1,244,067	1,282,938
Labour supply needed to support CE job forecast	1,126,462	1,126,430	1,149,544	1,162,415	1,186,896
Difference	**~**	**+63,935**	**+81,092**	**+81,652**	**+96,042**

Source: Lichfields analysis using Popgroup. Full sources and methodology set out in Section 1.0 and Annex 1 of Appendix 16.6.2. Full local authority comparison of labour supply under each scenario set out in Section 5.0 of Appendix 16.6.2.

3 References

Cambridge Econometrics (CE) (2021) UK Forecast Assumptions (March 2021). Annex 5 of Appendix 16.6.2.

Department for Education (DfE) (2021) Get Information About Schools Portal [Online] Available at https://get-information-schools.service.gov.uk/ (accessed April 2021)

Ministry of Housing, Communities and Local Government (MHCLG) (2019) Live Tables on Dwelling Stock [Online] Available at https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants (accessed April 2021)

National Health Service (NHS) (2021) Services Search Portal [Online] Available at https://www.nhs.uk/service-search (accessed April 2021)

Office for National Statistics (ONS) (2011) Census [Online] Available via Nomis at https://www.nomisweb.co.uk/sources/census_2011 (accessed April 2021)

Office for National Statistics (ONS) (2020a) Annual Population Survey [Online] Available via Nomis at https://www.nomisweb.co.uk/sources/aps (accessed April 2021)

Office for National Statistics (ONS) (2020b) Annual Survey of Hours and Earnings [Online] Available via Nomis at https://www.nomisweb.co.uk/sources/ashe (accessed April 2021)

Office for National Statistics (ONS) (2020c) Business Register and Employment Survey [Online] Available via Nomis at https://www.nomisweb.co.uk/sources/bres (accessed April 2021)

Office for National Statistics (ONS) (2020d) House Price Statistics [Online] Available at https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housepricestatisticsforsmallareas/yearendingseptember2020 (accessed April 2021)

Office for National Statistics (ONS) (2020e) Housing Affordability Ratios [Online] Available at https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingaffordabilityinenglandandwales/2020/relateddata (accessed April 2021)

Office for National Statistics (ONS) (2020f) Mid-Year Population Estimates [Online] Available via Nomis at https://www.nomisweb.co.uk/sources/pest (accessed April 2021)

Office for National Statistics (ONS) (2020g) UK Business Counts [Online] Available via Nomis at https://www.nomisweb.co.uk/sources/ukbc (accessed April 2021)

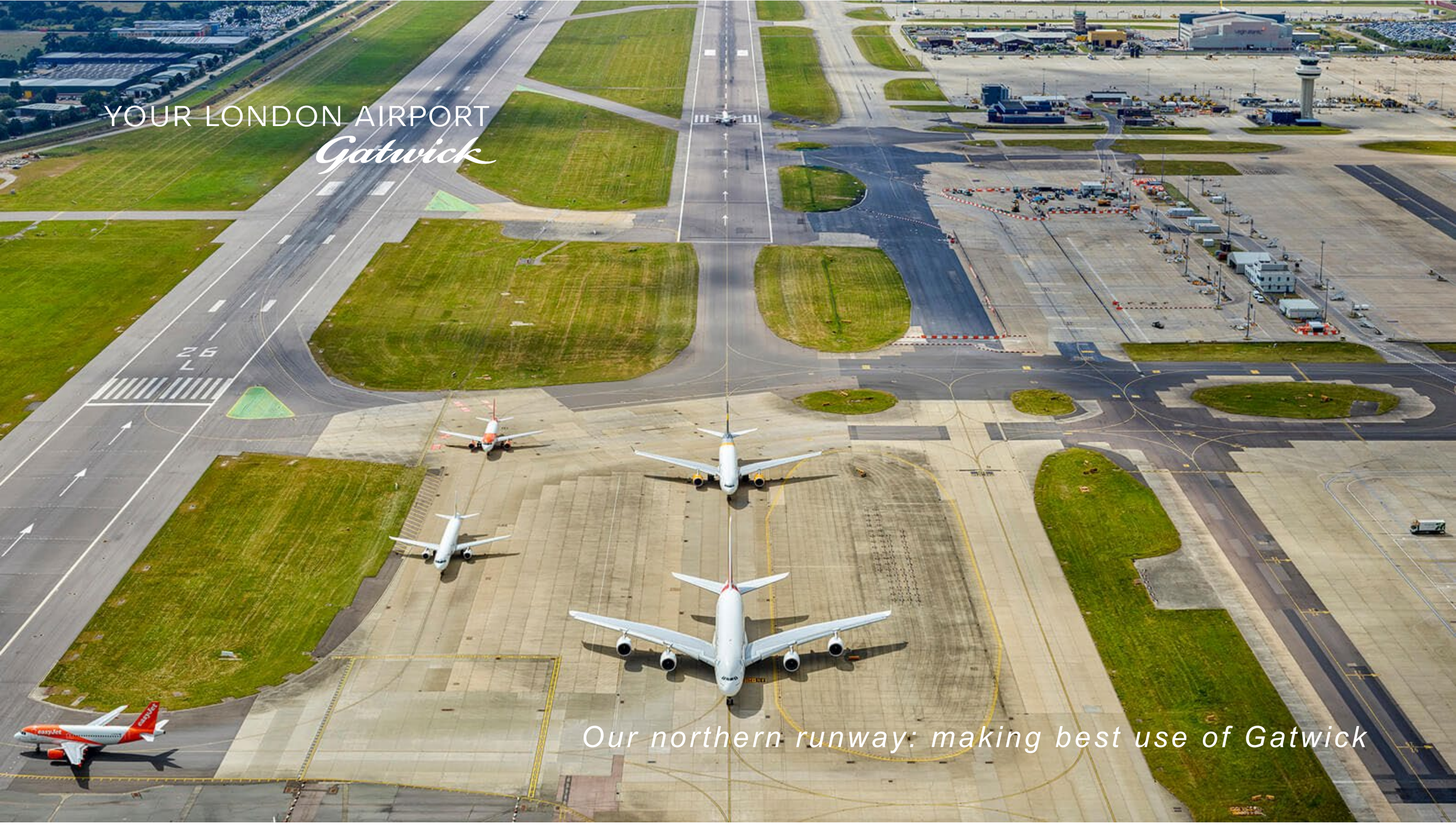
Office for National Statistics (ONS) (2021) Jobseekers Allowance [Online] Available via Nomis at https://www.nomisweb.co.uk/sources/jsa (accessed April 2021)

4 Glossary

4.1 Glossary of Terms

Table 4.1.1: Glossary of Terms

Term	Description
APS	Annual Population Survey
BRES	Business Register and Employment Survey
EIA	Environmental Impact Assessment
ES	Environmental Statement
FTE	Full Time Equivalent
GP	General Practitioner
LSOA	Lower Super Output Area
MHCLG	Ministry of Housing, Communities and Local Government
MSOA	Middle Super Output Area
NHS	National Health Service
NVQ	National Vocational Qualification
OA	Output Area
ONS	Office for National Statistics
PEIR	Preliminary Environmental Information Report



Preliminary Environmental Information Report
Appendix 16.6.2: Assessment of Population and Housing Effects

September 2021

Table of Contents

Executive Summary

This report assesses the population and housing effects of the operational employment generated by the Project. In particular, it looks at whether the future supply of labour generated by current and potential future plans for housing supply would be sufficient to accommodate the additional employment generated by the Project in its operational phase.

Approach

Economic forecasts provided by Cambridge Econometrics (CE) have been applied to generate an estimate of the underlying level of employment growth in the labour catchment area (plus contiguous local authorities in the same Housing Market Areas) around Gatwick. This comprises 17 local authority areas, covering much of Sussex and parts of Surrey, plus Croydon in Greater London[1]. Across this study area, CE forecasts a total of 1.31m jobs by 2038. Employment estimates produced by Oxera/ICF suggest the operational phase of the Project would result in a further c.16,000 workers (direct, indirect and catalytic) across the study area by 2038.

Demographic projections[2] and economic activity rate forecasts[3] have been applied within the industry-standard PopGroup model (software that produces demographic, housing and labour supply forecasts) to estimate the number of economically active people living in the area based on the number of homes planned for the study area in existing local plans. Where the plan period or housing trajectory expires before 2038 (most areas now have plans covering the period to 2031) average completion rates from that trajectory are extrapolated for the remainder of the period to 2038. Whilst this is an assumption, it is still a prudent one because, generally, the rates of housing growth are lower than those produced by the Government's standard methodology for calculating housing need (c.17,000 dwellings per year compared with c.10,000 per year in plans) which would apply to new local plans that are produced over coming years. The current labour force ratio (ie commuting ratio) has been applied to estimate the number of jobs that would be supported by the resident population (ie assuming the current balance of people commuting in and out of the area).

This approach enables a comparison to be made between labour demand (needed to support a given level of job growth) and labour supply (generated by a given level of housing growth), thereby identifying any shortfalls that may need to be 'made good' by changes in commuting or additional housing provision.

Outputs

In headline terms, current local plans provide for sufficient labour supply across the study area to meet CE estimates of future job growth and with sufficient 'surplus' to match the additional labour demand (direct, indirect and catalytic) generated by the Project. This is because the modelled labour demand to 2038 generated by CE forecasts (with direct, indirect and catalytic additional workers associated with the Project) is 86,000 whereas the labour supply likely to be generated by housing growth in existing local plans is c.120,000-166,000 (depending on the headship rate assumptions applied). Because this assessment of the employment impact of the Project is likely to be an over-estimate[4] and housing growth generated through new local plans coming through the system in the near future would almost certainly be higher, it is possible to conclude that there would be a sufficient surplus of labour in the study area to support employment growth associated with the Project.

To assess whether there are likely to be any localised 'pinch points', Table ES1 below summarises the position for each local authority in the study area for the key design years of 2024, 2029, 2032 and 2038. This shows that current local plan housing land supply trajectories are likely to support substantial surpluses of labour supply against CE forecasts even with the addition of the Project jobs in all but one authority by 2029 – the period where there can be high levels of confidence over housebuilding trajectories. Potential shortfalls are identified in Eastbourne, Epsom & Ewell and Chichester over the longer term, albeit these shortfalls are offset by surpluses in each authority's respective housing market area. Beyond 2030, when housing trajectories in the analysis are more likely to be extrapolated, the surplus is maintained across most authorities; in areas which may see a slight shortfall by 2038 this is also offset by surpluses in adjacent authorities which are in the same housing market area. For example, a potential shortfall in Chichester would be more than offset by authorities in the Coastal West Sussex housing market area, eg Arun, and a shortfall in Epsom and Ewell is offset by other parts of North West Surrey, eg Elmbridge and Mole Valley. In the long term (ie by 2038), it is reasonable to assume that current local plans would be reviewed and where necessary updated to reflect the Government's standard methodology for calculating housing need, which is likely to result in an increase in the rate of housing provision compared to current plans.

Table ES1: Summary of surplus/shortfall in labour supply by local authority - Cambridge Econometrics forecast (with additional Project jobs) compared with current housing trajectory

	2024	2029	2032	2038
Adur	2,545	2,706	1,497	1,935
Arun	5,911	11,535	11,981	16,797
Brighton and Hove	7,949	10,340	8,557	5,694
Chichester	2,382	2,051	187	-1,151
Crawley	5,781	5,198	2,939	2,564
Croydon	13,833	11,036	9,592	10,700
Eastbourne	208	-220	-750	-1,498
Elmbridge	1,639	931	739	554
Epsom & Ewell	493	176	95	-833
Horsham	5,058	6,014	3,815	6,778
Lewes	1,576	1,744	1,349	1,349
Mid Sussex	6,223	9,888	10,231	15,303
Mole Valley	2,515	3,520	3,660	4,532
Reigate and Banstead	3,398	3,114	2,975	3,618
Tandridge	1,792	1,770	1,643	1,782
Wealden	5,508	7,294	7,894	9,630
Worthing	1,638	2,452	1,902	3,056
Total	**68,449**	**79,549**	**68,305**	**80,811**

Source: Lichfields analysis

[1] It should be noted that this report covers fewer authorities – 17 – than other geographies referred to elsewhere, such as the 'Five Authorities Area'.
[2] Based on official projections published by the Office for National Statistics (ONS)
[3] Based on labour market participation rates published by the Office for Budget Responsibility (OBR)
[4] It is assumed that all additional workers generated by the Project would be additional to the area, ie would need to be housed. In reality Oxera expect that some of these additional workers would be those already living in the area, and the additional labour supply would be created due to reductions in unemployment, increases in economic activity and changes in commuting patterns

1 Introduction

1.1.1 This report has been prepared by Lichfields on behalf of Gatwick Airport Limited (GAL) drawing on economic model inputs from Cambridge Econometrics and Oxera/ICF. It explores the specific issue of population and housing and the potential effects of the Northern Runway Project (referred to within this report as 'the Project').

1.1.2 The issue of population (and housing) was proposed to be scoped out of Environmental Impact Assessment (EIA) in the EIA Scoping Report, with paragraph 7.10.24 stating that:

"The Project does not propose any residential development and therefore it is not anticipated that it would directly give rise to population effects either during construction or operation, in terms of changing population levels within the assessment areas. Future labour demand will be distributed across a wide labour catchment area so no significant impacts on population levels or housing and community infrastructure needs are expected."

1.1.3 However, at ID 4.10.1 of its Scoping Opinion response, the Inspectorate advised that:

"The Scoping Report states that no residential development is proposed, therefore it is not anticipated that there would be any changes to population levels within the assessment area. It further states that future labour demand would be distributed across a wide labour catchment so no significant effects on population levels or housing and community infrastructure needs are expected. The Inspectorate does not consider that sufficient information has been provided to demonstrate that an increase in worker numbers, during both construction and operation, would not affect the demand for housing and community infrastructure. The Inspectorate therefore does not agree that effects on population (including impacts on the housing supply) can be scoped out of the assessment."

1.1.4 This report provides the background analysis to demonstrate that the Project would not have significant effects on population levels and housing during the operational phase.

1.2 Context

Study area

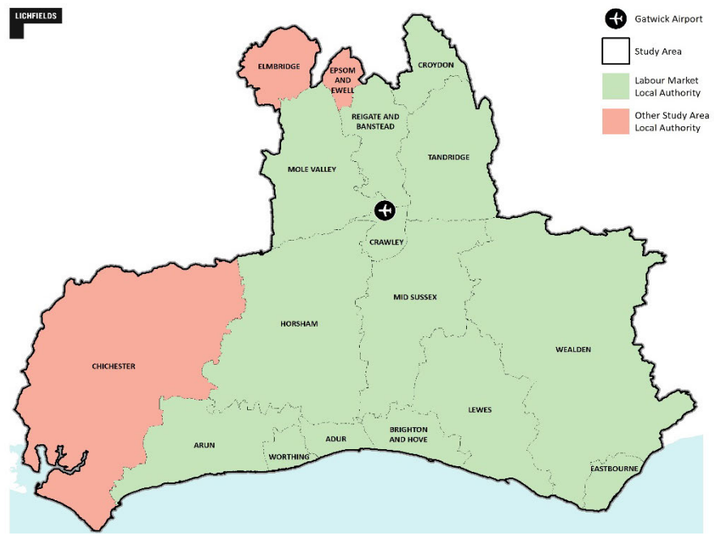
1.2.1 The study area covered by this report is shown in Diagram 1.2.1 and comprises a total of 17 local authorities surrounding Gatwick Airport. The study area used in this report is slightly larger than the Labour Market Area[5] and is significantly smaller than the Five Authorities Area[6] which are the other geographies referred to elsewhere in the Preliminary Environmental Information Report (PEIR). For this reason, figures (for example, job forecasts) for the study area referred to in this report will be slightly higher than comparable figures for the Labour Market Area and significantly lower than comparable figures for the Five Authorities area which may be quoted elsewhere in the PEIR, where the same source is referred to.

1.2.2 The study area used in this report encompasses:

- The 14 local authorities in the labour market area (Croydon, Reigate and Banstead, Tandridge, Mole Valley, Crawley, Horsham, Mid Sussex, Arun, Adur, Worthing, Brighton and Hove, Lewes, Wealden and Eastbourne);
- Elmbridge and Epsom and Ewell because these overlap into Mole Valley's housing market area[7]; and
- Chichester because this overlaps into the Coastal West Sussex housing market area (which covers Arun, Adur, Worthing, Brighton and Hove and Lewes).

1.2.3 Authorities which fall outside Gatwick Airport's labour market area but are in housing market areas which overlap into the labour market area are included because housing market areas are geographical representations of live-work patterns, ie they are typically the areas within which people look for housing when employed in a given area. Any potential housing impacts in Gatwick's labour market area (eg increases in housing demand due to job growth and labour demand) might therefore be expected to have a 'ripple out' relationship with these authorities (despite these authorities not being in Gatwick's labour market area).

Diagram 1.2.1: Study area



Source: Lichfields

Methodology

1.2.4 The assessment of future population, housing and job growth in this report uses industry-standard toolkit PopGroup. PopGroup is a family of demographic models (developed by University of Manchester and owned by the Local Government Association) to develop population, household and labour force forecasts. PopGroup incorporates a cohort component methodology for its population projection model, a headship rate model for its household projection model and an economic activity rate model for its labour-force projection model.

1.2.5 PopGroup is used by a large number of local authorities in the UK and has been subject to extensive enhancement and development over the last ten years. It is widely adopted by those preparing the evidence base for local plans to help establish estimates of housing need. Scenarios run through PopGroup can be either 'demographic-led' or constrained (eg 'housing-led' or 'jobs-led'):

- In demographic-led scenarios, the change in population between each year is calculated based on a starting population and given birth rates, death rates and levels (or

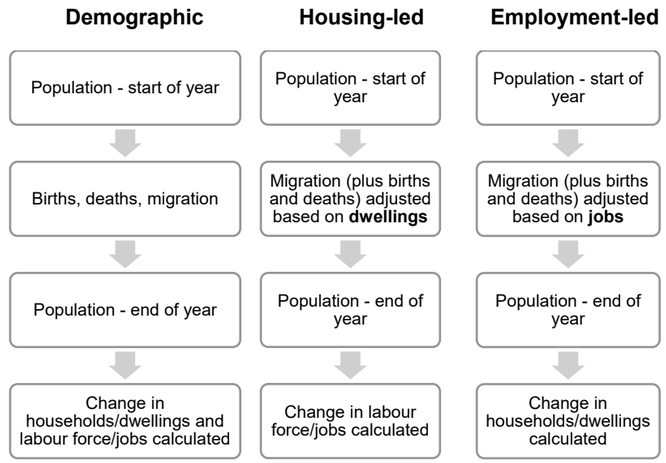
[5] The basis for the Labour Market Area is set out in the PEIR Chapter 16 para 16.4.8 bullet 3.
[6] The basis for the Five Authorities Area is set out in the PEIR Chapter 16 para 16.4.8 bullet 4.
[7] The London Borough of Kingston-upon-Thames also falls within the North East Surrey housing market area but has not been included because it falls outside the five authorities area for which Oxera has produced employment estimates.

rates) of migration. Based on the population, the number of homes is calculated (using inputs on the number living in communal establishments, household formation rates and dwelling vacancy rates) and the number of jobs is calculated (using inputs on economic activity rates, unemployment and the labour force ratio). Therefore, the number of homes and jobs are outputs, driven by demographic change;

- In 'constrained' scenarios, a given input or 'constraint' (eg number of homes or jobs) is used to 'dictate' population change year on year:
  - For housing-led scenarios, a given change in the number of homes is used to determine how many people can be accommodated (based largely on household formation rates). The number of migrants is adjusted so that (once births/deaths are applied) the population generates the given change in number of homes. This population is then used to determine how many jobs are supported in that area.
  - For employment-led scenarios, a given change in the number of jobs from one year to the next (eg based on a separate economic model or job 'target') is used to determine how many people are needed (based on economic activity rates, unemployment and the labour force ratio). The number of migrants is adjusted so that (once births/deaths are applied) the population is the required size to support the inputted number of jobs. This population is then used to determine how many homes are needed to sustain that estimate of future employment.

1.2.6 These methodologies are illustrated in Diagram 1.2.2.

Diagram 1.2.2: Methodology - Demographic, Housing and Employment scenarios



Source: Lichfields based on PopGroup

1.2.7 Using PopGroup, scenarios have been generated to explore whether the planned levels of housing provision in the study area would be sufficient to accommodate the anticipated level of employment growth and what, if any, impact would arise from the introduction of the extra employment arising from the operation of the Project.

Report outputs and limitations

1.2.8 Within the main report key metrics and conclusions are given for key years in the project, reflecting the PEIR report. Full outputs for all years are provided as Annexes. The key reporting years are:

- 2019 - the base year (for which the latest population data is available);
- 2024 - commencement of main construction phase;
- 2029 - the first year of opening;
- 2032 - interim assessment year; and
- 2038 - design year.

1.2.9 This report has been prepared specifically in the context of the Project. It is intended to assess whether the impact of additional jobs generated through the operational phase of the Project is likely to have a significant impact on population growth and housing needs when compared with a range of other 'business as usual' scenarios (eg official population projections, population growth resulting from planned/expected housing growth, underlying job growth) across the study area.

1.2.10 It is based on data which was available at the time of writing (and a fixed set of assumptions, which are detailed in Annex 1 and Annex 2). This is data which would be superseded over time. This data has been obtained by Lichfields from third parties for the purposes of this report, namely from:

- The Office for National Statistics (ONS), which produces the population projections, census data (used here for dwelling vacancy and economic activity), survey data (used for unemployment) and household projections (2016-based onwards);
- The Ministry for Housing, Communities and Local Government (MHCLG), which was responsible for the publication of the household projections up until 2016, when it produced the 2014-based projections. MHCLG also publishes the formula for the 'standard method' for assessing housing needs which is used in this assessment;
- Cambridge Econometrics (CE), which produces the baseline employment forecasts used in this analysis. CE produces its forecasts independently on the basis of wider macroeconomic trends, and updates these quarterly;
- Oxera/ICF, which provided the estimates of future employment associated with Gatwick;
- The Office for Budget Responsibility (OBR), which produces the labour market participation rate projections used in this analysis; and
- Local authorities, for the purposes of establishing the most recent housing trajectory in each area[8].

1.2.11 Inputs and assumptions used in this report are either taken directly from these sources or are derived using data from these sources[9].

1.2.12 The report does not analyse the full range of inputs required when determining local housing needs or requirements at a housing market area or local level (such as market signals, affordable housing or constraints on housing supply), nor does it purport to cover all the scenarios which may need to be considered. It also applies a start date of 2019 and thus does not

[8] This was based on the most up-to-date trajectory published online by each local authority at the time of writing. Full sources are given in Annex 2.

[9] For example, the labour force ratio, which is calculated using a combination of mid-year population estimates (from ONS), economic activity rates (from OBR), unemployment (from ONS) and jobs (from CE). See Annex 2 for further information.

attempt to account for any backlog of need which might already exist. For clarity, this report should not be used for the purposes of:

- Establishing or justifying objectively assessed housing need or the appropriate local housing need figure for any local authority or housing market area;
- Establishing or justifying the housing requirement for any local authority or housing market area;
- Plan-making (or any other strategy-making) for any local authority; or
- Determining an appropriate spatial strategy for housing, employment, transport or other infrastructure (other than insofar as it relates to the Project).

1.3 Report structure

1.3.1 The report is structured around the key scenarios generated to inform the analysis:

- **Section 2.0 Demographic scenarios:** this section assesses the amount of housing needed and jobs which could be supported based on official demographic projections;
- **Section 3.0 Employment-led scenarios:** this section assesses how much population growth and housing growth would be needed to support different levels of employment growth;
- **Section 4.0 Housing-led scenarios:** this section reviews how much housing could be expected to come forward across the study area, and how much labour supply this could be expected to generate;
- **Section 5.0 Labour supply analysis:** this section provides further detail for the labour supply outcomes in the study area based on the preceding analysis; and
- **Section 6.0 Conclusions.**

1.3.2 Annexes 1 and 2 of this report contains background details of the assumptions used in the modelling. Annexes 3 and 4 set out detailed outputs. Annex 5 contains Cambridge Econometrics' background paper "UK forecast assumptions (March 2021)" setting out its high-level assumptions underpinning its economic forecasts.

1.3.3 It is important to note, where in-text values are rounded within this document, the exact figures can viewed by referring to the relevant tables.

2 Demographic-led scenarios

2.1.1 In this section of the report the demographic, housing and employment implications of scenarios of future change based on recent sets of official demographic projections are considered. The projections referred to are:

- Sub-National Population Projections (SNPP), produced by the Office for National Statistics (ONS) every two years. The most recent projections are the 2014-based SNPP, 2016-based SNPP and 2018-based SNPP; and
- Sub-National Household Projections (SNHP), also produced every two years. Up until the 2014-based SNHP, these were produced by the Ministry of Housing, Communities and Local Government (MHCLG) (formerly the Department of Communities and Local Government, DCLG). The 2016-based SNHP onwards are produced by ONS.

2.2 Context

2.2.1 As of 2019 the population in the study area amounts to 2.45m; just under 4% of the UK's population. On average, since 2001, the population of the study area has grown by 0.76% per year; faster than the UK which has grown by 0.68% per year (see Table 2.2.1). The study area has an older population than the national average, with a lower proportion of its population under the age of 44 and a higher proportion over the age of 44, as shown in Table 2.2.1.

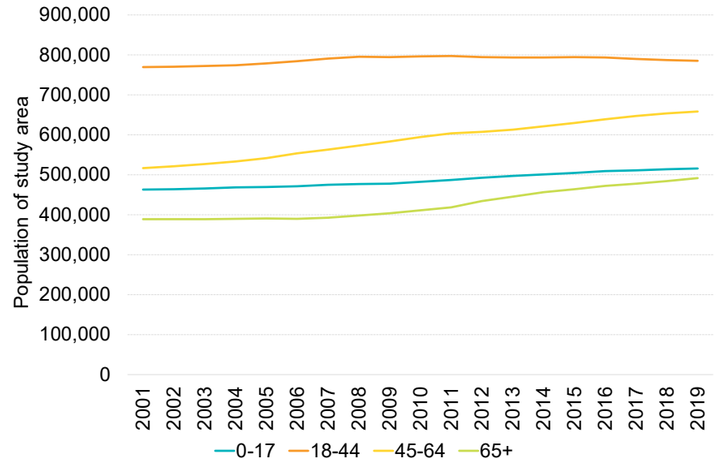
Table 2.2.1: Headline population indicators - study area and UK

		Study area	UK
Population in 2019		2,451,607	66,796,807
Growth since 2001 (per annum, average)		0.76%	0.68%
Age structure (2019)	0-17	21.0%	21.1%
	18-44	32.0%	34.5%
	45-64	26.9%	25.8%
	65+	20.1%	18.5%

Source: Lichfields analysis using ONS Mid-Year Estimates

2.2.2 In line with wider trends the study area has seen ageing in recent years, with older working age people (age 45-64) and the elderly (over 65s) being the fastest growing groups. There has also been some growth in the number of children (0-17) whilst the number of younger working age people (18-44) has been fairly stable, as shown in Diagram 2.2.1.

Diagram 2.2.1: Population of study area by broad age group



Source: Lichfields analysis using ONS Mid-Year Estimates

2.3 Outputs

Scenario 1 – 2014-based SNPP (ONS), 2014-based SNHP (MHCLG)

2.3.1 The 2014-based Sub-National Population Projections (SNPP) were published by ONS in May 2016, with the household projections (published by MHCLG – DCLG at that time) following in autumn 2016. These projections are not the most recent official population/household projections however they do form the basis of the standard method for calculating local housing need which is set out in the current (MHCLG, 2021) NPPF/PPG, and therefore their implications are considered. These projections have been modelled, re-based to the 2019 Mid-Year Estimates (MYEs), to ensure that the latest demographic information is accounted for. This is the case for all scenarios presented in this report.

2.3.2 Table 2.3.1 summarises the outputs. Across the study area the population is expected to increase by 371,000 in total over the 19 year period (2019-38), yielding growth of 170,000 in the labour supply and supporting 158,000 additional jobs. This population would need an additional 239,000 dwellings, equivalent to 12,600 dwellings per year.

Table 2.3.1: Summary of outputs - Scenario 1: 2014-based SNPP (re-based to 2019)

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,562,178	2,661,738	
Dwellings*	1,092,266	1,157,852	1,222,257	
Labour Supply	1,301,547	1,352,454	1,401,089	
Jobs	1,245,003	1,290,600	1,336,500	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,716,875	2,822,182	370,575	19,504
Dwellings	1,259,947	1,330,960	238,693	12,563
Labour Supply	1,421,690	1,471,465	169,917	8,943
Jobs	1,355,872	1,402,521	157,519	8,290

Source: Lichfields analysis using PopGroup. *Note: Dwelling estimates in base year vary between scenarios which use different underlying household projections,

2.3.3 Outputs for individual local authorities for 2019 and 2038 are provided in Annex 1.

Scenario 2 – 2016-based SNPP (ONS), 2016-based SNHP (ONS)

2.3.4 In summer 2018 ONS published the 2016-based SNPP and associated household projections. When published, the Government directed authorities not to use these as the basis for the standard method because they suggest a significantly lower level of household growth than previous projections (which the Government believes to be inconsistent with its objective of delivering 300,000 homes per year by the mid-2020s). The PPG goes so far as to clarify that:

"Any method which relies on using household projections more recently published than the 2014-based household projections will not be considered to be following the standard method as set out in paragraph 60 of the National Planning Policy Framework. As explained above, it is not considered that these projections provide an appropriate basis for use in the standard method." (PPG ID: 2a-015-20190220).

2.3.5 The projections are however continuing to be used by authorities submitting plans under the previous [2012] NPPF and the Government has reiterated that it does not "*doubt the methodological basis of the 2016-based household projections*". Therefore, the implications of these projections have been tested.

2.3.6 Table 2.3.2 shows the outcomes of this scenario. These projections yield lower population growth than the 2014-based SNPP for the study area, with population growth of 262,000 across the study area over the 19-year period. This population would lead to growth in the labour supply of 123,000, in turn supporting 112,000 jobs, and a need for 12,000 dwellings (just over 9,000 per year).

Table 2.3.2: Summary of outputs - Scenario 2: 2016-based SNPP (re-based to 2019)

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,535,792	2,605,598	
Dwellings	1,067,253	1,113,852	1,160,965	
Labour Supply	1,301,547	1,341,460	1,378,087	
Jobs	1,245,003	1,280,018	1,314,271	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,642,664	2,713,202	261,595	13,768
Dwellings	1,187,953	1,239,310	172,057	9,056
Labour Supply	1,391,744	1,424,386	122,838	6,465
Jobs	1,326,853	1,356,818	111,815	5,885

Source: Lichfields analysis using PopGroup

Scenario 3a – 2018-based SNPP (ONS), 2018-based SNHP (ONS)

2.3.7 In summer 2020 ONS published the 2018-based SNPP and associated household projections. These projections indicated lower growth at a national level than both the 2014-based and 2016-based projections as a result of lower international migration assumptions, lower projected fertility rates and lower life expectancy (ie higher death rates). Subsequently, projected household growth was also lower than the previous two sets of projections.

2.3.8 Whilst these are the most recent official projections, the Planning Practice Guidance continues to direct authorities to use the 2014-based projections for the purposes of the standard method for calculating housing need (as per PPG ID 2a-015, set out above), in part because (as with the 2016-based projections) the 2018-based projections do not align with the objective of delivering 300,000 homes per year. Given the standard method is likely remain in place until Government publishes top-down 'binding' housing requirements for local authorities[10] (which will be in line with its target to deliver 300,000 homes per year) it is highly unlikely that the 2018-based population/household projections will underpin housing requirements in local plans for any parts of the study area.

2.3.9 Notwithstanding, because these are most recent official projections at the time of writing, their outcomes have been tested (however these outcomes should be read in the context set out above regarding their unlikely use in plan-making).

2.3.10 Table 2.3.3 shows outcomes under the 2018-based SNPP scenario (re-based to 2019). It suggests population growth over the study area over the period 2019-38 would be just under 110,000, with labour supply growth of 60,000, supporting 57,000 jobs. There would be a need for 113,000 dwellings, or just under 6,000 per year.

[10] As indicated in the 'Planning for the future' White Paper (2020) p.23

Table 2.3.3: Summary of outputs - Scenario 3a: 2018-based SNPP (re-based to 2019)

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,490,762	2,517,011	
Dwellings	1,067,079	1,097,600	1,128,539	
Labour Supply	1,301,547	1,322,596	1,343,354	
Jobs	1,245,003	1,264,085	1,284,570	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,530,814	2,561,589	109,982	5,789
Dwellings	1,146,188	1,179,933	112,854	5,940
Labour Supply	1,348,408	1,361,592	60,045	3,160
Jobs	1,289,623	1,302,064	57,061	3,003

Source: Lichfields analysis using PopGroup

Scenario 3b – 2018-based SNPP (ONS), headship rate adjustment

2.3.11 It is widely acknowledged that household representatives rates[11] have been falling, particularly for younger people who are struggling to access housing. The previous [2014] PPG stated that when undertaking an objective assessment of housing need, plan-makers should consider whether household formation rates have been supressed historically, and if so, reflect this in the assessment of need. To test the potential effect this could have on housing need, the housing outcomes arising from the assumption that formation rates for people under age 34 return to their 2001 levels[12] have been assessed.

2.3.12 The population, labour supply and job outputs under this scenario are the same as in Scenario 3a because both scenarios are based on the same population; the 2018-based SNPP (re-based to 2018). However, because Scenario 3b includes some uplift in household formation rates, the number of dwellings needed to support this population is higher; a total of 147,000 dwellings over the 19-year period, or 7,700 per annum, as shown in Table 2.3.3. This is an uplift of 30% on the number of homes compared to Scenario 3a.

Table 2.3.4: Summary of dwelling outputs - Scenario 3a – 2018-based SNPP (re-based to 2019), headship rate adjustment

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Dwellings	1,067,079	1,111,674	1,158,102	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Dwellings	1,179,078	1,214,196	147,117	7,743

Source: Lichfields analysis using PopGroup

2.4 Summary

2.4.1 For the purposes of this summary (and subsequent summaries), figures in the text are rounded.

2.4.2 Table 2.4.1 and Diagram 2.4.1 summarise the outcomes of the five demographic scenarios for the study area. As expected, the 2014-based SNPP (Scenario 1) projects the highest level of population growth (371,000) and housing need (239,000). The resulting labour force growth of 170,000 would support an estimated 158,000 jobs.

2.4.3 Growth is lower under the 2016-based SNPP (Scenario 2), with population growth of 262,000 over the 19 years to 2038, supporting around 112,000 additional jobs and with a dwelling need of 172,000.

2.4.4 The 2018-based SNPP (Scenario 3a/3b) projects even lower growth than the 2016-based SNPP although it should be noted that neither the 2016-based nor the 2018-based projections will likely form the basis of plan-making in the study area over the long term. The 2018-based SNPP (re-based to 2019) projects growth of 110,000 over the 19 years to 2018, with an estimated dwelling need of between 113,000 and 147,000 (depending on assumptions around headship rates). The 2018-based SNPP is expected to yield labour force growth of 60,000, supporting 57,000 jobs.

Table 2.4.1: Summary of Demographic scenarios – total change across study area – 2019-38

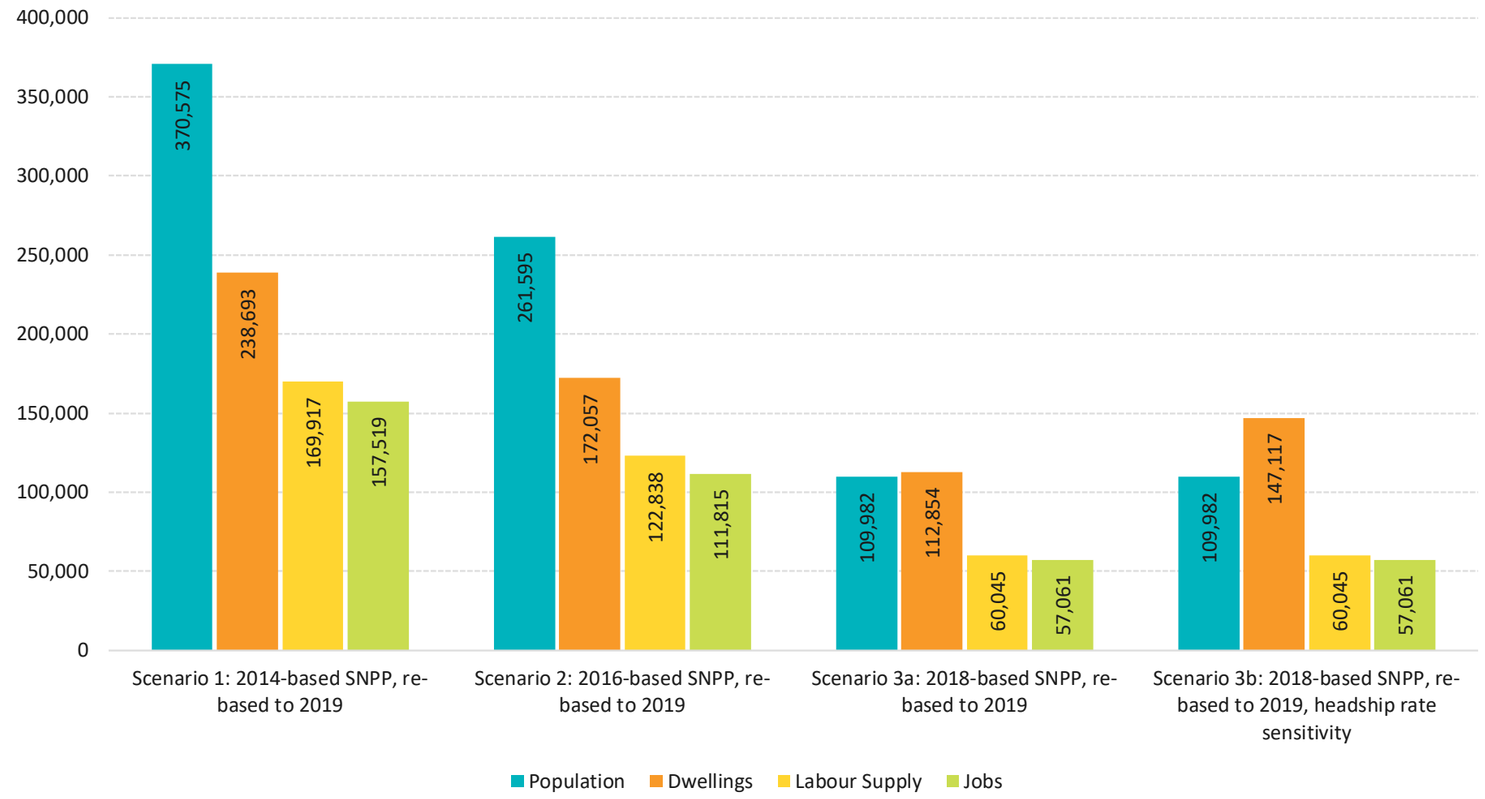
	Scenario 1	Scenario 2	Scenario 23a	Scenario 3b
Population	370,575	261,595	109,982	109,982
Dwellings	238,693	172,057	112,854	147,117
Labour Supply	169,917	122,838	60,045	60,045
Jobs	157,519	111,815	57,061	57,061

Source: Lichfields

[11] Also known as household formation rates or HFRs or HRRs – this is the proportion of people in a given age group who would form their own household

[12] By 2030, where the 2001 level is above the level projected in 2030 in the official projections.

Diagram 2.4.1: Summary of Demographic scenarios – total change across study area – 2019-38



Source: Lichfields

3 Employment-led scenarios

3.1.1 Employment forecasts have been obtained from Cambridge Econometrics (March 2021) ("CE") for the authorities in the study area. CE has confirmed that this March 2021 forecast reflects assumptions about the impact of the Covid-19 pandemic and Brexit on economic growth. Further information on the assumptions underpinning CE's March 2021 can be found at Annex 5.

3.1.2 In addition, economic impact work by Oxera and ICF has assessed the potential employment impact of the Project. These employment estimates cover a total of 37 authorities across Kent, Surrey, Sussex and Greater London – this is a larger area than the study area which is considered in this report, which comprises the 17 authorities shown in Diagram 1.2.1. Table 2.4.1 summarises the total amount of direct, indirect and catalytic employment associated with Gatwick Airport according to Oxera/ICF's estimates, with and without the Project. By 2038, the Project is expected to generate an additional c.20,000 workers (c.3,200 direct, c.6,300 indirect and a further 10,800 catalytic) across the 37 authorities.

3.1.3 Whilst Oxera and ICF have produced employment estimates associated with the Project up to 2047, the assessment of population and housing effects in this report stops at 2038, which is also the design year of the PEIR, because:

- Current official population projections (the 2018-based SNPP) only cover a 25-year horizon, hence end at 2043. Whilst projections can be trended, with increased time horizons there is increasing margin for error – and uncertainty - in population projections;
- Similarly, over such a long time horizon there is significant uncertainty around planned levels of housing provision given authorities typically plan for c.15-20 years' worth of housing (albeit some authorities in the study area have only a five year land supply trajectory, so there is uncertainty around housing provision even in the medium term). This means most authorities in the study area have trajectories which end approximately in 2030; and
- In any event, Oxera's employment estimates indicate that between 2038 and 2047 the impact of the Project will begin to decline, from supporting a net additional 20,288 jobs in 2038 across the 37 authorities (as shown in Table 2.4.1) to 19,018 by 2047. Therefore, if there are no identified population/housing impacts in the period up to 2038 it would be reasonable to conclude this would not change in the 2038 to 2047 period, when the employment impact is reducing.

Table 2.4.1: Potential employment associated with Gatwick Airport (total across 37 London/South East authorities)

	2029	2032	2038
Direct			
Without Project	27,609	28,074	28,770
With Project	28,596	31,247	31,985
Difference	987	3,172	3,215
Indirect			
Without Project	53,800	54,706	56,074
With Project	55,723	60,788	62,340
Difference	1,923	6,082	6,266
Catalytic			
Without Project	55,257	55,579	57,934
With Project	59,106	67,143	68,742
Difference	3,848	11,564	10,807
Total			
Without Project	**136,667**	**138,359**	**142,778**
With Project	**143,425**	**159,178**	**163,067**
Difference	**6,759**	**20,819**	**20,288**

Source: Oxera/ICF

3.1.4 Looking specifically at additional employment the Project would generate within the **study area** (which covers the 17 authorities shown in Diagram 1.2.1 in Section 1.0), the Oxera/ICF work suggests the Project could lead to an additional c.16,000 workers (direct, indirect and catalytic) in the study area by 2038, as shown in Table 2.4.2.

Table 2.4.2: Summary of additional workers associated with the Project (direct, indirect and catalytic) in the study area (17 authorities) at 2029, 2032 and 2038

	2029	2032	2038
Direct	703	2,260	2,290
Indirect	815	2,578	2,656
Catalytic	3,848	11,564	10,807
Total	**5,366**	**16,402**	**15,753**

Source: Oxera. *Note: Where Oxera has indicated an impact of '<100' jobs, for the purposes of this modelling a figure of 100 jobs is assumed. This represents a 'worst-case scenario' from a labour/housing demand perspective.

3.1.5 Table 2.4.3 shows the breakdown of the additional workers in the study area based on authority of residence; as expected the majority of occupants of the additional jobs would reside in Crawley itself (c.3,800 workers by 2038). The project would be expected to yield the greatest number of additional workers in authorities nearest to Gatwick, notably Mid Sussex and Horsham, as well as the Coastal West Sussex Housing Market Area authorities of Chichester, Worthing and Arun.

Table 2.4.3: Net additional labour (direct, indirect and catalytic) arising from the Project at Gatwick by local authority

	2029	2032	2038
Adur	226	689	652
Arun	478	1,453	1,372
Brighton and Hove	111	353	361
Chichester	578	1,754	1,654
Crawley	1,310	4,002	3,848
Croydon	121	384	393
Eastbourne	30	94	97
Elmbridge	48	153	157
Epsom and Ewell	34	107	110
Horsham	790	2,387	2,265
Lewes	33	106	108
Mid Sussex	806	2,437	2,313
Mole Valley	60	191	196
Reigate and Banstead	151	483	493
Tandridge	54	172	176
Wealden	47	149	153
Worthing	490	1,489	1,406
Study Area total	**5,366**	**16,402**	**15,753**

Source: Oxera

3.1.6 The numbers set out in Table 2.4.2 do not necessarily equate to net additional jobs across the study area because Oxera estimates that some of the jobs arising through the Project would be taken by workers switching job (in other words, a substitution effect). Furthermore, Oxera considers that some of these additional workers would arise through increases in economic activity and reductions in unemployment (in turn, this would mean additional housing was not needed because labour demand would be filled partly by people who are already resident). This is a different approach to the PopGroup model, which fixes assumptions around commuting, unemployment and economic activity and instead flexes the amount of housing (in order to yield

more migration, population growth and labour supply growth) to support a given labour force/number of jobs.

3.1.7 The assumption has been made that the CE forecasts would include baseline job growth at Gatwick without the Project. This is on the basis that it reflects a trend-based view of the underlying growth of the economy without cognisance of specific changes in infrastructure provision at Gatwick. These are the changes which trigger additional employment growth. Therefore the additional workers expected to arise from the Project as set out above have been added, to the labour supply which is needed to support the CE forecasts. This is likely to be a 'worst-case scenario' from a housing demand perspective because:

- The modelling through PopGroup effectively assumes that all 16,000 additional workers are additional to the area and that commuting, unemployment and economic activity are fixed[13]; and
- Our modelling also does not take into account job 'switching' (ie any substitution effect or 'loss' of jobs in the underlying baseline forecast as a result of growth at Gatwick) which would reduce the net impact of the Project on the total number of jobs in the study area.

3.1.8 If either of the above occurs (eg unemployment reduces, economic activity increases or there is job substitution) then the effect would be a lower labour market demand than is set out below in Scenario 5.

3.2 Context

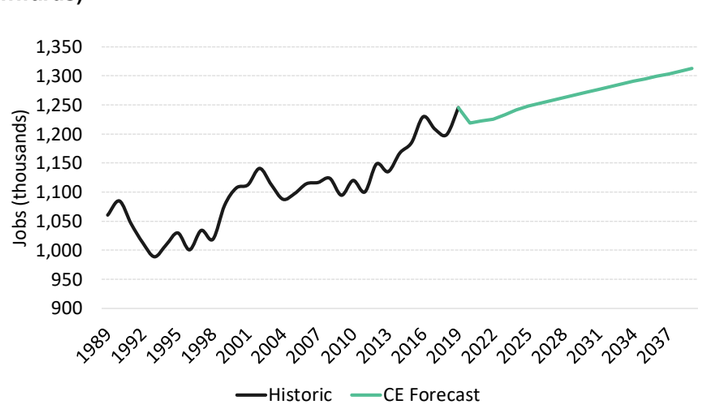
3.2.1 According to Cambridge Econometrics there are 1.25m jobs in the study area as of 2019. In the last 10 years (2009-19) the number of jobs has grown by 14%; higher than growth seen in the both the 1990s and 2000s (both decades at 2%), as shown in Table 3.2.1 (and Diagram 3.2.1). In the future, Cambridge Econometrics forecasts more modest growth than has been seen recently, at 2% over the 2019-29 period and 3% over the 2029-38 period. In total by 2038 there is anticipated to be 1.31m jobs in the study area; an increase of 63,000 compared to 2019. As shown in Diagram 3.2.1 in the immediate future Cambridge Econometrics forecasts a slight drop in the overall number of jobs in the study area, primarily a reflection of the effects of the Covid-19 pandemic. It is anticipated that by the mid-2020s the number of jobs will have recovered to the level seen in 2019, with steady growth in the long term thereafter.

Table 3.2.1: Historic trends and job forecasts for the study area

	Jobs (thousands)	10-year rate of growth	10-year growth (absolute)	Annual growth
1989	1,060	~	~	~
1999	1,077	2%	16,808	1,681
2009	1,094	2%	17,334	1,733
2019	1,245	14%	150,860	15,086
2029	1,267	2%	22,012	2,201
2038*	1,308	3%*	40,990*	4,554*

Source: Cambridge Econometrics. *Figures for 2038 refer to 9 year growth to correspond with the design year/end date of the modelling.

Diagram 3.2.1: Historic and Forecast total jobs - Study area (1989 onwards)



Source: Cambridge Econometrics

3.3 Outputs

Scenario 4a – Cambridge Econometrics Forecast (March 2021)

3.3.1 CE forecast the number of jobs in the study area to rise to 1.31m by 2038. To provide the labour force sufficient to support this forecast of job growth (assuming base year [2019] commuting patterns remain constant) would require population growth of 121,000 over the 19 year period and housing growth of 112,000 (just under 6,000 per annum), as shown in Table 3.3.1.

Table 3.3.1: Summary of outputs - Scenario 4a: Cambridge Econometrics Forecast (March 2021)

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,453,492	2,486,504	
Dwellings	1,067,079	1,080,259	1,112,152	
Labour Supply	1,301,547	1,301,600	1,328,423	
Jobs	1,245,003	1,241,532	1,267,015	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,515,351	2,572,421	120,814	6,359
Dwellings	1,134,959	1,178,734	111,655	5,877
Labour Supply	1,343,349	1,371,631	70,084	3,689
Jobs	1,281,179	1,308,005	63,002	3,316

Source: Lichfields analysis using PopGroup

3.3.2 Of the demographic scenarios assessed, only Scenario 3 (a/b – the 2018-based SNPP) would not provide sufficient population growth and labour supply to support Cambridge Econometrics' forecast job growth. However, as set out in Section 2.0, these projections are unlikely to underpin any plan-making in the study area; housing requirements will be underpinned by the standard method (which is in turn based on the 2014-based projections) or a future 'top-down' requirement consistent with delivering 300,000 homes per year. Therefore to assess whether future job growth associated with the Project (combined with underlying job growth) is likely to impact upon the demand for housing in the study area, is it more appropriate to compare the labour supply needed to support job growth (based on CE's forecast, with or without the project) with the labour supply generated based on likely levels of housing growth. The population and labour supply impacts associated with various future levels of housing growth are assessed in Section 4.0 of this report and a labour supply comparison of the relevant scenarios in set out in Section 5.0.

[13] Either at current levels or based on the underlying assumptions which are detailed in Annex 1. The PopGroup model does not flex assumptions around commuting, unemployment and economic activity based on job demand.

Scenario 4b – Cambridge Econometrics Forecast (March 2021) with headship rate adjustment

3.3.3 When an adjustment to headship rates is taken into account (using the same approach as set out for Scenario 3b) the number of homes needed to support job growth in the CE forecast increases to 147,000 dwellings, or just around 7,700 dwellings per annum across the study area between 2019 and 2038, as shown in Table 3.3.2. This is a c.30% increase on Scenario 4a.

Table 3.3.2: Summary of dwelling outputs - Scenario 4b: Cambridge Econometrics forecast with headship rate adjustment

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Dwellings	1,067,079	1,094,139	1,141,754	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Dwellings	1,168,338	1,214,004	146,925	7,733

Source: Lichfields analysis using PopGroup

Scenario 5a – Cambridge Econometrics Forecast (March 2021), with the Project

3.3.4 To support the forecast 1.31m jobs in 2038 forecast by CE, an estimated labour supply of 1.37m would be needed (see Table 3.3.1 below). This takes into account unemployment and commuting patterns, which mean the study area is likely to need slightly more growth in workers living locally than jobs.

3.3.5 If the additional workers associated with the Project (15,753 by 2038) were added to this, this would imply the labour supply needs to increase by 15,328, as shown in Table 3.3.3. For the reasons set out above in 3.1.6, this is likely to over-estimate the actual demand for labour associated with the Project, but this is a worst-case scenario from a housing demand perspective.

Table 3.3.3: Labour supply requirements associated with the Project

	Labour supply needed in 2038	Jobs in 2038
CE Forecast	1,371,631	1,308,005
CE Forecast with Project	1,386,959	1,323,758
Difference	+15,328	+15,753

Source: Lichfields based on CE/Oxera

3.3.6 The additional workers which are expected to be generated from the Project would require population growth of 148,000 and 123,000 additional dwellings, or 6,500 dwellings per annum, as shown in Table 3.3.4.

Table 3.3.4: Summary of outputs - Scenario 5a: Cambridge Econometrics Forecast (March 2021) with additional jobs from the Project

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,453,492	2,494,866	
Dwellings	1,067,079	1,080,259	1,115,503	
Labour Supply	1,301,547	1,301,600	1,333,646	
Jobs	1,245,003	1,241,532	1,272,381	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,540,980	2,599,373	147,766	7,777
Dwellings	1,145,260	1,190,322	123,243	6,486
Labour Supply	1,359,311	1,386,959	85,412	4,495
Jobs	1,297,581	1,323,758	78,755	4,145

Source: Lichfields analysis using PopGroup

Scenario 5b – Cambridge Econometrics Forecast (March 2021), with the Project with headship rate adjustment

3.3.7 With an adjustment for headship rates, the number of homes needed to support job growth forecast by Cambridge Econometrics with the additional jobs arising from the Project rises to 8,400 per annum, as shown in Table 3.3.5.

Table 3.3.5: Summary of dwelling outputs - Scenario 5b: Cambridge Econometrics Forecast (March 2021) with additional jobs from the Project with headship rate adjustment

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Dwellings	1,067,079	1,094,139	1,145,263	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Dwellings	1,179,173	1,225,996	158,917	8,364

Source: Lichfields analysis using PopGroup

3.4 Summary

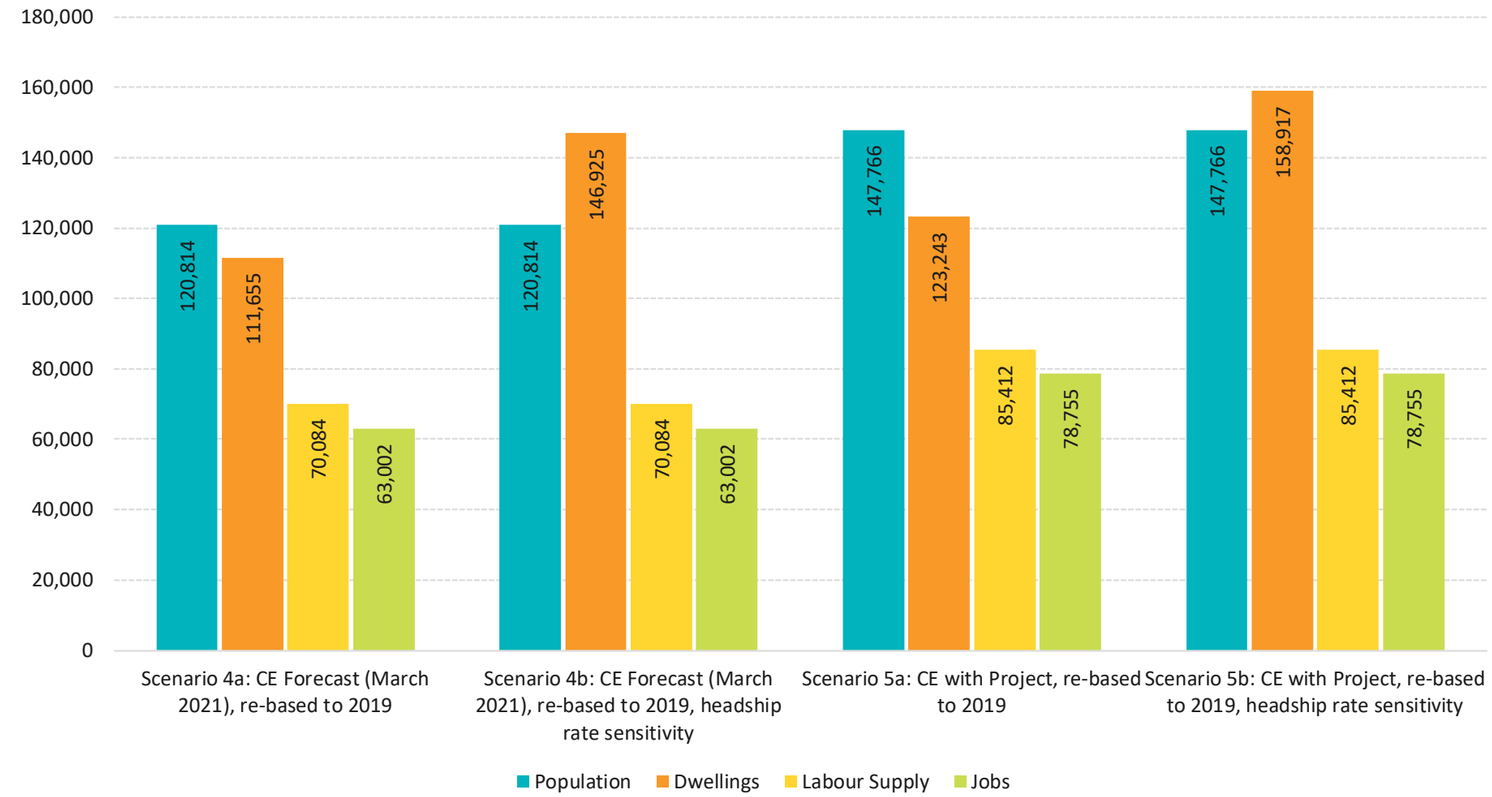
3.4.1 A summary of the key outputs for the study area are shown in Table 3.4.1 and Diagram 3.4.1. Under the forecast of job growth set out by Cambridge Econometrics, the study area would see an increase of 63,000 jobs in total to 2038, which would require labour force growth of 71,000 and between 112,000 and 147,000 dwellings. The impact assessment prepared by Oxera expects the Project to generate up to 16,000 additional workers (direct, indirect and catalytic), which would (in combination with baseline forecast of growth in the wider economy) require labour force growth of 85,000 and a need for between 123,000 and 159,000 dwellings.

Table 3.4.1: Summary of employment-led scenarios - total change across study area – 2019-38

	Scenario 4a	Scenario 4b	Scenario 5a	Scenario 5b
Population	120,814	120,814	147,766	147,766
Dwellings	111,655	146,925	123,243	158,917
Labour Supply	70,084	70,084	85,412	85,412
Jobs	63,002	63,002	78,755	78,755

Source: Lichfields analysis using PopGroup

Diagram 3.4.1: Summary of Economic-led scenarios – total change across study area – 2019-38



Source: Lichfields

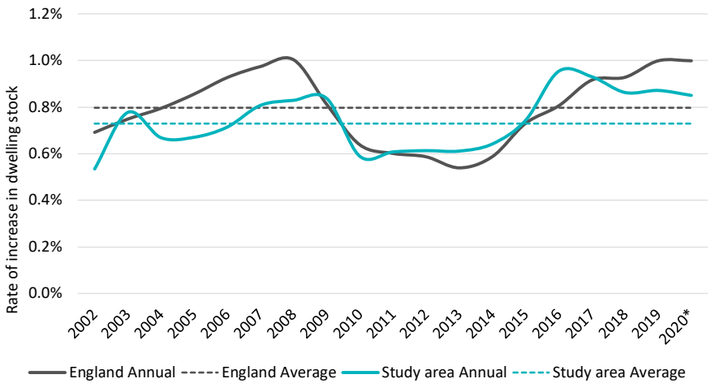
4 Housing-led scenarios

4.1.1 This section assesses the amount of population growth and labour supply that is likely to be generated based on the amount of housing growth which might be expected in the study area to 2038.

4.2 Context

4.2.1 In 2020, there were an estimated 1.08m homes in the study area. Over the last 20 years the number of homes in the study area has increased at a slightly slower rate on average compared to England, albeit has followed national trends as shown in Diagram 4.2.1.

Diagram 4.2.1: Annual change in dwelling stock - England and Study area



Source: MHCLG Live Table 125/122. *Because MHCLG Live Table 125 (dwelling stock) only gives data up to 2019, an estimate of the 2020 stock has been calculated by adding net completions (from MHCLG Live Table 122) to the 2019 stock.

4.2.2 The year 2019/20 saw just under 9,000 net completions in the study area, which is a slight decrease compared to the post-recession peak of 9,718 in 2015/16, as shown in Table 4.2.1. However, this is still a substantial increase on housing completions seen in the aftermath of the recession, which saw around 6,200 completions in 2011/12.

Table 4.2.1: Annual net completions in the Study area

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19*	2019/20*
Units	6,180	6,582	6,543	7,492	9,718	9,438	9,435	8,885	8,987

Source: Various Annual Monitoring Reports. *Where data for 2018/19 or 2019/20 is missing (eg authorities have not published recent AMRs) MHCLG Live Table 122 is used.

4.3 Future growth

4.3.1 In reality it is impossible to know the future planning landscape for certain or to specify which local authorities will update their plans, when, and for how much housing they will plan. However, it is possible to assess what might be considered the 'best' case and 'worst' case scenarios in terms of plan-making and housing growth, being fairly confident that the true picture would lie somewhere within this range. Under all scenarios the actual number of completions by local authority is applied in 2019/20, with trajectories applying from 2020/21 onwards.

'Worst' case scenario

4.3.2 The 'worst' case scenario is based on the most recent housing trajectories for local authorities in the study area, which are primarily based on current plans[14]. Plan coverage in the study area varies; some authorities have up-to-date plans adopted in the last five years whilst others have not adopted a plan since the 2012 NPPF was published.

4.3.3 Whilst many authorities in the study area have trajectories covering the period to 2030, few have trajectories beyond 2030 (and some only have a five-year land supply position statement). To estimate the amount of housing likely to come forward in authorities after the existing trajectory ends, the annual average delivery expected in the trajectory period is trended. For this reason, outputs for the post-2030 period should be treated with some caution, particularly because some authorities which are 'capacity-constrained' (eg Brighton and Hove) might see supply reduce over time as housing land becomes scarcer. However, by this time, many (if not all) local authorities should be preparing or reviewing plans in the context of the Government's standard method for estimating local housing need which would result in:

- The overall assessment of need increasing; and
- Under the provisions of the NPPF 2021, a requirement to address any unmet need in neighbouring authorities, which should mean that unmet needs are picked up elsewhere through higher levels of housing provision in those plans.

4.3.4 Crawley is of key importance for the purposes of this analysis; self-evidently it is the location of Gatwick Airport and houses a high proportion of its workers. It is also constrained in terms of housing land supply by virtue of an administrative boundary drawn tightly around much of its urban area. Its current Local Plan (2015-30) housing requirement is capacity constrained, with the borough offloading some of its housing needs to Horsham and Mid Sussex. In the future it is questionable whether the supply of new housing can continue at current rates; indeed, the current Local Plan expects higher housing growth in the immediate future, with supply tailing off over time, and the emerging Local Plan expects even lower supply in the post-2030 period. Taking a pragmatic approach, for the purposes of this assessment, it is assumed that post-2030 (the end date of Crawley's current plan period/trajectory) Crawley would deliver housing at 220 per annum, which is the amount of housing the Council expects to deliver on average beyond 2030 in its emerging Local Plan Review[15]. This is lower than the average based on its current trajectory[16] but reflects the constrained and under bounded nature of the borough.

4.3.5 The supply of housing across the study area based on the analysis of current trajectories (and assumptions as set out above) is shown in Diagram 4.3.1 (detailed figures are given in Annex 2). On this basis expected housing delivery increases from around 9,000 in 2019/20 to around 14,300 by 2022/23, then fall steadily during the 2020s to a level more in line with that delivered in recent years (c.9,000-10,000 per annum). In total over the 19 years, based on current trajectories and trends it is expected a total of c.191,000 homes would be delivered by 2038.

'Best' case scenario

4.3.6 The NPPF (MHCLG, 2021) sets out that in local authorities where strategic policies are more than five years old (and have not been reviewed and found not to need updating) the standard method should be used for the basis of calculating five-year land supply[17]. This is likely to have the effect of increasing short term

[14] Housing trajectories in plans which are currently undergoing examination or are in draft plans which have yet to be submitted have not been included on the basis that these might be subject to change prior to adoption, with the exception of Crawley.

[15] See Strategic Policy H1 Housing Provision of the Draft Crawley Borough Local Plan 2021-2037 (Submission publication version January 2021).

[16] Trending the annual average in Crawley's current trajectory from 2020/21 to 2029/30 would give a figure of 390 dwellings per annum.

[17] Paragraph 74, unless these policies have been reviewed and have been found not to require updating.

delivery in some areas (eg those which are unconstrained[18]) although would have less of an impact in Green Belt/more highly constrained authorities (which might reasonably conclude that paragraph 11b of the NPPF justifies them not having to meet objectively assessed housing need).

4.3.7 Over time authorities will update their plans to account for the standard method, resulting either in an increase in delivery in their area or (where this is not possible, eg due to constraints) this need being addressed in neighbouring authorities (as required by paras 26 and 35 c of the NPPF). As the standard method is gradually rolled out through the planning system it would – for the study area overall – result in increased housing targets overall as it exceeds the current plan requirements across every authority in the study area.

4.3.8 In a 'perfect' system, authorities would have updated their local plan and be able to maintain a five-year land supply against the standard method as soon as their current plan becomes more than five years old[19]. This would be the best-case scenario, although it is unlikely to happen precisely like this because it would require substantial increases in housing delivery to occur very quickly.

4.3.9 Under this 'perfect' standard method scenario, it is expected that housing delivery would increase from around 9,000 in 2019/20 to nearly 18,000 by 2022/23, remaining at around 17,300 over the longer term, as shown in Diagram 4.3.1. This is evidently significantly higher than current delivery – almost double the amount of homes delivered in the last year – albeit given Government objectives to boost housing supply and the area's context (including relatively unaffordable parts of the wider South East) this is to be expected. In total over 20 years it is expected that 320,000 dwellings would be delivered across the study area.

Diagram 4.3.1: Dwellings per annum across study area - Current trajectories and Standard Method

Source: Lichfields analysis. *Figures for 2020 are actual completions based either on authority AMRs or MHCLG Live Table 122 (where AMRs are missing).

4.4 Outputs

Scenario 6a: Current housing trajectories

4.4.1 The delivery of 191,000 homes across the study area over the 2019 to 2038 period could support population growth of 294,000 and labour supply growth of 166,000, in turn supporting 150,000 jobs.

4.4.2 This suggests that the amount of population growth (and labour supply growth) current housing trajectories would be expected to support is greater than the labour supply which would be needed to support the latest CE forecasts of 63,000 increased jobs.

Table 4.4.1: Summary of outputs - Scenario 6a: Current housing trajectories

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,566,588	2,633,662	
Dwellings	1,067,079	1,126,418	1,175,648	
Labour Supply	1,301,547	1,370,049	1,413,194	
Jobs	1,245,003	1,306,668	1,346,723	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,665,818	2,745,722	294,115	15,480
Dwellings	1,201,843	1,257,923	190,844	10,044
Labour Supply	1,427,616	1,467,770	166,222	8,749
Jobs	1,359,238	1,394,523	149,520	7,869

Source: Lichfields analysis using PopGroup

Scenario 6b: Current housing trajectories, with headship rate adjustment

4.4.3 If there were to be some improvement in household formation amongst younger people, the amount of housing which can be expected based on current trajectories in the study area would support a smaller population overall, and therefore a smaller labour supply (and thus fewer jobs). The delivery of 191,000 homes under this scenario could be expected to yield population growth of 211,000 across the study area, yielding 120,000 in additional labour supply, supporting 106,000 jobs (as shown in Table 4.4.2). Whilst this is lower than under Scenario 6a, it is still greater than the 63,000 additional jobs in the latest CE forecasts.

[18] Where the increase in housing requirement as a result of the standard method results in less than a five-year land supply, or results in an authority failing the housing delivery test, the presumption in favour of sustainable development would be triggered.

[19] To obtain a view of the true 'best case' scenario in terms of the standard method, no standard method figure has been capped based on the current adopted requirement (which would be the case if an authority updated its housing requirement while its current requirement was less than five years old). The cap is always taken to be 40% above whichever is higher of the current requirement or household projections at that point in the future (which would be the case if the current requirement was more than 5 years old). The assessment also incorporates the 35% cities and urban centres uplift (see PPG ID: 2a-004-20201216) which applies to Brighton and Hove and Croydon.

Table 4.4.2: Summary of outputs - Scenario 6b: Current housing trajectories with headship rate adjustment

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,528,846	2,558,728	
Dwellings	1,067,079	1,126,423	1,175,660	
Labour Supply	1,301,547	1,346,401	1,367,939	
Jobs	1,245,003	1,284,750	1,304,592	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,584,863	2,662,954	211,347	11,124
Dwellings	1,201,855	1,257,923	190,844	10,044
Labour Supply	1,380,205	1,421,175	119,627	6,296
Jobs	1,315,135	1,351,243	106,240	5,592

Source: Lichfields analysis using PopGroup. *Note: dwelling figures for interim years differ marginally from Scenario 6a due to rounding. Start/end years and overall growth are the same.

Scenario 7a: Standard method (best case scenario)

4.4.4 As set out above in 4.3.9, if the standard method were implemented 'perfectly' it is expected around 320,000 homes would be delivered in the study area over the next 19 years to 2038. In reality it is unlikely that this would actually be delivered, but it represents a best-case scenario for housing delivery, indicative of the maximum amount of housing that is likely to be delivered in the future in the study area.

4.4.5 As shown in Table 4.4.3 under this scenario there would be estimated population growth of 608,000 and labour supply growth of 349,000, in turn supporting an estimated 323,000 jobs. This is clearly substantially more jobs than CE's latest forecast, including after additional jobs associated with the Project are factored in.

Table 4.4.3: Summary of outputs - Scenario 7a: Standard Method (best case scenario)

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,609,237	2,775,016	
Dwellings	1,067,079	1,143,010	1,231,043	
Labour Supply	1,301,547	1,396,941	1,499,635	
Jobs	1,245,003	1,332,537	1,428,478	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,869,527	3,059,161	607,554	31,977
Dwellings	1,282,987	1,386,873	319,794	16,831
Labour Supply	1,549,981	1,650,645	349,097	18,374
Jobs	1,475,184	1,568,277	323,274	17,014

Source: Lichfields analysis using PopGroup

Scenario 7b: Standard method (best case scenario), with headship rate adjustment

4.4.6 As set previously set out, if improvement to headship rates materialise, a given level of housing would support a smaller population (and therefore labour supply and jobs) than would otherwise be the case. Under the amount of housing which could come forward in the study area under the standard method scenario (320,000 by 2038) population growth of 509,000 would be expected, yielding labour force growth of 293,000 and supporting 272,000 jobs, as shown in Table 4.4.4.

Table 4.4.4: Summary of outputs - Scenario 7a: Standard Method (best case scenario), with headship rate adjustment

	Base Year - 2019	Start of construction - 2024	First year of opening - 2029	
Population	2,451,607	2,570,275	2,692,129	
Dwellings	1,067,079	1,143,010	1,231,043	
Labour Supply	1,301,547	1,372,484	1,449,311	
Jobs	1,245,003	1,309,856	1,381,756	
	Interim - 2032	Design - 2038	2019-38 Change	
			Total	Annual
Population	2,776,944	2,960,704	509,097	26,795
Dwellings	1,282,987	1,386,873	319,794	16,831
Labour Supply	1,495,382	1,594,871	293,323	15,438
Jobs	1,424,554	1,516,639	271,636	14,297

Source: Lichfields analysis using PopGroup

4.5 Summary

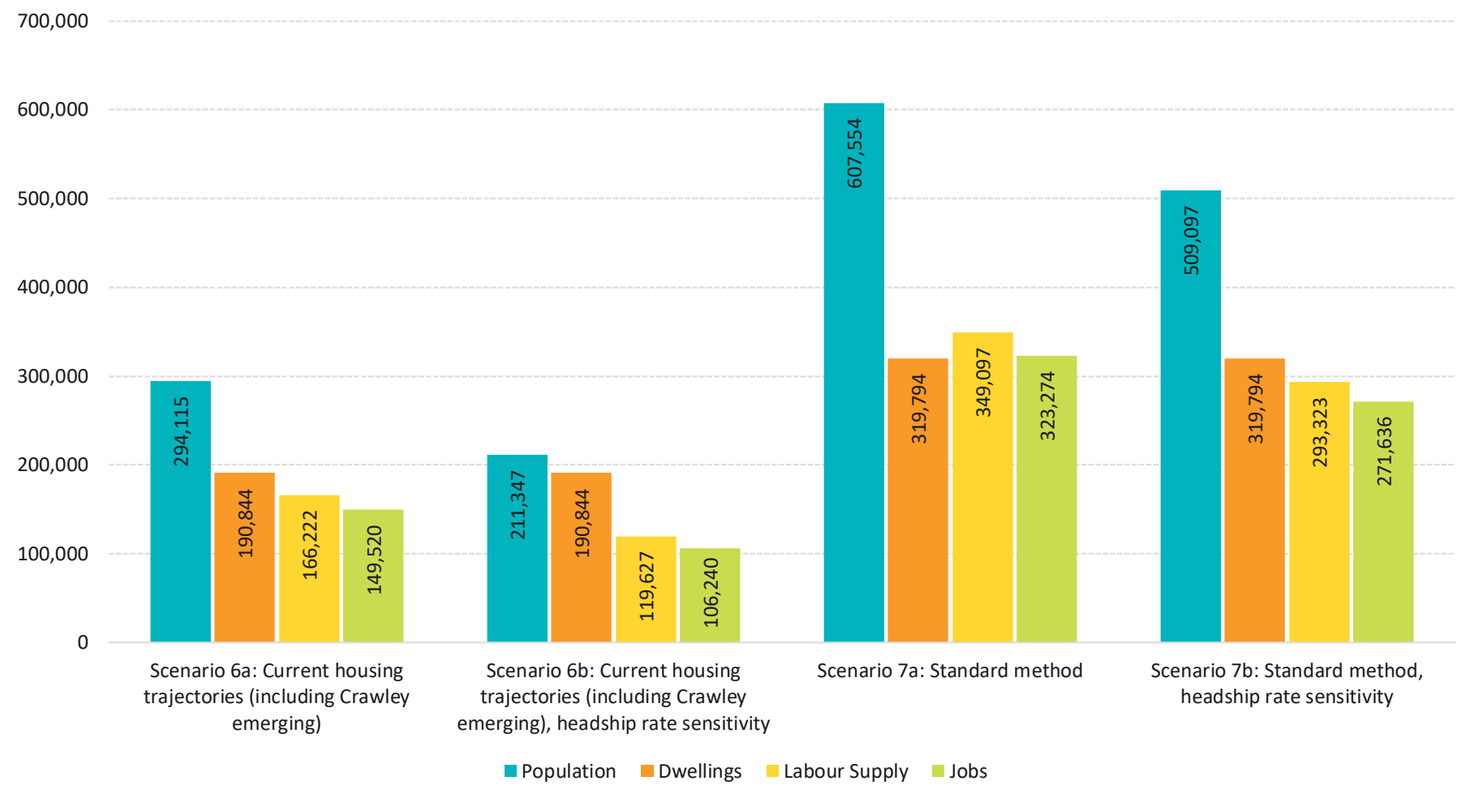
4.5.1 This section has considered the amount of housing likely to come forward based on current trajectories alone (not taking into account emerging or new plans which might increase delivery or possible increases resulting in a lack of five-year land supply against the standard method) and the amount of housing that would come forward if the standard method for calculating local housing need were implemented 'perfectly'. On this basis it can be concluded that the amount of housing likely to be delivered in the study area over the next 19 years would be somewhere between 191,000 and 320,000 homes. The analysis suggests that both these scenarios would provide a sufficiently large population and labour force to meet the labour force requirements of the most recent CE forecast (which requires an increase in the labour force of 70,000), as shown in Table 4.5.1 and Diagram 4.5.1.

Table 4.5.1: Summary of outputs - Housing-led scenarios - total change across study area – 2019-38

	Scenario 6a	Scenario 6b	Scenario 7a	Scenario 7a
Population	294,115	211,347	607,554	509,097
Dwellings	190,844	190,844	319,794	319,794
Labour Supply	166,222	119,627	349,097	293,323
Jobs	149,520	106,240	323,274	271,636

Source: Lichfields analysis using PopGroup

Diagram 4.5.1: Summary of Housing-led scenarios - total change across study area – 2019-38



Source: Lichfields analysis using PopGroup

5 Labour supply analysis

5.1.1 The results of the analysis set out in Sections 2.0 – 4.0 show growth in population, housing and jobs in the study area as a whole. This has suggested that:

- Labour supply generated by projected population growth in the 2014-based and 2016-based projections is likely to be higher than the required number of workers needed to fulfil job growth forecast by Cambridge Econometrics with the additional 16,000 workers arising through the Project by 2038. Labour supply generated by the 2018-based projections is likely to be lower than the required number of workers; and
- Labour supply generated by current housing trajectories (and also by the number of homes which might be delivered once the Government's standard method for local housing need is fully implemented) is likely to be higher than the required number of workers needed to fulfil job growth forecast by Cambridge Econometrics with the additional jobs arising through the Project.

5.1.2 However, it is important to consider whether there are any particular local geographies within the study area, or time periods, that could present potential 'pinch-points', ie where there might be a shortage of labour/housing. This is important because whilst Gatwick Airport does draw its workers from a wide catchment area covering multiple housing market areas (HMAs), in reality the majority of jobs are drawn from local authority areas closest to Gatwick (especially Crawley). HMAs represent the geographic extent to which people would search for new housing taking into account factors such as employment opportunities and house prices. It is also important to consider whether there are any particular time periods in which population/housing/jobs are misaligned, which might impact the timing in which housing and other infrastructure needs to come forward.

5.2 'Pinch-point' analysis

Study area

5.2.1 The labour supply that would be needed to support job growth under the Cambridge Econometric forecasts with the additional demand arising from the Project (Scenario 5a) has been compared with the labour supply that is expected to be generated based on current housing trajectories (Scenario 6a). Overall this is likely to be a worst-case scenario comparison because:

- From a labour demand perspective, for the reasons set out in Section 3.0, the assessment of the additional labour demand from the Project is likely to be a worst-case scenario. Lower labour demand than suggested by Scenario 5 would yield a lower housing demand; and
- From a housing delivery perspective, Scenario 6 is likely to be the worst-case scenario because the number of homes which would actually be delivered is likely to exceed that based on current trajectories as the standard method begins to inform plan-making and decision-taking (moving towards Scenario 7). The result of higher housing supply than current trajectories would be a lesser shortfall (or greater surplus) than the analysis below suggests.

5.2.2 Table 5.2.1 summarises the shortfall/surplus in labour supply by local authority in the key monitoring years based on a comparison of Scenarios 5a and 6a. Specific HMAs are then reviewed in further detail below.

Table 5.2.1: Summary of surplus/shortfall in labour supply in key years by local authority - Cambridge Econometrics scenario (with Project) compared with current housing trajectory scenario

	2024	2029	2032	2038
Adur	2,545	2,706	1,497	1,935
Arun	5,911	11,535	11,981	16,797
Brighton and Hove	7,949	10,340	8,557	5,694
Chichester	2,382	2,051	187	-1,151
Crawley	5,781	5,198	2,939	2,564
Croydon	13,833	11,036	9,592	10,700
Eastbourne	208	-220	-750	-1,498
Elmbridge	1,639	931	739	554
Epsom & Ewell	493	176	95	-833
Horsham	5,058	6,014	3,815	6,778
Lewes	1,576	1,744	1,349	1,349
Mid Sussex	6,223	9,888	10,231	15,303
Mole Valley	2,515	3,520	3,660	4,532
Reigate and Banstead	3,398	3,114	2,975	3,618
Tandridge	1,792	1,770	1,643	1,782
Wealden	5,508	7,294	7,894	9,630
Worthing	1,638	2,452	1,902	3,056
Total	**68,449**	**79,549**	**68,305**	**80,811**

Source: Lichfields analysis

5.2.3 Table 5.2.1 shows that current Local Plan housing land supply trajectories would likely support substantive surpluses of labour supply against CE forecasts with Project jobs in all but one authority (Eastbourne) by 2029 (the period where there can be highest levels of confidence over housebuilding trajectories) and this includes in local authority areas closest to Gatwick (Crawley, Horsham, Mid Sussex, Reigate and Banstead). From the 2030s, when housing trajectories in the analysis are more likely to be extrapolated, the surplus is maintained across most authorities. In the long term (ie by 2038), it is reasonable to assume that current Local Plans will be reviewed and where necessary updated to reflect the Government's standard methodology for calculating local housing need which is likely to result in an increase in the rate of housing provision compared to current plans.

5.2.4 Based on the above, the Project employment in those authority areas with the greatest labour supply relationships to Gatwick is likely to be comfortably absorbed by the labour supply growth implicit in current housing trajectories. Indeed, there is likely to be sufficient headroom overall, should job growth be higher or come forward more quickly than anticipated, or if the balance of employment across the authorities differs from the current distribution, for example as a result of Gatwick implementing local recruitment initiatives.

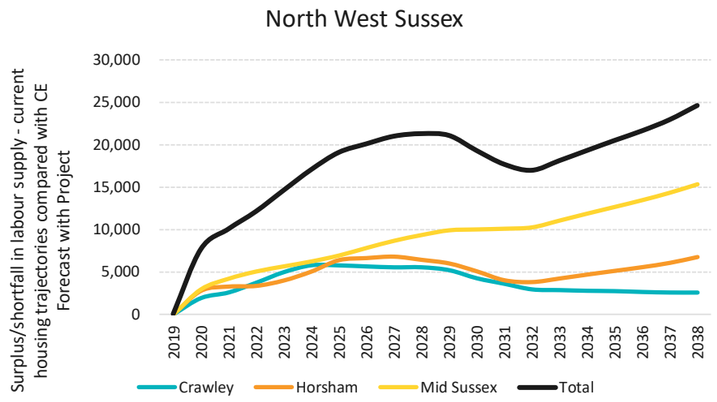
5.2.5 The analysis below considers the issue at the HMA level.

North West Sussex

5.2.6 Whilst Gatwick draws upon labour from a relatively wide catchment area, Crawley itself forms an established HMA with Mid Sussex and Horsham: the 'North West Sussex HMA'. This has been established through the plan-making process in all three authorities, with Mid Sussex and Horsham currently meeting Crawley's unmet housing need.

5.2.7 Diagram 5.2.1 shows the difference between the labour supply needed to support the increase in jobs forecast by CE (with the addition of jobs from the Project) and the labour supply that would likely be generated based on current housing trajectories. It suggests that current trajectories would yield a surplus in labour supply across the 19-year period, particularly so in Mid Sussex. The surplus in Crawley rises to around 5,000 by the mid-2020s, falling to around 3,000 in the longer term. The surplus in Horsham similarly rises to around 5,000 by the 2020s, and rises steadily in the longer term. In Mid Sussex the surplus rises steadily, reaching around 15,000 by 2038. As a whole across the North West Sussex HMA a surplus in workers is expected (against the CE/Project forecast) of c.25,000 by 2038.

Diagram 5.2.1: Difference in Labour Supply between CE/Project and Current Trajectory scenarios - North West Sussex HMA



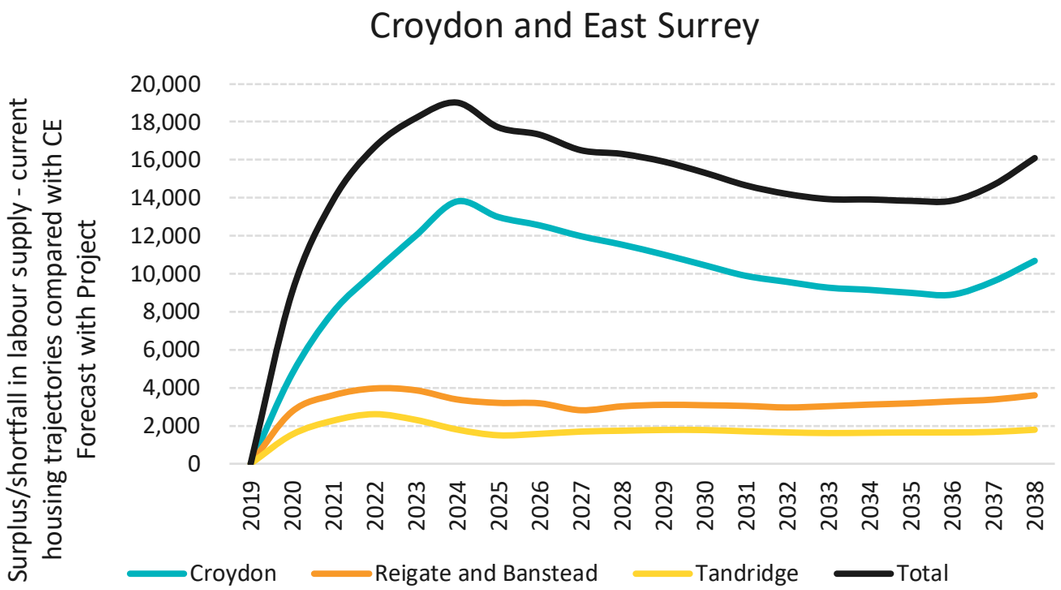
Source: Lichfields analysis

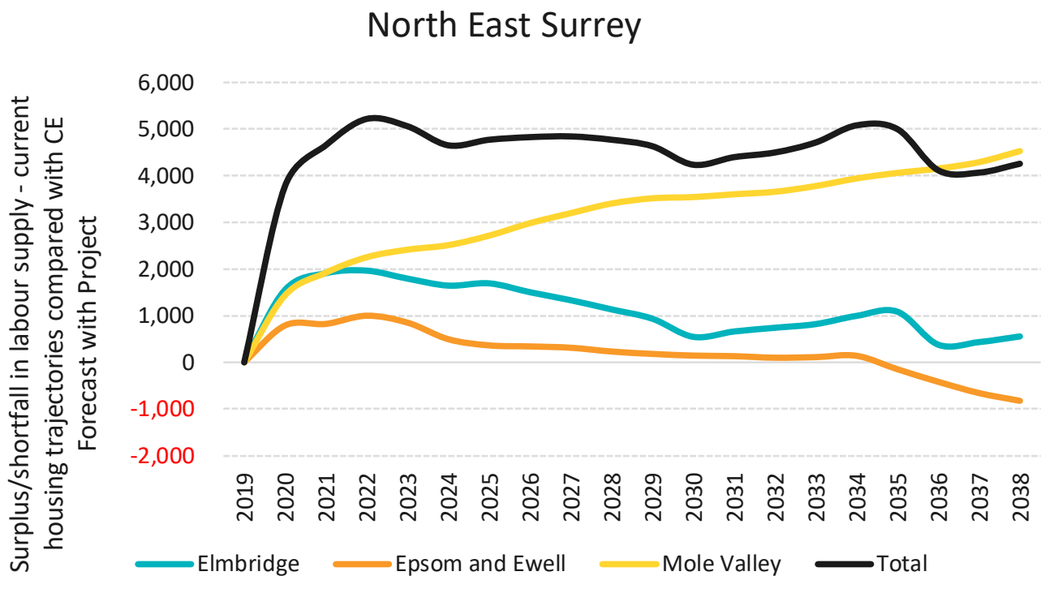
Other HMAs

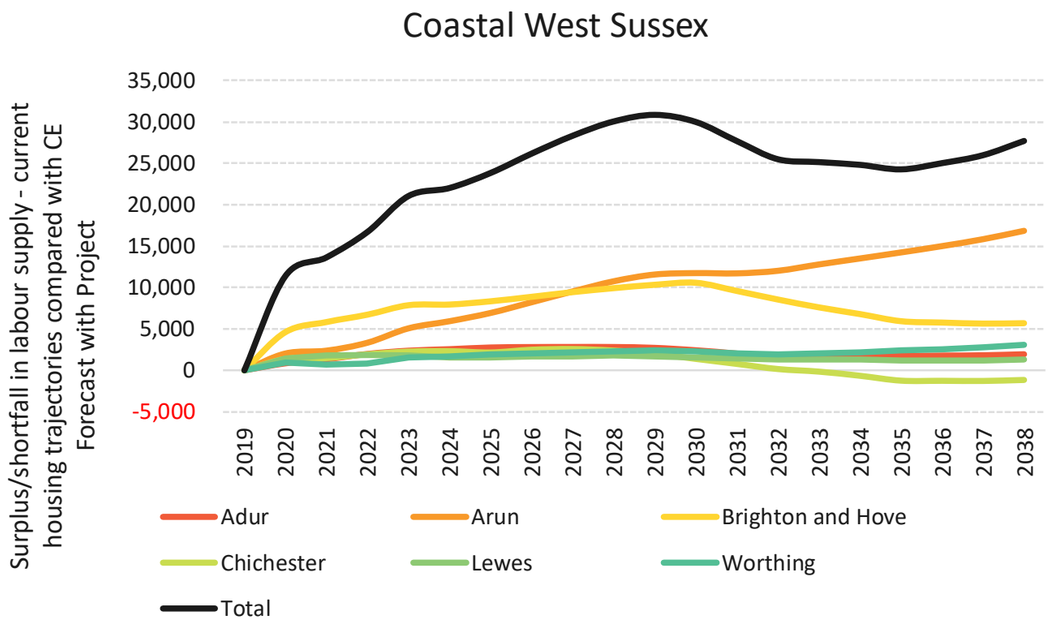
5.2.8 The picture is similar across virtually all the remaining HMAs, as shown in Diagram 5.2.2 overleaf. This is with the exception of:

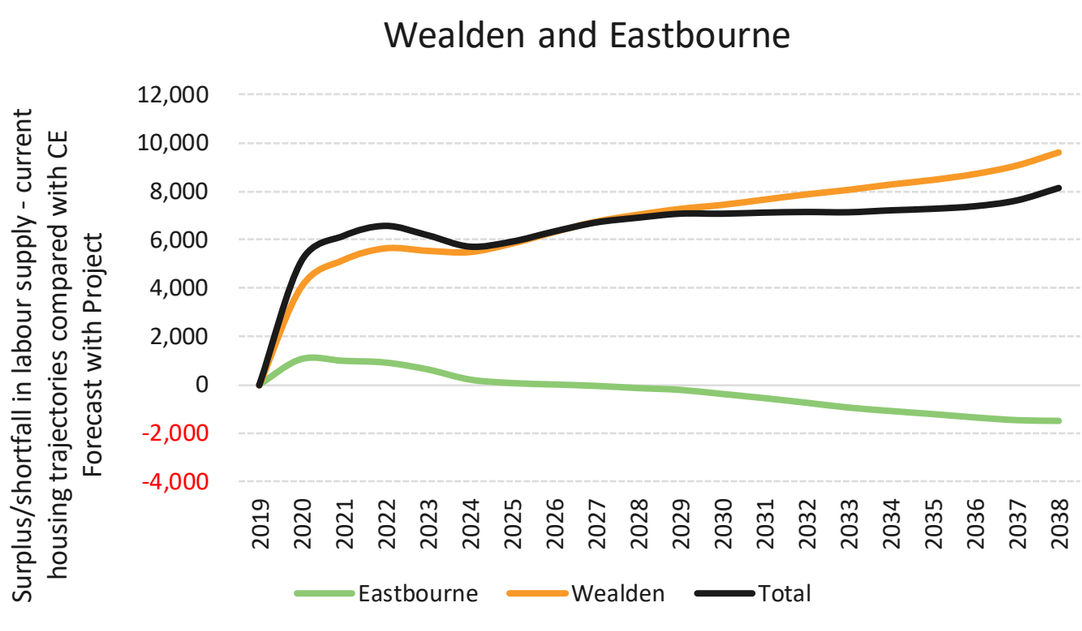
- A shortfall in Epsom and Ewell from around 2034 onwards. However, this shortfall is offset by surpluses in other parts of the HMA, with an overall surplus of around 4,000+ throughout latter years of the period;
- A shortfall in Eastbourne, beginning in the mid-2020s. This is to be expected given Eastbourne is a highly constrained and tightly-bounded authority and therefore has constraints on housing supply. The shortfall in Eastbourne is offset by a surplus in Wealden however, with an overall surplus of around 6,000-8,000 over the period; and
- A shortfall in Chichester towards the end of the projection period, albeit the Coastal West Sussex HMA overall is expected to have a surplus which amounts to around 25,000 to 30,000 over the medium to long term.

Diagram 5.2.2: Difference in Labour Supply between CE/Project and Current Trajectory scenarios - other HMAs









5.3 Age of the labour force

5.3.1 The population of the study area as a whole has seen ageing in recent years and this is expected to continue in the future, reflecting wider trends (namely declining birth rates and increases in life expectancy, combined with the 'bulge' in elderly population as the 'baby-boomers' reach old age). Whilst the overall size of the labour force is an important consideration, it is also necessary to consider the age of the labour force to ensure that the supply of labour is suitably aligned with demand from jobs.

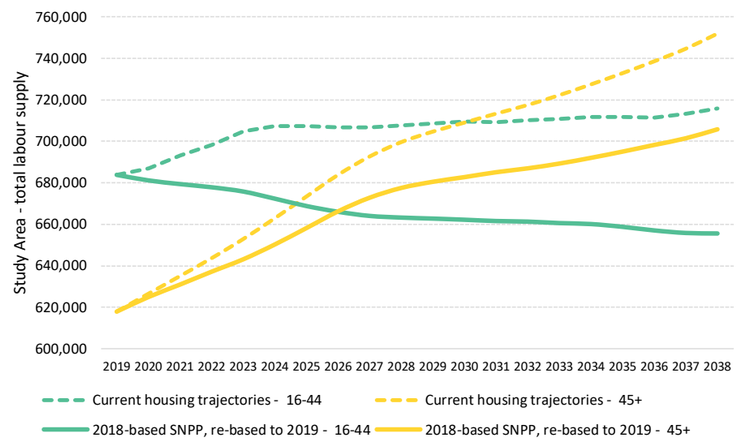
5.3.2 Diagram 5.3.1 shows the projected labour supply across the study area to 2038 split by under 45s and 45 and over, based on both the current housing trajectory scenario and the most recent (2018-based) SNPP. As the trajectory scenario uses the SNPP, it follows similar trends in projected age structure, albeit adjusted to reflect the given amount of housing.

5.3.3 In the case of under 45s, labour supply based on the SNPP would be expected to decline slightly, from around 685,000 currently to around 660,000 in the longer term. Because of additional population growth supported by current housing trajectories, labour supply based on current trajectories would be expected to reverse this trend, with the labour supply of under 45s increasing to around 710,000 in the long term.

5.3.4 The labour force which is age 45 and over is expected to increase steadily, from around 620,000 currently to around 750,000 by 2038 (based on current trajectories; this would be lower, at around 700,000 in 2038 based on the current SNPP). This increase in the older labour supply reflects the combination of:

- The underlying population itself ageing, with significant growth in the number of older people; and
- Increasing economic activity in these age groups, for example in the 65-69 age groups (as a result of increases in state pension age) and amongst women, reflecting increases in participation throughout adult life.

Diagram 5.3.1: Projected labour force in the study area 2019-38 by age - Current housing trajectory scenario and 2018-based SNPP (re-based to 2019)



Source: Lichfields analysis

5.4 Relationship with Heathrow expansion

5.4.1 Proposed expansion at Heathrow Airport will, as with Gatwick, have implications for labour supply and housing demand across a wide impact area. While the development of a Third Runway at Heathrow is not considered within the Project scenarios outlined above, it does form part of the cumulative assessment within Chapter 16 (Socio-economics) of the PEIR. Accordingly, it is necessary to examine potential cumulative population and housing impacts that could arise in combination to the Project in order to inform the PEIR.

5.4.2 The starting point is to determine whether there is any overlap between these impact areas and, if so, whether there are any potential impacts (in terms of population, labour supply and housing) which need to be addressed.

5.4.3 The Heathrow EIA Scoping Report Chapter 10: Economics and Employment sets out several study areas across which impacts will be assessed. Of relevance to the Project is the wider sub-regional context area:

"A wider 'sub-regional context area' - The main function of this sub-regional area will be to provide an economic baseline and to consider its capacity to meet the 'wider' Heathrow generated growth. It is comprised of the 'Elizabeth Line West' area identified by the draft New London Plan, along with three LEP areas (Thames Valley Berkshire, Enterprise M3 and Buckinghamshire Thames Valley)." Heathrow Expansion EIA Scoping Report – Chapter 10: Economics and employment para 10.1.10 [2]

5.4.4 The extent of the Heathrow wider sub-regional context area is shown in Diagram 5.3.1 below, along with the relevant areas used for the purposes of the Project (the Gatwick Labour Market Area and the Gatwick Study Area used in this report).

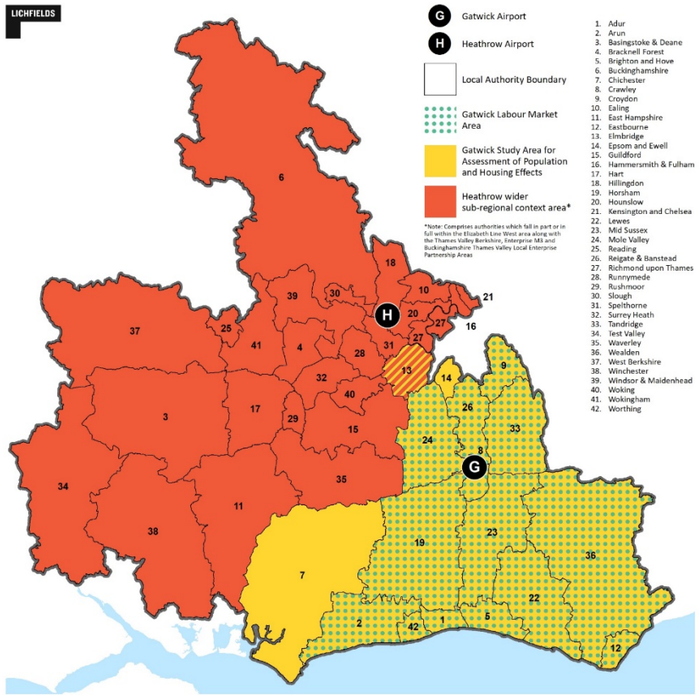
5.4.5 This shows there is only overlap of one district between the Gatwick and Heathrow areas – Elmbridge in Surrey. The comparison of the labour supply generated by current housing trajectories and the labour supply needed to support forecast job growth (CE, with the Project) for Elmbridge and the North East Surrey housing market area is shown above in Diagram 5.2.2. It shows that in Elmbridge specifically, there is expected to be a surplus of labour supply of up to c.2,000 in the early 2020s falling to around 500-1,000 by the early 2030s and falling to below 500 in the longer term (but not falling below zero). Looking across the housing market area as a whole, the labour surplus is expected to be around 5,000 in the short term, falling to around 2,500-3,000 in the longer term. This is in the context of an overall surplus across the Gatwick Study Area of over 80,000 by 2038.

5.4.6 At the time of writing it is unknown how many net additional jobs Heathrow's third runway is expected to generate across Heathrow's wider sub-regional context area, and the exact timeframe for when these might be generated. However, even accounting for the impact of the Project there is clearly a significant amount of 'headroom' in the labour supply in the local authority where there is an overlap between the two airport areas (Elmbridge) and in the housing market area in which that authority sits (North East Surrey). Expansion at Heathrow Airport would need to generate labour demand in excess of c.2,500 workers in Elmbridge alone in order for there to be any potential imbalance in labour supply and demand resulting from both the Project at Gatwick and future expansion at Heathrow.

5.4.7 Furthermore, as previously noted, the assessment of the labour supply generated by current housing trajectories represents a 'worst-case scenario' because in the future local plans will be updated and expected housing delivery will increase (as a result of the standard method), in turn increasing the labour supply generated in the Study Area. This would further increase the 'headroom' in the surplus labour supply of the North East Surrey housing market area, decreasing the likelihood that expansion at

both Heathrow and Gatwick will place pressure on the authority (or authorities) impacted by both.

Diagram 5.4.1 Heathrow Wider Sub-Regional Context Area and Gatwick Labour Market Area/Study Area for Assessment of Population and Housing Effects



5.5 Summary

5.5.1 Sections 3.0 and 4.0 established that overall, across the study area, the labour supply needed to support the growth in jobs forecast by Cambridge Econometrics with the additional workers arising from the Project (see Section 3.0, Diagram 3.4.1 Scenario 5) was less than the labour supply generated by current housing trajectories (see Section 4.0, Diagram 4.5.1 Scenario 6).

5.5.2 Looking more in-depth, on an annual basis and at individual authorities/housing market areas, suggests there are no notable 'pinch-points' where there may be particular extra pressures on housing demand. There is expected to be surplus of labour supply in the North West Sussex HMA where most of the additional jobs from the Project are concentrated, and any shortfalls in a small number of individual local authorities are likely to be offset by surpluses in neighbouring areas.

5.5.3 Whilst the labour force is expected to grow across the study area, in line with national trends this growth would primarily be in older workers. This is due to a combination of increasing economic activity amongst older people (eg due to rising state pension age) and ageing more widely. The number of people in the labour force in the study area which are of younger working age (under 45) is expected increase slightly then remain broadly stable to 2038 at around 710,000, while the number of over 45s in the labour force is expected to rise steadily from 620,000 currently to 750,000 in 2038. The additional c.16,000 workers arising from the Project in the study area represents a relatively small proportion of the overall labour force.

5.5.4 Looking at Heathrow's wider sub-regional context area shows just one authority of overlap with the Study Area – Elmbridge. The analysis suggests that current housing trajectories have a comfortable degree of headroom in the labour supply in Elmbridge and its housing market area sufficient to support additional labour demand from the project and from any additional jobs arising from a third runway at Heathrow (in other words, expansion at Heathrow would need to generate demand for in excess of c.2,500 workers in Elmbridge alone for there to be any likely impact on labour and housing demand arising from expansion at both airports). In reality the headroom is likely to be greater than set out in this assessment because actual housing delivery (and therefore population and labour supply growth) is likely to be higher than that based on current housing trajectories.

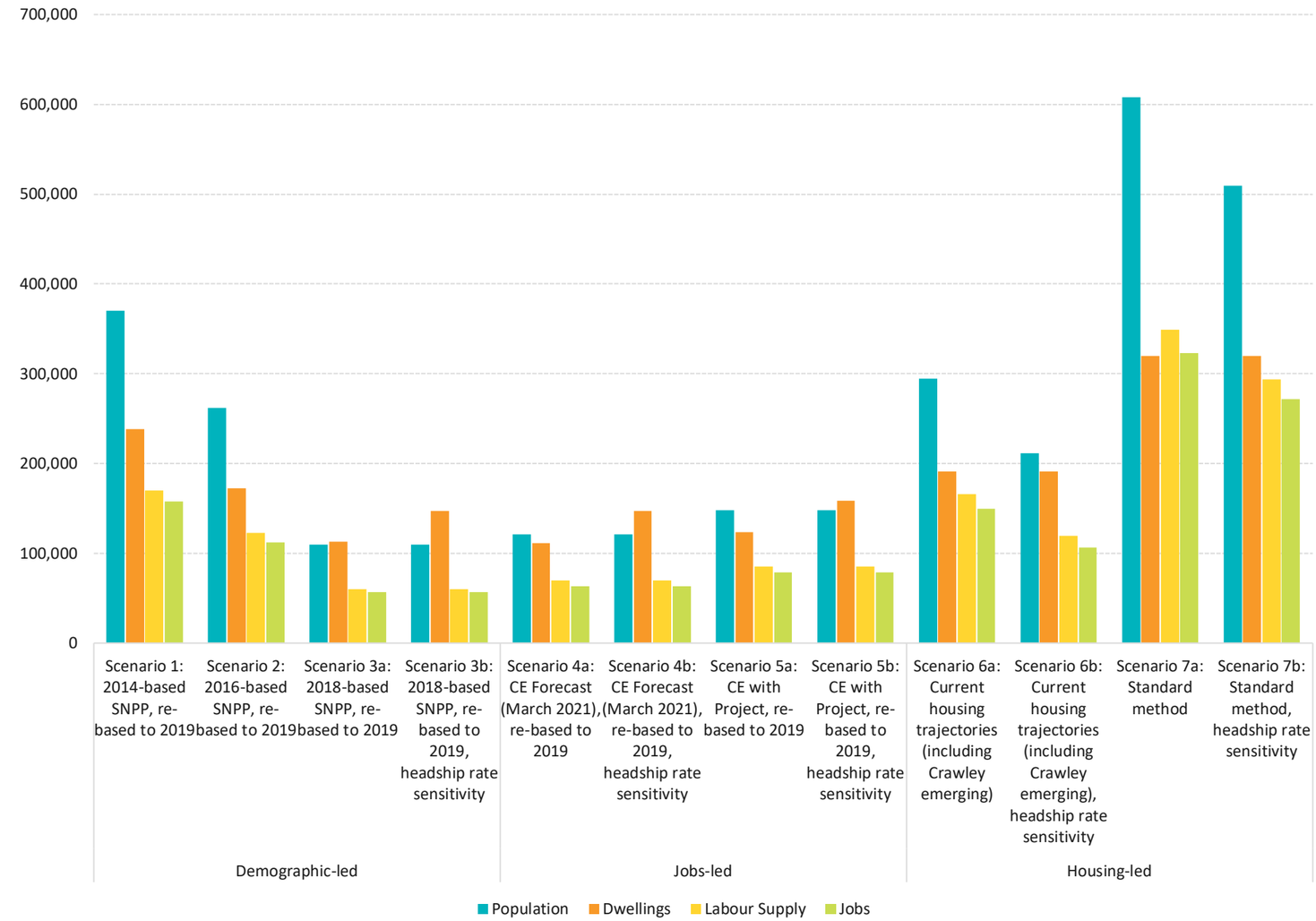
6 Summary and conclusions

6.1 Summary

6.1.1 This report has been prepared by Lichfields on behalf of Gatwick Airport with input from Cambridge Econometrics and Oxera which have provided economic forecasts. This report provides the background analysis to demonstrate that the operational phase of the Project would not have significant effects on population levels and housing. It should not be used for the purposes of assessing local housing needs or requirements as it does not examine all relevant factors and has been prepared based on third party data which may be subject to change as part of future plan making.

6.1.2 Several future scenarios covering the study area have been examined, led either by population trends, job forecasts or housing numbers, the outputs for which are shown in Diagram 6.1.1. Bars of the same colour show growth in a given indicator (eg **blue** for population) under the various scenarios.

Diagram 6.1.1: Summary of population, dwelling, labour supply and job outputs - all scenarios (study area total, 2019-38 total change)



Source: Lichfields

6.1.3 The two scenarios considered most useful for answering the question at the heart of this report – ie is it likely that growth generated by the Project would have a significant impact on population/housing - are:

- Scenario 5a: the number of jobs forecast in Cambridge Econometrics' most recent economic forecast (March 2021) with the additional workers arising in the operational phase of the Project, and how much housing would be needed to support this; and
- Scenario 6a: the amount of housing which is likely to come forward based on current housing trajectories (and the amount of population and labour supply this would generate), and how many jobs this might support.

6.1.4 Our analysis suggests that across the study area as a whole to 2038 the amount of labour supply which can reasonably be expected to be generated based on current housing trajectories is greater than the amount of labour supply needed to support the increase in the most recent job forecast from Cambridge Econometrics, with additional jobs from the Project (ie labour supply outweighs labour need in the study area).

6.1.5 Looking in more detail over the next 20 years the analysis suggests that:

- Within the North West Sussex housing market area, the amount of labour supply generated based on current trajectories would exceed labour supply needed to support the CE forecast with additional Project jobs by over 25,000 in total by 2038, rising steadily from 2019 onwards;
- In the rest of the study area there may be shortfalls in labour supply in Eastbourne, Epsom and Ewell and Chichester albeit this would likely be balanced by surpluses in the rest of their respective housing market areas;
- The labour force would age, in line with national trends. The number of people in the labour force under age 45 would rise to around 710,000 over the next 20 years, with those age 45 and over seeing steady growth; and
- In Elmbridge (the only authority to overlap with Heathrow's wider sub-regional context area) and its housing market area (North East Surrey) there is a significant surplus of labour supply available to support any additional job growth resulting from expansion at Heathrow even after the effects of the Project are factored in.

6.2 Conclusion

6.2.1 Based on the analysis, it is concluded that the Project would not generate significant population or associated housing effects. The Project is expected to result in significant growth of workers associated with Gatwick Airport – amounting to c.16,000 (direct, indirect and catalytic) in the study area by 2038 (note that the study area used in this report is slightly larger than the Labour Market Area and smaller than the Five Authorities Area referred to elsewhere in the PEIR). However it is not reasonably expected that additional demand arising during the operational phase of the Project would create pressure on the housing supply of any particular authority, or that the study area would need to make specific provision for additional housing in response to the Project's job creation before 2038.

7 References

Ministry of Housing, Communities and Local Government (MHCLG) (2021) National Policy Planning Framework (NPPF) [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779764/NPPF_Feb_2019_web.pdf

8 Glossary

8.1 Glossary of terms

Table 8.1.1: Glossary of Terms

Term	Description
ASMigR	Age Specific Migration Rates
CE	Cambridge Econometrics
DCLG	Department of Communities and Local Government
EIA	Environmental Impact Assessment
GAL	Gatwick Airport Limited
HMA	Housing Market Area
MHCLG	Ministry for Housing, Communities and Local Government
MYEs	Mid-Year Estimates
OBR	Office for Budget Responsibility
ONS	Office for National Statistics
PEIR	Preliminary Environmental Information Report
SMR	Standardised Mortality Ratio
SNHP	Sub-National Household Projections
SNPP	Sub-National Population Projections
TFR	Total Fertility Rate
UK	United Kingdom

Annex 1

Model inputs and assumptions

	Demographic				Employment-led		Housing-led	
Input	**Scenario 1: 2014-based SNPP**	**Scenario 2: 2016-based SNPP**	**Scenario 3a: 2018-based SNPP**	**Scenario 3a: 2018-based SNPP, headship rate adjustment**	**Scenario 4: Cambridge Econometrics Forecast**	**Scenario 5: Cambridge Econometrics Forecast with Project**	**Scenario 6: Current trajectories**	**Scenario 7: Standard method**
Demographic								
Base Population	ONS 2018 Mid-Year Population Estimates (MYEs) by single year of age and sex by local authority.							
Births	Total Fertility Rate (TFR) by local authority from ONS 2014-based SNPP applied.	Total Fertility Rate (TFR) by local authority from ONS 2016-based SNPP applied.	Total Fertility Rate (TFR) by local authority from ONS 2018-based SNPP applied.					
Deaths	Standardised Mortality Ratio (SMR) by local authority from ONS 2014-based SNPP applied.	Standardised Mortality Ratio (SMR) by local authority from ONS 2016-based SNPP applied.	Standardised Mortality Ratio (SMR) by local authority from ONS 2018-based SNPP applied.					
In-migration from UK	Age Specific Migration Rates (ASMigR – the proportion of people in a given age/sex group who migrate into a given local authority each year / total number in that group) and migration differentials (the degree to which ASMigRs change each year) by local authority from ONS 2014-based SNPP applied. Reference population (ie the population from which in-migrants are drawn) is the 2014-based National	ASMigRs and migration differentials by local authority from ONS 2016-based SNPP applied. Reference population is the 2016-based National Population projections (UK) by sex and single year of age.	ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied. Reference population is the 2018-based National Population projections (UK) by sex and single year of age.		ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied. Reference population is the 2018-based National Population projections (UK) by sex and single year of age. Number of migrants is constrained/inflated to achieve labour supply necessary to support job growth.		ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied. Reference population is the 2018-based National Population projections (UK) by sex and single year of age. Number of migrants is constrained/inflated based on dwelling growth.	

	Demographic				Employment-led		Housing-led	
Input	**Scenario 1: 2014-based SNPP**	**Scenario 2: 2016-based SNPP**	**Scenario 3a: 2018-based SNPP**	**Scenario 3a: 2018-based SNPP, headship rate adjustment**	**Scenario 4: Cambridge Econometrics Forecast**	**Scenario 5: Cambridge Econometrics Forecast with Project**	**Scenario 6: Current trajectories**	**Scenario 7: Standard method**
	Population projections (UK) by sex and single year of age.							
Out-migration to the UK	ASMigRs and migration differentials by local authority from ONS 2014-based SNPP applied.	ASMigRs and migration differentials by local authority from ONS 2016-based SNPP applied.	ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied.		ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied. Number of migrants is constrained/inflated to achieve labour supply necessary to support job growth.		ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied. Number of migrants is constrained/inflated based on dwelling growth.	
In-migration from overseas	Age/sex profile (by sex and single year of age) and total number of migrants by local authority from ONS 2014-based SNPP applied.	Age/sex profile (by sex and single year of age) and total number of migrants by local authority from ONS 2016-based SNPP applied.	Age/sex profile (by sex and single year of age) and total number of migrants by local authority from ONS 2018-based SNPP applied		Age/sex profile (by sex and single year of age) and total number of migrants by local authority from ONS 2018-based SNPP applied. Number of migrants is constrained/inflated to achieve labour supply necessary to support job growth.		Age/sex profile (by sex and single year of age) and total number of migrants by local authority from ONS 2018-based SNPP applied. Number of migrants is constrained/inflated based on dwelling growth.	
Out-migration to overseas	ASMigRs and migration differentials by local authority from ONS 2014-based SNPP applied.	ASMigRs and migration differentials by local authority from ONS 2016-based SNPP applied.	ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied		ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied. Number of migrants is constrained/inflated to achieve labour supply necessary to support job growth.		ASMigRs and migration differentials by local authority from ONS 2018-based SNPP applied. Number of migrants is constrained/inflated based on dwelling growth.	
Housing								
Household Formation Rates	Stage 1 household formation rates (ie by sex and 5 year age group) from 2014-based household projections by local authority applied.	Stage 1 household formation rates (ie by sex and 5 year age group) from 2016-based household projections by local authority applied.	Stage 1 household formation rates (ie by sex and 5 year age group) from 2018-based household projections by local authority applied.	Stage 1 household formation rates (ie by sex and 5 year age group) from 2018-based household projections by local authority applied. If the rates for 16-19, 20-24, 25-29 and 30-34 year olds in a given authority are projected to fall below the 2001 level by 2030, rates are adjusted so they return to the 2001 level by 2030. Rates	Stage 1 household formation rates or relevant sensitivity from 2018-based household projections by local authority applied.			

	Demographic				Employment-led		Housing-led	
Input	**Scenario 1: 2014-based SNPP**	**Scenario 2: 2016-based SNPP**	**Scenario 3a: 2018-based SNPP**	**Scenario 3a: 2018-based SNPP, headship rate adjustment**	**Scenario 4: Cambridge Econometrics Forecast**	**Scenario 5: Cambridge Econometrics Forecast with Project**	**Scenario 6: Current trajectories**	**Scenario 7: Standard method**
				held constant thereafter.				
Communal Establishment Population	Communal establishment population by sex and 5 year age group from 2014-based household projections by local authority applied. Below age 75 absolute figures are used, above age 75 rates are used (reflecting official methodology)	Communal establishment population by sex and 5 year age group from 2016-based household projections by local authority applied. Below age 75 absolute figures are used, above age 75 rates are used (reflecting official methodology)	Communal establishment population by sex and 5 year age group from 2018-based household projections by local authority applied. Below age 75 absolute figures are used, above age 75 rates are used (reflecting official methodology)					
Vacancy	Vacancy rate calculated for each authority using Census 2011 (KS401EW) using household spaces with no usual residents / all household spaces							
Employment								
Economic Activity Rates	Starting point is the 2011 Census economic activity rates by age and sex (DC6107EW) by local authority. Rates are projected forward using the annual rates of change by age and sex from the Office for Budget Responsibility (OBR) labour market participation rates projections published in January 2017							
Unemployment	ONS model-based estimates of unemployment for the year July to June 2019. Rates held at current level.							
Labour Force Ratio	Residents in employment as of 2019 calculated using ONS 2019 MYEs with 2019 projected economic activity rates applied, less those unemployed (based on ONS model-based estimates of unemployment for year to June 2019). The number of employed residents in each local authority / number of jobs (from Cambridge Econometrics March 2021 forecast) gives the labour force ratio.							

Annex 2

Current housing trajectory data

	Source of trajectory	Source
Adur	AMR/5YHLS (2019)	https://www.adur-worthing.gov.uk/media/Media,156203,smxx.pdf
Arun	AMR/5YHLS (2020)	https://www.arun.gov.uk/download.cfm?doc=docm93jijm4n14090.pdf&ver=14338
Brighton and Hove	SHLAA (2021)	https://www.brighton-hove.gov.uk/sites/default/files/2021-02/2020%20SHLAA%20Update%20FINAL%20030221b.pdf
Chichester	AMR/5YHLS (2020)	https://www.chichester.gov.uk/media/33782/Chichester-Local-Plan-Area-Five-Year-Housing-Land-Supply---2020-2025-Updated-15-July-2020/pdf/5YHLS_Position_Statement_-_Chichester_Five_Year_Land_Supply_as_of_15_July_2020.pdf
Crawley	AMR (2019) and emerging LP 2021	https://crawley.gov.uk/sites/default/files/2020-11/Crawley%20Borough%20Local%20Plan%20Authority%20Monitoring%20Report%202018-19.pdf
Croydon	Housing Trajectory (updated 2019)	[redacted]
Eastbourne	AMR (2020)	https://www.lewes-eastbourne.gov.uk/_resources/assets/inline/full/0/295067.pdf
Elmbridge	AMR (2020)	https://www.elmbridge.gov.uk/_resources/assets/attachment/full/0/7755.pdf
Epsom and Ewell	AMR (2019)	http://democracy.epsom-ewell.gov.uk/documents/s15201/Annual%20Monitoring%20Report%202018-2019%20Annex%201.pdf
Horsham	AMR (2020)	https://www.horsham.gov.uk/__data/assets/pdf_file/0009/93924/AMR_2019_2020_CHAPTER_3_Housing.pdf
Lewes	5YHLS (2020)	https://www.lewes-eastbourne.gov.uk/_resources/assets/inline/full/0/273535.pdf
Mid Sussex	5YHLS (2021)	https://www.midsussex.gov.uk/media/5995/5-year-supply-combined.pdf
Mole Valley	5YHLS (2019)	https://www.molevalley.gov.uk/media/pdf/k/5/Five_Year_Housing_Land_Supply_Annual_Review_2019-24.pdf
Reigate and Banstead	AMR (2019)	http://www.reigate-banstead.gov.uk/downloads/file/5750/housing_trajectory_2019
Tandridge	5YHLS in AMR (2020)	https://www.tandridge.gov.uk/Portals/0/Documents/Planning%20and%20building/Planning%20strategies%20and%20policies/Current%20and%20adopted%20planning%20policies/Monitoring%20and%20land%20supply/Authority-Monitoring-Report-2019-2020.pdf?ver=2020-08-13-184711-130
Wealden	5YHLS in AMR (2020)	https://www.wealden.gov.uk/UploadedFiles/Five-Year-Housing-Land-Supply-Statement-2020-3.pdf
Worthing	AMR (2020)	https://www.adur-worthing.gov.uk/media/Media,158914,smxx.pdf

Notes: For 2019/20 actual completion figures have been used, either as set out in the latest AMR or from MHCLG Live Table 122 where 2019/20 AMR data is missing. Does not include trajectories in emerging plans (eg currently at Reg 18/19 stage or undergoing examination), with the exception of Crawley. Where the trajectory ends before 2038 an average figure from 2020 to the end of the trajectory is trended. Some authorities only have a five-year land supply, in which case most of the trajectory is estimated using the average for 2020 onwards. Where a total figure only is given this is averaged.

Table A2.1: Current housing trajectories

Year ending	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	13	380	529	462	317	322	202	207	207	157	137	72	32	*252*	*252*	*252*	*252*	*252*	*252*
Arun	515	547	1,326	1,906	1,398	1,423	1,568	1,688	1,606	1,423	1,347	1,111	*1,395*	*1,395*	*1,395*	*1,395*	*1,395*	*1,395*	*1,395*
Brighton and Hove	558	622	985	1,386	1,153	1,054	1,112	1,112	1,112	1,112	1,112	470	470	470	470	470	*874*	*874*	*874*
Chichester	503	349	720	758	607	397	672	549	398	318	278	278	278	278	148	58	*406*	*406*	*406*
Crawley	452	475	398	846	726	354	251	287	303	204	55	220	220	220	220	220	220	220	220
Croydon	1,657	2,640	2,640	2,640	2,640	929	929	929	929	929	929	929	929	929	929	929	929	*1,357*	*1,357*
Eastbourne	200	310	396	249	226	259	*288*	*288*	*288*	*288*	*288*	*288*	*288*	*288*	*288*	*288*	*288*	*288*	*288*
Elmbridge	396	529	529	529	530	532	287	287	288	288	288	516	517	517	517	517	85	*422*	*422*
Epsom and Ewell	185	93	245	181	79	142	142	142	142	142	185	185	185	185	185	44	44	44	44
Horsham	955	710	605	1,034	1,311	1,444	792	753	465	445	389	315	*751*	*751*	*751*	*751*	*751*	*751*	*751*
Lewes	242	389	389	389	389	389	*389*	*389*	*389*	*389*	*389*	*389*	*389*	*389*	*389*	*389*	*389*	*389*	*389*
Mid Sussex	1,003	1,072	1,072	1,072	1,072	1,072	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*	*1,072*
Mole Valley	157	299	299	299	299	299	*299*	*299*	*299*	*299*	*299*	*299*	*299*	*299*	*299*	*299*	*299*	*299*	*299*
Reigate and Banstead	459	924	701	532	330	365	360	232	*492*	*492*	*492*	*492*	*492*	*492*	*492*	*492*	*492*	*492*	*492*
Tandridge	262	496	454	208	82	82	*264*	*264*	*264*	*264*	*264*	*264*	*264*	*264*	*264*	*264*	*264*	*264*	*264*
Wealden	1,034	965	965	965	965	965	*965*	*965*	*965*	*965*	*965*	*965*	*965*	*965*	*965*	*965*	*965*	*965*	*965*
Worthing	396	173	328	803	414	505	345	*428*	*428*	*428*	*428*	*428*	*428*	*428*	*428*	*428*	*428*	*428*	*428*
Total	**8,987**	**10,973**	**12,581**	**14,259**	**12,538**	**10,533**	**9,938**	**9,892**	**9,648**	**9,216**	**8,918**	**8,294**	**8,975**	**9,195**	**9,065**	**8,834**	**9,154**	**9,919**	**9,919**

Notes: Figures for 2020 are actual completions based either on authority AMR data or MHCLG Live Table 122 where the latest AMR is missing. Figures shown in ***italics*** are trended based on the average seen from 2020/21 to the end of the available trajectory. Figures for Crawley post-2030 are taken from the emerging Local Plan average to 2035. Figures may not sum due to rounding. Figures may not precisely match PopGroup outputs on an annual basis due to rounding and model functionality.

Annex 3

Headline outputs for all scenarios by local authority

Table A3.1: Headline outputs - Scenario 1: 2014-based SNPP, re-based to 2019

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019**	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	74,658	29,279	35,719	33,209	37,942	27,068	30,926
Arun	160,758	188,703	76,594	94,499	78,099	88,127	57,907	64,736
Brighton and Hove	290,885	322,933	135,374	157,863	167,505	183,147	172,173	187,066
Chichester	121,129	133,573	58,596	68,811	61,119	65,911	81,512	87,722
Crawley	112,409	131,700	46,685	57,912	62,880	73,618	103,595	120,283
Croydon	386,710	463,296	164,921	211,540	205,905	244,628	146,506	175,158
Eastbourne	103,745	120,220	51,130	62,436	50,490	56,066	47,310	52,370
Elmbridge	136,795	150,220	58,523	67,375	70,764	76,737	71,093	76,935
Epsom & Ewell	80,627	97,175	32,636	40,897	43,202	52,427	37,021	44,834
Horsham	143,791	155,375	63,455	73,152	77,307	80,274	71,243	74,053
Lewes	103,268	121,982	47,215	58,006	52,207	60,729	47,883	55,584
Mid Sussex	151,022	170,085	64,713	77,561	82,456	91,550	69,261	76,665
Mole Valley	87,245	96,828	38,653	44,996	46,420	50,543	56,416	61,490
Reigate and Banstead	148,748	178,247	62,098	78,663	81,433	96,705	85,657	102,140
Tandridge	88,129	101,530	37,574	46,592	47,584	54,774	45,388	52,085
Wealden	161,475	187,174	72,241	88,835	83,130	93,823	68,502	77,473
Worthing	110,570	128,485	52,579	66,102	57,838	64,464	56,468	63,003
Study Area	**2,451,607**	**2,822,182**	**1,092,266**	**1,330,960**	**1,301,547**	**1,471,465**	**1,245,003**	**1,402,521**

Source: Lichfields analysis using PopGroup

Table A3.2: Headline outputs - Scenario 2: 2016-based SNPP, re-based to 2019

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019***	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	72,660	28,900	33,535	33,209	37,656	27,068	30,692
Arun	160,758	186,152	75,498	91,433	78,099	87,826	57,907	64,515
Brighton and Hove	290,885	316,085	131,395	146,758	167,505	180,233	172,173	184,091
Chichester	121,129	133,439	57,892	66,768	61,119	66,784	81,512	88,884
Crawley	112,409	120,773	45,516	51,450	62,880	67,796	103,595	110,770
Croydon	386,710	432,194	156,636	182,802	205,905	228,889	146,506	163,889
Eastbourne	103,745	118,508	50,004	60,254	50,490	55,541	47,310	51,879
Elmbridge	136,795	143,021	57,379	63,673	70,764	74,494	71,093	74,687
Epsom & Ewell	80,627	87,861	32,132	36,523	43,202	47,261	37,021	40,416
Horsham	143,791	154,529	62,404	71,644	77,307	80,791	71,243	74,530
Lewes	103,268	116,615	46,589	54,900	52,207	58,657	47,883	53,687
Mid Sussex	151,022	168,068	63,473	74,329	82,456	91,186	69,261	76,360
Mole Valley	87,245	91,908	38,265	42,471	46,420	48,277	56,416	58,733
Reigate and Banstead	148,748	163,599	60,818	70,432	81,433	88,981	85,657	93,981
Tandridge	88,129	96,652	37,088	43,159	47,584	52,295	45,388	49,728
Wealden	161,475	184,735	71,597	86,806	83,130	93,459	68,502	77,172
Worthing	110,570	126,402	51,666	62,372	57,838	64,261	56,468	62,804
Study Area	**2,451,607**	**2,713,202**	**1,067,253**	**1,239,310**	**1,301,547**	**1,424,386**	**1,245,003**	**1,356,818**

Source: Lichfields analysis using PopGroup. *Note: This scenario has a different number of dwellings to Scenario 1 for the Study Area at the base date because it uses different household projections (which convert the population in 2019 into households and subsequently dwellings).

Table A3.3: Headline outputs - Scenario 3a: 2018-based SNPP, re-based to 2019

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019***	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	67,036	28,903	31,389	33,209	35,007	27,068	28,533
Arun	160,758	182,474	75,467	90,534	78,099	88,152	57,907	64,755
Brighton and Hove	290,885	299,534	131,383	137,169	167,505	172,388	172,173	176,077
Chichester	121,129	132,633	57,884	67,036	61,119	66,109	81,512	87,985
Crawley	112,409	116,612	45,510	50,462	62,880	66,201	103,595	108,164
Croydon	386,710	396,192	156,559	171,409	205,905	212,568	146,506	152,202
Eastbourne	103,745	109,038	49,999	55,496	50,490	51,718	47,310	48,308
Elmbridge	136,795	133,466	57,373	61,427	70,764	70,364	71,093	70,547
Epsom & Ewell	80,627	80,887	32,131	34,148	43,202	43,771	37,021	37,432
Horsham	143,791	160,678	62,397	74,730	77,307	86,164	71,243	79,487
Lewes	103,268	111,152	46,587	52,917	52,207	56,161	47,883	51,403
Mid Sussex	151,022	137,313	63,472	63,258	82,456	74,017	69,261	61,982
Mole Valley	87,245	91,453	38,265	41,560	46,420	49,966	56,416	60,788
Reigate and Banstead	148,748	156,956	60,795	67,534	81,433	86,903	85,657	91,787
Tandridge	88,129	91,839	37,086	40,527	47,584	49,999	45,388	47,545
Wealden	161,475	174,674	71,613	81,869	83,130	89,624	68,502	74,005
Worthing	110,570	119,650	51,655	58,469	57,838	62,480	56,468	61,064
Study Area	**2,451,607**	**2,561,589**	**1,067,079**	**1,179,933**	**1,301,547**	**1,361,592**	**1,245,003**	**1,302,064**

Source: Lichfields analysis using PopGroup. *Note: This scenario has a different number of dwellings to Scenarios 1 and 2 for the Study Area at the base date because it uses different household projections (which convert the population in 2019 into households and subsequently dwellings).

Table A3.4: Headline outputs - Scenario 3b: 2018-based SNPP, re-based to 2019, headship rate adjustment

	Population		Dwellings		Labour supply		Jobs	
	2019	2038	2019	2038	2019	2038	2019	2038
Adur	64,301	67,036	28,903	32,158	33,209	35,007	27,068	28,533
Arun	160,758	182,474	75,467	92,252	78,099	88,152	57,907	64,755
Brighton and Hove	290,885	299,534	131,383	144,333	167,505	172,388	172,173	176,077
Chichester	121,129	132,633	57,884	67,793	61,119	66,109	81,512	87,985
Crawley	112,409	116,612	45,510	52,475	62,880	66,201	103,595	108,164
Croydon	386,710	396,192	156,559	181,439	205,905	212,568	146,506	152,202
Eastbourne	103,745	109,038	49,999	56,885	50,490	51,718	47,310	48,308
Elmbridge	136,795	133,466	57,373	62,525	70,764	70,364	71,093	70,547
Epsom & Ewell	80,627	80,887	32,131	34,927	43,202	43,771	37,021	37,432
Horsham	143,791	160,678	62,397	76,265	77,307	86,164	71,243	79,487
Lewes	103,268	111,152	46,587	53,895	52,207	56,161	47,883	51,403
Mid Sussex	151,022	137,313	63,472	64,206	82,456	74,017	69,261	61,982
Mole Valley	87,245	91,453	38,265	42,231	46,420	49,966	56,416	60,788
Reigate and Banstead	148,748	156,956	60,795	68,899	81,433	86,903	85,657	91,787
Tandridge	88,129	91,839	37,086	40,991	47,584	49,999	45,388	47,545
Wealden	161,475	174,674	71,613	82,945	83,130	89,624	68,502	74,005
Worthing	110,570	119,650	51,655	59,979	57,838	62,480	56,468	61,064
Study Area	**2,451,607**	**2,561,589**	**1,067,079**	**1,214,196**	**1,301,547**	**1,361,592**	**1,245,003**	**1,302,064**

Source: Lichfields analysis using PopGroup

Table A3.5: Headline outputs - Scenario 4a: Cambridge Econometrics (March 2021) forecast

	Population		Dwellings		Labour supply		Jobs	
	2019	2038	2019	2038	2019	2038	2019	2038
Adur	64,301	66,828	28,903	31,248	33,209	34,964	27,068	28,498
Arun	160,758	169,827	75,467	84,559	78,099	81,677	57,907	59,998
Brighton and Hove	290,885	312,375	131,383	142,558	167,505	180,751	172,173	184,620
Chichester	121,129	129,128	57,884	65,300	61,119	64,324	81,512	85,609
Crawley	112,409	110,712	45,510	47,984	62,880	62,782	103,595	102,577
Croydon	386,710	403,516	156,559	174,280	205,905	216,682	146,506	155,148
Eastbourne	103,745	111,362	49,999	56,570	50,490	52,985	47,310	49,492
Elmbridge	136,795	141,387	57,373	63,578	70,764	75,128	71,093	75,323
Epsom & Ewell	80,627	83,378	32,131	35,053	43,202	45,283	37,021	38,725
Horsham	143,791	149,624	62,397	68,672	77,307	80,070	71,243	73,865
Lewes	103,268	110,552	46,587	52,570	52,207	55,934	47,883	51,195
Mid Sussex	151,022	155,900	63,472	69,849	82,456	85,432	69,261	71,541
Mole Valley	87,245	88,839	38,265	40,387	46,420	48,552	56,416	59,068
Reigate and Banstead	148,748	156,405	60,795	67,216	81,433	86,680	85,657	91,552
Tandridge	88,129	92,239	37,086	40,634	47,584	50,280	45,388	47,812
Wealden	161,475	175,888	71,613	82,224	83,130	90,516	68,502	74,742
Worthing	110,570	114,462	51,655	56,051	57,838	59,591	56,468	58,240
Study Area	**2,451,607**	**2,572,421**	**1,067,079**	**1,178,734**	**1,301,547**	**1,371,631**	**1,245,003**	**1,308,005**

Source: Lichfields analysis using PopGroup

Table A3.6: Headline outputs - Scenario 4b: Cambridge Econometrics (March 2021) forecast with headship rate adjustment

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019**	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	66,828	28,903	32,026	33,209	34,964	27,068	28,498
Arun	160,758	169,827	75,467	86,135	78,099	81,677	57,907	59,998
Brighton and Hove	290,885	312,375	131,383	150,184	167,505	180,751	172,173	184,620
Chichester	121,129	129,128	57,884	66,038	61,119	64,324	81,512	85,609
Crawley	112,409	110,712	45,510	49,911	62,880	62,782	103,595	102,577
Croydon	386,710	403,516	156,559	184,523	205,905	216,682	146,506	155,148
Eastbourne	103,745	111,362	49,999	58,008	50,490	52,985	47,310	49,492
Elmbridge	136,795	141,387	57,373	64,902	70,764	75,128	71,093	75,323
Epsom & Ewell	80,627	83,378	32,131	35,874	43,202	45,283	37,021	38,725
Horsham	143,791	149,624	62,397	70,133	77,307	80,070	71,243	73,865
Lewes	103,268	110,552	46,587	53,558	52,207	55,934	47,883	51,195
Mid Sussex	151,022	155,900	63,472	71,144	82,456	85,432	69,261	71,541
Mole Valley	87,245	88,839	38,265	41,044	46,420	48,552	56,416	59,068
Reigate and Banstead	148,748	156,405	60,795	68,592	81,433	86,680	85,657	91,552
Tandridge	88,129	92,239	37,086	41,106	47,584	50,280	45,388	47,812
Wealden	161,475	175,888	71,613	83,340	83,130	90,516	68,502	74,742
Worthing	110,570	114,462	51,655	57,484	57,838	59,591	56,468	58,240
Study Area	**2,451,607**	**2,572,421**	**1,067,079**	**1,214,004**	**1,301,547**	**1,371,631**	**1,245,003**	**1,308,005**

Source: Lichfields analysis using PopGroup

Table A3.7: Headline outputs - Scenario 5a: Cambridge Econometrics forecast with additional jobs from Project

	Population		Dwellings		Labour supply		Jobs	
	2019	2038	2019	2038	2019	2038	2019	2038
Adur	64,301	68,248	28,903	31,859	33,209	35,763	27,068	29,150
Arun	160,758	173,418	75,467	86,240	78,099	83,545	57,907	61,370
Brighton and Hove	290,885	312,931	131,383	142,804	167,505	181,104	172,173	184,981
Chichester	121,129	131,410	57,884	66,366	61,119	65,566	81,512	87,263
Crawley	112,409	114,661	45,510	49,584	62,880	65,137	103,595	106,425
Croydon	386,710	404,489	156,559	174,662	205,905	217,231	146,506	155,541
Eastbourne	103,745	111,560	49,999	56,665	50,490	53,088	47,310	49,589
Elmbridge	136,795	141,666	57,373	63,691	70,764	75,285	71,093	75,480
Epsom & Ewell	80,627	83,598	32,131	35,136	43,202	45,412	37,021	38,835
Horsham	143,791	153,877	62,397	70,468	77,307	82,525	71,243	76,130
Lewes	103,268	110,765	46,587	52,663	52,207	56,052	47,883	51,303
Mid Sussex	151,022	160,619	63,472	71,774	82,456	88,194	69,261	73,854
Mole Valley	87,245	89,114	38,265	40,501	46,420	48,713	56,416	59,264
Reigate and Banstead	148,748	157,202	60,795	67,534	81,433	87,148	85,657	92,045
Tandridge	88,129	92,560	37,086	40,764	47,584	50,466	45,388	47,988
Wealden	161,475	176,221	71,613	82,367	83,130	90,701	68,502	74,895
Worthing	110,570	117,034	51,655	57,244	57,838	61,029	56,468	59,646
Study Area	**2,451,607**	**2,599,373**	**1,067,079**	**1,190,322**	**1,301,547**	**1,386,959**	**1,245,003**	**1,323,758**

Source: Lichfields analysis using PopGroup

Table A3.8: Headline outputs - Scenario 5b: Cambridge Econometrics forecast with additional jobs from the Project, with headship rate adjustment

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019**	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	68,248	28,903	32,659	33,209	35,763	27,068	29,150
Arun	160,758	173,418	75,467	87,866	78,099	83,545	57,907	61,370
Brighton and Hove	290,885	312,931	131,383	150,447	167,505	181,104	172,173	184,981
Chichester	121,129	131,410	57,884	67,126	61,119	65,566	81,512	87,263
Crawley	112,409	114,661	45,510	51,587	62,880	65,137	103,595	106,425
Croydon	386,710	404,489	156,559	184,934	205,905	217,231	146,506	155,541
Eastbourne	103,745	111,560	49,999	58,106	50,490	53,088	47,310	49,589
Elmbridge	136,795	141,666	57,373	65,019	70,764	75,285	71,093	75,480
Epsom & Ewell	80,627	83,598	32,131	35,961	43,202	45,412	37,021	38,835
Horsham	143,791	153,877	62,397	71,991	77,307	82,525	71,243	76,130
Lewes	103,268	110,765	46,587	53,653	52,207	56,052	47,883	51,303
Mid Sussex	151,022	160,619	63,472	73,124	82,456	88,194	69,261	73,854
Mole Valley	87,245	89,114	38,265	41,161	46,420	48,713	56,416	59,264
Reigate and Banstead	148,748	157,202	60,795	68,921	81,433	87,148	85,657	92,045
Tandridge	88,129	92,560	37,086	41,238	47,584	50,466	45,388	47,988
Wealden	161,475	176,221	71,613	83,486	83,130	90,701	68,502	74,895
Worthing	110,570	117,034	51,655	58,718	57,838	61,029	56,468	59,646
Study Area	**2,451,607**	**2,599,373**	**1,067,079**	**1,225,996**	**1,301,547**	**1,386,959**	**1,245,003**	**1,323,758**

Source: Lichfields analysis using PopGroup

Table A3.9: Headline outputs - Scenario 6a: Current housing trajectories

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019**	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	71,797	28,903	33,452	33,209	37,698	27,068	30,726
Arun	160,758	205,381	75,467	101,090	78,099	100,342	57,907	73,709
Brighton and Hove	290,885	322,986	131,383	147,673	167,505	186,799	172,173	190,797
Chichester	121,129	129,668	57,884	65,691	61,119	64,415	81,512	85,730
Crawley	112,409	119,299	45,510	51,621	62,880	67,701	103,595	110,615
Croydon	386,710	423,686	156,559	182,638	205,905	227,932	146,506	163,203
Eastbourne	103,745	108,796	49,999	55,383	50,490	51,591	47,310	48,190
Elmbridge	136,795	143,109	57,373	65,369	70,764	75,839	71,093	76,035
Epsom & Ewell	80,627	82,329	32,131	34,725	43,202	44,579	37,021	38,122
Horsham	143,791	165,951	62,397	76,891	77,307	89,303	71,243	82,382
Lewes	103,268	113,304	46,587	53,831	52,207	57,401	47,883	52,538
Mid Sussex	151,022	187,132	63,472	83,771	82,456	103,497	69,261	86,669
Mole Valley	87,245	96,949	38,265	43,804	46,420	53,245	56,416	64,778
Reigate and Banstead	148,748	163,418	60,795	70,110	81,433	90,766	85,657	95,867
Tandridge	88,129	95,702	37,086	42,102	47,584	52,248	45,388	49,683
Wealden	161,475	193,761	71,613	90,017	83,130	100,331	68,502	82,847
Worthing	110,570	122,454	51,655	59,755	57,838	64,085	56,468	62,632
Study Area	**2,451,607**	**2,745,722**	**1,067,079**	**1,257,923**	**1,301,547**	**1,467,770**	**1,245,003**	**1,394,523**

Source: Lichfields analysis using PopGroup

Table A3.10: Headline outputs - Scenario 6b: Current housing trajectories with headship rate adjustment

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019**	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	69,935	28,903	33,452	33,209	36,670	27,068	29,889
Arun	160,758	201,106	75,467	101,090	78,099	98,156	57,907	72,103
Brighton and Hove	290,885	306,802	131,383	147,673	167,505	176,946	172,173	180,733
Chichester	121,129	128,185	57,884	65,691	61,119	63,636	81,512	84,694
Crawley	112,409	114,553	45,510	51,621	62,880	64,937	103,595	106,098
Croydon	386,710	398,839	156,559	182,638	205,905	214,197	146,506	153,369
Eastbourne	103,745	106,037	49,999	55,383	50,490	50,209	47,310	46,899
Elmbridge	136,795	140,274	57,373	65,369	70,764	74,292	71,093	74,484
Epsom & Ewell	80,627	80,385	32,131	34,725	43,202	43,483	37,021	37,186
Horsham	143,791	162,332	62,397	76,891	77,307	87,255	71,243	80,494
Lewes	103,268	111,087	46,587	53,831	52,207	56,210	47,883	51,447
Mid Sussex	151,022	183,545	63,472	83,771	82,456	101,423	69,261	84,932
Mole Valley	87,245	95,253	38,265	43,804	46,420	52,284	56,416	63,608
Reigate and Banstead	148,748	159,967	60,795	70,110	81,433	88,789	85,657	93,779
Tandridge	88,129	94,540	37,086	42,102	47,584	51,593	45,388	49,060
Wealden	161,475	190,906	71,613	90,017	83,130	98,787	68,502	81,572
Worthing	110,570	119,208	51,655	59,755	57,838	62,309	56,468	60,896
Study Area	**2,451,607**	**2,662,954**	**1,067,079**	**1,257,923**	**1,301,547**	**1,421,175**	**1,245,003**	**1,351,243**

Source: Lichfields analysis using PopGroup

Table A3.5: Headline outputs - Scenario 7a: Standard Method

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019**	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	80,176	28,903	37,001	33,209	42,519	27,068	34,656
Arun	160,758	206,456	75,467	101,570	78,099	100,964	57,907	74,166
Brighton and Hove	290,885	354,845	131,383	161,512	167,505	207,076	172,173	211,508
Chichester	121,129	142,833	57,884	71,720	61,119	71,786	81,512	95,541
Crawley	112,409	137,867	45,510	59,027	62,880	79,037	103,595	129,136
Croydon	386,710	508,302	156,559	215,384	205,905	276,455	146,506	197,946
Eastbourne	103,745	123,989	49,999	62,587	50,490	59,575	47,310	55,648
Elmbridge	136,795	153,194	57,373	69,431	70,764	81,594	71,093	81,806
Epsom & Ewell	80,627	102,245	32,131	42,216	43,202	56,354	37,021	48,193
Horsham	143,791	181,858	62,397	83,512	77,307	98,707	71,243	91,058
Lewes	103,268	127,268	46,587	59,864	52,207	65,218	47,883	59,692
Mid Sussex	151,022	198,228	63,472	88,217	82,456	110,159	69,261	92,248
Mole Valley	87,245	103,835	38,265	46,628	46,420	57,317	56,416	69,732
Reigate and Banstead	148,748	186,361	60,795	79,137	81,433	104,492	85,657	110,365
Tandridge	88,129	111,550	37,086	48,481	47,584	61,495	45,388	58,477
Wealden	161,475	200,282	71,613	92,819	83,130	103,926	68,502	85,816
Worthing	110,570	139,873	51,655	67,764	57,838	73,968	56,468	72,291
Study Area	**2,451,607**	**3,059,161**	**1,067,079**	**1,386,873**	**1,301,547**	**1,650,645**	**1,245,003**	**1,568,277**

Source: Lichfields analysis using PopGroup

Table A3.12: Headline outputs - Scenario 7b: Standard Method with headship rate adjustment

	Population		Dwellings		Labour supply		Jobs	
	2019	**2038**	**2019**	**2038**	**2019**	**2038**	**2019**	**2038**
Adur	64,301	77,989	28,903	37,001	33,209	41,304	27,068	33,666
Arun	160,758	202,133	75,467	101,570	78,099	98,751	57,907	72,540
Brighton and Hove	290,885	336,456	131,383	161,512	167,505	195,800	172,173	199,991
Chichester	121,129	141,056	57,884	71,720	61,119	70,842	81,512	94,284
Crawley	112,409	132,151	45,510	59,027	62,880	75,685	103,595	123,660
Croydon	386,710	476,754	156,559	215,384	205,905	258,893	146,506	185,372
Eastbourne	103,745	120,664	49,999	62,587	50,490	57,892	47,310	54,076
Elmbridge	136,795	149,999	57,373	69,431	70,764	79,843	71,093	80,050
Epsom & Ewell	80,627	99,532	32,131	42,216	43,202	54,803	37,021	46,866
Horsham	143,791	177,599	62,397	83,512	77,307	96,298	71,243	88,835
Lewes	103,268	124,616	46,587	59,864	52,207	63,783	47,883	58,378
Mid Sussex	151,022	194,279	63,472	88,217	82,456	107,868	69,261	90,329
Mole Valley	87,245	101,959	38,265	46,628	46,420	56,249	56,416	68,431
Reigate and Banstead	148,748	182,132	60,795	79,137	81,433	102,052	85,657	107,787
Tandridge	88,129	110,091	37,086	48,481	47,584	60,667	45,388	57,689
Wealden	161,475	197,286	71,613	92,819	83,130	102,305	68,502	84,477
Worthing	110,570	136,005	51,655	67,764	57,838	71,837	56,468	70,208
Study Area	**2,451,607**	**2,960,704**	**1,067,079**	**1,386,873**	**1,301,547**	**1,594,871**	**1,245,003**	**1,516,639**

Source: Lichfields analysis using PopGroup

Annex 4

Detailed outputs by local authority for Cambridge Econometrics scenario with Project (Scenario 5a) and current housing trajectory scenario (Scenario 6a)

Scenario 5a: Cambridge Econometrics (March 2021) with the Project outputs

Table A4.1: Scenario 5a: Cambridge Econometrics with Project - Job forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	27,068	26,370	26,459	26,549	26,703	26,895	27,082	27,255	27,412	27,567	27,722	27,995	28,261	28,527	28,634	28,741	28,847	28,948	29,049	29,150
Arun	57,907	56,134	56,264	56,562	56,878	57,255	57,617	57,936	58,233	58,520	58,805	59,337	59,854	60,368	60,543	60,718	60,888	61,049	61,210	61,370
B'n & Hove	172,173	168,024	168,167	168,857	169,993	171,493	172,658	173,712	174,694	175,649	176,594	177,633	178,641	179,638	180,560	181,474	182,373	183,242	184,111	184,981
Chichester	81,512	79,823	79,781	80,040	80,504	81,039	81,554	82,041	82,500	82,944	83,385	84,121	84,833	85,540	85,843	86,142	86,434	86,710	86,986	87,263
Crawley	103,595	100,818	100,826	99,724	99,699	99,927	100,457	100,928	101,365	101,791	102,216	103,306	104,379	105,454	105,617	105,785	105,953	106,110	106,268	106,425
Croydon	146,506	145,989	146,671	147,508	148,446	149,348	149,953	150,422	150,849	151,259	151,668	152,175	152,666	153,153	153,559	153,972	154,382	154,768	155,155	155,541
Eastbourne	47,310	46,285	46,505	46,756	47,044	47,390	47,629	47,814	47,976	48,129	48,279	48,452	48,616	48,776	48,917	49,057	49,195	49,326	49,457	49,589
Elmbridge	71,093	69,705	69,929	70,241	70,716	71,258	71,650	71,997	72,308	72,609	72,903	73,242	73,564	73,881	74,161	74,439	74,710	74,967	75,223	75,480
Ep. & Ewell	37,021	36,401	36,476	36,547	36,727	36,949	37,123	37,268	37,399	37,528	37,656	37,813	37,964	38,113	38,238	38,364	38,485	38,602	38,718	38,835
Horsham	71,243	69,744	69,857	69,998	70,301	70,695	71,136	71,550	71,937	72,317	72,694	73,464	74,220	74,974	75,175	75,376	75,573	75,758	75,944	76,130
Lewes	47,883	46,567	46,659	46,880	47,232	47,671	47,993	48,281	48,544	48,800	49,052	49,335	49,607	49,876	50,122	50,367	50,609	50,840	51,072	51,303
Mid Sussex	69,261	67,506	67,638	67,870	68,213	68,614	69,042	69,433	69,798	70,161	70,522	71,282	72,031	72,779	72,963	73,149	73,331	73,505	73,680	73,854
Mole Valley	56,416	55,238	55,416	55,555	55,850	56,193	56,463	56,720	56,951	57,174	57,392	57,654	57,902	58,144	58,342	58,537	58,728	58,907	59,085	59,264
R. & Ban.	85,657	83,828	84,535	84,964	85,581	86,295	86,812	87,274	87,685	88,090	88,486	88,990	89,467	89,942	90,307	90,670	91,029	91,368	91,707	92,045
Tandridge	45,388	44,066	44,154	44,358	44,733	45,127	45,401	45,632	45,830	46,026	46,217	46,451	46,677	46,901	47,089	47,277	47,464	47,639	47,814	47,988
Wealden	68,502	66,365	66,324	66,704	67,451	68,250	68,807	69,316	69,772	70,230	70,682	71,192	71,689	72,185	72,651	73,118	73,582	74,019	74,457	74,895
Worthing	56,468	56,076	56,405	56,623	56,817	57,133	57,388	57,587	57,766	57,939	58,109	58,524	58,929	59,331	59,387	59,443	59,498	59,547	59,597	59,646
Study Area	**1,245,003**	**1,218,939**	**1,222,066**	**1,225,736**	**1,232,888**	**1,241,532**	**1,248,764**	**1,255,167**	**1,261,019**	**1,266,732**	**1,272,381**	**1,280,967**	**1,289,300**	**1,297,581**	**1,302,109**	**1,306,630**	**1,311,081**	**1,315,307**	**1,319,532**	**1,323,758**

Source: Lichfields using PopGroup. *May not match CE forecast precisely due to rounding in modelling.

Table A4.2: Scenario 5a: Cambridge Econometrics with Project – Labour supply forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	33,209	32,353	32,462	32,572	32,761	32,997	33,227	33,438	33,631	33,822	34,012	34,346	34,673	34,999	35,130	35,262	35,392	35,516	35,639	35,763
Arun	78,099	76,417	76,594	76,999	77,430	77,943	78,435	78,870	79,274	79,665	80,053	80,777	81,481	82,180	82,419	82,657	82,889	83,108	83,326	83,545
B'n & Hove	167,505	164,503	164,643	165,319	166,431	167,899	169,040	170,072	171,034	171,968	172,893	173,911	174,898	175,873	176,776	177,671	178,551	179,402	180,253	181,104
Chichester	61,119	59,976	59,945	60,139	60,488	60,890	61,277	61,643	61,987	62,322	62,653	63,206	63,741	64,272	64,499	64,724	64,943	65,151	65,359	65,566
Crawley	62,880	61,705	61,710	61,036	61,020	61,160	61,484	61,772	62,040	62,301	62,561	63,228	63,885	64,543	64,643	64,745	64,848	64,944	65,041	65,137
Croydon	205,905	203,890	204,843	206,012	207,322	208,582	209,427	210,082	210,679	211,250	211,821	212,531	213,216	213,896	214,463	215,040	215,612	216,152	216,691	217,231
Eastbourne	50,490	49,552	49,787	50,056	50,364	50,735	50,990	51,188	51,362	51,525	51,686	51,872	52,047	52,219	52,369	52,519	52,666	52,807	52,948	53,088
Elmbridge	70,764	69,525	69,748	70,060	70,533	71,074	71,465	71,811	72,121	72,421	72,715	73,053	73,374	73,690	73,970	74,247	74,517	74,773	75,029	75,285
Ep. & Ewell	43,202	42,566	42,653	42,736	42,947	43,206	43,410	43,580	43,733	43,883	44,033	44,217	44,393	44,567	44,714	44,861	45,003	45,139	45,275	45,412
Horsham	77,307	75,603	75,725	75,878	76,206	76,634	77,112	77,560	77,980	78,391	78,800	79,635	80,455	81,272	81,490	81,708	81,921	82,122	82,324	82,525
Lewes	52,207	50,878	50,978	51,220	51,604	52,084	52,436	52,751	53,038	53,317	53,593	53,903	54,199	54,493	54,762	55,030	55,294	55,547	55,800	56,052
Mid Sussex	82,456	80,613	80,771	81,048	81,457	81,936	82,448	82,915	83,351	83,783	84,214	85,123	86,017	86,910	87,130	87,351	87,569	87,777	87,986	88,194
Mole Valley	46,420	45,404	45,550	45,664	45,907	46,189	46,411	46,622	46,812	46,995	47,175	47,390	47,593	47,793	47,955	48,116	48,272	48,419	48,566	48,713
R. & Ban.	81,433	79,367	80,037	80,443	81,027	81,703	82,193	82,630	83,019	83,403	83,778	84,255	84,707	85,156	85,501	85,846	86,185	86,506	86,827	87,148
Tandridge	47,584	46,341	46,433	46,648	47,042	47,456	47,744	47,987	48,195	48,402	48,603	48,848	49,086	49,322	49,520	49,717	49,914	50,098	50,282	50,466
Wealden	83,130	80,371	80,321	80,782	81,686	82,654	83,329	83,944	84,497	85,052	85,599	86,217	86,819	87,419	87,983	88,549	89,111	89,641	90,171	90,701
Worthing	57,838	57,377	57,714	57,937	58,135	58,458	58,719	58,923	59,106	59,283	59,457	59,882	60,296	60,708	60,765	60,822	60,879	60,929	60,979	61,029
Study Area	**1,301,547**	**1,276,440**	**1,279,915**	**1,284,548**	**1,292,362**	**1,301,600**	**1,309,145**	**1,315,790**	**1,321,858**	**1,327,785**	**1,333,646**	**1,342,391**	**1,350,878**	**1,359,311**	**1,364,091**	**1,368,866**	**1,373,568**	**1,378,032**	**1,382,496**	**1,386,959**

Source: Lichfields using PopGroup.

Table A4.3: Scenario 5a: Cambridge Econometrics with Project - Population forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	64,301	62,999	63,114	63,243	63,498	63,733	63,970	64,146	64,290	64,477	64,720	65,227	65,751	66,366	66,664	66,962	67,282	67,632	68,003	68,248
Arun	160,758	158,382	158,845	159,686	160,423	161,349	162,113	162,697	163,353	163,884	164,638	166,246	167,657	169,134	169,927	170,767	171,556	172,305	172,984	173,418
B'n & Hove	290,885	286,779	287,012	287,934	289,501	291,616	293,258	294,589	296,078	297,430	298,988	300,773	302,633	304,325	305,870	307,309	308,854	310,311	311,756	312,931
Chichester	121,129	119,731	119,939	120,376	121,060	121,792	122,359	122,875	123,408	123,958	124,687	125,777	126,869	127,996	128,667	129,300	129,913	130,510	131,078	131,410
Crawley	112,409	110,672	110,723	109,610	109,515	109,590	109,876	109,991	110,173	110,286	110,587	111,443	112,353	113,264	113,491	113,660	113,860	114,151	114,426	114,661
Croydon	386,710	383,506	384,962	386,638	388,505	390,281	391,412	391,969	392,687	393,557	394,602	395,841	397,240	398,399	399,519	400,509	401,570	402,652	403,774	404,489
Eastbourne	103,745	102,365	102,951	103,561	104,183	104,965	105,460	105,799	106,153	106,566	106,959	107,483	108,009	108,569	109,123	109,634	110,145	110,662	111,183	111,560
Elmbridge	136,795	134,892	135,089	135,391	135,983	136,581	136,906	137,042	137,149	137,347	137,528	137,957	138,284	138,708	139,182	139,610	140,123	140,644	141,186	141,666
Ep. & Ewell	80,627	79,807	80,020	80,209	80,617	81,026	81,237	81,394	81,529	81,680	81,821	82,045	82,239	82,471	82,624	82,784	82,980	83,207	83,416	83,598
Horsham	143,791	141,386	141,776	142,057	142,618	143,346	143,995	144,583	145,136	145,828	146,556	148,008	149,491	150,990	151,562	152,090	152,628	153,129	153,625	153,877
Lewes	103,268	101,284	101,473	101,761	102,266	103,067	103,501	103,832	104,167	104,569	105,073	105,810	106,416	107,170	107,832	108,440	109,130	109,753	110,356	110,765
Mid Sussex	151,022	148,633	149,042	149,379	149,984	150,624	151,198	151,527	151,844	152,364	153,011	154,382	155,805	157,290	157,859	158,394	159,010	159,602	160,223	160,619
Mole Valley	87,245	85,437	85,481	85,419	85,553	85,834	85,946	85,980	86,031	86,142	86,359	86,667	87,021	87,391	87,727	87,979	88,280	88,635	88,932	89,114
R. & Ban.	148,748	145,756	146,890	147,490	148,376	149,306	149,916	150,332	150,717	151,099	151,653	152,355	153,035	153,760	154,374	154,894	155,456	156,080	156,704	157,202
Tandridge	88,129	86,275	86,483	86,818	87,407	87,977	88,344	88,618	88,833	89,077	89,385	89,739	90,170	90,596	90,993	91,317	91,641	91,996	92,311	92,560
Wealden	161,475	157,180	157,277	157,975	159,488	161,079	162,056	162,805	163,536	164,487	165,601	166,884	168,116	169,370	170,635	171,822	173,080	174,247	175,358	176,221
Worthing	110,570	109,790	110,354	110,601	110,858	111,327	111,581	111,845	112,053	112,341	112,697	113,526	114,308	115,180	115,560	115,866	116,160	116,510	116,820	117,034
Study Area	**2,451,607**	**2,414,873**	**2,421,433**	**2,428,148**	**2,439,836**	**2,453,492**	**2,463,127**	**2,470,026**	**2,477,137**	**2,485,093**	**2,494,866**	**2,510,163**	**2,525,397**	**2,540,980**	**2,551,610**	**2,561,337**	**2,571,667**	**2,582,027**	**2,592,136**	**2,599,373**

Source: Lichfields using PopGroup

Table A4.4: Scenario 5a: Cambridge Econometrics with Project - Dwelling forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	28,903	28,398	28,455	28,563	28,742	28,902	29,054	29,179	29,337	29,510	29,695	29,981	30,280	30,618	30,834	31,034	31,248	31,465	31,688	31,859
Arun	75,467	74,584	74,830	75,423	76,033	76,700	77,290	77,804	78,408	78,959	79,591	80,585	81,501	82,486	83,152	83,845	84,525	85,173	85,768	86,240
B'n & Hove	131,383	129,390	129,184	129,525	130,155	131,096	131,792	132,461	133,122	133,831	134,585	135,432	136,299	137,243	138,177	139,059	139,990	140,971	141,933	142,804
Chichester	57,884	57,505	57,723	58,095	58,577	59,080	59,517	59,936	60,378	60,842	61,366	62,013	62,684	63,390	63,926	64,453	64,963	65,474	65,972	66,366
Crawley	45,510	44,913	44,989	44,704	44,796	44,984	45,247	45,476	45,745	45,984	46,315	46,841	47,395	47,968	48,251	48,530	48,791	49,076	49,348	49,584
Croydon	156,559	155,556	156,269	157,573	158,935	160,336	161,481	162,451	163,524	164,560	165,657	166,806	167,972	169,028	170,086	171,054	172,045	173,004	173,944	174,662
Eastbourne	49,999	49,457	49,785	50,201	50,629	51,141	51,508	51,847	52,188	52,551	52,905	53,326	53,754	54,200	54,657	55,078	55,490	55,911	56,318	56,665
Elmbridge	57,373	56,818	56,982	57,318	57,778	58,245	58,635	58,932	59,241	59,579	59,916	60,364	60,800	61,245	61,687	62,080	62,515	62,943	63,339	63,691
Ep. & Ewell	32,131	31,931	31,985	32,123	32,353	32,592	32,795	32,947	33,105	33,288	33,460	33,667	33,862	34,067	34,251	34,427	34,616	34,803	34,986	35,136
Horsham	62,397	61,670	61,895	62,248	62,726	63,244	63,728	64,172	64,645	65,143	65,669	66,441	67,259	68,067	68,523	68,950	69,381	69,804	70,192	70,468
Lewes	46,587	45,919	46,063	46,369	46,748	47,248	47,588	47,910	48,264	48,594	48,976	49,454	49,881	50,340	50,749	51,136	51,570	51,968	52,360	52,663
Mid Sussex	63,472	62,750	62,945	63,331	63,833	64,355	64,822	65,211	65,623	66,116	66,667	67,462	68,293	69,109	69,592	70,056	70,530	70,990	71,415	71,774
Mole Valley	38,265	37,630	37,627	37,699	37,860	38,057	38,197	38,299	38,432	38,568	38,756	38,990	39,207	39,433	39,622	39,792	39,983	40,186	40,369	40,501
R. & Ban.	60,795	59,757	60,141	60,567	61,072	61,599	62,013	62,343	62,740	63,104	63,533	64,015	64,505	65,024	65,468	65,900	66,341	66,756	67,179	67,534
Tandridge	37,086	36,502	36,551	36,768	37,090	37,416	37,641	37,845	38,028	38,252	38,482	38,734	39,019	39,302	39,576	39,827	40,076	40,329	40,569	40,764
Wealden	71,613	70,166	70,342	70,889	71,795	72,686	73,338	73,915	74,518	75,210	75,929	76,691	77,424	78,164	78,925	79,669	80,427	81,147	81,814	82,367
Worthing	51,655	51,393	51,703	51,971	52,229	52,579	52,818	53,098	53,378	53,671	54,000	54,514	55,036	55,576	55,908	56,202	56,478	56,785	57,032	57,244
Study Area	**1,067,079**	**1,054,341**	**1,057,468**	**1,063,367**	**1,071,351**	**1,080,259**	**1,087,464**	**1,093,826**	**1,100,675**	**1,107,763**	**1,115,503**	**1,125,315**	**1,135,170**	**1,145,260**	**1,153,384**	**1,161,093**	**1,168,969**	**1,176,784**	**1,184,226**	**1,190,322**

Source: Lichfields using PopGroup

Scenario 6a: Current trajectories

Table A4.5: Scenario 6a: Current trajectories - Dwelling forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	28,903	28,916	29,296	29,825	30,287	30,604	30,926	31,128	31,335	31,542	31,699	31,836	31,908	31,940	32,192	32,444	32,696	32,948	33,200	33,452
Arun	75,467	75,982	76,529	77,855	79,761	81,159	82,582	84,150	85,838	87,444	88,867	90,214	91,325	92,720	94,115	95,510	96,905	98,300	99,695	101,090
B'n & Hove	131,383	131,941	132,563	133,548	134,934	136,087	137,141	138,253	139,365	140,477	141,589	142,701	143,171	143,641	144,111	144,581	145,051	145,925	146,799	147,673
Chichester	57,884	58,387	58,736	59,456	60,214	60,821	61,218	61,890	62,439	62,837	63,155	63,433	63,711	63,989	64,267	64,415	64,473	64,879	65,285	65,691
Crawley	45,510	45,962	46,437	46,835	47,681	48,407	48,761	49,012	49,299	49,602	49,806	49,861	50,081	50,301	50,521	50,741	50,961	51,181	51,401	51,621
Croydon	156,559	158,216	160,856	163,496	166,136	168,776	169,705	170,634	171,563	172,492	173,421	174,350	175,279	176,208	177,137	178,066	178,995	179,924	181,281	182,638
Eastbourne	49,999	50,199	50,509	50,905	51,154	51,380	51,639	51,927	52,215	52,503	52,791	53,079	53,367	53,655	53,943	54,231	54,519	54,807	55,095	55,383
Elmbridge	57,373	57,769	58,298	58,827	59,356	59,886	60,418	60,705	60,992	61,280	61,568	61,856	62,372	62,889	63,406	63,923	64,440	64,525	64,947	65,369
Ep. & Ewell	32,131	32,316	32,409	32,654	32,835	32,914	33,056	33,198	33,340	33,482	33,624	33,809	33,994	34,179	34,364	34,549	34,593	34,637	34,681	34,725
Horsham	62,397	63,352	64,062	64,668	65,702	67,013	68,457	69,249	70,002	70,470	70,919	71,312	71,634	72,385	73,136	73,887	74,638	75,389	76,140	76,891
Lewes	46,587	46,829	47,218	47,607	47,996	48,385	48,774	49,163	49,552	49,941	50,330	50,719	51,108	51,497	51,886	52,275	52,664	53,053	53,442	53,831
Mid Sussex	63,472	64,475	65,547	66,619	67,691	68,763	69,835	70,907	71,979	73,051	74,123	75,195	76,267	77,339	78,411	79,483	80,555	81,627	82,699	83,771
Mole Valley	38,265	38,422	38,721	39,020	39,319	39,618	39,917	40,216	40,515	40,814	41,113	41,412	41,711	42,010	42,309	42,608	42,907	43,206	43,505	43,804
R. & Ban.	60,795	61,254	62,178	62,879	63,411	63,741	64,106	64,466	64,698	65,190	65,682	66,174	66,666	67,158	67,650	68,142	68,634	69,126	69,618	70,110
Tandridge	37,086	37,348	37,844	38,298	38,506	38,588	38,670	38,934	39,198	39,462	39,726	39,990	40,254	40,518	40,782	41,046	41,310	41,574	41,838	42,102
Wealden	71,613	72,647	73,612	74,577	75,542	76,507	77,472	78,437	79,402	80,367	81,332	82,297	83,262	84,227	85,192	86,157	87,122	88,087	89,052	90,017
Worthing	51,655	52,051	52,224	52,552	53,355	53,769	54,274	54,619	55,047	55,475	55,903	56,331	56,759	57,187	57,615	58,043	58,471	58,899	59,327	59,755
Study Area	**1,067,079**	**1,076,066**	**1,087,039**	**1,099,621**	**1,113,880**	**1,126,418**	**1,136,951**	**1,146,888**	**1,156,779**	**1,166,429**	**1,175,648**	**1,184,569**	**1,192,869**	**1,201,843**	**1,211,037**	**1,220,101**	**1,228,934**	**1,238,087**	**1,248,005**	**1,257,923**

Source: Lichfields using PopGroup. *May not match dwelling trajectories precisely due to rounding and model functionality.

Table A4.6: Scenario 6a: Current trajectories - Population forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	64,301	64,324	65,240	66,412	67,340	67,921	68,543	68,867	69,087	69,318	69,450	69,545	69,469	69,292	69,687	70,112	70,519	70,946	71,371	71,797
Arun	160,758	161,715	162,814	165,322	169,037	171,549	174,147	177,072	180,118	182,945	185,350	187,580	189,260	191,542	193,881	196,181	198,447	200,732	203,049	205,381
B'n & Hove	290,885	293,704	295,721	297,980	301,260	303,582	305,924	308,180	310,654	312,858	315,164	317,450	317,942	318,210	318,462	318,813	319,165	320,454	321,741	322,986
Chichester	121,129	121,988	122,408	123,637	124,925	125,822	126,207	127,315	128,047	128,354	128,511	128,655	128,778	128,888	129,004	128,765	128,344	128,808	129,239	129,668
Crawley	112,409	113,543	114,624	115,299	117,169	118,586	118,998	119,066	119,212	119,429	119,312	118,831	118,811	118,755	118,825	118,828	118,915	119,016	119,133	119,299
Croydon	386,710	391,122	397,950	403,191	408,423	413,413	413,558	413,704	413,754	414,102	414,470	414,909	415,474	416,140	416,757	417,517	418,274	419,147	421,323	423,686
Eastbourne	103,745	104,115	104,609	105,139	105,321	105,428	105,685	105,919	106,164	106,413	106,665	106,890	107,106	107,318	107,506	107,741	107,997	108,241	108,520	108,796
Elmbridge	136,795	137,225	138,100	138,636	139,118	139,619	140,112	140,034	139,930	139,875	139,757	139,599	140,103	140,622	141,200	141,876	142,507	141,914	142,504	143,109
Ep. & Ewell	80,627	81,011	81,288	81,776	81,988	81,881	81,908	82,035	82,126	82,148	82,206	82,368	82,535	82,707	82,869	83,061	82,805	82,612	82,430	82,329
Horsham	143,791	145,671	146,980	147,568	149,303	151,835	154,718	155,857	156,850	157,145	157,380	157,545	157,502	158,716	159,927	161,133	162,307	163,461	164,696	165,951
Lewes	103,268	103,648	104,403	104,840	105,320	105,791	106,320	106,796	107,194	107,726	108,222	108,698	109,191	109,753	110,357	110,961	111,523	112,112	112,695	113,304
Mid Sussex	151,022	153,014	155,497	157,331	159,107	160,898	162,771	164,672	166,475	168,253	169,955	171,719	173,481	175,382	177,294	179,182	181,113	183,067	185,131	187,132
Mole Valley	87,245	87,629	88,421	88,913	89,356	89,855	90,341	90,840	91,278	91,764	92,216	92,631	93,139	93,647	94,223	94,765	95,292	95,839	96,382	96,949
R. & Ban.	148,748	149,946	152,457	153,717	154,581	154,893	155,320	155,766	155,649	156,377	157,073	157,767	158,406	159,019	159,737	160,381	161,042	161,829	162,592	163,418
Tandridge	88,129	88,650	90,024	90,947	91,144	90,995	90,940	91,358	91,774	92,105	92,493	92,855	93,197	93,544	93,890	94,234	94,580	94,938	95,292	95,702
Wealden	161,475	163,740	165,711	167,327	168,838	170,506	172,185	173,811	175,359	176,897	178,537	180,224	181,925	183,634	185,302	186,936	188,596	190,252	191,988	193,761
Worthing	110,570	111,332	111,544	111,921	113,433	114,014	114,861	115,242	115,770	116,343	116,901	117,503	118,048	118,648	119,246	119,849	120,476	121,080	121,778	122,454
Study Area	**2,451,607**	**2,472,376**	**2,497,791**	**2,519,958**	**2,545,665**	**2,566,588**	**2,582,538**	**2,596,532**	**2,609,441**	**2,622,052**	**2,633,662**	**2,644,771**	**2,654,368**	**2,665,818**	**2,678,168**	**2,690,335**	**2,701,900**	**2,714,447**	**2,729,863**	**2,745,722**

Source: Lichfields using PopGroup

Table A4.7: Scenario 6a: Current trajectories – Labour supply forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	33,209	33,196	33,797	34,545	35,127	35,542	35,977	36,242	36,445	36,631	36,718	36,762	36,685	36,496	36,694	36,918	37,111	37,287	37,450	37,698
Arun	78,099	78,437	78,957	80,320	82,484	83,853	85,338	87,064	88,771	90,388	91,588	92,483	93,154	94,162	95,168	96,123	97,084	98,062	99,115	100,342
B'n & Hove	167,505	169,117	170,474	172,046	174,300	175,849	177,382	178,958	180,483	181,899	183,233	184,496	184,491	184,431	184,384	184,469	184,487	185,172	185,898	186,799
Chichester	61,119	61,405	61,475	62,133	62,817	63,272	63,496	64,197	64,626	64,769	64,704	64,637	64,557	64,459	64,368	64,086	63,706	63,895	64,083	64,415
Crawley	62,880	63,624	64,286	64,760	65,992	66,941	67,250	67,415	67,578	67,841	67,759	67,474	67,480	67,481	67,496	67,519	67,582	67,580	67,611	67,701
Croydon	205,905	208,614	212,849	216,109	219,349	222,415	222,439	222,654	222,682	222,803	222,857	223,001	223,125	223,487	223,750	224,209	224,625	225,069	226,312	227,932
Eastbourne	50,490	50,603	50,765	50,963	50,989	50,942	51,052	51,193	51,307	51,381	51,466	51,484	51,488	51,469	51,421	51,429	51,450	51,452	51,480	51,591
Elmbridge	70,764	71,073	71,653	72,018	72,322	72,713	73,152	73,309	73,448	73,551	73,646	73,597	74,033	74,429	74,787	75,240	75,599	75,150	75,462	75,839
Ep. & Ewell	43,202	43,354	43,475	43,734	43,796	43,699	43,769	43,918	44,042	44,111	44,209	44,357	44,521	44,662	44,822	44,997	44,849	44,716	44,609	44,579
Horsham	77,307	78,392	79,007	79,240	80,209	81,692	83,522	84,215	84,801	84,835	84,814	84,719	84,484	85,087	85,730	86,409	87,063	87,703	88,413	89,303
Lewes	52,207	52,372	52,799	53,096	53,425	53,660	54,046	54,433	54,741	55,084	55,337	55,463	55,678	55,842	56,073	56,343	56,528	56,761	57,010	57,401
Mid Sussex	82,456	83,560	84,961	86,087	87,099	88,159	89,368	90,726	92,005	93,116	94,103	95,112	96,089	97,141	98,163	99,202	100,206	101,216	102,297	103,497
Mole Valley	46,420	46,843	47,473	47,920	48,324	48,704	49,130	49,609	50,014	50,404	50,694	50,936	51,200	51,453	51,739	52,061	52,337	52,578	52,862	53,245
R. & Ban.	81,433	82,120	83,657	84,423	84,910	85,101	85,410	85,825	85,848	86,438	86,892	87,348	87,761	88,131	88,544	88,974	89,380	89,803	90,220	90,766
Tandridge	47,584	47,867	48,692	49,244	49,340	49,249	49,237	49,554	49,880	50,133	50,373	50,614	50,786	50,965	51,129	51,340	51,554	51,739	51,953	52,248
Wealden	83,130	84,432	85,499	86,445	87,247	88,162	89,187	90,276	91,263	92,105	92,892	93,676	94,496	95,313	96,064	96,851	97,602	98,376	99,257	100,331
Worthing	57,838	58,359	58,456	58,746	59,729	60,097	60,710	60,956	61,312	61,640	61,909	62,158	62,392	62,610	62,791	63,026	63,281	63,475	63,758	64,085
Study Area	**1,301,547**	**1,313,368**	**1,328,276**	**1,341,830**	**1,357,460**	**1,370,049**	**1,380,465**	**1,390,544**	**1,399,244**	**1,407,129**	**1,413,194**	**1,418,317**	**1,422,418**	**1,427,616**	**1,433,122**	**1,439,194**	**1,444,444**	**1,450,033**	**1,457,790**	**1,467,770**

Source: Lichfields using PopGroup

Table A4.8: Scenario 6a: Current trajectories – Job forecast

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	27,068	27,057	27,547	28,157	28,631	28,969	29,324	29,540	29,706	29,857	29,928	29,963	29,901	29,747	29,909	30,091	30,248	30,392	30,525	30,726
Arun	57,907	57,618	58,000	59,001	60,591	61,597	62,688	63,956	65,209	66,397	67,278	67,936	68,429	69,169	69,908	70,610	71,316	72,034	72,807	73,709
B'n & Hove	172,173	172,736	174,123	175,729	178,030	179,612	181,179	182,788	184,346	185,792	187,155	188,444	188,439	188,378	188,331	188,417	188,436	189,136	189,877	190,797
Chichester	81,512	81,724	81,818	82,694	83,604	84,209	84,508	85,441	86,011	86,202	86,115	86,026	85,919	85,789	85,668	85,292	84,787	85,038	85,289	85,730
Crawley	103,595	103,954	105,035	105,809	107,821	109,372	109,878	110,147	110,413	110,843	110,709	110,243	110,254	110,255	110,279	110,316	110,419	110,416	110,467	110,615
Croydon	146,506	149,371	152,404	154,738	157,058	159,253	159,270	159,424	159,444	159,531	159,570	159,673	159,761	160,021	160,209	160,537	160,835	161,153	162,043	163,203
Eastbourne	47,310	47,267	47,419	47,604	47,628	47,584	47,686	47,818	47,924	47,994	48,074	48,090	48,093	48,076	48,031	48,039	48,058	48,060	48,086	48,190
Elmbridge	71,093	71,257	71,838	72,205	72,509	72,901	73,341	73,499	73,638	73,742	73,837	73,788	74,225	74,621	74,981	75,434	75,795	75,345	75,657	76,035
Ep. & Ewell	37,021	37,075	37,179	37,400	37,453	37,370	37,430	37,557	37,664	37,723	37,806	37,933	38,073	38,194	38,330	38,480	38,354	38,240	38,149	38,122
Horsham	71,243	72,317	72,885	73,099	73,993	75,361	77,050	77,689	78,230	78,261	78,241	78,154	77,937	78,493	79,086	79,713	80,316	80,906	81,562	82,382
Lewes	47,883	47,934	48,325	48,597	48,899	49,114	49,467	49,821	50,103	50,417	50,648	50,764	50,960	51,110	51,322	51,569	51,738	51,952	52,180	52,538
Mid Sussex	69,261	69,973	71,147	72,089	72,937	73,825	74,837	75,975	77,045	77,976	78,802	79,648	80,466	81,346	82,202	83,072	83,913	84,759	85,664	86,669
Mole Valley	56,416	56,989	57,755	58,299	58,791	59,252	59,771	60,353	60,846	61,321	61,674	61,968	62,289	62,597	62,945	63,337	63,673	63,966	64,311	64,778
R. & Ban.	85,657	86,735	88,359	89,168	89,682	89,884	90,211	90,648	90,673	91,296	91,775	92,257	92,694	93,084	93,520	93,974	94,404	94,850	95,291	95,867
Tandridge	45,388	45,518	46,302	46,827	46,918	46,832	46,820	47,122	47,431	47,672	47,901	48,130	48,293	48,464	48,619	48,820	49,023	49,199	49,403	49,683
Wealden	68,502	69,719	70,600	71,381	72,043	72,798	73,645	74,544	75,359	76,054	76,704	77,352	78,029	78,703	79,323	79,973	80,593	81,232	81,960	82,847
Worthing	56,468	57,036	57,130	57,414	58,375	58,734	59,333	59,574	59,922	60,242	60,505	60,749	60,978	61,190	61,367	61,597	61,846	62,036	62,313	62,632
Study Area	**1,245,003**	**1,254,281**	**1,267,865**	**1,280,210**	**1,294,964**	**1,306,668**	**1,316,437**	**1,325,895**	**1,333,963**	**1,341,319**	**1,346,723**	**1,351,117**	**1,354,738**	**1,359,238**	**1,364,031**	**1,369,272**	**1,373,756**	**1,378,714**	**1,385,583**	**1,394,523**

Source: Lichfields using PopGroup

Difference in labour supply between Cambridge Econometrics with the Project (Scenario 5a) and Current housing trajectory (Scenario 6a) – for 'pinch point' analysis

Table A4.9: Difference in labour supply between Cambridge Econometrics forecast with Project and Current housing trajectory scenarios

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Adur	0	843	1,335	1,973	2,366	2,545	2,750	2,804	2,814	2,809	2,706	2,416	2,012	1,497	1,564	1,656	1,719	1,771	1,811	1,935
Arun	0	2,021	2,364	3,321	5,054	5,911	6,903	8,194	9,497	10,723	11,535	11,706	11,673	11,981	12,748	13,466	14,195	14,955	15,788	16,797
B'n & Hove	0	4,613	5,831	6,728	7,869	7,949	8,342	8,885	9,449	9,931	10,340	10,584	9,593	8,557	7,608	6,797	5,936	5,770	5,645	5,694
Chichester	0	1,429	1,531	1,994	2,329	2,382	2,219	2,554	2,638	2,447	2,051	1,432	816	187	-131	-638	-1,237	-1,256	-1,275	-1,151
Crawley	0	1,919	2,576	3,724	4,971	5,781	5,766	5,643	5,538	5,541	5,198	4,246	3,595	2,939	2,853	2,774	2,734	2,635	2,570	2,564
Croydon	0	4,724	8,006	10,097	12,027	13,833	13,012	12,572	12,003	11,553	11,036	10,471	9,909	9,592	9,286	9,169	9,013	8,918	9,621	10,700
Eastbourne	0	1,051	978	908	625	208	61	4	-55	-145	-220	-387	-559	-750	-948	-1,090	-1,217	-1,355	-1,468	-1,498
Elmbridge	0	1,548	1,904	1,959	1,789	1,639	1,687	1,498	1,326	1,130	931	545	659	739	817	993	1,082	377	433	554
Ep. & Ewell	0	788	822	998	849	493	360	338	309	228	176	140	128	95	107	136	-154	-424	-666	-833
Horsham	0	2,789	3,282	3,362	4,002	5,058	6,411	6,655	6,822	6,444	6,014	5,084	4,029	3,815	4,240	4,701	5,142	5,580	6,089	6,778
Lewes	0	1,494	1,820	1,876	1,821	1,576	1,611	1,682	1,704	1,767	1,744	1,561	1,479	1,349	1,311	1,313	1,234	1,214	1,210	1,349
Mid Sussex	0	2,947	4,190	5,039	5,642	6,223	6,920	7,811	8,654	9,333	9,888	9,989	10,072	10,231	11,033	11,851	12,637	13,438	14,311	15,303
Mole Valley	0	1,439	1,923	2,256	2,417	2,515	2,719	2,987	3,202	3,408	3,520	3,546	3,606	3,660	3,783	3,946	4,065	4,158	4,295	4,532
R. & Ban.	0	2,752	3,620	3,980	3,883	3,398	3,217	3,195	2,829	3,035	3,114	3,093	3,055	2,975	3,042	3,128	3,195	3,297	3,393	3,618
Tandridge	0	1,527	2,259	2,597	2,298	1,792	1,492	1,567	1,685	1,731	1,770	1,766	1,699	1,643	1,609	1,623	1,640	1,641	1,671	1,782
Wealden	0	4,061	5,178	5,664	5,561	5,508	5,858	6,332	6,765	7,053	7,294	7,460	7,678	7,894	8,081	8,301	8,491	8,735	9,086	9,630
Worthing	0	982	742	809	1,594	1,638	1,990	2,033	2,206	2,357	2,452	2,276	2,096	1,902	2,026	2,203	2,402	2,546	2,779	3,056
Study Area	**0**	**36,927**	**48,362**	**57,282**	**65,098**	**68,449**	**71,320**	**74,754**	**77,386**	**79,345**	**79,549**	**75,925**	**71,540**	**68,305**	**69,031**	**70,328**	**70,877**	**72,002**	**75,295**	**80,811**

Source: Lichfields using PopGroup

Annex 5 Cambridge Econometrics UK Forecast Assumptions (March 2021)

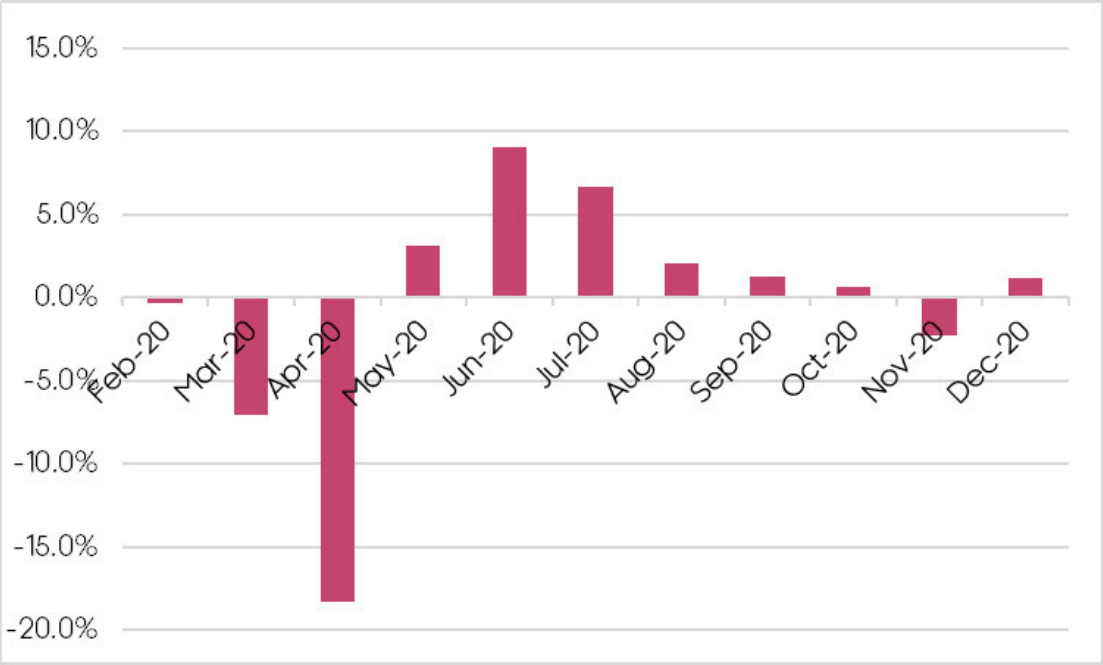
UK forecast assumptions (March 2021)

March 2021

Assumptions regarding COVID-19

As a result of the COVID-19 pandemic, the UK government introduced public health measures in 2020 to contain the outbreak and bring it under control. The impact of these measures and the virus was a sudden and sharp reduction in economic activity in nearly all sectors in 2020Q2 (19% reduction in GDP 2020Q2). Measures were relaxed in the summer months allowing a partial recovery before further tightening of measures (Lockdown 2.0) in November. These developments are reflected in the 2020 monthly GDP profile in Figure 1.

Figure 1 Monthly GDP 2020[1]



In 2021Q1, in response to new more virulent strands of COVID-19, a third wave of lockdown measures were implemented, and are expected to dampen economic activity. Based on mobility indicators, it is anticipated that the third lockdown was tighter than the second but looser than the first.

It is assumed that lockdown and social distancing measures will follow the Government's envisaged 'road map', with lockdown formally ending in late-March, social distancing to progressively ease over spring and the domestic economy to open fully by mid/late summer (with all UK adults expected to be offered a dose of the COVID vaccine by this time). The assumed 'post-lockdown' pick-up in activity will mean that GDP is assumed to increase in 2021, though to a lesser extent than previously forecast due to the weak start to the year.

Despite the assumed opening of the UK economy in 2021H2, persistent economic scarring and a muted economic recovery in 2021/2022 is expected. This comes as a result of rising unemployment, business closures, weak capital accumulation and permanent productivity

[1] https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpmonthlyestimateuk/december2020

impacts of the pandemic. Moreover, UK trade prospects remain very weak due to slow global economic growth (exacerbated/perpetuated by inequalities in the global allocation of the vaccine) and Brexit trade disruptions (see EU exit section below). Given this, the central assumption of this forecast is a 3.6% increase in GDP in 2021 and a 2.8% increase in GDP in 2022.

The post-pandemic economic recovery will depend on the responses of households, businesses and government.

- **Households** – Both upside and downside uncertainties are present and the recovery experience of households is expected to be heterogenous. High levels of household saving has been recorded during the pandemic and this could help fuel economic recovery. Simultaneously, considerable job losses have also been experienced (especially among 16-24-year-olds) and pay growth is expected to be sluggish, in line with scarred productivity. Household spending is assumed to recover partially in the short term, but experience permanent impacts from the pandemic.
- **Businesses** – Solvency issues are expected to weigh down on business investment in the near/medium term, offset partially by government support. Consequently, the forecast assumes 1.7% growth in (total) GFCF in 2021, picking up to 3.1% in 2022.
- **Government and Bank of England** – The UK government and Bank of England responded in several ways to support and prop up the economy and prevent job-losses / business insolvency. Many of these schemes are expected to be phased out according to the Spring Budget 2021 (stamp duty holiday will be phased out from June, COVID job support programmes and self-employment income support will be phased out from September 2021), and to be replaced by business 'Restart Grants' and 'Recovery Loans'. The forecast assumes that UK fiscal and monetary policy remains loose in the medium term as the economy recovers gradually. UK government is expected to tolerate higher-than-normal debt levels in the medium term, reducing the need for a budget surplus in the immediate future.

Government consumption in 2020 has been revised downwards considerably from the previous forecast. This is due to two main considerations: firstly, a large share of government spending during the pandemic was classified as a transfer (e.g. business subsidies) rather than government consumption; secondly, the effect of closures to public sector activity (e.g. elective medical procedures, dentistry, schools) have weighed down government consumption.

The medium-term prospects for employment recovery is expected to depend heavily on the timing, intensity and persistence of government job support measures beyond the retention scheme. Previous recessions indicate that job losses tend to be lagged and therefore, we expect the damaging effects of COVID-19 on employment to persist, resulting in stagnating employment levels in 2021 and 2022.

How the EU exit assumptions were developed

Overview

The EU–UK Trade and Cooperation Agreement was signed on 30th December 2020. No quantitative studies of the agreement have been published so far. Nevertheless, according to multiple sources, the agreement in principle is similar to the goals set out in the UK's approach to negotiations with the European Union. Literature published in 2019 and 2020, such as the studies by OBR (March 2020), UK in a Changing Europe (CEP) (2019), or the NIESR (November 2019) considered the potential impacts of scenarios aligned with these goals.

Based on the general terms included in the agreement, we adopted the following political assumptions for our forecast:

- The agreed Free Trade Agreement with the EU avoids reversal to WTO terms, but results in some barriers to trade which will gradually phase in;
- The points-based migration system introduces restrictions on inward migration from the EU;
- The uncertainty about the possibility of no-deal Brexit is lifted. However, some uncertainty remains over the speed of regulatory divergence.
- Some uncertainty remains over the possibility of changes to the agreement in the future that could affect the barriers to trade, such as the equivalence rules in the financial sector.
- The UK will continue to seek other trade agreements, which could reduce barriers to trade with non-EU countries in the future.

These political assumptions were converted into *economic* and *modelling* assumptions to explore the macroeconomic implications. The modelling assumptions provide inputs for our MDM-E3 model, the central economic model used in the forecast. For the forecast, we focussed primarily on the macroeconomic effects of Brexit on **exports**, **migration** and **investment**.

Export assumptions

The magnitude of the assumed impact on UK exports is similar to that assumed in the previous version of the forecast.

Our view assumes 30.6% decline in trade with the EU in the long term, with the impact on services trade being roughly twice as high as for manufacturing. We assume that a larger share of the total long-run impact will happen immediately in 2021 for goods exports, compared to services exports. This reflects the relatively greater significance of non-tariff barriers at the border for goods trade (such as customs declarations), compared to services trade.

In addition, we have incorporated into the assumptions the potential effect of the future trade deals with non-EU countries, such as the US, Australia, Canada and New Zealand. We take a moderate view that is aligned with the potential impact of the UK-US free trade agreement modelled by the Department for International Trade. We assume that UK exports to the US, Australia, Canada and New Zealand will increase by 4.3% in the long run. The implicit assumption on trade with the remaining parts of the world is that the UK will form trade arrangements similar to those it achieved through EU membership.

The resulting combined effect of these assumptions is a decline in UK exports to the world by 13.2% in the long run, which is similar in magnitude to the impact assumed in the previous version of the forecast.

We used the relationships in MDM-E3 to develop a forecast for imports; no additional economic or modelling assumptions were developed as inputs to the model with respect to imports.

Migration assumptions

Our assumption in this version of the forecast remains the same as in the previous version. It is assumed that the long run net migration to the UK will decline as a result of the new UK immigration policy. The starting point in developing the migration assumptions are the ONS population projections. These population assumptions are based on the 2018-based ONS

central population projections[2], which we adjusted using our estimate of the effect of Brexit on *total* net migration to the UK.

The adjustment remains the same as in the previous version of the forecast, and is aligned to the recommendation made by the Migration Advisory Committee in 2018, and the likely effect of the points-based system currently in place. Our assumption is that net annual migration will decline to 150,000 in the long run. Effectively, this reduces net immigration of the working-age population by 40,000 annually, a change primarily driven by a decline in net migration from the EU. This assumption is comparable with other estimates in the literature on the impact of Brexit.

The estimated decline in annual net migration is distributed across UK sectors according to the proportion of EU nationals in the sector's workforce. Data on workforce by nationality are obtained from the Annual Population Survey[3].

Additional assumptions were developed to account for the likely impacts of COVID-19 on internal and international migration, which is assumed to:

- Reduce net international migration in 2020 and 2021, with the impact distributed proportionally across UK sectors based on the presence of non-UK born population in the UK;
- Through the effect on internal migration, result in a small negative impact on the population size of London, and conversely, a small positive impact on the population size in other UK regions.

Investment assumptions

The combined effect of the new agreement and the remaining uncertainty over the speed of regulatory divergence are assumed to effectively replace the realised effect of the post-referendum uncertainty.

It is assumed that the overall impact of the new agreement on investment in the UK will lead to a 5% decline in investment in the long-run. This magnitude is similar to the realised impact of the post-referendum uncertainty. However, the impact of post-referendum uncertainty is expected to lift immediately in 2021. Therefore, in the short run, the net combined impact of lifting of the uncertainty and the withdrawal agreement will be positive (viewed in isolation of the assumed impact of COVID-19), before the full negative impact of the withdrawal agreement is realised in the long run.

These long-run investment impacts have been distributed across broad sectors. We characterised these impacts according to several simplifying categories:

- there would be no change in investment levels;
- investment would slow down, due to some businesses moving a proportion of their activity out of the UK. This would result in a decrease in investment, proportional to the diminished level of activity in the UK;
- investment would adjust based on changes to public spending plans;
- investment would slow down, due to some businesses moving a proportion of their activity out of the UK, but also as a result of the diminished growth prospects of that particular sector within the UK. This could further dampen investment intentions within the UK, as

[2] ONS National population projections: 2018-based
[3] ONS Number of UK nationals, EU nationals, and non-EU nationals in employment by industry and region, April 2018 to March 2019

multi-national organisations within those sectors may choose to divert a disproportionate amount of their investment to countries with better growth prospects.

In the last case, expectations of diminished growth prospects may stem from factors such as lack of Single Market access, or skill shortages that have been further exacerbated by migration restrictions. Growth may also dampen in sectors that rely heavily on cooperation with other member states or funding from the EU. The mechanisms through which expectations of sectoral growth may diminish were not explicitly accounted for when developing the economic and modelling assumptions. A judgement was taken on which of these are most applicable at a sectoral level.

Detailed explanations of the assumptions in the forecast

The summary table below presents a qualitative overview of the specific long-term economic assumptions of the impacts of Brexit by broad sector:

Table 1: UK forecast assumptions

Sector	Export assumptions	Employment assumptions	Investment assumptions
Agriculture	Mild slowdown in EU demand	Moderate employment constraints	Mild slowdown in investment
Mining & quarrying	No specific impact modelled	Moderate employment constraints	Moderate to pronounced slowdown in investment
Low and medium-low tech manufacturing	Mild slowdown in EU demand	Strong employment constraints	Moderate to pronounced slowdown in investment
High and medium-high tech manufacturing	Mild to moderate slowdown in EU demand	Strong employment constraints	Moderate to pronounced slowdown in investment
Construction	Mild slowdown in EU demand	Moderate employment constraints	Moderate to pronounced slowdown in investment
Utilities	Mild slowdown in EU demand	Moderate employment constraints	No specific impact modelled
Transport, distribution, retailing, accommodation, catering, and administrative and support services	Moderate to pronounced slowdown in EU demand	Moderate employment constraints	Moderate to pronounced slowdown in investment
IT, financial and insurance, real estate, professional, and scientific and technical services	Pronounced slowdown in EU demand	Mild employment constraints	Moderate to pronounced slowdown in investment
Public administration and defence, education, health and social work, and other services (arts and other services)	Mild slowdown in EU demand	Mild employment constraints	Mild slowdown in investment

Source: Cambridge Econometrics.

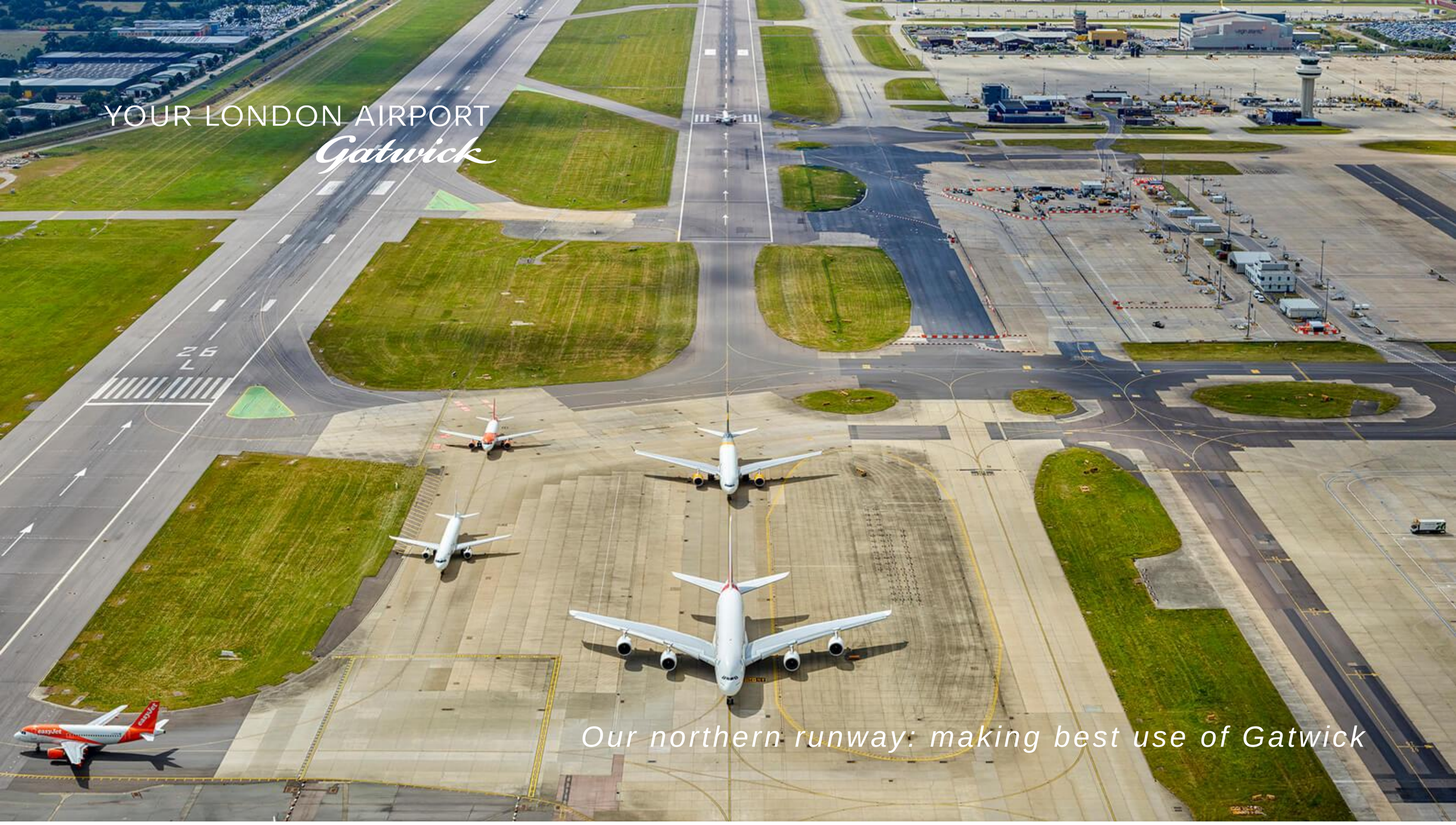
Appendix: mapping to broad sectors

The broad sector outlined above map to 86 MDM sectors according to the following classifications:

Broad sectors	**MDM sectors**	
Agriculture	1 Crop & animal product.	3 Fishing
	2 Forestry & logging	
Mining & quarrying	4 Coal	7 Other mining
	5 Oil extraction	8 Mining support service
	6 Gas extraction	
Low and medium-low tech manufacturing	9 Food products	18 Coke & petroleum
	10 Beverages	21 Rubber & plastic
	11 Tobacco	22 Other non-metallic
	12 Textiles	23 Basic metals
	13 Wearing apparel	24 Metal products
	14 Leather, etc.	30 Furniture
	15 Wood, etc.	31 Other manufacturing
	16 Paper, etc.	32 Repair & installation
	17 Printing & recording	
High and medium-high tech manufacturing	19 Chemicals, etc.	27 Machinery, etc.
	20 Pharmaceuticals	28 Motor vehicles, etc.
	25 Computers, etc.	29 Other trans. Equip
	26 Electrical equipment	
Utilities	33 Electricity	36 Sewerage
	34 Gas, heat & cooling	37 Waste disposal
	35 Water	38 Waste management
Construction	39 Construction	41 Specialised construction
	40 Civil engineering	
Transport, distribution, retailing, accommodation, catering, and administrative and support services	42 Motor vehicles trade	52 Publishing
	43 Wholesale trade	53 Film & music
	44 Retail trade	54 Broadcasting
	45 Land transport	55 Telecommunications
	46 Water transport	69 Rental & leasing
	47 Air transport	70 Employment activities
	48 Warehousing, etc.	71 Travel agencies, etc.
	49 Postal & courier	72 Security, etc.
	50 Accommodation	73 Services to buildings

	51 Food & beverage	74 Office admin.
IT, financial and insurance, real estate, professional, and scientific and technical services	56 Computer programming	63 Head offices, etc.
	57 Information services	64 Architect. & related
	58 Financial services	65 Scientific research
	59 Insurance & pensions	66 Advertising, etc.
	60 Aux. financial serv	67 Other professional
	61 Real estate	68 Veterinary
	62 Legal & accounting	
Public administration and defence, education, health and social work, and other services	75 Public admin. & def	81 Libraries, etc.
	76 Education	82 Gambling
	77 Health	83 Sport & recreation
	78 Residential care	84 Membership organ.
	79 Social work	85 Repair of goods
	80 Arts & entertainment	86 Other personal

Source: Cambridge Econometrics.



Preliminary Environmental Information Report
Appendix 17.2.1: Summary of Local Planning Policy: Health and Wellbeing

September 2021

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1 Introduction

1.1.1 This document forms Appendix 17.2.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This appendix describes in further detail local planning policies relevant to the Health and Wellbeing topic, as outlined in Chapter 17: Health and Wellbeing.

1.1.3 For the sake of brevity, rather than directly replicate the wording of each relevant local policy, only the text applicable to Health and Wellbeing has been paraphrased.

2 Adopted Local Planning Policy

2.1 Crawley 2030: Crawley Borough Local Plan 2015 – 2030 (2015)

Policy ENV10: Pollution Management and Land Contamination

2.1.1 To prevent unacceptable risks associated with environmental pollution and land contamination, developments will be permitted where the proposed use:

a) would not lead to a significant increase in levels of pollution or hazards, or where impacts can be appropriately mitigated; and
b) would not result in unacceptable disturbance or nuisance to the amenity of adjacent land uses and occupiers.

2.1.2 Where a site is known or suspected to be at risk from contaminants or materials that present a hazard to health, information must be provided detailing the methodology through which risks will be addressed ensuring the treatment and/or removal of all such contaminants and materials prior to the commencement of development.

Policy ENV11: Development & Noise

2.1.3 People's quality of life will be protected from unacceptable noise impacts by managing the relationships between noise sensitive development and noise sources.

2.1.4 Noise generating development will only be permitted where it can be demonstrated that nearby noise sensitive uses will not be exposed to noise impact that will adversely affect amenity. Development that would expose users of noise sensitive uses to unacceptable noise levels (above 66dB $L_{Aeq,16hr}$ and 57dB $L_{Aeq,8hr}$ at night) will not be permitted.

2.1.5 A Noise Impact Assessment will be required to support applications where noise sensitive uses are likely to be exposed to significant or unacceptable noise exposure, and should:

i) assess the impact of the proposal as a noise receptor or generator as appropriate; and
ii) demonstrate how the development will mitigate the impact of noise on health and quality of life, neighbouring properties, and the surrounding area.

2.1.6 Where proposals are identified to cause significant or unacceptable noise impact, best practical means must be employed to mitigate noise impact to an acceptable level.

Policy GAT1: Development of the Airport with a Single Runway

2.1.7 The council will support the development of facilities which contribute to the safe and efficient operation of the airport as a single runway, two terminal airport up to 45 million passengers provided that [amongst others] satisfactory safeguards are in place to mitigate operational impact on the environment including noise, air quality, flooding, visual impact, surface access and climate change.

2.2 Reigate and Banstead Local Plan Development Management Plan (2019)

Policy DES9: Pollution and contaminated land

2.2.1 For all developments across the Borough, permission will only be granted if it can be demonstrated that there will not be a significant adverse or unacceptable impact on the natural or built environment, amenity, health and safety due to fumes; smoke; steam; dust; noise; vibration; smell; light or any other form of air, land, water or soil pollution. Development will not be permitted where adequate mitigation cannot be provided for any potential adverse effects from pollution during construction and operation of the development.

2.2.2 Particular attention should be paid to development within Air Quality Management Areas, where in areas of poor air quality, development must be designed to minimise the occupants' or users' exposure to internal and external air pollution.

2.2.3 Where a site is known to be contaminated or where there is a reasonable possibility of contamination, appropriate investigation, and where necessary mitigation and/or remediation will be required.

2.3 Reigate and Banstead Local Plan: Core Strategy (2014)

Policy CS5: Valued People & Economic Development

2.3.1 The Council will [amongst others]:

- Work with partners such as Surrey County Council, health providers and neighbouring authorities to deliver improved health facilities and access to healthier lifestyles; and
- Work with partners, such as Surrey County Council, skills providers including East Surrey College and neighbouring authorities to promote and deliver improved education facilities and increased education opportunities including support for identifying and developing vocational and skills improvement facilities in the borough.

2.3.2 This policy will be implemented through [amongst others] partnership working with Surrey County Council, through the Public Sector Board, and with health and education providers, to deliver the Surrey Partnership Plan and other shared strategic priorities.

2.4 Horsham District Planning Framework (2015)

Policy 24: Environmental Protection

2.4.1 The high quality of the district's environment will be protected through the planning process and the provision of local guidance documents. Developments will be expected to minimise exposure

to and emission of pollutants including noise, odour, air and light pollution and ensure that they [amongst others]:

- Minimise air pollution and greenhouse gas emissions to protect human health and the environment; and
- Maintain or reduce the number of people exposed to poor air quality including odour, considering developments that would result in new public exposure, particularly among vulnerable people.

2.5 Mid Sussex District Plan 2014-2031 (2018)

Policy DP24: Leisure, Cultural & Recreational Activities

2.5.1 Developments that enhance leisure and cultural activities and facilities, such as those that encourage a healthy lifestyle by providing the opportunity to walk, cycle or ride to common destinations will be supported.

Policy DP25: Community Facilities & Local Services

2.5.2 The provision or improvement of community facilities and local services that contribute to creating sustainable communities which are safe, healthy and inclusive will be supported.

Policy DP29: Noise, Air and Light Pollution

2.5.3 The environment and the quality of people's life will be protected from unacceptable levels of noise, light and air pollution by only permitting development where [amongst others] is designed, located and controlled to minimise the impact of noise on health and quality of life, neighbouring properties and the surrounding area.

3 Emerging Local Planning Policy

3.1 Draft Crawley Borough Local Plan 2021 – 2037 (2021)

Policy SD2: Enabling Healthy Lifestyles and Wellbeing

3.1.1 New development must be designed to achieve healthy, inclusive and safe places, which enable and support healthy lifestyles and address health and wellbeing needs in Crawley, as identified in the Crawley Joint Strategic Needs Assessment.

3.1.2 In order to maximise opportunities to enable healthy lifestyles, new development must:

- Meet the principles of good urban design and support Crawley's status as a Dementia-Friendly Town, through ensuring legibility of layout, materials and design;
- Meet the needs of all through the use of the highest standards of accessible and inclusive design;
- Provide opportunities for open space, play and recreation;
- Promote the use of accessible and reliable sustainable transport and encourage greater levels of safe and attractive opportunities for active travel;
- Be supported by, and not result in a loss of, necessary infrastructure provision;
- Ensure proposals are safe for future site users and do not result in unacceptable harmful impacts; and
- Ensure proposals incorporate biodiversity and green infrastructure.

3.1.3 Major developments must set out how they satisfy policy requirement through provision of a Health Impact Assessment as part of a planning application where applicable.

Policy GAT1 : Development of the Airport with a Single Runway

3.1.4 Within the airport boundary as set out on the Local Plan Map, the council will support the development of facilities which contribute to the sustainable growth of Gatwick Airport as a single runway, two terminal airport provided that (among others): The impacts of the operation of the airport on the environment, including noise, air quality, flooding, surface access, visual impact, biodiversity and climate change, are minimised, where necessary satisfactory safeguards are in place to ensure they are appropriately mitigated.

Policy EP3: Land and Water Quality

3.1.5 People's health and quality of life will be protected from unacceptable risks of, and adverse effects associated with, radioactivity, chemical substances and biological agents in land. Development will ensure that, having undertaken appropriate land quality assessment, remediation, and protection, the land is suitable for the proposed use.

3.1.6 Development on land that is affected by contamination will be permitted where it can be clearly demonstrated that the development, its future occupiers and the wider environment will not be exposed to unacceptable risk from, or be adversely affected by, land contamination.

3.1.7 Development that has the potential to cause land contamination will only be permitted where the applicant demonstrates: adequate measures to protect land quality/receiving waters; and there will be no adverse impacts to occupiers of neighbouring land or the wider environment.

Policy EP4: Development and Noise

3.1.8 People's quality of life will be protected from unacceptable noise impacts by managing the relationship between noise sensitive development and noise sources. For aviation transport sources the Unacceptable Adverse Effect is considered to occur where noise exposure is above 60dB $L_{Aeq,16hr}$ (57dB $L_{Aeq,8hr}$ at night).

3.1.9 Noise generating development will be permitted where it can be demonstrated that nearby noise sensitive uses will not be exposed to noise impact that will adversely affect the amenity of existing and future users. Proposals will be required to appropriately mitigate noise impacts through careful planning, layout and design. Noise generating development that would expose users of noise sensitive uses to Unacceptable Adverse Effect noise will not be permitted.

Policy EP5: Air Quality

3.1.10 People's health, quality of life and the wider environment shall be protected from the significant adverse effects of atmospheric pollution.

3.1.11 New and existing development will be prevented from contributing to, being put at risk from, or being adversely affected by atmospheric pollution. To achieve this, development will be required to prevent, or where this is not practicable, minimise the generation of pollutants that would result in a deterioration in air quality and to prevent exposure to poor air quality.

3.2 Tandridge District Council: Our Local Plan 2033 (Regulation 22 Submission) (2019)

Policy TLP17: Health and Wellbeing

3.2.1 The Council will support programmes and strategies, which aim to reduce health inequalities and promote healthier lifestyles, and will [amongst others]:

- Carry out Health Impact Assessments on all relevant planning policy documents.
- Require development to be designed to promote healthy, safe and active living for all age groups, including

encouragement of physically active lifestyles through the provision of sustainable modes of transport (e.g. walking and cycling routes).
- Work jointly with health providers to help deliver and protect a network of health, education and recreation facilities, where this will meet an existing deficiency, or support regeneration or new development.

Policy TLP46: Pollution and Air Quality

3.2.2 All development proposals must not have significant adverse effects on the environment, health of residents or residential amenity by pollution of land, air or water, or as a result of any form of disturbance including noise, light, odour, heat, dust, vibrations and littering.

3.2.3 The Council will support developments that comply with the national Air Quality Objectives and would not lead to significant deterioration in local air quality resulting in unacceptable effects on human health, local amenity or the natural environment.

3.3 Draft Horsham District Local Plan 2019 – 2036 (2020)

Policy 25 - Strategic Policy: Environmental Protection

3.3.1 To protect the high quality of the District's environment, developments will be expected to minimise exposure to, and the emission of, pollutants including noise, odour, vibration, air and light pollution arising from all stages of development. Specifically [amongst others], development proposals must ensure that they minimise the air pollution and greenhouse gas emissions in order to protect human health and the environment.

Policy 32 - Local Greenspace

3.3.2 It is recognised in the policy explanatory text that local green space provides a wide range of social, health and environmental benefits. Therefore, the policy states that local green and open space should be protected. Such space will be safeguarded from development unless it can be demonstrated that development is proposed to enhance local green space functions (through improvements to access, recreation, wildlife etc).

3.3.3 The policy goes on to state that the creation of new areas of publicly-accessible green space should be supported and allocated through Neighbourhood Plans, and must also meet the relevant criteria in relation to scale, beauty, historic significance, recreational value, tranquillity and ecological value.

Strategic Policy 45: Inclusive Communities, Health and Wellbeing

3.3.4 Development proposals must take positive measures to create socially inclusive and adaptable environments to meet the long-term needs of a range of occupiers and users and to ensure they are accessible to all members of the community. New development must be designed to achieve healthy, inclusive and safe places, which enable and support healthy lifestyles and address health and wellbeing needs.

3.4 Future Mole Valley 2018-2033: Consultation Draft Local Plan (2020)

Policy EN5: Inclusive Environment

3.4.1 Positive measures which help to create socially inclusive and adaptable environments for a wide range of occupiers and users to meet their long-term needs will be supported. Particular account will be taken of issues affecting people with additional needs, including people with physical and learning disabilities, mental health needs and those with impairment such as sight or hearing. (Horsham District Council, 2021)

Policy EN13: Promoting Environmental Quality

3.4.2 In the policy explanatory text, it is outlined that pollution is anything that affects the quality of land, air, water or soils, which might lead to an adverse impact on human health, the natural environment or general amenity.

3.4.3 The policy itself states that development should minimise exposure to, and the emission of, pollutants including noise, odour, air and light pollution. Overall, it is stated that proposals should ensure they:

- Address land contamination;
- Take account of ground conditions;
- Maintain or improve the environmental quality of any watercourses, groundwater and drinking water supplies, and prevent contaminated run-off;
- Avoid increasing exposure to poor air quality, including odour, particularly where vulnerable people are exposed (older people, care homes or schools);
- Incorporate good design and other mitigation measures to ensure no significant adverse or unacceptable levels of noise disturbance, both within buildings and externally;
- Avoid locating noise-sensitive uses close to existing noisy activities, unless the impact can be acceptably mitigated; and
- Mitigate or avoid any other adverse site specific or environmental impact that arises as a consequence of the development.

Policy INF1: Promoting Sustainable Transport and Parking

3.4.4 New development will be required to provide and contribute towards suitable access, transport infrastructure and services that are necessary to make the development acceptable, including the mitigation of its otherwise adverse material impacts. This mitigation will maintain the safe operation and the performance of the strategic and local road network and will address other adverse material impacts on communities and the environment, such as impacts on amenity, health, air and noise pollution.

4 References

Crawley Borough Council (2015) Crawley 2030: Crawley Borough Local Plan 2015-2030, Adopted December 2015. [Online] Available at: http://www.crawley.gov.uk/pw/web/PUB271853

Crawley Borough Council (2021) Crawley Local Plan: Draft Crawley Borough Local Plan 2021-2037, January 2021. For Submission Publication Consultation: January-February 2021. [Online] Available at: https://crawley.gov.uk/sites/default/files/2021-01/Submission%20Draft%20Local%20Plan%20January%202021.pdf

Horsham District Council (2007) Site Specific Allocations of Land (2007). [Online] Available at: https://www.horsham.gov.uk/__data/assets/pdf_file/0003/66882/Site-Specific-Allocations-of-Land-Document-2007.pdf

Horsham District Council (2015) Horsham District Planning Framework, November 2015. [Online] Available at: https://beta.horsham.gov.uk/__data/assets/pdf_file/0016/60190/Horsham-District-Planning-Framework-2015.pdf

Horsham District Council (2020) Draft Horsham District Local Plan 2019-2036. Available at: https://strategicplanning.horsham.gov.uk/consult.ti/LocalPlanReview/viewCompoundDoc?docid=10336756

Mid Sussex District Council (2004) Mid Sussex Local Plan, Adopted May 2004. [Online] Available at: https://www.midsussex.gov.uk/planning-building/local-plan-2004/

Mid Sussex District Council (2018) Mid Sussex District Plan 2014-2031, Adopted March 2018. [Online] Available at: https://www.midsussex.gov.uk/media/3406/mid-sussex-district-plan.pdf

Mid Sussex District Council (2020) Mid Sussex Site Allocations Development Plan Document Regulation 19 Submission Draft – July 2010. [Online] Available at: https://www.midsussex.gov.uk/media/5706/dpd1-site-allocations-dpd-submission-draft-regulation-19.pdf

Mole Valley District Council (2000) The Mole Valley Local Plan. [Online] Available at: [redacted]

Mole Valley District Council (2009) The Mole Valley Local Development Framework: Core Strategy, adopted October 2009. [Online] Available at: https://www.molevalley.gov.uk/media/pdf/6/s/Core_Strategy_DPD_(Adopted).pdf

Mole Valley District Council (2020) Future Mole Valley 2018-2033: Consultation Draft Local Plan. [Online] Available at: https://molevalley.gov.uk/sites/default/files/2020-05/Future%20Mole%20Valley%20draft%20Local%20Plan%20-%202020%20consultation%20version.pdf

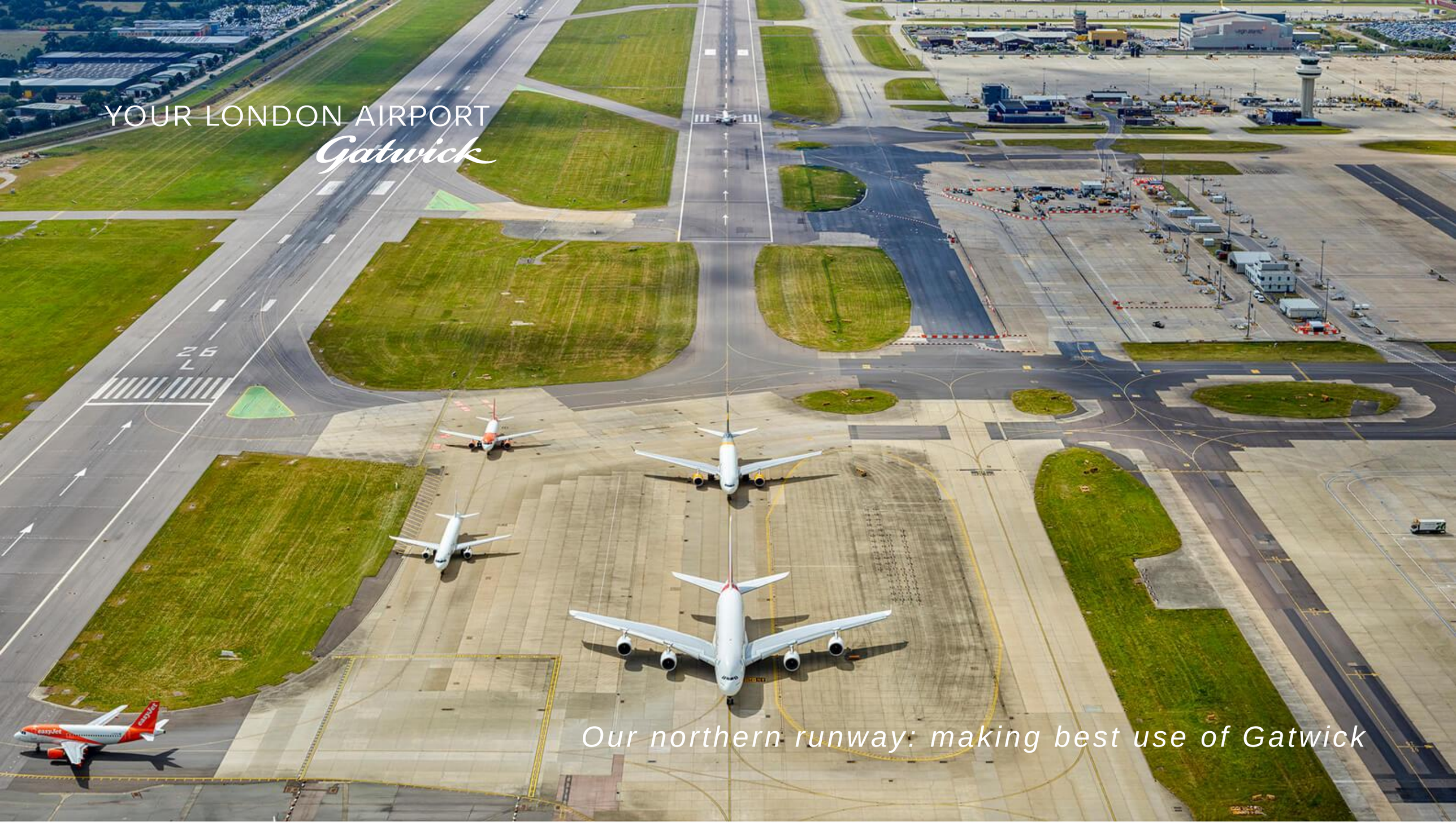
Reigate and Banstead Borough Council (2014) Reigate and Banstead Local Plan: Core Strategy, Adopted July 2014 and reviewed 2019. [Online] Available at: http://www.reigate-banstead.gov.uk/info/20380/current_planning_policy/24/core_strategy

Reigate and Banstead Borough Council (2019) Reigate and Banstead Local Plan Development Management Plan, Adopted September 2019. [Online] Available at: http://www.reigate-banstead.gov.uk/info/20380/current_planning_policy/888/development_management_plan

Tandridge District Council (2008) Tandridge District Core Strategy, Adopted October 2008. [Online] Available at: https://www.tandridge.gov.uk/Portals/0/Documents/Planning%20and%20building/Planning%20strategies%20and%20policies/Current%20and%20adopted%20planning%20policies/Core%20strategy/Core-Strategy.pdf

Tandridge District Council (2014) Tandridge Local Plan – Part 2: Detailed Policies 2014-2029, Adopted October 2008. [Online] Available at: https://www.tandridge.gov.uk/Portals/0/Documents/Planning%20and%20building/Planning%20strategies%20and%20policies/Current%20and%20adopted%20planning%20policies/Core%20strategy/Local-Plan-part-2-Detailed-policies.pdf

Tandridge District Council (2019) Our Local Plan: 2033 (Regulation 22 Submission), January 2019. [Online] Available at: https://www.tandridge.gov.uk/Portals/0/Documents/Planning%20and%20building/Planning%20strategies%20and%20policies/Local%20plan/Local%20plan%202033/Examination%20library/MAIN%20DOCUMENTS/MD1-Our-Local-Plan-2033-Submission-2019.pdf



Preliminary Environmental Information Report
Appendix 17.3.1: Summary of Stakeholder Scoping Responses – Health and Wellbeing

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 17.3.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the summary of stakeholder scoping responses concerning Chapter 17: Health and Wellbeing, for the Project.

Table 1.1.1: Summary of Consultation Responses

Consultee	Date	Details	How/where addressed in PEIR
Planning Inspectorate			
Charlwood Parish Council	30 September 2019	In relation to the study area, it is noted that Charlwood Parish is not located within either Crawley or Reigate and Banstead which were proposed as areas of particular interest.	The study area has been extended to include Mole Valley, which Charlwood Parish is located within.
		Charlwood Parish believe there must be a specific, quantified, assessment of the health impacts on people under flight paths who would suffer the effects of significant increases in aircraft numbers.	A quantitative assessment relating to the health and wellbeing effects of noise is included in Chapter 17 (Section 17.9) of the PEIR for the First Full Year of Opening (2029), Interim Assessment Year (2032) and Design Year (2038).
		Charlwood Parish believe there needs to be a thorough assessment of the health effects of expansion on air quality taking account the additional traffic forecast to be generated.	An assessment of effects is provided in Section 17.9 of the PEIR. Further quantitative assessment relating to the health and wellbeing effects from changes in local air quality (taking into consideration on-site activities, air movements and additional transport movements) will be included in the ES. While the quantitative assessment will provide further detail on the magnitude of impact, the assessment of significance provided in the PEIR is considered robust.
Crawley Borough Council Economy and Planning Services	30 September 2019	Suggest that growth at Gatwick will have an impact on housing needs should be thoroughly assessed with any new housing required creating associated infrastructure pressures on health facilities, which should be considered as part of the ES.	While it is acknowledged that Gatwick has and continues to contribute towards regional socio-economic vitality, the Project does not include any residential development that would modify demography and associated health care demand.
		The assessments of noise and air quality during construction and operation should be linked to the Health Impact Assessment.	An assessment relating to the health and wellbeing effects associated with changes to both local air quality and noise exposure is included across all assessment scenarios. At this stage, a quantitative assessment has been undertaken for changes in noise impacts and a qualitative assessment has been undertaken for changes in air quality. Building on the qualitative results from the health and wellbeing assessment relating to changes in air quality assessment, further quantitative assessment will be provided for the final ES. While the quantitative assessment will provide an accurate figure to conclude on magnitude of impact, the assessment of significance provided in the PEIR is considered robust.
East Sussex County Council	30 September 2019	East Sussex would like to propose to be included both as consultees to the proposed Health Impact Assessment (HIA) and to request that the area of East Sussex is included in the HIA, along with West Sussex and Surrey.	The area of East Sussex is included within the wider study area, as outlined in Chapter 17 (Section 17.4) of the PEIR and is a statutory consultee that has and will continue to be consulted as part of the Environmental Impact Assessment (EIA) process.

Consultee	Date	Details	How/where addressed in PEIR
Kent County Council	1 October 2019	Requests clarity on which Health Impact Assessment methodology is being applied and is in favour of using the Welsh methodology.	Chapter 17 (Section 17.4) of the PEIR comprises detail on relevant guidance applied and includes the Welsh methodology being referred to.
		Recommend further consideration of community impacts, and how these affect health and wellbeing.	The health and wellbeing assessment inherently assesses community impacts, as the assessment is focused at the population level.
		Recommend that new local National Health Service (NHS) organisations such as Integrated Care Partnerships are worked with as these will be a useful way of monitoring future data.	The PEIR will be shared with NHS organisations including the Integrated Care Partnership for comment.
		Provide details on acute sector admission rates for cardiovascular and respiratory disease in children as well as adults.	Baseline data have been collected for the PEIR and will be updated as required for the final ES.
		Expect noise, vibration and air quality during construction and operation to be priorities for the Health Impact Assessment.	Noise, vibration and air quality are key health and wellbeing determinants that are considered in Chapter 17 (Section 17.9) of the PEIR.
Mid-Sussex District Council	1 October 2019	Note that the Health and Wellbeing topic is not deemed to have any bearing on the interests or spatial context of Mid-Sussex District Council.	The area of Mid Sussex is included within the local and wider study areas, as outlined in Chapter 17 (Section 17.4) of the PEIR.
		A health working group should be established for health.	A health forum has been established, has commented on the scope and focus of the assessment, provided additional input to the baseline, and it has provided guidance on healthy urban design principles to explore.
		A health damage cost calculation is required to quantify the level of mitigation required.	The PEIR has investigated any potential change in environmental and socio-economic conditions with the potential to influence health, informing and refining the application to remove and manage potential risk.
		The EIA Scoping Report states the stakeholders who have already been consulted with during the scoping process, but this does not include key health bodies.	In addition to formal scoping and the main consultation carried out as part of the EIA process, a health forum was established and has been consulted with specifically in relation to public health matters.
		It was noted that there was an obvious discrepancy between the proposed assessments for Health and Wellbeing and Major Accidents and Disasters relating to Public Safety Zones.	Effects in relation to Public Safety Zones will be considered once the outcome of the Civil Aviation Authority's consultation on standardising Public Safety Zones is known.
Mole Valley	30 September 2019	Not all of the Mole Valley Local Plan 2000 policies listed as relevant to Health and Wellbeing were saved following review of the 2000 Local Plan in 2007. Policies REC2, REC7, REC8 and CF1 were not saved and are therefore not applicable.	This comment has been noted, and the list of relevant policies relating to health and wellbeing updated (as per Table 17.2.2 in Chapter 17 of the PEIR).
Public Health England	30 September 2019	Suggest that the Health and Wellbeing chapter summarises key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health.	The health and wellbeing chapter draws from and builds upon information relating to all of these aspects from inter-related technical disciplines.
		Suggest that a full explanation and justification should be provided where scoping out health determinants.	A full explanation and justification for scoping health determinants in/out of the assessment process is provided in Chapter 17 of the PEIR.
		Recommend that the ES should clearly set out a definition of health, including specific reference to mental health.	Health is defined in Chapter 17 (Section 17.1) of the PEIR and includes specific reference to mental health.
		Recommend that the assessment to include consideration of the need for monitoring.	Monitoring is considered as part of the assessment and focusses on environmental precursors to health and wellbeing effects, as this enables intervention ahead of any adverse health outcome.
		Recommend that the ES must identify additional mitigation measures identified as necessary in connection to vulnerable populations and those within the protected characteristics.	The health and wellbeing assessment integrates relevant elements of Equalities Impact Assessment to investigate any potential disproportionate outcome upon communities and health.

Consultee	Date	Details	How/where addressed in PEIR
		Recommended that the ES should identify any additional opportunities to contribute to improved infrastructure provision for active travel and physical activity.	Access to public open space and footpaths is considered within Chapter 18: Agricultural Land Use and Recreation. The resultant effects on participation in physical activity and recreation are communicated within the health and wellbeing chapter. Furthermore, Chapter 12: Traffic and Transport assesses the potential effects on pedestrians and cyclists from changes in transport nature and flow rate, the results of which are communicated within the health and wellbeing chapter.
		Recommended that the ES should consider the impact of the development on community severance from changes to the transport infrastructure and usage within both the construction and operational phases.	Community severance is considered fully as part of Chapter 12: Traffic and Transport. The results of which are communicated within the health and wellbeing chapter.
		Recommend that demand for temporary accommodation by the construction work force should be identified and an assessment made regarding the impact on local housing supply and affordability, particularly in relation to homelessness provision of short-term housing supply. Given the number of other large developments near the study area, the cumulative impact on housing provision should be included.	Chapter 16: Socio-Economic Effects addresses the increase in demand for temporary accommodation during construction.
		Recommend that the ES should identify a clear strategy and action plan that addresses barriers to employment within the local population and enables opportunities for employment within Gatwick Airport.	A series of training, apprenticeship and procurement initiatives is currently under development. Following consultation, an Outline Employment Skills and Business Strategy (OESBS) will be refined and planning commitments made to address existing barriers to employment uptake, complement local health and employment initiatives and maximise the uptake of benefits locally.
		Recommend that the ES should assess the current and future demand on health and social care services and the subsequent assessment of significance. The ES should report on the results of engagement with the local health and social care system and any proposed embedded or additional mitigation.	Potential effects on health and social care services have been considered within Chapter 17 (Section 17.9) of the PEIR, in the context of the introduction of a large construction workforce and the increased operational workforce.
		Recommend that the geographic scope of the assessment should include areas where health and social care facilities or services may experience additional demand.	The study area, as described in Chapter 17 (Section 17.4) of the PEIR (Assessment Methodology), comprises both a local and wider study area to capture a range of potential effects at different scales.
Reigate and Banstead Borough Council	27 September 2019	Suggest that a calculation of the years of life lost (not a relative or percentage change) due to the airport pollution using the latest Committee on the Medical Effects of Air Pollutants (COMEAP) report and DEFRA valuation of a life year lost should be included.	An assessment of effects is provided in Section 17.9 of the PEIR. Further quantitative health assessment relating to changes in local air quality concentrations will be undertaken for the final ES. However, the assessment does not intend to convey health and wellbeing effects in economic terms, because while useful when comparing projects at a strategic level, at a project level it masks the potential type, distribution and significance of impact, runs the risk of dismissing health and wellbeing effects when compared to the economic gains to be achieved and prevents the development of effective mitigation measures.
		Following the adoption of the DMP, references to the “emerging Reigate & Banstead Borough Development Management Plan 2018-2027” should be amended to ensure consistency. In addition, references to the saved Borough Local Plan policies need to be removed from the policies and legislative requirements section.	This comment has been noted, and the list of relevant policy to health and wellbeing revised (as per Table 17.2.2 Chapter 17).
		Note that health effects arising from population change are proposed to be scoped out. On the basis that Reigate and Banstead believe that there will be a population increase during the operational phase, they do not agree that the health effects arising from population change should be scoped out.	While it is acknowledged that Gatwick has previously contributed, and continues to contribute towards, regional socio-economic vitality, the Project does not include any residential development that would modify demography and associated health care demand.

Consultee	Date	Details	How/where addressed in PEIR
		Note that health effects from temporary lighting during construction is proposed to be scoped out and request further clarity on this.	Potential health and wellbeing effects from lighting have been considered within Chapter 17, Section 17.9 of the PEIR.
		Request clarity on whether the scope of the assessment will include mental health considerations of construction workers given the proposed twelve-year construction period and following recent publicity on the poor mental health of construction workers at Hinkley Point.	Health and wellbeing effects associated with the workforce are included as a sub-section for each assessment scenario, and as defined in Chapter 17 (Section 17.1) of the PEIR, the chapter applies a definition of health, which gives due consideration to mental wellbeing.
		Suggest that the operational health assessment relating to changes in air quality and noise exposure should take into consideration early growth at Heathrow and airspace modernisation changes.	The health and wellbeing assessment relating to changes in air quality and noise exposure draws from and builds upon key outputs from modelling undertaken by air quality and noise technical disciplines, which considers different growth scenarios at Heathrow and airspace modernisation changes.
		Request clarity on whether the operational health assessment relating to changes in local transport composition and flow rate will take into consideration transport movements relating to the workforce.	The health and wellbeing assessment relating to changes in local transport composition and flow rate draws from and builds upon key outputs from modelling undertaken by the Traffic and Transport technical discipline and includes overall transport movements (which takes into consideration workforce travelling to/from the site).
Surrey County Council	1 October 2019	Recommend that the assessment makes use of the WHO definition of health *"a state in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community"*, and make reference to the wider determinants of health model developed from that by Dahlgren and Whitehead (1991).	Health is defined in Chapter 17 (Section 17.1) and includes reference to the wider determinants of health.
		Recommend that reference be made to the Health and Wellbeing Board Strategies for Surrey as part of the relevant Legislative and Policy Context.	While Health and Wellbeing Board Strategies have not been referenced as part of the relevant Section within Chapter 17 (Section 17.2), they have been reviewed and used to inform conversations regarding mitigation and enhancement to ensure these measures align, where applicable and appropriate.
		State that baseline public health indicators used at district/borough level or Clinical Commissioning Group (CCG) can conceal health inequalities and suggests that the EIA considers vulnerable groups that might be disproportionately affected.	Due to the scale of the Project it is not considered proportionate to collect ward level data to inform the baseline. It should be noted that the health assessment applies conservative methods and a uniformly high sensitivity classification to capture the most vulnerable individuals within the study area.
		Welcomes references to the Joint Strategy Needs Assessment (JSNA).	JSNA reports have been analysed to provide additional context on local health circumstance and inequalities. These reports partly draw from the open source websites and datasets, which have primarily informed the health and wellbeing baseline.
		Suggest the baseline data could include Potential Years of Life Lost, a summary measure of premature deaths due to causes which have been identified as amenable to prevention or delay through good healthcare.	The baseline data collected and interpreted include an extensive range of indicators which represent demography, socio-economic circumstance, physical health, mental health and lifestyle habits of the local population. While several statistics are available, it is considered that those included for the Project are representative and proportionate.
		Suggest that consideration be given to the inclusion of positive health impacts within the scope of the assessment. For example, by promoting and maximising active travel opportunities.	The health and wellbeing assessment will communicate where any positive health impacts are predicted.
Tandridge District Council	30 September 2019	States that there is a close relationship between Health and Wellbeing and the topics covering socio-economic, air quality and noise effects.	There is a close relationship between health and wellbeing and several other topics. These inter-relationships are outlined in Chapter 17 (Section 17.1.2).

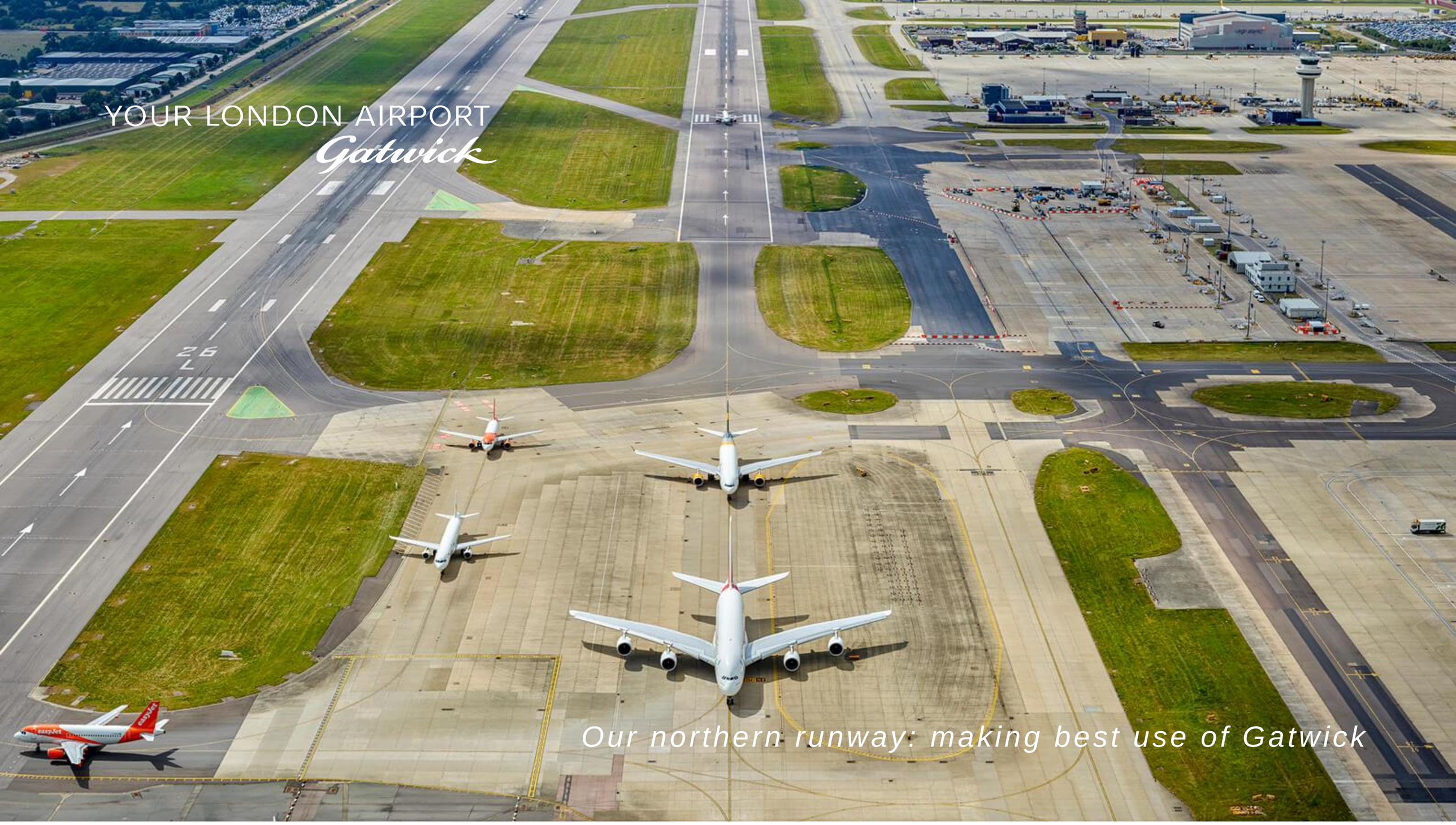
Consultee	Date	Details	How/where addressed in PEIR
West Sussex County Council	No date	The following documents are suggested to be referenced as Legislative and Policy Context: West Sussex Joint Health and Wellbeing Strategy; Public Health England data; Crawley Local Joint Strategic Needs Assessment; Health and Social Care Act 2012; Public Health England Strategic Plan 2016; Prevention Vision 2018; NHS Long Term Plan 2019; and 'The State of the Union'.	While these documents do not form part of the relevant section of Chapter 17 (Section 17.2), they have been reviewed and used to inform several aspects of the health and wellbeing chapter including the baseline and any mitigation or enhancement measures.
		The methodology should be agreed with consultees.	All comments on proposed methodology from consultees have been considered.
		State that the public health indicators referenced in the Scoping Report do not capture or emphasise the importance of mental health.	The public health indicators referenced in the Scoping Report represented a high-level baseline data collection. This has since been expanded for the purposes of assessment (see Appendix 17.6.2: Health and Wellbeing Baseline, and the summary provided in Section 17.6: Baseline Environment).
		State that it is unclear how local health needs will be addressed.	Local health needs will be addressed through mitigation or enhancement measures, where applicable and appropriate. Engagement with key health stakeholders within the Health Forum and the review of the Joint Strategic Health Needs Assessment have been valuable in this regard, as it enables a greater understanding of health needs and refinement of the Project to more effectively align with local health needs and priorities.
		Health prevention and response should be integrated within the assessment (in addition to health protection, health promotion and health care).	Health response is covered under analysis of Port Health activities throughout all assessment scenarios in Chapter 17.
		State that hazards to health can only be designed out by supporting local health priorities and objectives if local health services are engaged with.	Potential environmental hazards are addressed through design and have been refined through engagement to further complement local health needs and priorities.
		The approach to mitigation and monitoring should consider how unintended consequences will be captured and addressed.	Likely significant effects have been considered as part of the assessment, this includes inter-relationships, cumulative effects and major accidents and disasters.
		State that it is unclear what "barriers to health benefit" are considered to be in the context of mitigation and monitoring, and how it is intended to address them.	Potential barriers to health benefits are explored partly through the investigation of local community health and socio-economic circumstances within the baseline section and will be further explored through consultation feedback. Such information will assist in refining the project, to better support initiatives and programmes tailored to improving local health.
		Suggest there should be clarification on how the increased workforce will be supported regarding access to local health services and what the cost implications will be if workers from outside of the area are accessing sexual health and other such services.	As stated in the Outline CoCP, on-site health care would be provided for construction workers to avoid any potential adverse impact on the local health care system. The details of this provision will be explored and further assessed at ES stage. At this stage, the provision is anticipated to include measures to screen and address common health risk factors and manage the potential impact on local health care capacity.

2 Glossary

2.1 Glossary of terms

Table 2.1.1: Glossary of Terms

Term	Description
CCG	Clinical Commissioning Group
COMEAP	Committee on the Medical Effects of Air Pollutants
EIA	Environmental Impact Assessment
ES	Environmental Statement
GAL	Gatwick Airport Limited
HIA	Health Impact Assessment
JSNA	Joint Strategy Needs Assessment
NHS	National Health Service
OESBS	Outline Employment Skills and Business Strategy
PEIR	Preliminary Environmental Information Report



Preliminary Environmental Information Report
Appendix 17.6.1: Health and Wellbeing Baseline Conditions

September 2021

Table of Contents

1 Introduction

1.1 General

1.1.1 This document forms Appendix 17.6.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document describes baseline conditions in relation to health and wellbeing for the Project.

2 Health and Wellbeing Baseline

2.1 Introduction

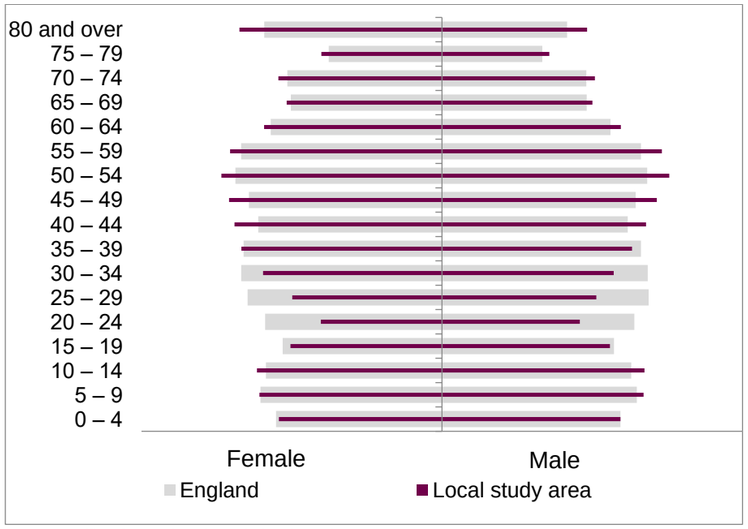
2.1.1 Different communities have varying susceptibilities to health impacts and benefits as a result of social and demographic structure, behaviour and relative economic circumstance; the aim of the following information, which makes up this health and wellbeing baseline, is to put into context the local health and socio-economic circumstances of the communities living in the local and wider study area, drawing from available statistics. Regional (South-East) and national (England) averages have been used as relevant comparators.

2.1.2 For clarity, the local study area comprises the local authority districts of Crawley, Reigate & Banstead, Mole Valley, Tandridge, Horsham and Mid Sussex. The wider study area comprises the counties of West Sussex, East Sussex, Surrey and Kent in addition to the unitary authority of Brighton & Hove.

2.2 Demography

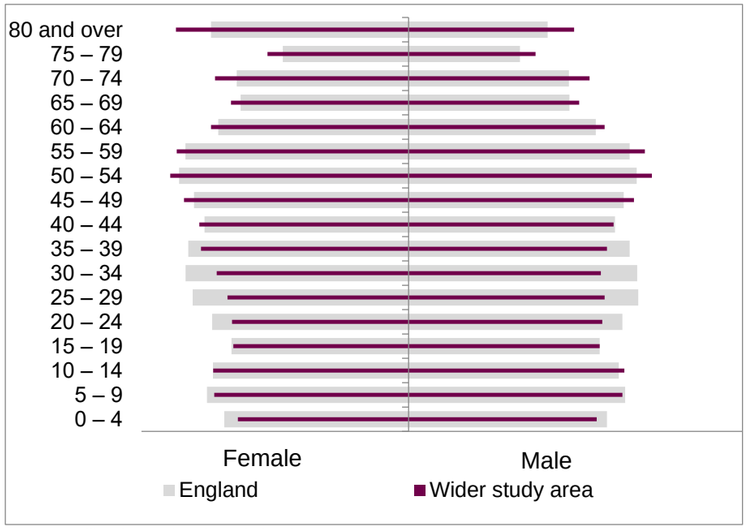
2.2.1 Age structure in the local study area shows a high proportion of the population aged 10 to 14 years and 40 to 80+ years when compared to the national average. There is a low proportion of 15 to 34 year olds compared to nationally. The wider study area shows a similar age profile.

Figure 2.2.1: Local study area age structure



Source: Office for National Statistics (2021)

Figure 2.2.2: Wider study area age structure



Source: Office for National Statistics (2021)

2.2.2 Population growth in the local and wider study area between the years of 2016 and 2020 is slightly higher than the regional and national averages. Growth in the local study area has been 0.3% higher than in the wider study area.

Table 2.2.1: Population change

Population change			
Area	**2016**	**2020**	**Change (%)**
Local study area	709,800	735,422	3.6
Wider study area	4,363,101	4,507,152	3.3
South East	8,949,392	9,217,265	3.0
England	54,786,327	56,550,138	3.2

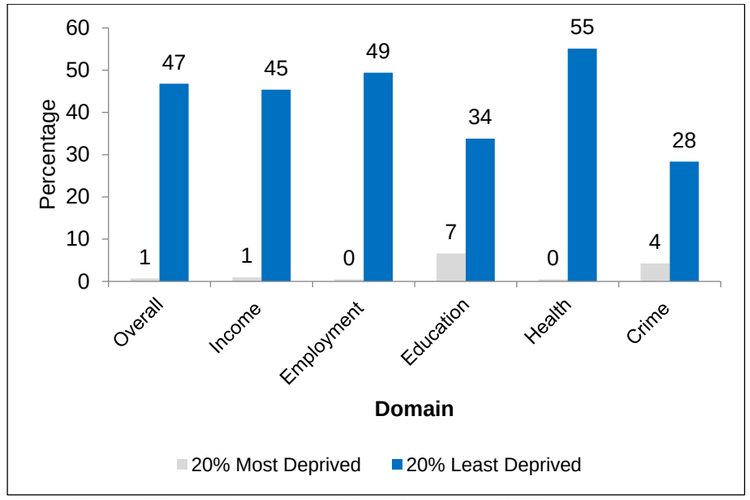
Source: Office for National Statistics (2016c); Office for National Statistics (2021)

2.3 Deprivation

2.3.1 The IMD is produced at Lower Super Output Area (LSOA) level, of which there are 32,482 in the country, and the LSOAs are ranked dependent on their relative level of deprivation. Deprivation scores are produced for seven separate domains comprising employment, income, education, proximity to services, living environment, crime and disorder, and the existing burden of poor health. While each domain can be represented individually, they can also be combined to produce an overall score. In this case, the 'barriers to housing and services' and 'living environment deprivation' domains are not analysed individually but are still incorporated into the overall deprivation score.

2.3.2 A summary of the local study area shows that for all categories, there are fewer LSOAs categorised within the 20% most deprived nationally, compared to the 20% least deprived nationally. The education and crime domains are the most deprived within the local study area, while the health domain is the least deprived.

Figure 2.3.1: Deprivation summary statistics

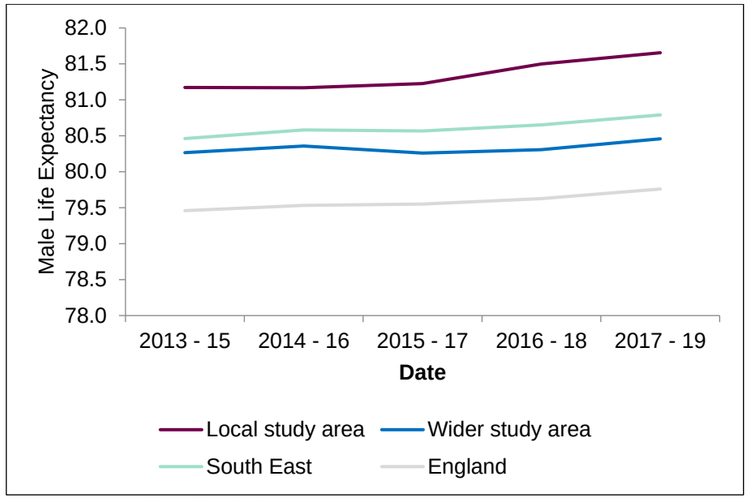


Source: Ministry of Housing, Communities & Local Government (2019)

2.4 Life expectancy

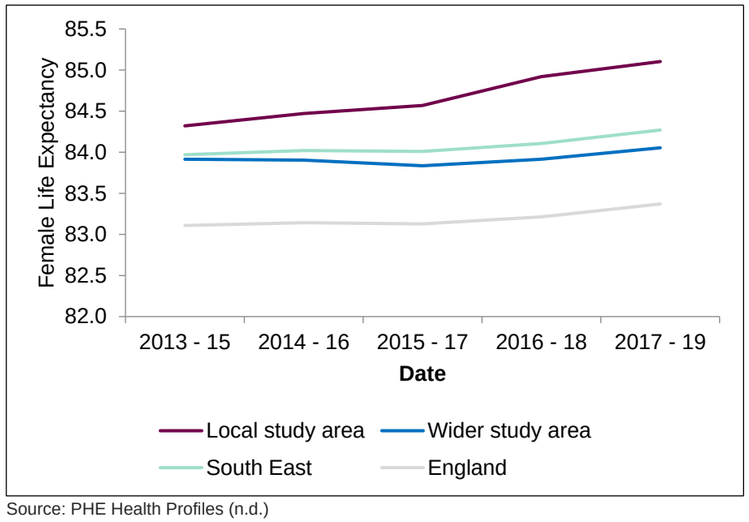
2.4.1 The trends for male and female life expectancy in the local study area have shown a gradual increase and are consistently higher than the national and regional averages. Male and female life expectancy in the wider study area is more comparable to the regional trend and consistently higher than the national average.

Figure 2.4.1: Male life expectancy



Source: PHE Health Profiles (n.d.)

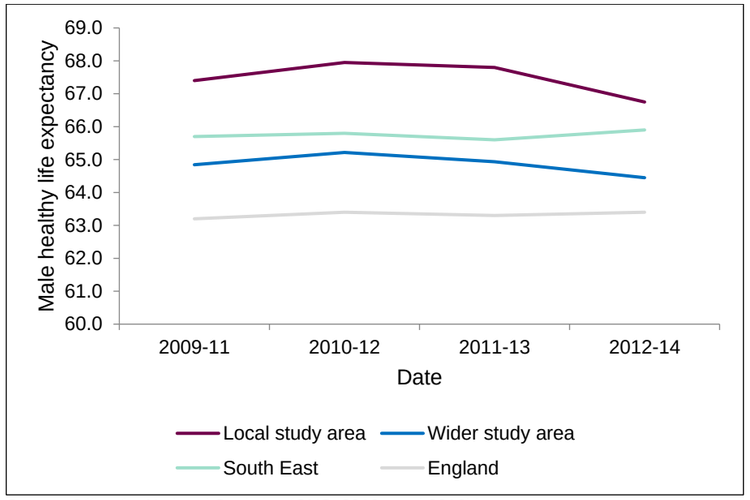
Figure 2.4.2: Female life expectancy



Source: PHE Health Profiles (n.d.)

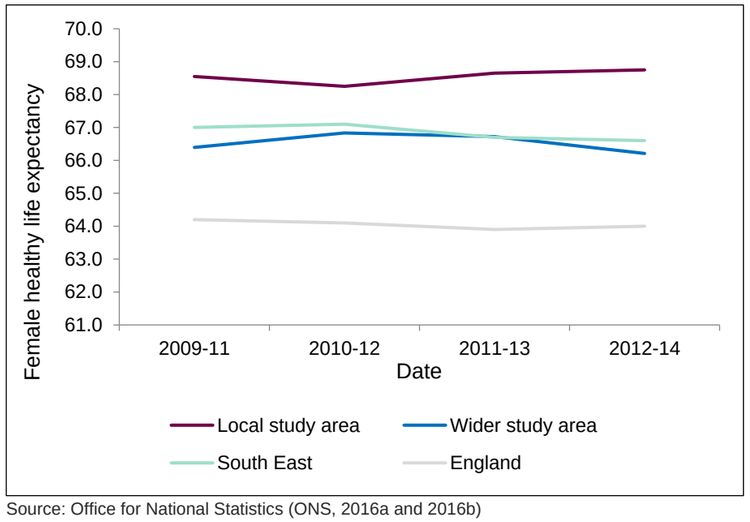
2.4.2 Healthy life expectancy (HLE) data is only available at the upper tier local authority level. Statistics show that both male and female HLE in the local study area has been consistently higher than the regional and national averages since 2009-11. In the wider study area, male HLE is consistently lower than the regional average, while female HLE again fluctuates above and below the regional average.

Figure 2.4.3: Male healthy life expectancy



Source: Office for National Statistics (ONS, 2016a and 2016b)

Figure 2.4.4: Female healthy life expectancy



Source: Office for National Statistics (ONS, 2016a and 2016b)

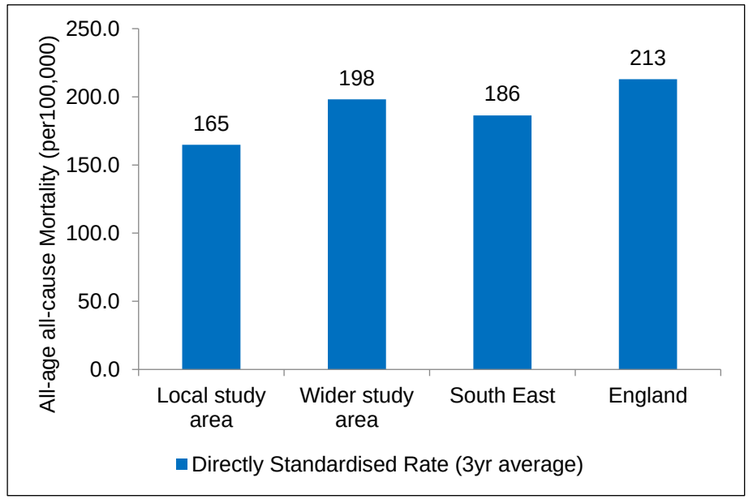
2.5 Physical health

2.5.1 All-age all-cause mortality in the local study area is lower than both the regional and national averages. When broken down by local authority, the all-age all-cause mortality is highest in Crawley (221 per 100,000 population) followed by Reigate and Banstead (163 per 100,000 population). While both the Crawley

and Reigate and Banstead figures remain lower than the national average, the figure for Crawley exceeds the regional average.

2.5.2 All-age all-cause mortality in the wider study area is lower than the national average but higher than the regional average.

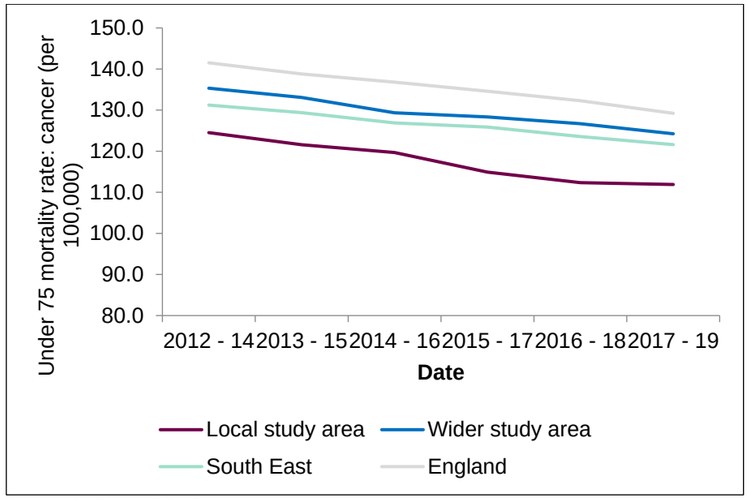
Figure 2.5.1: All-age all-cause mortality



Source: NHS Digital (2020b)

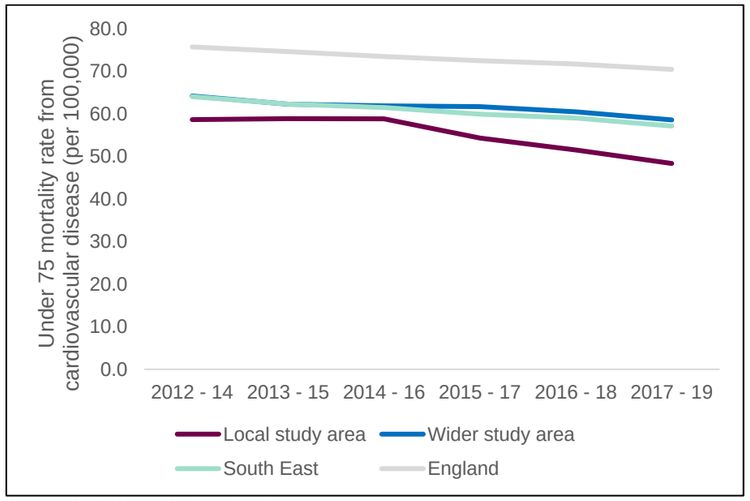
2.5.3 From analysis of specific causes of death, mortality rate for cancer and cardiovascular disease in the study area have been consistently below the national and regional average. Respiratory disease mortality rate in the local and wider study areas has also remained consistently lower than the national average (note – no regional comparator available).

Figure 2.5.2: Cancer mortality



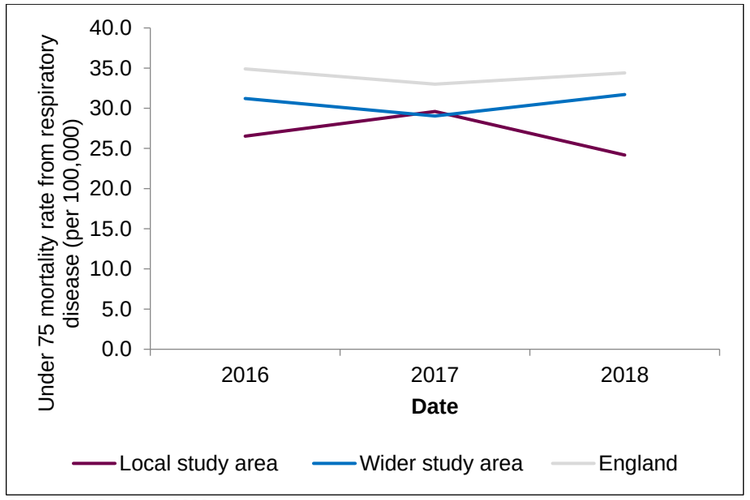
Source: PHE Health Profiles (n.d.)

Figure 2.5.3: Cardiovascular mortality



Source: PHE Health Profiles (n.d.)

Figure 2.5.4: Respiratory mortality



Source: NHS Digital (2020a)

2.5.4 Emergency hospital admissions for a range of respiratory and cardiovascular diseases is lower in both the local and wider study area when compared to the national average.

2.5.5 Out of all cardiovascular health outcomes, "other forms of heart disease" has the highest incidence rate in the local and wider study areas followed by "ischaemic heart diseases". For respiratory disease health outcomes, "influenza and pneumonia" has the highest incidence rate in the study area, followed by "chronic lower respiratory diseases".

Table 2.5.1: Emergency hospital admissions

ICD Code	Disease	Emergency hospital admissions incidence rate (per 100,000)		
		Local Study Area	Wider Study Area	England
Cardiovascular				
I00-I02	Acute rheumatic fever	0.1	0.1	0.1
I05-I09	Chronic rheumatic heart diseases	2.4	2.5	3.4
I10-I15	Hypertensive diseases	29.4	30.2	41.5
I20-I25	Ischaemic heart diseases	175.2	181.0	248.6

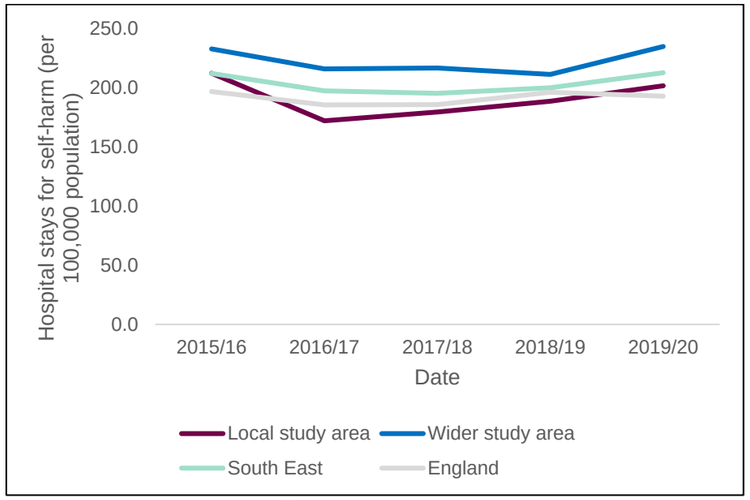
ICD Code	Disease	Emergency hospital admissions incidence rate (per 100,000)		
		Local Study Area	Wider Study Area	England
I26-I28	Pulmonary heart disease & diseases of pulmonary circulation	38.1	39.4	54.1
I30-I52	Other forms of heart disease	259.4	268.1	368.1
I60-I69	Cerebrovascular diseases	120.8	124.8	171.4
I70-I79	Diseases of arteries, arterioles & capillaries	28.4	29.4	40.3
I80-I89	Diseases of veins & lymphatic system nec.	87.2	90.2	123.8
I95-I99	Other & unspecified disorders of the circulatory system	1.6	1.6	2.2
Respiratory				
J00-J06	Acute upper respiratory infections	141.7	162.7	249.3
J80-J84	Other respiratory diseases affecting the interstitium	9.1	10.5	16.1
J09-J18	Influenza & pneumonia	299.7	343.9	527.2
J20-J22	Other acute lower respiratory infections	182.9	209.9	321.7
J30-J39	Other diseases of upper respiratory tract	19.3	22.1	33.9
J40-J47	Chronic lower respiratory diseases	212.4	243.8	373.7
J60-J70	Lung diseases due to external agents	29.0	33.3	51.1
J85-J86	Suppurative and necrotic conditions of lower respiratory tract	2.6	3.0	4.6
J90-J94	Other diseases of pleura	23.3	26.7	41.0
J95-J99	Other diseases of the respiratory system	14.7	16.8	25.8

Source: NHS Digital (2020); Office for National Statistics (2021); PHE Local Health (n.d.) (Note – national admissions data corrected using local SARs for CHD, stroke and COPD)

2.6 Mental health

2.6.1 Hospital stays for self-harm in the local and wider study area have shown a general decreasing trend over the years, although most recent figures (2019/20) show an increase. While hospital stays for self-harm in the wider study area are consistently higher than the regional and national averages, figures in the local study area are more comparable.

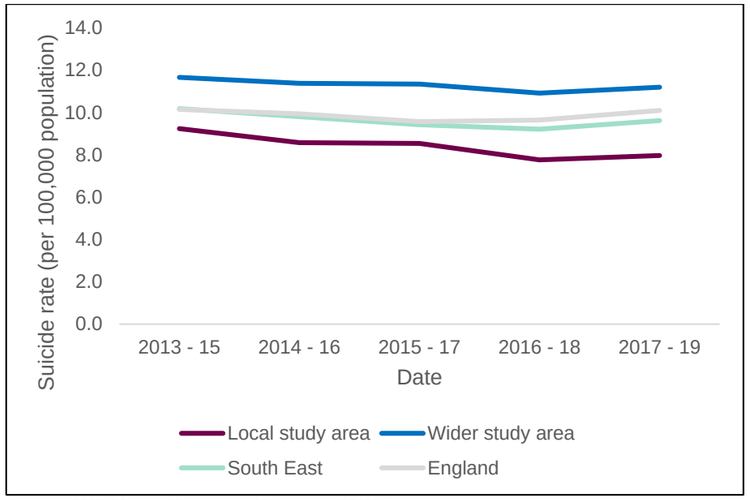
Figure 2.6.1: Hospital stays for self-harm



Source: PHE Mental Health and Wellbeing JSNA (n.d.)

2.6.2 Suicide rate in both the local and wider study area has been fairly static with slight fluctuations over the years. While suicide rate in the local study area has remained consistently below the regional and national average, suicide rate in the wider study area has been consistently higher than the regional and national averages.

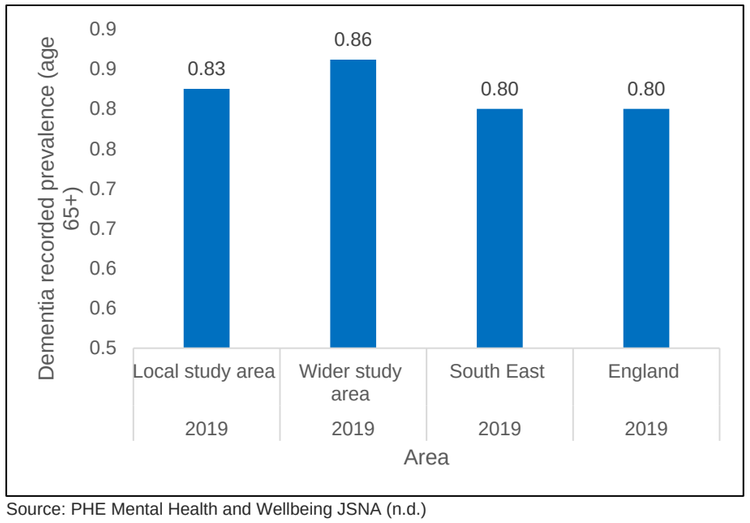
Figure 2.6.2: Suicide rate



Source: PHE Mental Health and Wellbeing JSNA (n.d.)

2.6.3 Dementia recorded prevalence in the local and wider study area is higher than both the regional and national averages.

Figure 2.6.3: Dementia recorded prevalence



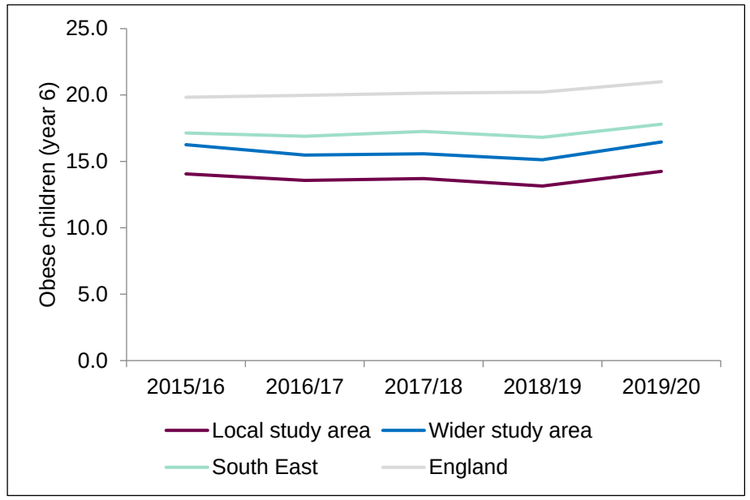
Source: PHE Mental Health and Wellbeing JSNA (n.d.)

2.7 Lifestyle

2.7.1 Childhood obesity in the local and wider study areas have remained relatively static over the years and have been consistently below the regional and national averages. The

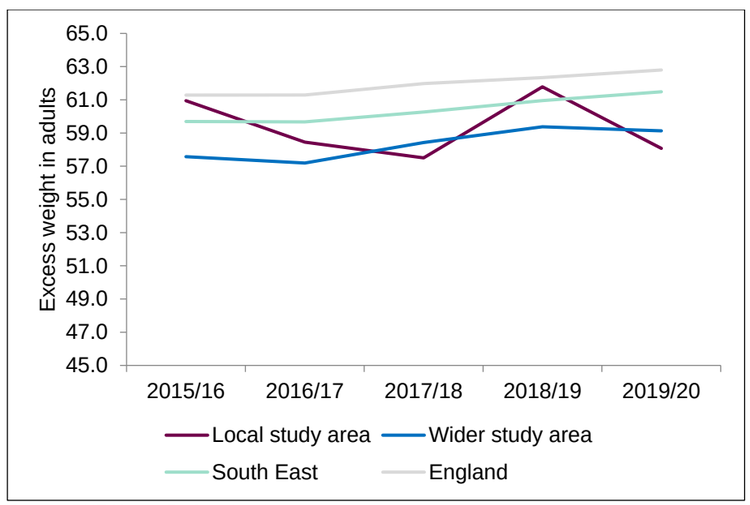
proportion of the adult population classified as overweight or obese shows a decreasing trend (albeit with fluctuations) in the local study area from a level which was higher than the wider study area and regional averages, to a level lower than this. The decreasing trend prevalent in the local study area contrasts the increasing trends apparent in the wider study area, regionally and nationally.

Figure 2.7.1: Childhood obesity



Source: PHE Health Profiles (n.d.)

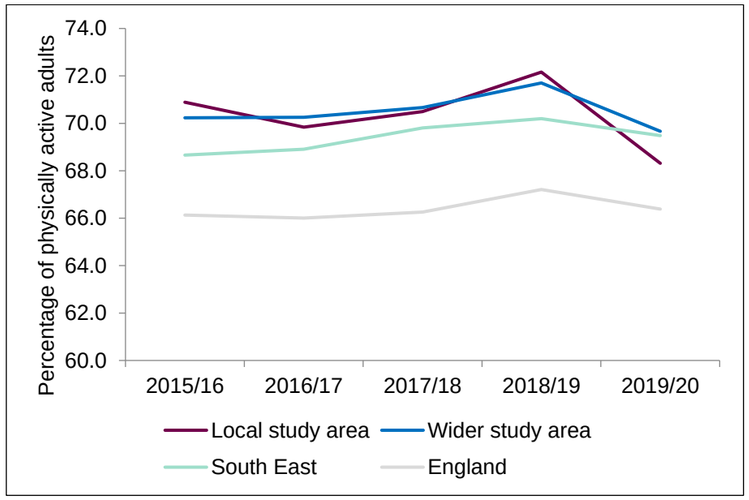
Figure 2.7.2: Excess weight in adults



Source: PHE Health Profiles (n.d.)

2.7.2 Participation in physical activity in the local and wider study areas have remained relatively static over the years and has been consistently higher than the regional and national averages, showing an increasing trend until 2018/19, after which it has decreased. The most recent figures (2019/20) for the local study area are lower than the regional average but higher and national average, while the wider study area is more comparable to the regional average.

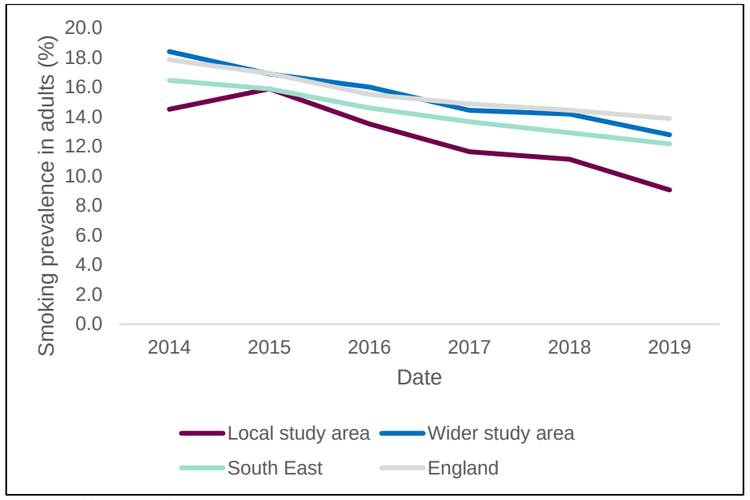
Figure 2.7.3: Participation in physical activity



Source: PHE Health Profiles (n.d.)

2.7.3 Smoking prevalence in the local and wider study areas has shown a general decrease over the years. Most recent figures show that smoking prevalence in the local study area is lower than both the regional and national average. In the wider study area, smoking prevalence is higher than the regional average, but lower than the national average.

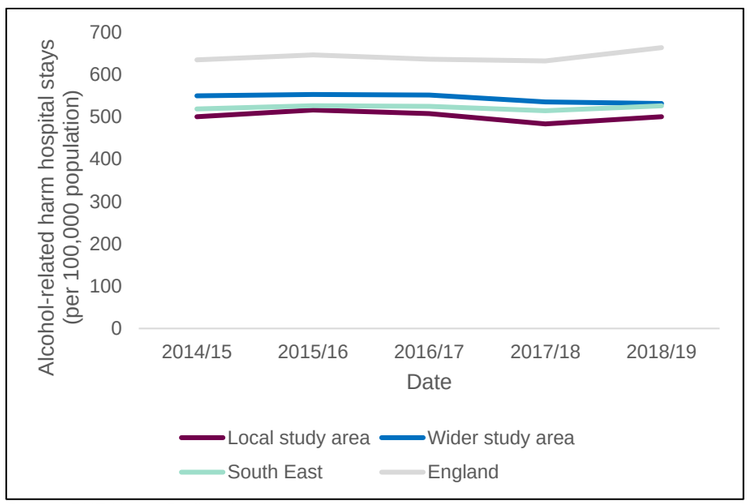
Figure 2.7.4: Smoking



Source: PHE Health Profiles (n.d.)

2.7.4 Hospital stays for alcohol-related harm is a proxy indicator for excessive alcohol consumption. Trends in the local and wider study areas have remained relatively static over the years. In the local and wider study area, hospital stays for alcohol related harm have been consistently lower than the national average. However, in the wider study area, hospital stays for alcohol related harm have been consistently higher than the regional average.

Figure 2.7.5: Hospital stays for alcohol-related harm



Source: PHE Health Profiles (n.d.)

2.8 Conclusion

2.8.1 From analysis of available statistics, physical and mental local health circumstances in the local and wider study area can be considered good, and trends are generally positive. In most circumstances, health status is better than the national average and more comparable to the regional average.

2.8.2 As a result, it is not considered that the local communities living within the study area would be particularly sensitive to environmental or socio-economic changes associated with the construction and operation of the proposed Project. However, it should be noted that the description of the whole population, and the populations within the local and wider study area, does not exclude the possibility that there will be some individuals or groups of people who do not conform to the overall profile.

3 References

Ministry of Housing, Communities & Local Government (2019) English indices of deprivation. [Online] Available at: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019 [Accessed 1 November 2019].

NHS Digital (2020) Hospital Admitted Patient Care Activity, 2019-20. [Online] Available at: [redacted]

NHS Digital (2020a) 1.6 Under 75 mortality from respiratory disease. [Online] Available at: [redacted]

NHS Digital (2020b) Mortality from all causes: directly standardised rate, all ages, 3-year average, MFP. [Online] Available at: [redacted]

NHS (2020) NHS QOF. [Online] Available at: [redacted]

NOMIS, n.d. NOMIS. [Online] Available at: [redacted] [Accessed 30 June 2020].

ONS (2016a) Healthy life expectancy (HLE) and life expectancy (LE) at birth by region, England. [Online] Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/datasets/healthylifeexpectancyhleandlifeexpectancyleatbirthbyregionengland

ONS (2016b) Healthy life expectancy (HLE) and life expectancy (LE) at birth by upper tier local authority (UTLA), England. [Online] Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/datasets/healthylifeexpectancyhleandlifeexpectancyleatbirthbyuppertierlocalauthorityutlaengland

ONS (2016c) Population Estimates by single year of age and sex for local authorities in the UK, mid-2014. [Online] Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland

ONS (2021) Mid-Year Population Estimates, UK, June 2020. [Online] Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland

PHE, n.d. Health Profiles. [Online] Available at: [redacted] [Accessed 30 June 2020].

PHE, n.d. Local Health. [Online] Available at: [redacted]

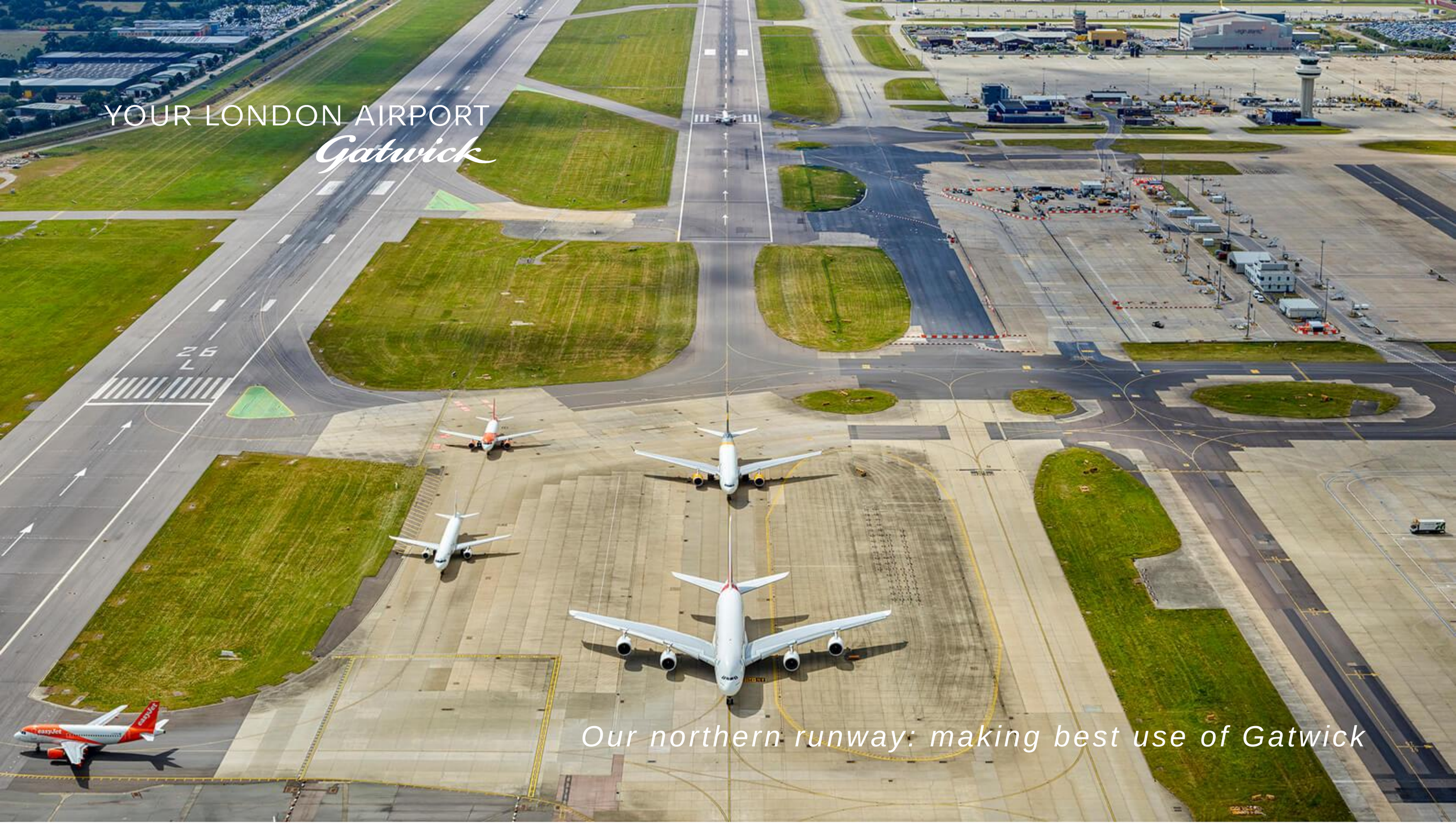
PHE, n.d. Mental Health and Wellbeing JSNA. [Online] Available at: [redacted]

4 Glossary

4.1 Glossary of terms

Table 4.1.1

Term	Description
EIA	Environmental Impact Assessment
GAL	Gatwick Airport Limited
HLE	Healthy life expectancy
LSOA	Lower Super Output Area
PIER	Preliminary Environmental Information Report
SAR	Standardised Admissions Ratio



Preliminary Environmental Information Report
Appendix 18.2.1 Summary of Local Planning Policy: Agricultural Land Use and Recreation

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 18.2.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the summary of local planning policy relevant to agricultural land use and recreation for the Project.

2 Adopted and Emerging Local Planning Policy

Policy	Summary
Adopted Policy	
Crawley 2030: Crawley Borough Local Plan 2015-2030	
CH11 Rights of Way & Access to the Countryside	Unless it can be clearly shown that a Public Right of Way is unnecessary or not needed, proposals which result in the loss of a public right of way must ensure re-provision of equal or better value. Proposals which detract from the character of a right of way or other type of recreational route must adequately mitigate the impacts or provide a new resource of equal or better value if this is not possible. This may include: i) the provision of safe and convenient links to nearby rights of way/recreational routes; and/or ii) new or upgraded existing rights of way to multi-functional routes to create benefits for a range of users.
ENV4 Open Space, Sport & Recreation	Proposals that remove or affect the continued use of existing open space, sport and recreational spaces will not be permitted unless: a) An assessment of the needs for open space, sport and recreation clearly show the site to be surplus to requirements; or b) The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or c) The development is for alternative sports and recreational provision, the needs for which clearly outweigh the loss.
ENV5 Provision of Open Space & Recreational Facilities	Where development is on existing open space which is not identified as surplus and is therefore required to be replaced through Policy ENV4, a Section 106 agreement will also be sought to secure the replacement open space.
EC9 Rural Economy	Development proposals which would cause the permanent loss of the best and most versatile agricultural land (Grades 1, 2 and 3a in the Agricultural Land Classification system) will not be permitted unless it can be demonstrated to the satisfaction of the borough council that there are no appropriate alternatives and there are over-riding sustainability benefits.
Reigate and Banstead Local Plan: Adopted Core Strategy 2014	
CS2 Valued Landscapes & the Natural Environment	In considering the allocation of land and /or proposals for significant development, the Council and developers will be required to protect and enhance the borough's green fabric, including: (c) The borough's commons will be maintained and enhanced for the benefits of farming, public access and biodiversity; and (f) Urban green spaces, green corridors and site specific features which make a positive contribution to the green fabric and/or a coherent green infrastructure network and will, as far as practicable, be retained and enhanced.
CS12 Infrastructure Delivery	3. Encourage proposals that would: a. increase the range, improve the quality, or enhance the accessibility, of community and leisure (including sport, recreation, and cultural) facilities in the borough, and/or b. provide for a mix of compatible community services on a single site, including through consolidation to result in economies of scale or innovative forms of service provision. 5. Resist the loss of existing leisure and community facilities (including sport, recreation and cultural) and open spaces, unless it can be demonstrated that: a. the existing use is surplus to requirements, or b. equivalent or better provision in terms of quantity and quality, or some wider community benefits, will be made in a suitable location. 6. Seek provision and maintenance of leisure and community facilities and open spaces from new development
Reigate and Banstead: Submission Development Management Plan 2018-2027 (Adopted 2019)	
OSR1 Urban Open Space	Any other development which would result in the full or partial loss of designated Urban Open Space will only be permitted in exceptional circumstances, where any loss of openness resulting from the proposed development would not have an adverse effect on local character, visual amenity or ecological value; and either: a) There is clear evidence to demonstrate that the site is surplus to requirements and such land does not make a significant contribution to the recreational, community, ecological or amenity value of the area; or b) Provision is made for appropriate and suitably located replacement open space of the same nature and an equivalent of higher quality and / or greater quantity. Replacement open spaces should be located as close to the lost open space as possible.

Policy	Summary
	Planning conditions and/or obligations will be used to secure the timely delivery of any agreed enhancements or alternative provision.
NHE1 - Landscape Protection	3) Throughout the borough, development proposals must: f) Seek to protect the best and most versatile agricultural land.
NHE4 Green/ Blue Infrastructure	1) The Council will work with landowners, land managers and stakeholders to secure the provision of a multi-functional green and blue infrastructure network by, *inter alia*, resisting the loss of existing public open space and preserving and enhancing existing green infrastructure. 2) Development proposals must, *inter alia*, a) Where possible, increase access to and provision of green/blue infrastructure and open spaces; c) Positively incorporate green and blue infrastructure as an integral part of the design of new developments; supporting initiatives within the Council's Green Infrastructure Strategy and Action Plan where possible; d) Incorporate open spaces and green spaces which can be used in a variety of ways and support a range of activities; e) Protect and enhance public rights of way and National Trails; f) Where possible, create new links and corridors between open spaces, green/blue infrastructure and the countryside beyond, such as through the provision of footpaths and bicycle paths or through planting and landscaping. 3) Within land designated as a Riverside Green Chain, the following uses and facilities will be permitted to facilitate activities compatible with the area and the maintenance of a natural green and blue environment: a. Informal recreation. b. Formal outdoor recreation, allotments, agriculture and woodland where feasible. c. Establishment of Local Nature Reserves and similar nature conservation provision d. Enhancements to the riverine environment for water related purposes, including the establishment of buffer zones. e. Safe access provisions to appropriate sections of the riverine

Policy	Summary
	environment including safety measures consistent with the scale of visitor and operation activity while protecting other areas as wildlife refuges in accordance with a nature conservation strategy for the area. f. Interpretation and supervised investigation of archaeological sites. g. Creation of ponds, swales, bunds, stormwater wetlands and similar features as part of the surface water drainage system serving major new housing development and consistent with an overall agreed landscape plan. h. Construction of a combined orbital cycle and pedestrian path with connections to new and existing housing areas consistent with nature conservation values. i. Provision of facilities for horse riders, where practicable.
TAP1 Access, Parking & Servicing	1) All types of development, across the borough, will be required to, *inter alia*, a) Provide safe and convenient access for all road users, in a way which would not: i. unnecessarily impede the free flow of traffic on the public highway, or compromise pedestrians or any other transport mode, including public transport and cycling; iii. increase the risk of accidents or endanger the safety of road users including pedestrians, cyclists, and other vulnerable road users. b) Incorporate a highway design and layout that: iv. achieves a permeable highway layout, connecting with the existing highway network safely and includes safe access for pedestrians and cyclists; v. Provides sufficient visibility and lighting for the safe and convenient use of the roads, cycle tracks, paths and parking places. e) Incorporate pedestrian and cycle routes within and through the site, linking to the wider sustainable transport network where possible, especially in and to the borough's town centres.
Emerging Policy	
Draft Crawley Borough Local Plan 2021-2037	

Policy	Summary
OS1: Open Space, Sport and Recreation	Proposals that remove or affect the continued use of existing open space, sport and recreational spaces will not be permitted unless: a) An assessment of the needs for open space, sport and recreation clearly show the site to be surplus to requirements; or b) The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or c) The development is for alternative sports and recreational provision, the needs for which clearly outweigh the loss.
OS2: Provision of Open Space and Recreation Facilities	The impact of the increased population from residential development on open space and recreational facilities serving a borough-wide population will be mitigated by the use of the Community Infrastructure Levy. Where development is on existing open space which is not identified as surplus and is therefore required to be replaced through Policy OS1, a S106 agreement will also be sought to secure the replacement open space and to provide and improve the Public Rights of Way network both within the development and connecting to the surrounding countryside/open spaces. There is a significant supply of semi-natural green space across the borough. Opportunities are encouraged to provide multi-use open space provision in these areas, e.g. natural play areas, BMX tracks and signed recreational routes, where there is an existing undersupply of these facilities and the negative impact on green infrastructure, including biodiversity and visual amenity, is avoided.
OS3: Rights of Way and Access to the Countryside	Public Rights of Way will be protected by ensuring that development does not result in the loss of, or adversely affect, a Right of Way or other recreational route, unless a new route is provided of equal or better value. Unless it can be clearly shown that a Public Right of Way is unnecessary or not needed, proposals which result in the loss of a public right of way must ensure re-provision of

Policy	Summary
	equal or better value. Proposals which detract from the character of a right of way or other type of recreational route must adequately mitigate the impacts or provide a new resource of equal or better value if this is not possible. This may include: i) the provision of safe and convenient links to nearby rights of way/recreational routes; and/or ii) new or upgraded existing rights of way to multi-functional routes to create benefits for a range of users.
EC13: Rural Economy	Beyond the Built-Up Area Boundary, development that enhances Crawley's rural economy will be supported provided it: a) is of a scale and function that is appropriate to, and consistent with, the character of the countryside; and b) would not result in an urbanising impact that would undermine the intrinsic character and beauty of the countryside; and c) would not result in the loss of valued landscapes, sites of biodiversity or geological value, trees and woodland, or the best and most versatile agricultural land. Development proposals which would cause the permanent loss of the best and most versatile agricultural land (Grades 1, 2 and 3a in the DEFRA Agricultural Land Classification system) will not be permitted unless it can be demonstrated to the satisfaction of the borough council that there are no appropriate alternatives and there are over-riding sustainability benefits. Any development must also meet the requirements of Policy CL8: Development Outside the Built-Up Area.
GI1: Green Infrastructure	Crawley's multi-functional green infrastructure network will be conserved and enhanced by, *inter alia.* development which protects and enhances green infrastructure; development proposals which integrate and enhance the green infrastructure network. Proposals which reduce, block or harm the functions of green infrastructure will be required to be adequately justified, and mitigate against any loss or impact or as a last resort compensate to ensure the integrity of the green infrastructure

Policy	Summary
	network is maintained. The strategic green infrastructure network is afforded the highest protection due to its high value from existing or identified potential multiple functions. Proposals should maximise the opportunity to maintain and extend green infrastructure links to form a multi-functional network of open space, providing opportunities for walking and cycling, and connecting to the urban/rural fringe and the wider countryside beyond.
National policyST1: Development and Requirements for Sustainable Transport	Development should be located and designed so as to encourage travel via the walking and cycling network and public transport routes, while reducing dependency on travel by private motor vehicle. Developments should meet the access needs they generate and not cause an unacceptable impact in terms of increased traffic congestion or highway safety.

3 References

Crawley Borough Council (2015) Crawley 2030: Crawley Borough Local Plan 2015 – 2030.

Crawley Borough Council (2021) Crawley 2035: Draft Crawley Borough Local Plan 2021-2037, January 2021.

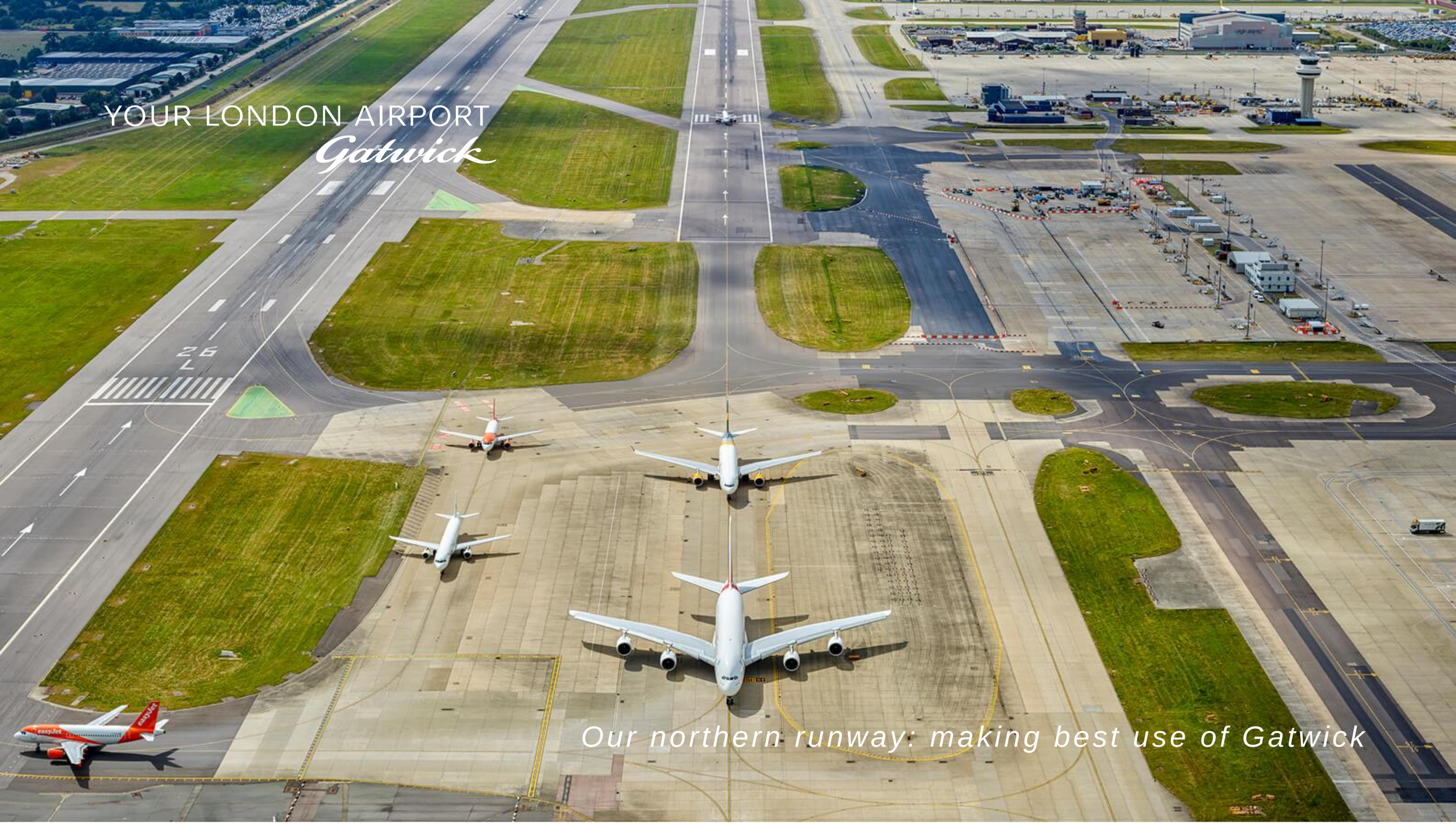
Reigate and Banstead Borough Council (2014) Reigate and Banstead Local Plan: Adopted Core Strategy

Reigate and Banstead Borough Council (2019) Reigate and Banstead Borough Development Management Plan 2018-2027

4 Glossary

4.1 Glossary Terms

Term	Description
Defra	Department for Environment, Food & Rural Affairs
EIA	Environmental Impact Assessment
GAL	Gatwick Airport Limited
PEIR	Preliminary Environmental Information Report



Preliminary Environmental Information Report
Appendix 18.3.1: Summary of Stakeholder Scoping Responses - Agricultural Land Use and Recreation

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 18.3.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the summary of stakeholder scoping responses for agriculture for the Project.

2 Summary of Stakeholder Scoping Responses for Agricultural Land Use and Recreation

Consultee	Date	Details	How/where addressed in PEIR
Reigate and Banstead Borough Council	27 September 2019	With regards to the key legislative and policy documents listed in Paragraph 7.12.1 of the EIA Scoping Report, Core Strategy Policy CS12 "Infrastructure Delivery" which relates to recreational facilities – including loss of – and green infrastructure should be added to the list of policies.	Policy added to Table 18.2.2: Local Planning Policy and Appendix 18.2.1.
Reigate and Banstead Borough Council	27 September 2019	References Borough Local Plan policies CO2 "Agricultural Considerations" and Hr36 "The Rural Surrounds of Horley" should be removed from this section following the adoption of the DMP.	Reference to these policies removed.
Reigate and Banstead Borough Council	27 September 2019	References to the "emerging Reigate & Banstead Borough Development Management Plan 2018-2027" should be amended to "Reigate and Banstead Development Management Plan (Reigate and Banstead Borough Council, 2019)" following the adoption of the DMP to ensure consistency with other adopted Local Plan documents.	Relevant policies in the Reigate and Banstead Development Management Plan added to Table 18.2.2: Local Planning Policy and Appendix 18.2.1.
Reigate and Banstead Borough Council	27 September 2019	The Council notes that Paragraph 7.12.6 of the EIA Scoping Report states that "site visits have been undertaken in March and May 2019 but no survey work in relation to either agricultural land or recreational resources has been undertaken to date" and that "user surveys of recreational resources are planned and will be undertaken during 2019". We consider that there is a need for further clarity regarding the potential scope of user surveys to ensure a robust baseline and consider that in order to fully understand different users perspectives that user surveys should be conducted during both peak and shoulder periods.	User surveys have been completed for National Cycle Route 21 through Riverside Garden Park, which is used by both cyclists and walkers. These surveys have been undertaken at appropriate times to ensure that the peak usage is captured. The conclusions from this survey are summarised in Section 18.6 and full details included at Appendix 18.6.3 of this chapter of the PEIR.
Reigate and Banstead Borough Council	27 September 2019	The Council notes that Paragraphs 7.12.28-7.12-31 of the EIA Scoping Report which details baseline conditions specifically provides very detailed comments on the Riverside Garden Park in Horley. Whilst we welcome that this public open space has been clearly and specifically identified, we note that it is included within the Project site boundary and would welcome clarity at this stage for the rationale for inclusion of the Riverside Garden Park within the Project site boundary and scope of works/ mitigation interventions proposed for this area of public open space. Should the area be required for transport improvements, we would welcome clarity/ evidence as to the requirement for the full area to enable transport improvements for the routine use of the northern runway.	The optioneering process has removed the option that had the greatest effect on the Riverside Garden Park. The current options are described in Chapter 5 and in Table 18.7.1: Maximum Design Scenarios. The remaining effects are assessed in section 18.9 and mitigation is set out in Table 18.8.1: Mitigation and Enhancement Measures.
Reigate and Banstead Borough Council	27 September 2019	The Council questions why Table 7.12.2 of the EIA Scoping Report which details the baseline agricultural statistics for land use groups 'Crawley and Mid Sussex' and 'Reigate & Banstead and Epsom & Ewell' whilst Mid Sussex, Horsham, Mole Valley and Tandridge are detailed separately. As stated in Paragraph 7.12.18 of the EIA Scoping Report, DEFRA produce statistical records on a local authority basis.	The Defra statistics provide a context to the nature of agricultural land use in the vicinity of the Project. The detailed assessment of the effects of the Project on agricultural land use is based on the characteristics of the individual farm holdings affected.

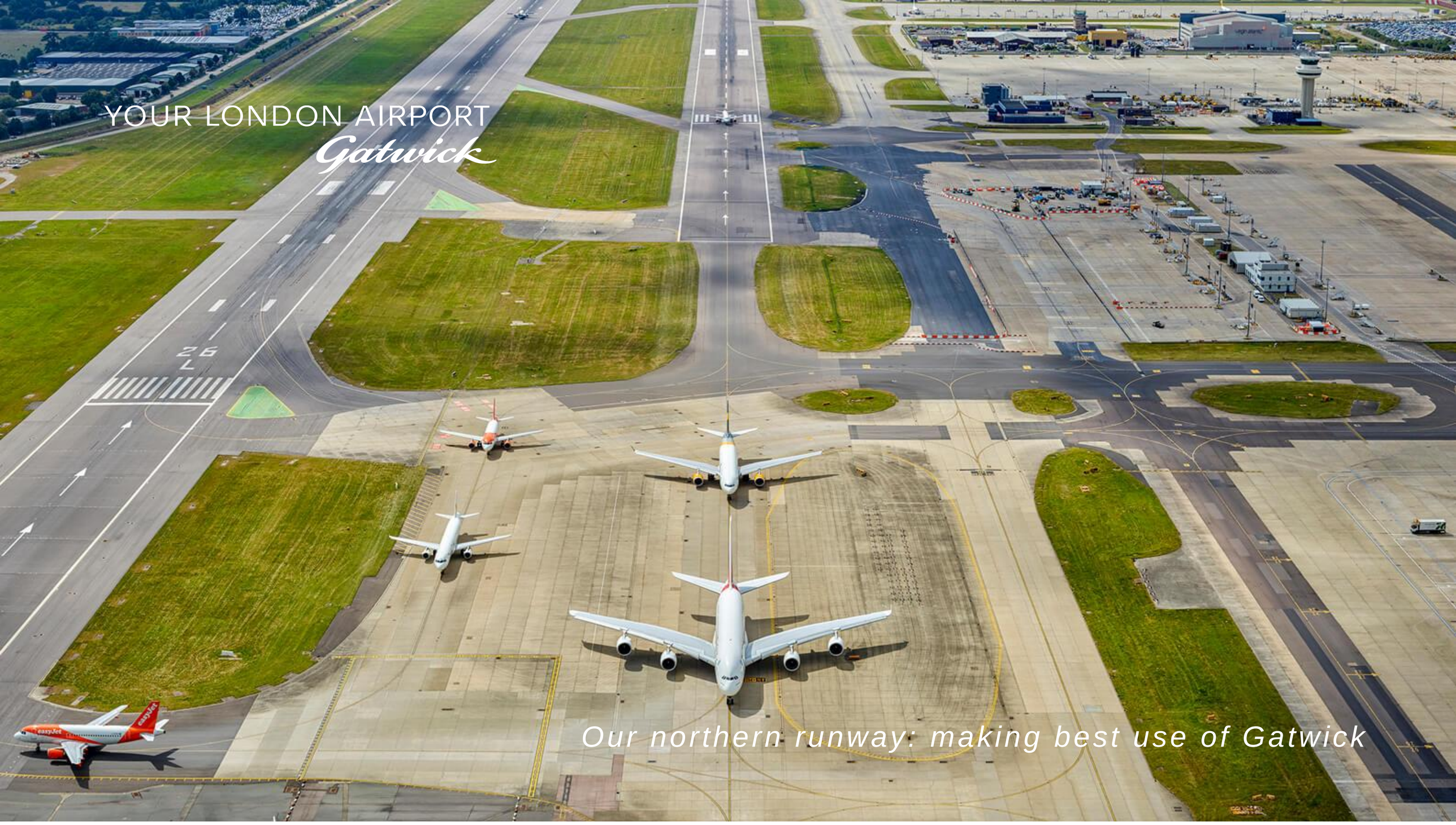
Consultee	Date	Details	How/where addressed in PEIR
Reigate and Banstead Borough Council	27 September 2019	With regards to the scope of baseline studies, we note that Paragraph 7.12.33 of the EIA Scoping Report states that site surveys will be undertaken to provide an understanding of the current use of recreational resources including public open space around the airport. The Council would welcome clarity that the scope of these assessments will include time periods in both the peak and shoulder periods.	User surveys have been completed for National Cycle Route 21 through Riverside Garden Park, which is used by both cyclists and walkers. These surveys have been undertaken at appropriate times to ensure that the peak usage is captured. The conclusions from this survey are summarised in Section 18.6 and full details included at Appendix 18.6.3 of this chapter of the PEIR.
Reigate and Banstead Borough Council	27 September 2019	We note that as part of our recently adopted DMP, site allocation policy HOR9 “Horley Strategic Business Park” which adjoins the proposed Project site boundary to the north includes at least 5ha of new high quality public open space, including parkland and outdoor sports facilities. We therefore consider that this needs to be taken into consideration in assessments.	The proposed development of the Horley Business Park, as set out in Policy HOR9 ‘Horley Strategic Business Park’ of the adopted Reigate and Banstead Development Management Plan 2018-2027, including the provision of new public open space, including parkland and outdoor sports facilities, has been assessed in Section 18.11 ‘Cumulative Effects Assessment’.
Reigate and Banstead Borough Council	27 September 2019	The Council questions why Table 7.12.3 of the EIA Scoping Report which details the potential effects to be considered omits consideration of the adverse impacts on the nature and character of recreational resources from increased disturbance from roads, upgraded junctions and activity.	The potential loss or reduction in the area of accessible public open space and the potential effects on the alignment of public rights of way and cycle routes are assessed in Chapter 18 of the PEIR. Any effects on the amenity of these resources, primarily as a result of changes to the visual or acoustic environments at either the construction or operation stages of the project, are assessed, where relevant, in Chapter 8: Landscape, Townscape and Visual Resources and 14: Noise and Vibration. A commentary on such effects will be included in the Agricultural Land Use and Recreation chapter of the ES.
West Sussex County Council		In reference to Paragraph 7.12.1: The list of relevant policy documents should include the WSCC Rights of Way Management Plan 2018 - 2028.	This document is listed in Section 18.14.‘References’.
Tandridge District Council	30 September 2019	No specific comments are made on the proposed scope of the baseline studies, study area, affects proposed to be assessed, and the approaches to the assessment of effects, and mitigation, enhancement and monitoring in relation to this topic.	The scope of the Agricultural Land Use and Recreation assessment that is set out in Chapter 18 of the PEIR has been developed in consultation with relevant statutory and non-statutory consultees as detailed in Table 18.3.1 and Table 18.3.2 and taking account of relevant guidance. It comprises the assessment of potential effects on the following resources during the construction and operational stages of the Project, together with mitigation measures to be incorporated into the Project: ▪ agricultural land quality and soils; ▪ farm holdings; ▪ public rights of way; ▪ national cycle routes; ▪ other walking, cycling and horse riding routes; and ▪ public open space.

3 Glossary

3.1 Glossary of terms

Table 3.1.1: Glossary of Terms

Term	Description
Defra	Department for Environment, Food & Rural Affairs
DMP	Development Management Plan
EIA	Environmental Impact Assessment
ES	Environmental Statement
GAL	Gatwick Airport Limited
PEIR	Preliminary Environmental Information Report
WSCC	West Sussex County Council



Preliminary Environmental Information Report
Appendix 18.6.1: Published Agricultural Land Classification Data

September 2021

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1 Introduction

1.1 General

1.1.1 This document forms Appendix 18.6.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the published Agricultural Land Classification data relevant to the Project.

4204-042-94

A1
Crawley Borough Local Plan
Agricultural Land Classification
ALC Map and Report
March 1994

CRAWLEY BOROUGH LOCAL PLAN
AGRICULTURAL LAND CLASSIFICATION REPORT

1. Summary

1.1 During February 1994, an Agricultural Land Classification (ALC), survey was carried out on approximately 128 hectares of land immediately to the north-east of Crawley, West Sussex. ADAS was commissioned by MAFF to determine the quality of land under consideration for inclusion in the Crawley Borough Local Plan.

1.2 The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 86 borings and six soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its use for agriculture.

At the time of survey most of the western part of the site was in permanent grassland being grazed by cattle and horses. Land to the east of the B2036, Balcombe Road, was in a mixture of cereal cropping and set-aside.

1.3 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement may be misleading.

Table 1 : Distribution of Grades and Subgrades

		Area (ha)	% total agricultural area
Grade	2	5.0	6.0
	3b	75.5	91.3
	4	2.2	2.7
Total agricultural area		82.7	100%
Non-agricultural		3.8	
Woodland		31.4	
Farm Buildings		0.4	
Urban		4.7	
Not surveyed		5.0	
Total area of site		128.0 ha	

1.4 Appendix 1 gives a general description of the grades, subgrades and land-use categories identified in the survey.

1.5 The land surveyed has been classified predominantly moderate, (Subgrade 3b) quality with smaller areas of Grades 2 and 4. A considerable proportion of the total site area has been mapped as non-agricultural land uses, such as woodland or urban. The ALC grading of the site is primarily determined by soil wetness limitations. Across most of area surveyed soils comprise silty clay loam topsoils overlying gleyed and slowly permeable silty clay loam and silty clay subsoils derived from deposits of

Tunbridge Wells Sand. These significantly impede soil drainage. Where land has been assigned to grade 2, soils are lighter and more sandy and thereby better drained. They are affected by only slight soil wetness problems. Grade 4 land has been mapped where disturbance has occurred and a micro-relief limitation has resulted.

2. Climate

2.1 Estimates of climatic variables relevant to the assessment of agricultural land quality were obtained by interpolation from a 5km grid point dataset (Met. Office, 1989) for representative locations in the survey area.

Climatic Interpolations

Grid Reference	TQ 289387	TQ 300393
Altitude, (m, AOD)	65	75
Accumulated Temperature (°days, Jan-June)	1451	1439
Average Annual Rainfall (mm)	799	795
Field Capacity Days	170	169
Moisture deficit, wheat (mm)	104	104
Moisture deficit, potatoes (mm)	96	95

2.2 Climatic factors are considered first when classifying land since climate can be overriding in the sense that adverse climatic conditions may restrict land quality irrespective of favourable site and soil conditions. The details in the table above show that there is no overall climatic limitation affecting this site. In addition, no local climatic factors such as exposure or frost risk affect the land quality.

2.3 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality, average annual rainfall and field capacity days are relatively high in regional terms, whilst crop adjusted moisture deficits are correspondingly low. The effect will be an enhanced likelihood of soil wetness problems and a reduced chance of the land being droughty.

3. Relief

3.1 The site lies at an altitude of approximately 65-75 m AOD, rising gently from west to east. Nowhere on the site do gradient or microrelief affect agricultural land quality.

4. Geology and Soils

4.1 The published geology map for the site area, (British Geological Survey, 1973) shows a complex pattern of geological deposits underlying the site. To the far west of the site a band of river terrace gravels, (deposited by the River Mole) has been mapped. Adjacent to this a band of alluvium is shown running the length of Gatwick Stream. East of here, much of the remainder of the site is underlain by deposits of Tunbridge Wells Sandstone. Localised bands of clay within the Sandstone are also indicated, to the north-east of the site.

4.2 Soil Survey of England and Wales (1983), Sheet 6, Soils of South-East England shows the entire site to comprise soils of the Curtisden association. These are described as 'silty soils over siltstone with slowly permeable subsoils', (SSEW, 1984).

4.3 Detailed field examination of the soils on the site confirmed the presence of silty soils derived from Tunbridge Wells Sand, which had slowly permeable subsoil horizons giving rise to imperfect drainage.

5. Agricultural Land Classification

5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 2

5.3 Land of this quality occurs as a small unit towards the north-west of the site. Profiles typically comprise non-calcareous medium clay loam or silty clay loam topsoils, which are generally stone free. These overlie heavier textured upper subsoils of heavy clay loam or silty clay loam. Subsoils tend to become more sandy and/or slightly stony with depth, passing to sandy clay loam, medium sandy loam or occasionally loamy sand from about 40-70 cm depth. These lower subsoil horizons may contain 5-10% flints. As a result, occasional observations were found to be impenetrable, (to soil auger), below 70 cm.

This land is affected by imperfect soil drainage as evidenced by gleying from shallow depths and commonly within the topsoil. Subsoils were not, however, found to be slowly permeable. Such drainage characteristics equate to Wetness Class II. Land is thereby assigned to Grade 2 on the basis of slight soil wetness restrictions, given the climatic regime and easily workable topsoil textures.

Occasional profiles of this quality were found elsewhere on the site. However, their extent and distribution was not sufficient to justify separate mapping.

Subgrade 3b

5.4 The majority of the site has been assigned to Subgrade 3b, moderate quality land, on the basis of soil wetness limitations. Profiles typically comprise stoneless, medium or heavy silty clay loam topsoils which are non-calcareous. These overlie similar upper subsoils and pass to silty clay or occasionally clay in the lower subsoil. Commonly subsoils contained siltstone fragments comprising between 2 and 50% of the total volume. Occasional profiles were impenetrable, (to soil auger), as a consequence. Silty clay loam and silty clay subsoil horizons were found to be slowly permeable, thereby causing soil drainage to be significantly impeded. Profiles were gleyed from shallow depth, commonly from the topsoil, as a result of the poor drainage status of

thereby causing soil drainage to be significantly impeded. Profiles were gleyed from shallow depth, commonly from the topsoil, as a result of the poor drainage status of the land. These soil characteristics, ie, of shallow gleying and slow permeability, equate to a Wetness Class of IV. The land is therefore assigned to Subgrade 3b as a result of soil wetness which may restrict the opportunities for cultivations and/or grazing and/or adversely affect crop growth and development.

Grade 4

5.5 Two small units of poor quality land have been mapped towards the western boundary of the site. Here soil profiles are similar to those described in section 5.4 above. However, the land has been disturbed and the microrelief limitation which exists as a result is likely to present severe difficulties in the utilisation of the land. In some areas soil has been piled up to form hummocks whilst in others topsoil has been scraped off. It would be impractical and outside normal agricultural practices to rectify the microrelief restriction. This land is only suitable for grazing as a result.

Not-Surveyed

5.6 5 hectares of land to the south of Forge Farm was not surveyed for health and safety reasons. At the time of survey, the occupier indicated that the land had recently been subject to the disposal of abattoir waste.

SOURCES OF REFERENCE

British Geological Survey (1972) Sheet 302, Horsham.

MAFF (1988) Agricultural Land Classification of England and Wales : Revised guidelines and criteria for grading the quality of agricultural land.

Meteorological Office (1989) Climatic datasets for Agricultural Land Classification.

Soil Survey of England and Wales (1983) Sheet 6, Soils of South-East England.

Soil Survey of England and Wales (1984) Bulletin 15, Soils and their use in South-East England.

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	STONES GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1	0-35	mzcl	25Y 53 00 10YR58 00 C					Y	0	0		0							
	35-55	hzcl	25Y 74 00 10YR58 61 C			00MN00 00		Y	0	0		0		P		Y			
	55-90	zl	25Y 72 00 10YR58 00 C					Y	0	0	ZR	15		M					
1P	0-28	mzcl	25Y 52 00 75YR56 00 C					Y	0	0		0							
	28-70	zc	05Y 71 00 10YR68 00 M					Y	0	0		0	STVCPR	VM	P	Y		Y	
2	0-25	mzcl	25Y 53 00 10YR58 00 C					Y	0	0		0							
	25-45	hzcl	05Y 52 00 10YR58 00 C					Y	0	0		0		M					
	45-75	mzcl	25 Y52 00 10YR78 00 M					Y	0	0		0		P		Y			
2P	0-31	mzcl	25 Y52 00 75YR58 00 C					Y	0	0		0							
	31-56	mzcl	25 Y71 00 10YR68 00 M					Y	0	0		0	WKVCSB	VM	P	Y		Y	
	56-76	hzcl	25 Y71 00 10YR68 00 M					Y	0	0		0	MDCOAB	FM	P	Y		Y	
	76-120	zc	25 Y71 00 10YR68 00 M					Y	0	0	ZR	30	MDCOPR	FM	P	Y		Y	
3	0-25	hzcl	25Y 42 00 10YR58 61 C					Y	0	0		0							
	25-65	zc	25Y 72 00 10YR78 00 M					Y	0	0		0		P		Y			
3P	0-23	hcl	25 Y52 00 75YR46 00 C					Y	0	0		0							
	23-36	c	25 Y63 00 75YR68 00 C			10YR71 00		Y	0	0		0	MDCSAB	FM	M	Y			
	36-58	c	10YR71 00 75YR78 00 M					Y	0	0		0	MDCSAB	FM	M	Y			
	58-75	c	10YR71 00 75YR68 00 M					Y	0	0		0	WKCSAB	FR	M	Y		Y	Many Mn concs.
4	0-25	mzcl	25Y 52 00						0	0		0							
	25-40	mzcl	25Y 72 00 10YR78 00 M					Y	0	0		0		P					
	40-90	zl	25Y 71 00 10YR78 00 M					Y	0	0		0		M					
4P	0-30	hzcl	25 Y62 00 10YR44 00 C					Y	0	0		0							
	30-52	zc	25 Y62 00 75YR68 00 C			10YR71 00		Y	0	0		0	MDMPR	FM	P	Y		Y	
	52-82	zc	25 Y80 00 75YR68 00 M					Y	0	0		0	WKVCPR	VM	P	Y		Y	Very dry
5	0-25	mzcl	25Y 52 00 10YR58 00 C					Y	0	0		0							
	25-50	mzcl	25Y 72 00 10YR78 00 C					Y	0	0		0		P		Y			
	50-95	hzcl	25Y 71 00 10YR78 00 M			00MN00 00		Y	0	0		0		P		Y			
5P	0-24	mzcl	25Y 53 00 10YR56 62 C					Y	0	0	ZR	2							
	24-43	hzcl	25Y 72 00 10YR56 00 M					Y	0	0		0	MDVCPR	FM	P	Y		Y	
	43-60	hzcl	25Y 71 00 75YR58 00 M					Y	0	0		0	WKVCPR	FM	P	Y		Y	
	60-76	zc	25Y 71 00 75YR58 00 M					Y	0	0		0	MDCOPL	FM	P	Y		Y	
	76-90	hzcl	25Y 81 00 75YR58 00 M					Y	0	0		0	WKMSAB	FM	M	Y		Y	
6	0-25	hzcl	25Y 43 00 10YR58 61 C					Y	0	0		0							
	25-80	c	10YR62 00 10YR78 61 M					Y	0	0		0		P		Y			
6P	0-28	hzcl	25Y 53 00						0	0	ZR	2							
	28-52	zc	25Y 63 00 75YR56 00 C					Y	0	0	ZR	10	WKCSAB	FR	M			Y	
	52-70	zc	25Y 72 00 75YR76 00 M					Y	0	0	ZR	50	MDCOPL	FM	P	Y		Y	Imp 70, siltst.

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	STONES GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
7	0-30	mzcl	10YR43 00 75YR56 00 C					Y	0	0		0						
	30-46	zc	25Y 61 00 73YR58 00 M					Y	0	0	HR	1		P		Y		
	46-70	c	10YR63 00 75YR58 00 M			00MN00 00		Y	0	0	HR	1		P		Y		
9	0-35	hzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	35-65	c	10YR72 00 10YR78 61 M					Y	0	0		0		0		Y		
10	0-25	hzcl	25Y 53 00 10YR56 00 C					Y	0	0		0						
	25-60	zc	25Y 72 00 05YR46 00 M					Y	0	0		0		P		Y		
11	0-30	mzcl	25Y 52 00 75YR58 00 C					Y	0	0		0						
	30-60	zc	25Y 72 00 05YR46 00 M					Y	0	0		0		P		Y		
12	0-25	mzcl	25Y 53 00 10YR56 00 C					Y	0	0		0						
	25-70	zc	25Y 72 00 05YR46 00 M					Y	0	0	ZR	2		P		Y		
13	0-30	mzcl	25Y 42 00						0	0		0						
	30-60	hzcl	25Y 62 00 10YR78 71 M					Y	0	0		0		P		Y		
	60-80	zc	25Y 72 00 10YR78 00 M					Y	0	0		0		P		Y		
14	0-30	hzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-50	hzcl	25Y 52 00 10YR78 71 M			00MN00 00		Y	0	0		0		P		Y		
	50-75	zc	25Y 72 00 75YR68 00 M			00MN00 00		Y	0	0		0		P		Y		
15	0-30	hzcl	25Y 52 00 10YR58 61 C					Y	0	0		0						
	30-45	hzcl	25Y 62 00 10YR78 00 C					Y	0	0		0		P		Y		
	45-70	zc	25Y 71 00 10YR78 00 M					Y	0	0		0		P		Y		
16	0-25	hzcl	25Y 53 00 10YR58 61 C					Y	0	0		0						
	25-55	c	10YR62 00 10YR78 61 C					Y	0	0		0		P		Y		
	55-75	c	10YR72 00 10YR78 61 M			00MN00 00		Y	0	0		0		P		Y		
17	0-30	mcl	25Y 42 00 75YR58 61 C					Y	0	0		0						
	30-42	hcl	25Y 62 00 75YR58 61 M					Y	0	0		0		M				
	42-60	c	25Y 61 00 75YR58 00 C					Y	0	0	HR	1		M		Y		
	60-75	c	25Y 61 00 75YR58 00 C					Y	0	0	HR	5		M		Y		
	75-85	c	25Y 63 00 10YR58 61 C					Y	0	0	HR	1		M		Y		
	85-120	c	25Y 61 00 75YR58 00 C					Y	0	0	HR	1		M		Y		
19	0-5	mcl	10YR42 00						0	0		0						
	5-30	c	10YR51 00 10YR58 00 C					Y	0	0		0		M				
	30-60	c	10YR62 00 10YR58 61 M					Y	0	0		0		M		Y		
20	0-25	hzcl	10YR53 00 10YR58 00 C					Y	0	0		0						
	25-60	c	10YR62 00 10YR68 51 M					Y	0	0		0		P		Y		
21	0-38	mzcl	25Y 53 00 10YR56 00 C					Y	0	0		0						
	38-60	zc	25Y 72 00 10YR56 00 M					Y	0	0		0		P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
22	0-28	mzcl	25Y 53 00	10YR56 00	C			Y	0	0		0						
	28-48	hzcl	25Y 53 00	10YR56 00	C			Y	0	0		0		P		Y		
	48-60	zc	25Y 63 00	10YR56 00	C			Y	0	0		0		P		Y		
	60-70	zc	25Y 71 00	75YR58 00	M			Y	0	0		0		P		Y		
25	0-30	mzcl	25Y 42 00	10YR58 61	C			Y	0	0		0						
	30-60	hzcl	25Y 62 00	10YR78 00	C			Y	0	0		0		P		Y		
	60-80	c	25Y 61 00	75YR78 00	M			Y	0	0		0		P		Y		
26	0-30	mzcl	25Y 52-00	10YR58-00	C		10YR61-00	Y	0	0		0						
	30-45	hzcl	25Y 62-00	10YR78-00	C			Y	0	0		0		P		Y		
	45-70	c	25Y 61-00	75YR78-00	M			Y	0	0		0		P		Y		
27	0-28	mzcl	25Y 42 00	75YR58 00	C			Y	0	0		0						
	28-38	hcl	25Y 42 00	75YR58 00	C			Y	0	0		0		M				
	38-72	scl	25Y 52 00	75YR58 00	M			Y	0	0		0		M				Imp 72
28	0-28	mzcl	25Y 52 00	75YR58 00	M			Y	0	0		0						
	28-60	hzcl	25Y 61 00	75YR58 00	M			Y	0	0		0		M				
	60-80	scl	25Y 63 00	75YR58 00	M		00MN00 00	Y	0	0	HR	5		M				
30	0-30	mzcl	25Y 52 00	10YR58 61	C			Y	0	0		0						
	30-45	hzcl	25Y 62 00	10YR78 00	C			Y	0	0		0		P		Y		
	45-70	c	25Y 61 00	75YR78 00	M			Y	0	0		0		P		Y		
31	0-25	hzcl	25Y 42 00	25Y 66 00	C			Y	0	0		0						
	25-65	zc	25Y 73 00	25Y 78 71	M			Y	0	0		0		P		Y		
32	0-30	hzcl	25Y 53 00	25Y 56 00	C			Y	0	0		0						
	30-65	zc	25Y 63 00	25Y 68 81	C			Y	0	0		0		P		Y		
	65-80	zc	25Y 72 00	05YR68 71	M			Y	0	0		0		P		Y		
33	0-25	mzcl	25Y 53 00	10YR56 00					0	0		0						
	25-38	mzcl	25Y 53 00	10YR56 00	C			Y	0	0		0		M				
	38-65	hzcl	25Y 63 00	10YR56 00	C			Y	0	0		0		P		Y		
	65-100	zc	25Y 63 00	75YR58 00	M			Y	0	0	ZR	2		P		Y		
34	0-26	mzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	26-60	zc	25Y 63 00	75YR58 00	M			Y	0	0		0		P		Y		
35	0-25	mzcl	25Y 62 00	10YR56 00	C			Y	0	0		0						
	25-40	hzcl	25Y 62 00	75YR58 00	C			Y	0	0		0		P		Y		
	40-60	zc	25Y 72 00	75YR58 00	M			Y	0	0		0		P		Y		
36	0-27	mzcl	25Y 52 00	10YR56 00	F				0	0		0						
	27-38	hzcl	25Y 62 00	10YR56 00	C			Y	0	0	ZR	5		P		Y		
	38-48	hzcl	25Y 62 00	10YR56 00	C			Y	0	0	ZR	15		P		Y		
	48-70	zc	25Y 72 00	05YR46 00	M			Y	0	0		0		P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
37	0-38	mzcl	25Y 52 00	10YR56 00	F				0	0		0						
	38-55	zc	25Y 63 00	10YR56 00	C			Y	0	0	ZR	10		P		Y		
	55-70	zc	25Y 72 00	05YR46 00	M			Y	0	0	ZR	2		P		Y		
38	0-30	mzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	30-45	hcl	25Y 52 00	75YR58 00	M			Y	0	0		0		M				
	45-78	c	25Y 63 00	75YR58 00	M			Y	0	0	HR	15		P		Y		
	78-85	scl	25Y 63 00	75YR58 00	M			Y	0	0	HR	15		M				
39	0-22	mcl	25Y 43 00	75YR58 00	C			Y	0	0		0						
	22-48	hcl	25Y 52 00	75YR58 00	C			Y	0	0		0		M				
	48-78	scl	25Y 53 00	75YR58 00	M			Y	0	0	HR	5		M				
	78-90	msl	25Y 63 00	75YR58 00	M			Y	0	0	HR	10		M				
40	0-25	mzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	25-36	hcl	25Y 52 00	75YR58 00	C			Y	0	0		0		M				
	36-68	hcl	25Y 53 00	75YR58 00	M			Y	0	0	HR	5		M				
	68-78	scl	25Y 63 00	75YR58 00	M		00MN00 00	Y	0	0	HR	10		M				Imp 78
42	0-25	hzcl	10YR52 00	10YR58 61	C			Y	0	0		0						
	25-65	c	10YR73 00	75YR58 62	M		00MN00 00	Y	0	0		0		M		Y		
43	0-35	mzcl	25Y 43 00	25Y 66 00	C			Y	0	0		0						
	35-70	hzcl	25Y 72 00	25Y 78 83	C			Y	0	0		0		P		Y		
44	0-40	hzcl	25Y 42 00	25Y 66 00	C			Y	0	0		0						
	40-75	zc	25Y 73 00	25Y 78 83	C			Y	0	0		0		P		Y		
	75-100	zc	25Y 72 00	05YR78 61	M			Y	0	0		0		P		Y		
47	0-30	mzcl	25Y 63 00	10YR58 00	F				0	0	ZR	2						
	30-50	zc	25Y 71 00	75YR58 00	M			Y	0	0	ZR	10		P		Y		
48	0-35	hzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	35-60	zc	25Y 62 00	75YR58 00	M			Y	0	0	ZR	5		P		Y		
49	0-15	mzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	15-38	hzcl	25Y 62 00	10YR56 00	C			Y	0	0	ZR	5		P		Y		
	38-68	zc	25Y 61 00	75YR58 00	M			Y	0	0	ZR	5		P		Y		
	68-85	hzcl	25Y 61 00	75YR58 00	M			Y	0	0	ZR	2		P		Y		Imp 85
50	0-28	mzcl	25Y 52 00	10YR56 00	C			Y	0	0		0						
	28-38	hzcl	25Y 52 00	10YR56 00	C			Y	0	0		0		P		Y		
	38-70	zc	25Y 72 00	75YR58 00	M			Y	0	0	ZR	5		P		Y		
52	0-28	mcl	25Y 53 00						0	0		0						
	28-65	hcl	10YR53 00	10YR58 68	C		00MN00 00	Y	0	0		0		M				
	65-80	msl	10YR53 00	10YR58 68	M		00MN00 00	Y	0	0		0		M				
	80-120	lms	10YR44 00					Y	0	0		0		M				

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
55	0-25	hzcl	10YR53 00	10YR58 00	C			Y	0	0		0						
	25-40	hzcl	10YR52 00	10YR58 61	C			Y	0	0		0			P		Y	
	40-70	c	10YR72 00	75YR68 83	M	00MN00 00		Y	0	0		0			M		Y	
56	0-25	hzcl	25Y 42 00	10YR58 61	C			Y	0	0		0						
	25-45	zc	25Y 73 00	25Y 78 81	C			Y	0	0		0			P		Y	
	45-75	zc	25Y 81 73	25Y 78 00	M			Y	0	0		0			P		Y	
57	0-25	mzcl	25Y 42 00	10YR58 00	C			Y	0	0		0						
	25-60	zc	25Y 72 81	25Y 78 00	M			Y	0	0		0			P		Y	
61	0-25	mzcl	25Y 63 00						0	0	ZR	1						
	25-35	mzcl	25Y 63 00	05YR46 00	C			Y	0	0	ZR	1			P		Y	
	35-70	zc	25Y 71 00	05YR46 00	M			Y	0	0	ZR	1			P		Y	
62	0-28	mzcl	25Y 52 00	10YR56 00	F				0	0	ZR	2						
	28-60	zc	25Y 62 00	75YR56 00	M			Y	0	0	ZR	10			P		Y	
63	0-35	mzcl	25Y 52 00	10YR56 00	C			Y	0	0	ZR	2						
	35-60	zc	25Y 63 00	75YR58 00	M			Y	0	0	ZR	2			P		Y	
64	0-25	mzcl	25Y 53 00						0	0		0						
	25-38	mzcl	25Y 53 00	10YR56 00	C			Y	0	0	ZR	3			P		Y	
	38-80	zc	25Y 61 00	75YR58 00	M			Y	0	0	ZR	10			P		Y	
66	0-22	mcl	25 Y53 00	75YR56 00	C			Y	0	0		0						
	22-30	hcl	10YR53 00	10YR58 00	C	10YR71 00		Y	0	0		0		M				
	30-80	c	25 Y73 00	75YR58 00	M			Y	0	0		0		M			Y	
67	0-25	hcl	10YR51 00	75YR56 00	M			Y	0	0		0						
	25-55	c	10YR61 00	10YR58 00	M	10YR71 00		Y	0	0		0		M			Y	
	55-80	scl	10YR61 00	75YR58 00	M	10YR71 00		Y	0	0		0		M			Y	
	80-82	zc	25 Y70 00	10YR58 00	M			Y	0	0		0		P			Y	
69	0-38	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	38-58	zc	25Y 63 00	05YR46 00	M	00MN00 00		Y	0	0		0		P			Y	
	58-70	zc	10YR71 00	75YR58 00	M			Y	0	0		0		P			Y	
70	0-28	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	28-39	zc	25Y 51 00	75YR85 00	C			Y	0	0		0		P			Y	
	39-70	zc	25Y 71 00	75YR58 00	M			Y	0	0		0		P			Y	
71	0-38	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	38-70	zc	25Y 71 00	75YR58 00	M			Y	0	0		0		P			Y	
75	0-28	mzcl	25Y 53 00						2	0	ZR	10						
	28-40	hzcl	10YR71 72	75YR46 00	C			Y	0	0	ZR	20		P			Y	
	40-47	zc	10YR71 72	75YR46 00	C			Y	0	0	ZR	20		P			Y	
	47-80	zc	25Y 72 00	75Y 58 00	M	05YR54 00		Y	0	0	ZR	20		P			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
76	0-28	mzcl	25 Y53 00						0	0	ZR	1						
	28-50	hzcl	10YR72 00	10YR68 00	C			Y	0	0	ZR	5			P		Y	
	50-70	zc	10YR72 00	10YR68 00	M			Y	0	0	ZR	10			P		Y	
	70-90	hzcl	25 Y53 00	10YR68 00	C			Y	0	0	ZR	20			P		Y	
77	0-28	mzcl	25Y 53 00						2	0	ZR	2						
	28-80	zc	10YR52 00	75YR58 00	C			Y	0	0	ZR	5			P		Y	
78	0-27	hzcl	10YR53 00						2	0	ZR	10						
	27-88	zc	25Y 52 00	75YR58 00	C		25Y 72 00	Y	0	0	ZR	15			P		Y	
	88-100	zc	25Y 70 00	05YR78 00	M			Y	0	0		0			P		Y	
80	0-25	mcl	10YR53 00	75YR58 00	C			Y	0	0		0						
	25-55	hcl	25 Y72 00	75YR58 00	C			Y	0	0		0			M			
	55-65	c	25 Y72 00	75YR58 00	C			Y	0	0		0			M			
	65-70	scl	75YR58 00		C		00MN00 00	Y	0	0		0			M			
	70-78	c	75YR58 00		C		00MN00 00	Y	0	0		0			M			
	78-90	lms	10YR34 00						0	0		0			M			
81	0-28	hcl	25 Y52 00	75YR56 00	C		10YR61 00	Y	0	0		0						
	28-60	c	25 Y73 00	75YR58 00	C		25 Y72 00	Y	0	0		0			M		Y	
	60-65	scl	10YR34 00					Y	0	0		0			M			Imp 65
83	0-38	hzcl	25Y 52 00	75YR58 00	C			Y	0	0		0						
	38-75	zc	25Y 63 00	75YR58 00	M			Y	0	0		0			P		Y	
	75-100	zc	25Y 63 00	75YR58 00	M			Y	0	0		0			P		Y	
84	0-30	mzcl	25Y 42 00						0	0		0						
	30-45	hzcl	25Y 62 00	10YR78 61	C			Y	0	0		0			P		Y	
	45-70	zc	25Y 72 00	75YR78 00	M		00MN00 00	Y	0	0		0			P		Y	
85	0-30	mzcl	25Y 42 00						0	0		0						
	30-50	hzcl	25Y 63 00	10YR78 00	C			Y	0	0		0			P		Y	
	50-80	zc	25Y 73 00	75YR78 00	M			Y	0	0		0			P		Y	
86	0-28	mzcl	25Y 53 00						0	0		0						
	28-70	zc	25Y 63 00	10YR68 00	C			Y	0	0	ZR	10			P		Y	
87	0-25	mzcl	25Y 53 00	75YR58 00	C			Y	0	0		0						
	25-70	zc	25Y 73 00	75YR68 00	M			Y	0	0		0			P		Y	
88	0-25	mcl	25Y 53 00	75YR58 00	C			Y	0	0		0						
	25-40	hcl	25Y 63 00	25Y 63 00	M		00MN00 00	Y	0	0		0			M			
	40-90	scl	25Y 63 00	75YR58 00	M			Y	0	0	HR	5			M			
89	0-32	hcl	25Y 52-00	75YR58-00	C			Y	0	0		0						
	32-38	hcl	10YR53-00	75YR58-00	C		25Y 70-00	Y	0	0		0			M			
	38-75	c	25Y 63-00	10YR58-00	M		10YR81-00	Y	0	0		0			M		Y	
	75-90	sc	25Y 70-00	75YR58-00	M		00MN00-00	Y	0	0		0			M		Y	Imp 90, gravelly

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
90	0-25	hcl	10YR51 00 75YR46 00 C					Y	0	0		0						
	25-45	c	10YR51 00 75YR46 00 M					Y	0	0		0		M		Y		Imp 45
91	0-25	hcl	10YR42 00 75YR46 00 C				10YR61 00	Y	0	0		0						
	25-85	c	10YR72 00 75YR46 58 M					Y	0	0		0		P		Y		
92	0-26	mzcl	25Y 52 00 75YR58 00 C					Y	0	0		0						
	26-38	hzcl	25Y 52 00 75YR58 00 C					Y	0	0		0		P		Y		
	38-70	zc	25Y 71 00 75YR58 00 M					Y	0	0		0		P		Y		
98	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-50	hzcl	25Y 71 00 75YR78 00 M					Y	0	0		0		P		Y		
	50-70	zc	25Y 72 00 75YR68 00 M					Y	0	0		0		P		Y		
99	0-25	hzcl	10YR52 00 10YR58 00 F						0	0		0						
	25-55	c	75YR62 00 75YR68 00 C				00MN00 00	Y	0	0		0		P		Y		
	55-70	c	10YR52 00 75YR68 81 M				00MN00 00	Y	0	0		0		P		Y		
100	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-60	hzcl	25Y 62 00 10YR78 61 M					Y	0	0		0		P		Y		
	60-70	zc	25Y 71 00 75YR78 00 M					Y	0	0		0		P		Y		
101	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-65	hzcl	25Y 62 00 10YR78 61 M					Y	0	0		0		P		Y		
103	0-22	mcl	10YR43 00					Y	0	0		0						
	22-40	hcl	10YR53 00 75YR58 00 C				10YR51 00	Y	0	0		0		M				
	40-70	c	10YR64 00 75YR58 00 C				00MN00 00	Y	0	0		0		M		Y		
	70-75	lms	10YR34 00						0	0		0		M				
	75-90	scl	10YR63 00		M		00MN00 00	Y	0	0	HR	20		M				
106	0-25	mzcl	25 Y62 00 75YR56 00 C					Y	0	0		0						
	25-90	mzcl	25 Y72 00 10YR68 00 M					Y	0	0		0		P		Y		
110	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-60	hzcl	25Y 62 00 10YR78 00 M					Y	0	0		0		P		Y		
	60-70	zc	25Y 72 00 75YR78 00 M				00MN00 00	Y	0	0		0		P		Y		
111	0-30	mzcl	25Y 42 00 10YR58 00 C					Y	0	0		0						
	30-45	zc	25Y 72 00 40YR78 00 M					Y	0	0		0		P		Y		
	45-70	zc	25Y 62 81 75YR78 00 M					Y	0	0	ZR	20		P		Y		
115	0-25	mzcl	25 Y53 00						0	0		0						
	25-50	mzcl	25 Y73 00 10YR58 00 C				10YR71 00	Y	0	0		0		P		Y		
	50-70	zc	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	70-75	hzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	75-90	mzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
116	0-25	mzcl	25 Y52 00 75YR58 00 C					Y	0	0		0						
	25-48	hzcl	25 Y63 00 10YR58 00 M				10YR71 00	Y	0	0		0		P		Y		
	48-80	zc	25 Y63 73 10YR58 00 M					Y	0	0		0		P		Y		
117	0-20	mzcl	25 Y52 00 75YR58 00 C					Y	0	0		0						
	20-35	mzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	35-55	zl	10YR71 00 10YR58 00 M				05YR58 00	Y	0	0		0		M				
	55-65	hzcl	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
	65-80	zc	10YR71 00 10YR58 00 M					Y	0	0		0		P		Y		
120	0-30	mcl	10YR52 00 10YR58 00 C					Y	0	0		0						
	30-43	hcl	25 Y73 00 10YR58 00 M				00MN00 00	Y	0	0		0		M				
	43-80	c	25 Y73 00 10YR58 00 M				00MN00 00	Y	0	0	HR	5		M		Y		
124	0-38	mzcl	05 Y51 00 75YR48 00 C					Y	0	0		0						
	38-50	hzcl	25 Y62 00 10YR58 00 M				25 Y72 00	Y	0	0		0		P		Y		
	50-80	mzcl	25 Y62 00 10YR58 00 M				25 Y72 00	Y	0	0		0		P		Y		
125	0-30	mzcl	25 Y52 00 75YR46 00 C					Y	0	0		0						
	30-75	c	10YR71 00 10YR58 00 M					Y	0	0		0		M		Y		
126	0-15	mcl	10YR51 00 75YR46 00 C					Y	0	0		0						
	15-30	hcl	10YR61 00 75YR56 00 M					Y	0	0		0		M				
	30-75	c	25 Y70 00 75YR58 00 M					Y	0	0		0		M		Y		

SAMPLE NO.	GRID REF	ASPECT USE		GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	DIST	FROST LIMIT	CHEM	ALC	COMMENTS
1	TQ30103990	SAS		0	035	4	3B	000	0	000	0						WE	3B		
1P	TQ29423942	PGR		0	028	4	3B	094	-11	104	6	3A					WE	3B		
2	TQ30103980	SAS		0	045	4	3B	000	0	000	0						WE	3B		
2P	TQ29403870	PGR		0	031	4	3B	137	32	118	20	1					WE	3B		
3	TQ29903970	SAS		0	025	4	3B	088	-17	096	-2	3A					WE	3B		
3P	TQ28903890	PGR		0	058	3	3B	105	0	117	19	3A					WE	3B		SPL 58
4	TQ30003970	SAS		025		2	2	151	46	139	41	1					WE	2		
4P	TQ29903940	SAS	W 01	0	030	4	3B	000	0	000	0						WE	3B		
5	TQ30103970	SAS		0	025	4	3B	135	30	124	26	1					WE	3B		
5P	TQ30103960	SAS	S 02	0	024	4	3B	000	0	000	0						WE	3B		
6	TQ30233970	SAS	SE 04	0	025	4	3B	000	0	000	0						WE	3B		
6P	TQ30003910	CER	W 01	028	028	4	3B	000	0	000	0						WE	3B		IMP 70 SILTST.
7	TQ29103960	PGR		0	030	4	3B	000	0	000	0						WE	3B		
9	TQ29303960	PGR		0	035	4	3B	000	0	000	0						WE	3B		
10	TQ29403960	PGR		0	025	4	3B	000	0	000	0						WE	3B		
11	TQ29503960	PGR		0	030	4	3B	000	0	000	0						WE	3B		
12	TQ29603960	SAS	NW 01	0	025	4	3B	000	0	000	0						WE	3B		
13	TQ29903960	SAS		030	030	4	3B	101	-4	105	7	3A					WE	3B		
14	TQ30003960	SAS		0	030	4	3B	000	0	000	0						WE	3B		
15	TQ30103960	SAS		0	030	4	3B	000	0	000	0						WE	3B		
16	TQ30203960	SAS	SE 04	0	025	4	3B	100	-5	111	13	3A					WE	3B		
17	TQ29103950	PGR		0	042	4	3B	136	31	109	11	1					WE	3B		
19	TQ29303950	PGR		005	030	4	3B	082	-23	088	-10	3B					WE	3B		
20	TQ29403950	PGR		0	025	4	3B	000	0	000	0						WE	3B		
21	TQ29503950	PGR		0	038	4	3B	000	0	000	0						WE	3B		
22	TQ29603950	SAS	NW 01	0	028	4	3B	000	0	000	0						WE	3B		
25	TQ30103950	SAS		0	030	4	3B	000	0	000	0						WE	3B		
26	TQ30203950	SAS		0	030	4	3B	000	0	000	0						WE	3B		
27	TQ28903940	PGR		0		2	2	109	4	117	19	3A					DR	3A		IMP 72
28	TQ29003940	PGR		0		2	2	120	15	122	24	2					WE	2		
30	TQ29303940	PGR		0	030	4	3B	000	0	000	0						WE	3B		
31	TQ29403940	PGR		0	025	4	3B	000	0	000	0						WE	3B		
32	TQ29513942	PGR		0	030	4	3B	102	-3	105	7	3A					WE	3B		
33	TQ29703940	SAS	NW 01	025	038	4	3B	000	0	000	0						WE	3B		
34	TQ29803940	SAS	W 01	0	026	4	3B	000	0	000	0						WE	3B		
35	TQ29903940	SAS	W 01	0	025	4	3B	000	0	000	0						WE	3B		
36	TQ30003940	SAS	W 01	027	027	4	3B	102	-3	112	14	3A					WE	3B		
37	TQ30103940	SAS	W 01	038	038	4	3B	000	0	000	0						WE	3B		
38	TQ28803930	PGR		0	045	4	3B	113	8	115	17	2					WE	3B		
39	TQ28903930	PGR		0		2	2	123	18	113	15	2					WE	2		
40	TQ29003930	PGR		0		2	2	113	8	117	19	2					WE	2		IMP 78
42	TQ29203926	PGR		0	025	4	3B	000	0	000	0						WE	3B		

SAMPLE NO.	GRID REF	ASPECT USE		GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	DIST	FROST LIMIT	CHEM	ALC	COMMENTS
43	TQ29303930	PGR		0	035	4	3B	000	0	000	0						WE	3B		
44	TQ29403930	PGR		0	040	4	3B	129	24	121	23	2					WE	3B		
47	TQ29803930	CER	W 02	030	030	4	3B	000	0	000	0						WE	3B		
48	TQ29903931	SAS	W 01	0	035	4	3B	000	0	000	0						WE	3B		
49	TQ30003930	SAS		0	015	4	3B	092	-13	093	-5	3A					WE	3B		IMP 85
50	TQ30103930	SAS	E 01	0	038	4	3B	000	0	000	0						WE	3B		
52	TQ28903920	PGR		028		2	2	136	31	117	19	1					WE	2		
55	TQ29203920	PGR		0	025	4	3B	100	-5	112	14	3A					WE	3B		
56	TQ29303920	PGR		0	025	4	3B	101	-4	108	10	3A					WE	3B		
57	TQ29403920	PGR		0	025	4	3B	000	0	000	0						WE	3B		
61	TQ29803920	CER	W 02	025	025	4	3B	000	0	000	0						WE	3B		
62	TQ29903920	CER	W 02	028	028	4	3B	000	0	000	0						WE	3B		
63	TQ30003920	CER	E 02	0	035	4	3B	000	0	000	0						WE	3B		
64	TQ30103920	CER	E 02	025	025	4	3B	000	0	000	0						WE	3B		
66	TQ28903910	PGR		0	030	4	3B	000	0	000	0						WE	3B		
67	TQ29003910	PGR		0	025	4	3B	000	0	000	0						WE	3B		
69	TQ29203910	PGR		0	038	4	3B	000	0	000	0						WE	3B		
70	TQ29303910	PGR		0	028	4	3B	000	0	000	0						WE	3B		
71	TQ29403910	PGR		0	038	4	3B	000	0	000	0						WE	3B		
75	TQ29803910	CER	W 01	028	028	4	3B	000	0	000	0						WE	3B		
76	TQ29903910	CER	W 01	028	028	4	3B	123	18	118	20	2					WE	3B		
77	TQ30003910	CER	W 01	028	028	4	3B	000	0	000	0						WE	3B		
78	TQ30103910	CER	E 01	027	027	4	3B	000	0	000	0						WE	3B		
80	TQ28903900	PGR		0		2	2	115	10	117	19	2					WE	2		
81	TQ29003900	PGR		0	028	4	3B	000	0	000	0						WE	3B		IMP 65
83	TQ29203900	PGR		0	038	4	3B	000	0	000	0						WE	3B		
84	TQ29823899	SAS		030	030	4	3B	000	0	000	0						WE	3B		
85	TQ29903900	SAS		030	030	4	3B	000	0	000	0						WE	3B		
86	TQ30003900	SAS	SW 01	028	028	4	3B	000	0	000	0						WE	3B		
87	TQ30103900	SAS		0	025	4	3B	000	0	000	0						WE	3B		
88	TQ28853890	PGR		0		2	2	121	16	112	14	2					WE	2		
89	TQ28903890	PGR		0	038	4	3B	000	0	000	0						WE	3B		
90	TQ29003890	PGR		0	025	4	3B	000	0	000	0						WE	3B		VERY WET
91	TQ29103890	PGR		0	025	4	3B	000	0	000	0						WE	3B		
92	TQ29223890	PGR		0	026	4	3B	000	0	000	0						WE	3B		
98	TQ29803890	SAS		0	030	4	3B	095	-10	105	7	3A					WE	3B		
99	TQ29903889	SAS		025	025	4	3B	094	-11	106	8	3A					WE	3B		
100	TQ30023891	SAS		0	030	4	3B	000	0	000	0						WE	3B		
101	TQ30103890	SAS		0	030	4	3B	090	-15	099	1	3A					WE	3B		
103	TQ28903880	PGR		0	040	4	3B	000	0	000	0						WE	3B		
106	TQ29303880	PGR		0	025	4	3B	130	25	124	26	2					WE	3B		
110	TQ29803880	SAS		0	030	4	3B	000	0	000	0						WE	3B		

SAMPLE NO.	GRID REF	ASPECT USE	GRDNT	--WETNESS-- GLEY	SPL	CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
111	TQ29903880	SAS	0	030	4	3B	094	-11	103	5	3A					WE	3B	
115	TQ29203870	PGR	025	025	4	3B	126	21	120	22	2					WE	3B	
116	TQ29303870	PGR	0	025	4	3B	000	0	000	0						WE	3B	
117	TQ29403870	PGR	0	055	3	3A	000	0	000	0						WE	3A	
120	TQ28863855	PGR	0	043	4	3B	000	0	000	0						WE	3B	
124	TQ29283863	PGR	0	038	4	3B	000	0	000	0						WE	3B	
125	TQ28853845	PGR	0	030	4	3B	000	0	000	0						WE	3B	
126	TQ29003850	PGR	0	030	4	3B	000	0	000	0						WE	3B	

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 1P

Grid Reference: TQ29423942

Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 28	MZCL	25Y 52 00	0	0	C	
28- 70	ZC	05Y 71 00	0	0	M	STVCPR

Wetness Grade : 3B
Wetness Class : IV
Gleying :0 cm
SPL :028 cm

Drought Grade : 3A
APW : 094mm MBW : -11 mm
APP : 104mm MBP : 6 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 2P

Grid Reference: TQ29403870 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 31	MZCL	25 Y52 00	0	0	C	
31- 56	MZCL	25 Y71 00	0	0	M	WKVCSB
56- 76	HZCL	25 Y71 00	0	0	M	MDCOAB
76-120	ZC	25 Y71 00	0	30	M	MDCOPR

Wetness Grade : 3B Wetness Class : IV
Gleying :0 cm
SPL :031 cm

Drought Grade : 1 APW : 137mm MBW : 32 mm
APP : 118mm MBP : 20 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 3P

Grid Reference: TQ28903890 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 23	HCL	25 Y52 00	0	0	C	
23- 36	C	25 Y63 00	0	0	C	MDCSAB
36- 58	C	10YR71 00	0	0	M	MDCSAB
58- 75	C	10YR71 00	0	0	M	WKCSAB

Wetness Grade : 3B Wetness Class : III
Gleying :0 cm
SPL :058 cm

Drought Grade : 3A APW : 105mm MBW : 0 mm
APP : 117mm MBP : 19 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 4P

Grid Reference: TQ29903940 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use :
Slope and Aspect : 01 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	HZCL	25 Y62 00	0	0	C	
30- 52	ZC	25 Y62 00	0	0	C	MDMPR
52- 82	ZC	25 Y80 00	0	0	M	WKVCPR

Wetness Grade : 3B Wetness Class : IV
Gleying :0 cm
SPL :030 cm

Drought Grade : APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 5P

Grid Reference: TQ30103960 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use :
Slope and Aspect : 02 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 24	MZCL	25Y 53 00	0	2	C	
24- 43	HZCL	25Y 72 00	0	0	M	MDVCPR
43- 60	HZCL	25Y 71 00	0	0	M	WKVCPR
60- 76	ZC	25Y 71 00	0	0	M	MDCOPL
76- 90	HZCL	25Y 81 00	0	0	M	WKMSAB

Wetness Grade : 3B Wetness Class : IV
Gleying :0 cm
SPL :024 cm

Drought Grade : APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CRAWLEY BOROUGH LP Pit Number : 6P

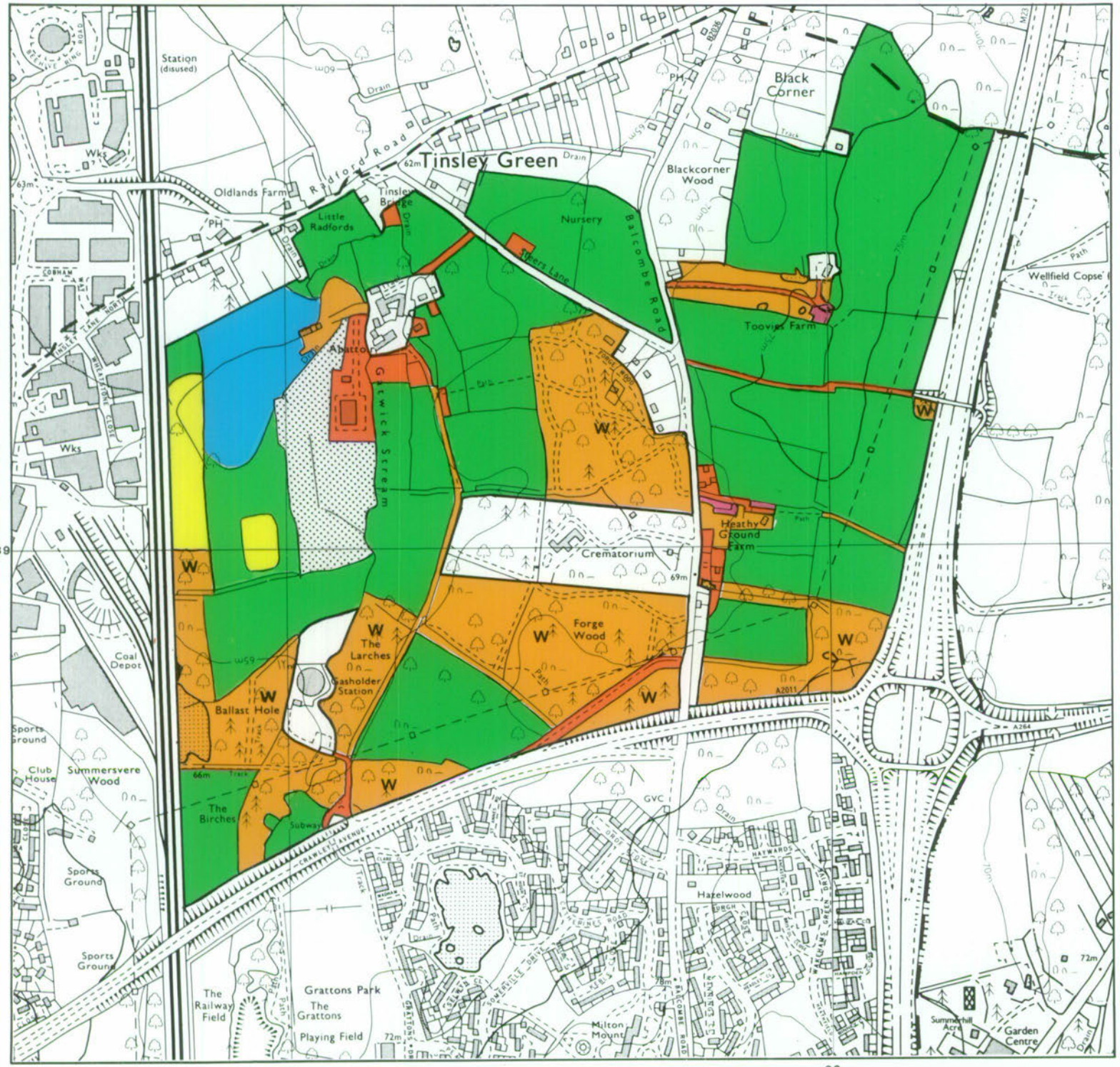
Grid Reference: TQ30003910 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days
Field Capacity Level : 169 days
Land Use : Cereals
Slope and Aspect : 01 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 28	HZCL	25Y 53 00	0	2		
28- 52	ZC	25Y 63 00	0	10	C	WKCSAB
52- 70	ZC	25Y 72 00	0	50	M	MDCOPL

Wetness Grade : 3B Wetness Class : IV
Gleying :028 cm
SPL :028 cm

Drought Grade : APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness



MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Crawley Borough Local Plan

Agricultural Land

Grade	Quality	Area(ha)
1	Excellent	nil
2	Very Good	5.0
3a	Good *	nil
3b	Moderate	75.5
4	Poor	2.2
5	Very Poor *	nil

Other Land Categories

	Area (ha)
Urban	4.7
Non-Agricultural	3.8
W Woodland	31.4
Agricultural Buildings	0.4
* Open Water	nil
Not Surveyed	5.0

Total agricultural land area **82.7**
Total survey area **128.0**

*Grade/category not present within survey area

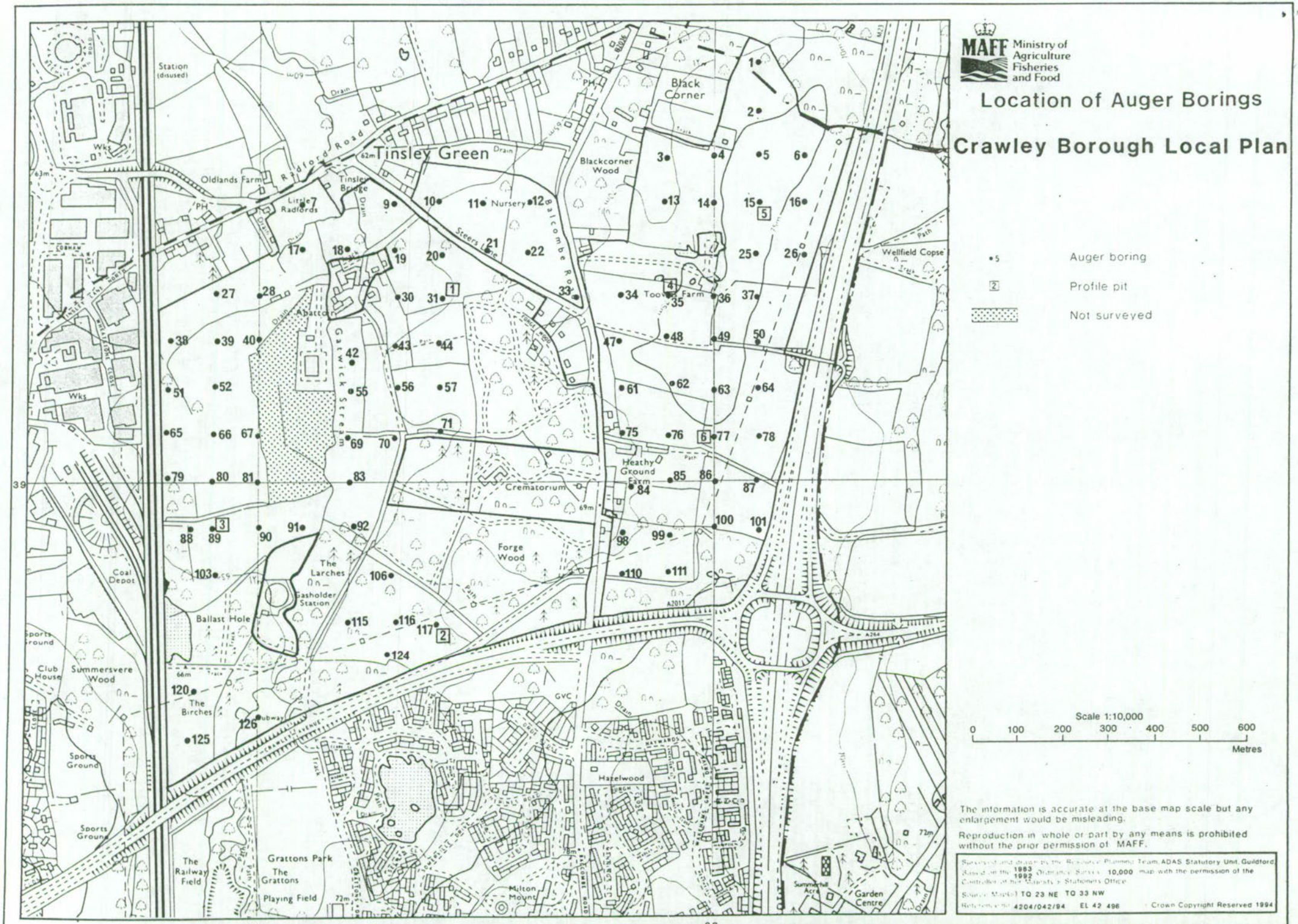
Scale 1:10,000

0 100 200 300 400 500 600 Metres

Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF (Publications), London SE99 7TP.

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford.
Based on the 1993 Ordnance Survey 10,000 map with the permission of the Controller of her Majesty's Stationery Office.
Source Map(s): TQ 23 NE TQ 33 NW
Reference no. 4204/042/94 EL 42/496



MAFF Ministry of Agriculture Fisheries and Food

Location of Auger Borings

Crawley Borough Local Plan

•5 Auger boring

2 Profile pit

Not surveyed

Scale 1:10,000

0 100 200 300 400 500 600

Metres

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford.

Based on the 1983 1992 Ordnance Survey 10,000 map with the permission of the Controller of Her Majesty's Stationery Office.

Source Map(s) TQ 23 NE TQ 33 NW

Reference(s) 4204/042/94 EL 42 496

A1
Horsham District Local Plan
Land at Ifield Court Farm,
Crawley.
Reconnaissance Survey
Agricultural Land Classification
ALC Map and Report
March 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

HORSHAM DISTRICT LOCAL PLAN.
LAND AT IFIELD COURT FARM, CRAWLEY.
RECONNAISSANCE SURVEY.

1. Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the Horsham District of West Sussex. The work forms part of MAFF's statutory input to the preparation of the Horsham District Local Plan.

1.2 The site comprises 120 hectares of land around Ifield Court Farm at Ifield, north-west of Crawley in West Sussex. An Agricultural Land Classification (ALC) survey was carried out in March 1995. The survey was undertaken at a reconnaissance level of approximately one boring per 5 hectares of agricultural land surveyed. The southern half of the site has been previously surveyed by Bioscan UK Ltd in January 1995. Consequently, the boring density of the ADAS survey was decreased in this area of the site, being sufficient to verify the Bioscan findings. A total of 21 borings and two soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose a long term limitation on its use for agriculture.

1.3 The survey work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of the survey the agricultural land on the site comprised permanent grassland, cereals and recently ploughed land. Areas marked as non-agricultural include scrubland and areas of woodland have also been marked on the map. Areas of urban comprise private dwellings, gardens and tarmac roads. An area of open water has been mapped around Ifield Court Hotel and farm buildings have been mapped around Ifield Court Farm.

1.5 The distribution of grades and subgrades is shown on the attached ALC map, and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site
3b	99.0	82.5
Non-agricultural	1.0	0.8
Woodland	1.7	1.4
Urban	17.3	14.5
Farm buildings	0.6	0.5
Open Water	0.4	0.3
Total area of site	120.0	100%

1.6 Appendix I gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The majority of the agricultural land on the site has been classified as Subgrade 3b, moderate quality land, with soil wetness as the main limitation. Soil profiles typically comprise medium clay loam and heavy clay loam topsoils resting upon clay subsoils. Profiles are commonly gleyed from the topsoil, and the clay subsoils are slowly permeable and significantly impede drainage, such that a classification of Subgrade 3b is appropriate. Poorly drained wet soils restrict plant growth and development and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock.
The previous Bioscan survey similarly found land to be classified as Subgrade 3b due to a wetness limitation.

2. Climate

.1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe climatic limitations will restrict land to low grades irrespective of favourable site or soil conditions.

2.2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature (degree days Jan-June), as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

2.4 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality the climate is relatively warm and moist, therefore the likelihood of soil wetness problems may be increased.

2.5 No local climatic factors such as exposure or frost risk are believed to affect the site.

Table 2 : Climatic Interpolation

Grid Reference	TQ 245 381
Altitude (m)	65
Accumulated Temperature (degree days, Jan-June)	1452
Average Annual Rainfall (mm)	812
Field Capacity (days)	172
Moisture Deficit, Wheat (mm)	104
Moisture Deficit, Potatoes (mm)	96
Overall Climatic Grade	1

3. Relief

3.1 The site is relatively flat, lying at an altitude of approximately 65m AOD.

4. Geology and Soils

4.1 The published geological map (BGS, 1972) shows the majority of the site to be underlain by Weald Clay. Alluvium is mapped around watercourses, clay-ironstone beds in the north of the site and small bands of River Mole 2nd terrace deposits towards the south of the site.

4.2 The published Soil Survey map (SSEW, 1983) shows the soils on the site to comprise those of the Wickham 1 association. These are described as 'slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils' (SSEW 1983).

4.3 Detailed field examination found the majority of the soils on the site to be silty and clayey with slowly permeable subsoils.

5. Agricultural Land Classification

5.1 The location of the soil observation points are shown on the attached sample point map.

Subgrade 3b

5.2 All of the agricultural land on the site has been classified as Subgrade 3b, at a reconnaissance survey level, due to a significant soil wetness limitation. Soil profiles were found to typically comprise medium silty clay loam and heavy silty clay loam topsoils commonly resting directly upon clay subsoils. Profiles show evidence of drainage imperfections in the form of gleying, usually from the topsoils. Two soil inspection pits dug on the site indicated the clay subsoils to be poorly structured with low porosity, and therefore classified as slowly permeable layers which significantly impede drainage. The presence of gleying and the relatively shallow depth to these slowly permeable layers means that these soils are assigned to Wetness Class IV, with a resultant classification of Subgrade 3b given the prevailing climatic conditions. Poorly drained wet soils can inhibit plant and root development, and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock. This can in turn affect the frequency and timing of such operations.

ADAS Ref: 4205/18/95
MAFF Ref: EL 42/130

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1972), Sheet No. 302, Horsham, 1:50,000 Series (solid and drift edition).

MAFF (1988), Agricultural Land Classification of England and Wales : Revised guidelines and criteria for grading the quality of agricultural land.

Meteorological Office (1989), Climatological Data for Agricultural Land Classification.

Soil Survey of England and Wales (1983), Sheet 6, Soils of South East England, 1:250,000 and accompanying legend.

AGRICULTURAL LAND CLASSIFICATION, SUMMARY REPORT

HORSHAM DISTRICT LOCAL PLAN.
LAND AT IFIELD COURT FARM, CRAWLEY.
RECONNAISSANCE SURVEY.

1. Summary

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1.2 The site comprises 120 hectares of land around Ifield Court Farm at Ifield, north-west of Crawley in West Sussex. An Agricultural Land Classification (ALC) survey was carried out in March 1995. The survey was undertaken at a reconnaissance level of approximately one boring per 5 hectares of agricultural land surveyed. The southern half of the site has been previously surveyed by Bioscan UK Ltd in January 1995. Consequently, the boring density of the ADAS survey was decreased in this area of the site, being sufficient to verify the Bioscan findings. A total of 21 borings and two soil inspection pits were described in accordance with MAFF's revised guidelines and criteria *for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a* framework for classifying land according to the extent to which its physical or chemical characteristics impose a long term limitation on its use for agriculture.

1.3 The survey work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of the survey the agricultural land on the site comprised permanent grassland, cereals and recently ploughed land. Areas marked as non-agricultural include scrubland and areas of woodland have also been marked on the map. Areas of urban comprise private dwellings, gardens and tarmac roads. An area of open water has been mapped around Ifield Court Hotel and farm buildings have been mapped around Ifield Court Farm.

1.5 The distribution of grades and subgrades is shown on the attached ALC map, and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

Table 1 : Distribution of Grades and Subgrades

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3b	99.0	82.5
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Woodland	1.7	1.4
Urban	17.3	14.5
Farm buildings	0.6	0.5
Open Water	0.4	0.3
Total area of site	120.0	100%

1.6 Appendix I gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The majority of the agricultural land on the site has been classified as Subgrade 3b, moderate quality land, with soil wetness as the main limitation. Soil profiles typically comprise medium clay loam and heavy clay loam topsoils resting upon clay subsoils. Profiles are commonly gleyed from the topsoil, and the clay subsoils are slowly permeable and significantly impede drainage, such that a classification of Subgrade 3b is appropriate. Poorly drained wet soils restrict plant growth and development and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock.
The previous Bioscan survey similarly found land to be classified as Subgrade 3b due to a wetness limitation.

ADAS Ref: 4205/18/95
MAFF Ref: EL 42/130

Resource Planning Team
Guildford Statutory Group
ADAS Reading

APPENDIX I

DESCRIPTION OF THE GRADES AND SUBGRADES

Grade 1 : Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2 : Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3 : Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a : Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b : Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 : Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (eg. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5 : Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

Open Water

Includes lakes, ponds and rivers as map scale permits.

Land Not Surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Horsham District Local Plan
Land at Ifield Court Farm.
Reconnaissance Survey

Agricultural Land

Grade	Quality	Area(ha)
1	Excellent	nil
2	Very Good	nil
3a	Good	nil
3b	Moderate	99.0
4	Poor	nil
5	Very Poor	nil

Other Land Categories

		Area (ha)
	Urban	17.3
	Non-Agricultural	1.0
W	Woodland	1.7
	Agricultural Buildings	0.6
	Open Water	0.4
*	Not Surveyed	nil

Total agricultural land area 99.0
Total survey area 120.0

*Grade/category not present within survey area

Scale 1:10,000

0 100 200 300 400 500 600 700 800 900 Metres

Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales – Revised guidelines and criteria for grading the quality of agricultural land. MAFF (Publications), London SE99 7TP.

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford.
Based on the 1992 1983 Ordnance Survey 10.000 map with the permission of the Controller of her Majesty's Stationery Office.
Source Map(s): TQ 23 NW TQ 23 NE
Reference no. 4205/18/95 EL 42/130

MAFF Ministry of Agriculture Fisheries and Food

Location of Auger Borings

Horsham District Local Plan
Land at Ifield Court Farm.

Reconnaissance Survey

•5 Auger boring

[2] Profile pit

Scale 1:10,000

0 100 200 300 400 500 600 700 800 900

Metres

The information is accurate at the base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford
Based on the 1992 1983 Ordnance Survey 10.000 map with the permission of the Controller of her Majesty's Stationery Office.
Source Map(s) TQ 23 NW TQ 23 NE
Reference no. 4205/18/95 EL 42/130

A1

REIGATE AND BANSTEAD DISTRICT LOCAL PLAN
Land South East of Horley
Semi Detailed Survey

Agricultural Land Classification
ALC Map and Report

November 1997

Resource Planning Team
Eastern Region
FRCA Reading

RPT Job Number 4005/123/97
FRCA Reference EL 40/00522

AGRICULTURAL LAND CLASSIFICATION REPORT

REIGATE AND BANSTEAD DISTRICT LOCAL PLAN
LAND SOUTH EAST OF HORLEY, SURREY
SEMI DETAILED SURVEY

INTRODUCTION

1 This report presents the findings of a semi detailed Agricultural Land Classification (ALC) survey of 101 1 ha on three parcels of land located between the M23 the London Brighton railway line and Smallfield Road to the south east of Horley in Surrey The survey was carried out during November and December 1997

2 The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture Fisheries and Food (MAFF) in connection with the Reigate and Banstead District Local Plan This survey supersedes any previous ALC information for this land

3 The work was conducted by members of the Resource Planning Team in the Eastern Region of the FRCA The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF 1988) A description of the ALC grades and subgrades is given in Appendix I

4 At the time of survey most of the agricultural land on the site was in permanent grassland Land to the west of Harrowsley Green Farm located in the northern most block of land had recently been ploughed The areas mapped as Other land include woodland roads and tracks a business unit farm buildings and residential dwellings

SUMMARY

5 The findings of the survey are shown on the enclosed ALC map The map has been drawn at a scale of 1 15 000 It is accurate at this scale but any enlargement would be misleading

6 The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3b Other land	95 2 5 9	100	94 2 5 8
Total surveyed area Total site area	95 2 101 1	100	94 2 100

[1] FRCA is an executive agency of MAFF and the Welsh Office

7 The fieldwork was conducted at an average density of approximately 1 boring per 2 hectares of agricultural land In total 65 borings and four soil pits were described

8 All of the agricultural land on this site has been classified as Subgrade 3b (moderate quality) The principal limitation to land quality is soil wetness and workability arising from soils typically derived from Weald Clay Profiles typically comprise medium and occasionally heavy textured topsoils which overlie heavy textured subsoils at shallow depths within the soil profile These subsoils act to impede soil drainage At this locality the interaction between such poor soil drainage and the topsoil textures means that this land is subject to reduced flexibility of cropping stocking and cultivations Subgrade 3b is appropriate

FACTORS INFLUENCING ALC GRADE

Climate

9 Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics

10 The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met Office 1989)

11 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions

12 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR) as a measure of overall wetness and accumulated temperature (ATO January to June) as a measure of the relative warmth of a locality

Table 2 Climatic and altitude data

	Units	Values	
Grid Reference	N/A	TQ 300 430	TQ 290 420
Altitude	m AOD	57	58
Accumulated Temperature	day°C (Jan June)	1458	1458
Average Annual Rainfall	mm	774	783
Field Capacity Days	days	164	166
Moisture Deficit Wheat	mm	109	107
Moisture Deficit Potatoes	mm	102	100
Overall climatic grade	N/A	Grade 1	Grade 1

13 The combination of rainfall and accumulated temperature at this site mean that there is no overall climatic limitation However climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations At this locality the soil moisture deficits are tending slightly above average in regional terms As a result the likelihood of soil droughtiness problems may be increased No local climatic factors such as exposure or frost risk are believed to adversely affect the land quality on the site This site is climatically Grade 1

Site

14 The three separate parcels of land that constitute the site are all relatively flat and lie at approximately 57 59 m AOD Nowhere on the site do gradient or microrelief adversely affect agricultural land quality

Geology and soils

15 The most detailed published geological information for the site (BGS 1978) shows the entire site to be underlain by a solid deposit of Weald Clay Drift deposits of low terrace river gravels overlie much of the site These occur across the northern and western half of the most northern block of land across the western half of the land adjacent to the railway line and across all of the remaining south easterly block of land Drift deposits of alluvium are shown to flank the Burstow stream which occurs in the most northern block of land

16 The most recent detailed published soil map for this area (SSEW 1983 and 1984) maps two soil associations across the three areas of land Broadly speaking soils of the Shabbington Association are mapped in conjunction with the river gravel deposits These soils are described as Deep fine loamy and fine loamy over sandy soils variably affected by groundwater Some slowly permeable seasonally waterlogged fine loamy over clayey soils (SSEW 1983) Soils of the Wickham 1 Association are mapped across the area underlain by the Weald Clay These soils are described as Slowly permeable seasonally waterlogged fine silty over clayey fine loamy over clayey and clayey soils (SSEW 1983) Soils similar to the latter rather than the Shabbington Association were found across the site

AGRICULTURAL LAND CLASSIFICATION

17 The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1 page 1

18 The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II page 8

Subgrade 3b

19 All of the land on this site has been classified as Subgrade 3b (moderate quality) All of this land is subject to significant soil wetness and workability limitations resulting from soils derived from the underlying Weald Clay

20 The topsoils on the site tend to be medium textured typically medium (silty) clay loams though heavy textured topsoils heavy (silty) clay loams also prevail These pass into heavy textured subsoils heavy (silty) clay loams and (silty) clays immediately below the

topsoil These profiles tend to be stoneless or very slightly stony throughout with topsoils and subsoils containing 0 2% total flints by volume Occasionally lower subsoils are slightly to moderately stony containing 10 20% total flints These profiles are typified by Pits 2 3 and 4 Around Haroldslea Poultry Farm in the northern block of land the profiles tend to be silty in texture here subsoils contain 5 25% total siltstone by volume The latter are typified by Pit 1 All of the pits on the site show the (silty) clay subsoils to be poorly structured the heavy (silty) clay loam subsoils are either moderately or poorly structured (depending upon the constituent soil ped consistency) All of these subsoils are slowly permeable and act to significantly impede soil drainage as indicated by gleying either from the surface or directly below the topsoil Given the prevailing climate these profiles are assessed as poorly drained (Wetness Class IV)

21 The interaction between the medium and heavy textured topsoils poor soil drainage and prevailing local climate means that this land is limited by soil wetness and workability Soil wetness can adversely affect seed germination and survival and can inhibit the development of a good root system It also influences the sensitivity of soil to structural damage and is therefore a major factor in determining the number of days when cultivation trafficking or grazing can take place

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FRCA Reading

SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet No 286 Reigate 1 50 000 (drift edition)*
BGS London

Ministry of Agriculture Fisheries and Food (1988) *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land*
MAFF London

Met Office (1989) *Climatological Data for Agricultural Land Classification*
Met Office Bracknell

Soil Survey of England and Wales (1983) *Sheet 6 1 250 000 scale Soils of South East England and accompanying legend*
SSEW Harpenden

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*
SSEW Harpenden

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1 Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit soft fruit salad crops and winter harvested vegetables Yields are high and less variable than on land of lower quality

Grade 2 Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield cultivations or harvesting A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops The level of yield is generally high but may be lower or more variable than Grade 1 land

Grade 3 Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops the timing and type of cultivation harvesting or the level of yield When more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2

Subgrade 3a Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops especially cereals or moderate yields of a wide range of crops including cereals grass oilseed rape potatoes sugar beet and the less demanding horticultural crops

Subgrade 3b Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year

Grade 4 Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields It is mainly suited to grass with occasional arable crops (e g cereals and forage crops) the yields of which are variable In moist climates yields of grass may be moderate to high but there may be difficulties in utilisation The grade also includes very droughty arable land

Grade 5 Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing except for occasional pioneer forage crops

APPENDIX II

SOIL DATA

Contents

SOIL PROFILE DESCRIPTIONS EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database This uses notations and abbreviations as set out below

Boring Header Information

1 **GRID REF** national 100 km grid square and 8 figure grid reference

2 **USE** Land use at the time of survey The following abbreviations are used

ARA	Arable	**WHT**	Wheat	**BAR**	Barley
CER	Cereals	**OAT**	Oats	**MZE**	Maize
OSR	Oilseed rape	**BEN**	Field beans	**BRA**	Brassicae
POT	Potatoes	**SBT**	Sugar beet	**FCD**	Fodder crops
LIN	Linseed	**FRT**	Soft and top fruit	**FLW**	Fallow
PGR	Permanent pasture	**LEY**	Ley grass	**RGR**	Rough grazing
SCR	Scrub	**CFW**	Coniferous woodland	**OTH**	Other
DCW	Deciduous woodland	**BOG**	Bog or marsh	**SAS**	Set Aside
HTH	Heathland	**HRT**	Horticultural crops	**PLO**	Ploughed

3 **GRDNT** Gradient as estimated or measured by a hand held optical clinometer

4 **GLEY/SPL** Depth in centimetres (cm) to gleying and/or slowly permeable layers

5 **AP (WHEAT/POTS)** Crop adjusted available water capacity

6 **MB (WHEAT/POTS)** Moisture Balance (Crop adjusted AP crop adjusted MD)

7 **DRT** Best grade according to soil droughtiness

8 If any of the following factors are considered significant Y will be entered in the relevant column

MREL	Microrelief limitation	**FLOOD**	Flood risk	**EROSN**	Soil erosion risk
EXP	Exposure limitation	**FROST**	Frost prone	**DIST**	Disturbed land
CHEM	Chemical limitation				

9 **LIMIT** The main limitation to land quality The following abbreviations are used

OC	Overall Climate	**AE**	Aspect	**ST**	Topsoil Stoniness
FR	Frost Risk	**GR**	Gradient	**MR**	Microrelief
FL	Flood Risk	**TX**	Topsoil Texture	**DP**	Soil Depth
CH	Chemical	**WE**	Wetness	**WK**	Workability
DR	Drought	**ER**	Erosion Risk	**WD**	Soil Wetness/Droughtiness
EX	Exposure				

Soil Pits and Auger Borings

1 **TEXTURE** soil texture classes are denoted by the following abbreviations

S	Sand	**LS**	Loamy Sand	**SL**	Sandy Loam
SZL	Sandy Silt Loam	**CL**	Clay Loam	**ZCL**	Silty Clay Loam
ZL	Silt Loam	**SCL**	Sandy Clay Loam	**C**	Clay
SC	Sandy Clay	**ZC**	Silty Clay	**OL**	Organic Loam
P	Peat	**SP**	Sandy Peat	**LP**	Loamy Peat
PL	Peaty Loam	**PS**	Peaty Sand	**MZ**	Marine Light Silts

For the sand loamy sand sandy loam and sandy silt loam classes the predominant size of sand fraction will be indicated by the use of the following prefixes

F Fine (more than 66% of the sand less than 0 2mm)
M Medium (less than 66% fine sand and less than 33% coarse sand)
C Coarse (more than 33% of the sand larger than 0 6mm)

The clay loam and silty clay loam classes will be sub divided according to the clay content
M Medium (<27% clay) **H** Heavy (27 35% clay)

2 **MOTTLE COL** Mottle colour using Munsell notation

3 **MOTTLE ABUN** Mottle abundance expressed as a percentage of the matrix or surface described

F few <2% **C** common 2 20% **M** many 20 40% **VM** very many 40% +

4 **MOTTLE CONT** Mottle contrast

F faint indistinct mottles evident only on close inspection
D distinct mottles are readily seen
P prominent mottling is conspicuous and one of the outstanding features of the horizon

5 **PED COL** Ped face colour using Munsell notation

6 **GLEY** If the soil horizon is gleyed a Y will appear in this column If slightly gleyed an S will appear

7 **STONE LITH** Stone Lithology one of the following is used

HR	all hard rocks and stones	**FSST**	soft fine grained sandstone
ZR	soft argillaceous or silty rocks	**CH**	chalk
MSST	soft medium grained sandstone	**GS**	gravel with porous (soft) stones
SI	soft weathered igneous/metamorphic rock	**GH**	gravel with non porous (hard) stones

Stone contents (>2cm >6cm and total) are given in percentages (by volume)

8 **STRUCT** the degree of development size and shape of soil peds are described using the following notation

Degree of development	**WK**	weakly developed	**MD**	moderately developed
	ST	strongly developed		
Ped size	**F**	fine	**M**	medium
	C	coarse		
Ped shape	**S**	single grain	**M**	massive
	GR	granular	**AB**	angular blocky
	SAB	sub angular blocky	**PR**	prismatic
	PL	platy		

9 **CONSIST** Soil consistence is described using the following notation

L loose	**FM** firm	**EH** extremely hard
VF very friable	**VM** very firm	
FR friable	**EM** extremely firm	

10 **SUBS STR** Subsoil structural condition recorded for the purpose of calculating profile droughtiness **G** good **M** moderate **P** poor

11 **POR** Soil porosity If a soil horizon has less than 0 5% biopores >0 5 mm a 'Y will appear in this column

12 **IMP** If the profile is impenetrable to rooting a Y will appear in this column at the appropriate horizon

13 **SPL** Slowly permeable layer If the soil horizon is slowly permeable a Y will appear in this column

14 **CALC** If the soil horizon is calcareous a Y will appear in this column

15 Other notations

APW	available water capacity (in mm) adjusted for wheat
APP	available water capacity (in mm) adjusted for potatoes
MBW	moisture balance wheat
MBP	moisture balance potatoes

program ALC012 LIST OF BORINGS HEADERS 05/01/98 REIGATE BLP HORLEY SE page 1

SAMPLE NO	GRID REF	ASPECT USE	GRDNT	--WETNESS-- GLEY	SPL	CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	TQ30204330	PGR		0	25	4	3B		0		0					WE	3B	Water table 15
2	TQ30404330	PGR		0	29	4	3B		0		0					WE	3B	Ridge & furrow
3	TQ29404320	PLO		35	35	4	3B		0		0					WE	3B	
4	TQ29504320	PLO		25	25	4	3B	91	-18	97	-5	3A				WE	3B	Imp 60 Mn & HR
5	TQ29704320	PLO		25	25	4	3B		0		0					WE	3B	Fe 70 Water 65
6	TQ29904320	PLO		28	28	4	3B		0		0					WE	3B	
7	TQ30104320	PGR		0	28	4	3B		0		0					WE	3B	Very wet
8	TQ30304320	PGR		0	29	4	3B		0		0					WE	3B	Ridge & furrow
9	TQ29404310	PLO		25	25	4	3B		0		0					WE	3B	
10	TQ29604310	PLO		25	25	4	3B		0		0					WE	3B	Wet 30 Imp 80
11	TQ29804310	PLO		25	25	4	3B		0		0					WE	3B	Fe concs 65+
12	TQ30204310	PGR		0	30	4	3B		0		0					WE	3B	Water table 10
13	TQ30404310	PGR		0	30	4	3B		0		0					WE	3B	Ridge & furrow
14	TQ29404300	RGR		0	30	4	3B		0		0					WE	3B	
15	TQ29504300	PLO		25	25	4	3B		0		0					WE	3B	Wet25 Imp/Fe65
16	TQ29704300	PLO		25	25	4	3B		0		0					WE	3B	Wet 25
17	TQ29904300	PGR		0	23	4	3B		0		0					WE	3B	
18	TQ30104300	PGR		30	30	4	3B		0		0					WE	3B	
19	TQ30304300	PGR		0	35	4	3B		0		0					WE	3B	S1 drier
20	TQ29434294	PGR		0	35	4	3B		0		0					WE	3B	
21	TQ29664290	PLO		25	25	4	3B		0		0					WE	3B	
22	TQ29804290	PLO		25	25	4	3B		0		0					WE	3B	
23	TQ30004290	PGR		0	20	4	3B		0		0					WE	3B	
24	TQ30204290	PGR		0	28	4	3B		0		0					WE	3B	
25	TQ30404290	PGR		0	30	4	3B		0		0					WE	3B	Standing water
26	TQ29504280	PGR		0	30	4	3B		0		0					WE	3B	
27	TQ29944280	PGR		0	25	4	3B		0		0					WE	3B	
28	TQ30104280	PGR		0	28	4	3B		0		0					WE	3B	
29	TQ30304280	PGR		0	35	4	3B		0		0					WE	3B	
30	TQ29404270	PGR		0	25	4	3B		0		0					WE	3B	
31	TQ29604270	PGR		0	30	4	3B		0		0					WE	3B	
32	TQ29724270	PGR		30	30	4	3B		0		0					WE	3B	S1 drier
33	TQ30034272	PGR		0	30	4	3B		0		0					WE	3B	
34	TQ30204270	PGR		0	35	4	3B		0		0					WE	3B	
35	TQ28744242	PGR		28	48	3	3A	120	11	114	12	2				WE	3A	Med upr s/soil
36	TQ28804230	PGR		0	25	4	3B		0		0					WE	3B	
37	TQ29034227	PGR		35	35	4	3B		0		0					WE	3B	
38	TQ28724220	PGR		0	28	4	3B		0		0					WE	3B	
39	TQ28804220	PGR		0	30	4	3B		0		0					WE	3B	
40	TQ28904220	PGR		30	30	4	3B		0		0					WE	3B	
41	TQ28824210	PGR		0	35	4	3B		0		0					WE	3B	
42	TQ28904210	PGR		30	30	4	3B		0		0					WE	3B	

SAMPLE NO	GRID REF	ASPECT USE	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
43	TQ29004210	PLO	28	28	4	3B	100	-9	97	-5	3A					WE	3B	Imp 85 stony
44	TQ29804210	PGR	25	25	4	3B		0		0						WE	3B	V many Mn 38
45	TQ28734200	PGR	0	25	4	3B		0		0						WE	3B	
46	TQ28804200	PGR	0	25	4	3B		0		0						WE	3B	
47	TQ28904202	PGR	0	75	3	3A		0		0						WE	3A	Wet 50
48	TQ29004200	PGR	0	28	4	3B		0		0						WE	3B	Very wet 50
49	TQ29104200	PGR	0	28	4	3B	113	4	99	-3	3A					WE	3B	Imp 105 stony
50	TQ29704200	PGR	25	25	4	3B		0		0						WE	3B	
51	TQ29904200	PGR	20	20	4	3B		0		0						WE	3B	
52	TQ28804190	PGR	0	20	4	3B		0		0						WE	3B	Standing water
53	TQ29004190	PGR	0	25	4	3B		0		0						WE	3B	Very wet 60
54	TQ29804190	PGR	0	25	4	3B		0		0						WE	3B	
55	TQ30004190	PGR	0	22	4	3B		0		0						WE	3B	
56	TQ28804180	PGR	28		2	2	126	17	96	-6	2					WD	2	Mod stony 45
57	TQ28904180	PGR	20	40	4	3B		0		0						WE	3B	Med upr s/soil
58	TQ29104180	PGR	28	28	4	3B		0		0						WE	3B	
59	TQ29304176	PGR	28	28	4	3B		0		0						WE	3B	Standing water
60	TQ29754180	PGR	10	10	4	3B		0		0						WE	3B	
61	TQ29904180	PGR	0	20	4	3B		0		0						WE	3B	
62	TQ30104180	PGR	0	35	4	3B		0		0						WE	3B	
63	TQ28804170	PGR	25	35	4	3B		0		0						WE	3B	
64	TQ29004170	PGR	25	25	4	3B	79	-30	81	-21	3B					WE	3B	Impen 55
65	TQ29204170	PGR	28	28	4	3B	97	-12	96	-6	3A					WE	3B	Imp85 stony/Mn
1P	TQ30104280	PGR	0	24	4	3B	121	12	99	-3	2					WE	3B	Includes ZR
2P	TQ29004210	PGR	0	28	4	3B	85	-24	88	-14	3B					WE	3B	Many Mn at 55
3P	TQ29804210	PGR	20	20	4	3B	98	-11	110	11	3A					WE	3B	
4P	TQ29404287	PGR	0	29	4	3B	93	-16	103	0	3A					WE	3B	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES---- 2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1	0-25	MZCL	10YR53	10YR58	C			Y	0	0		0							
	25-60	ZC	25Y 61 71	10YR68	M			Y	0	0		0		P			Y		
2	0-29	MZCL	10YR53	10YR58	C			Y	0	0		0							
	29-60	ZC	25Y 71 72	75YR68	M			Y	0	0		0		P			Y		
3	0-35	MCL	10YR42						0	0	HR	2							
	35-70	C	25Y 73	10YR68	M	D		Y	0	0	HR	2		P			Y		
	70-85	HCL	25Y 72	75YR58	M	D		Y	0	0	HR	5		M			Y		
4	0-25	MCL	10YR42						0	0	HR	2							
	25-40	HCL	25Y 63 52	10YR58	C	D		Y	0	0	HR	2		M			Y		
	40-60	HCL	25Y 53 62	75YR58	M	D		Y	0	0	HR	10		M			Y		Imp60 stony/Mn
5	0-25	MCL	25Y 42						0	0	HR	2							
	25-70	C	25Y 62	10YR5868	M	D		Y	0	0		0		P			Y		
	70-90	HCL	25Y 63	75YR58	M	D		Y	0	0	HR	2		P			Y		
6	0-28	MCL	25Y 42 52						0	0	HR	2							
	28-75	C	25Y 62 63	10YR58	M	D		Y	0	0		0		P			Y		
	75-120	C	N 71 41	10YR58	M	D		Y	0	0		0		P			Y		Very blue matrix
7	0-28	MCL	25Y 62	75YR56	M			Y	0	0		0							
	28-60	ZC	25Y 61 62	10YR68	M			Y	0	0		0		P			Y		
8	0-29	MZCL	10YR53	10YR56	C			Y	0	0		0							
	29-42	MZCL	10YR53	10YR58	M			Y	0	0		0		P			Y		
	42-50	C	25Y 51	75YR68	M			Y	0	0		0		P			Y		
	50 70	ZC	25Y 51 61	75YR68	M			Y	0	0		0		P			Y		
9	0 25	MCL	10YR42 43						0	0	HR	2							
	25 55	HCL	25Y 53 71	10YR5868	M	D		Y	0	0	HR	2		P			Y		
	55 85	HCL	25Y 72 62	75YR58	M	D		Y	0	0	HR	10		M			Y		
	85-100	HCL	25Y 62 72	75YR58	M	D		Y	0	0	HR	30		M					Stonier- Q spl
10	0-25	MCL	25Y 42						0	0	HR	2							
	25-70	C	25Y 51 61	10YR58	M	D		Y	0	0		0		P			Y		
	70-80	C	25Y 71	75YR58	M	D		Y	0	0	HR	5		P					
11	0-25	HCL	25Y 42 52						0	0	HR	2							
	25-65	C	25Y 61 63	10YR58	M	D		Y	0	0		0		P			Y		
	65-90	C	25Y 72 82	75YR58	M	D		Y	0	0		0		P			Y		Fe concretions
12	0 30	MZCL	10YR53	10YR58	C			Y	0	0		0							
	30 60	ZC	25Y 51 61	75YR68	M			Y	0	0		0		P			Y		
13	0-30	MZCL	25Y 52	10YR58				Y	0	0		0							
	30-60	C	25Y 52 62	10YR68	M			Y	0	0		0		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES- --- PED COL	ABUN	CONT	COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
14	0-30	MCL	25Y 42	10YR46	C	D		Y	0	0	HR	2							
	30 65	HCL	25Y 53 71	10YR5868	M	D		Y	0	0	HR	5		M			Y		
	65-120	C	05Y 71	10YR68	M	D		Y	0	0		0		P			Y		
15	0-25	MCL	25Y 42						0	0	HR	2							
	25-55	C	25Y 52	10YR58	M	D		Y	0	0		0		P			Y		
	55-65	HCL	25Y 71	75YR58	M	D		Y	0	0	HR	5		M			Y		Imp 65 stony/Fe
16	0-25	HZCL	25Y 42						0	0	HR	2							
	25-80	C	25Y 72	10YR68	M	D		Y	0	0		0		P			Y		
17	0-27	MZCL	25Y 52	75YR46	C	F		Y	0	0		0							
	27-35	HZCL	25Y 63	75YR56	C	D		Y	0	0		0		M			Y		
	35-65	ZC	25Y 73 71	75YR58	M	D		Y	0	0		0		P			Y		
	65-100	ZC	05Y 81	05YR58	M	D		Y	0	0		0		P			Y		
18	0-30	MZCL	10YR53						0	0		0							
	30-44	HZCL	25Y 63	75YR56	C			Y	0	0		0		M			Y		
	44-70	ZC	25Y 71 63	75YR68	M			Y	0	0		0		P			Y		
19	0-35	MZCL	10YR53	10YR56	C			Y	0	0		0							
	35-60	ZC	25Y 71 63	75YR68	M			Y	0	0		0		P			Y		
20	0-35	MZCL	25Y 52	75YR56	C	D		Y	0	0	HR	2							
	35 45	HZCL	25Y 62 72	75YR56	C	D		Y	0	0	HR	2		P			Y		
	45 80	C	25Y 73 71	75YR68	M			Y	0	0	HR	2		P			Y		
21	0-25	HCL	25Y 42						0	0	HR	2							
	25 60	C	25Y 62 72	10YR68	M	D		Y	0	0		0		P			Y		
	60-80	ZC	25Y 72	75YR68	M	D		Y	0	0		0		P			Y		
22	0-25	HCL	25Y 42						0	0	HR	2							
	25-70	ZC	25Y 71	75YR68	M	D		Y	0	0		0		P			Y		
23	0-20	MZCL	25Y 52	75YR56	C	D		Y	0	0		0							
	20 40	HZCL	25Y 62	75YR56	C	D		Y	0	0		0		M			Y		
	40 52	ZC	25Y 62	75YR56	C	D		Y	0	0		0		P			Y		
	52 80	ZC	25Y 71 73	75YR68	M	D		Y	0	0		0		P			Y		
24	0-28	HZCL	25Y 63 72	05YR58	C	D		Y	0	0		0							
	28-50	ZC	25Y 71	75YR68	M	D		Y	0	0		0		P			Y		
	50-75	ZC	05Y 71	75YR58	M	D		Y	0	0		0		P			Y		
25	0-30	HZCL	25Y 62 52	75YR68	C			Y	0	0		0							
	30 60	ZC	25Y 71 63	75YR68	M			Y	0	0		0		P			Y		
26	0-30	MZCL	25Y 62	75YR56	C			Y	0	0		0							
	30-60	C	25Y 72	75YR56	C			Y	0	0		0		P			Y		

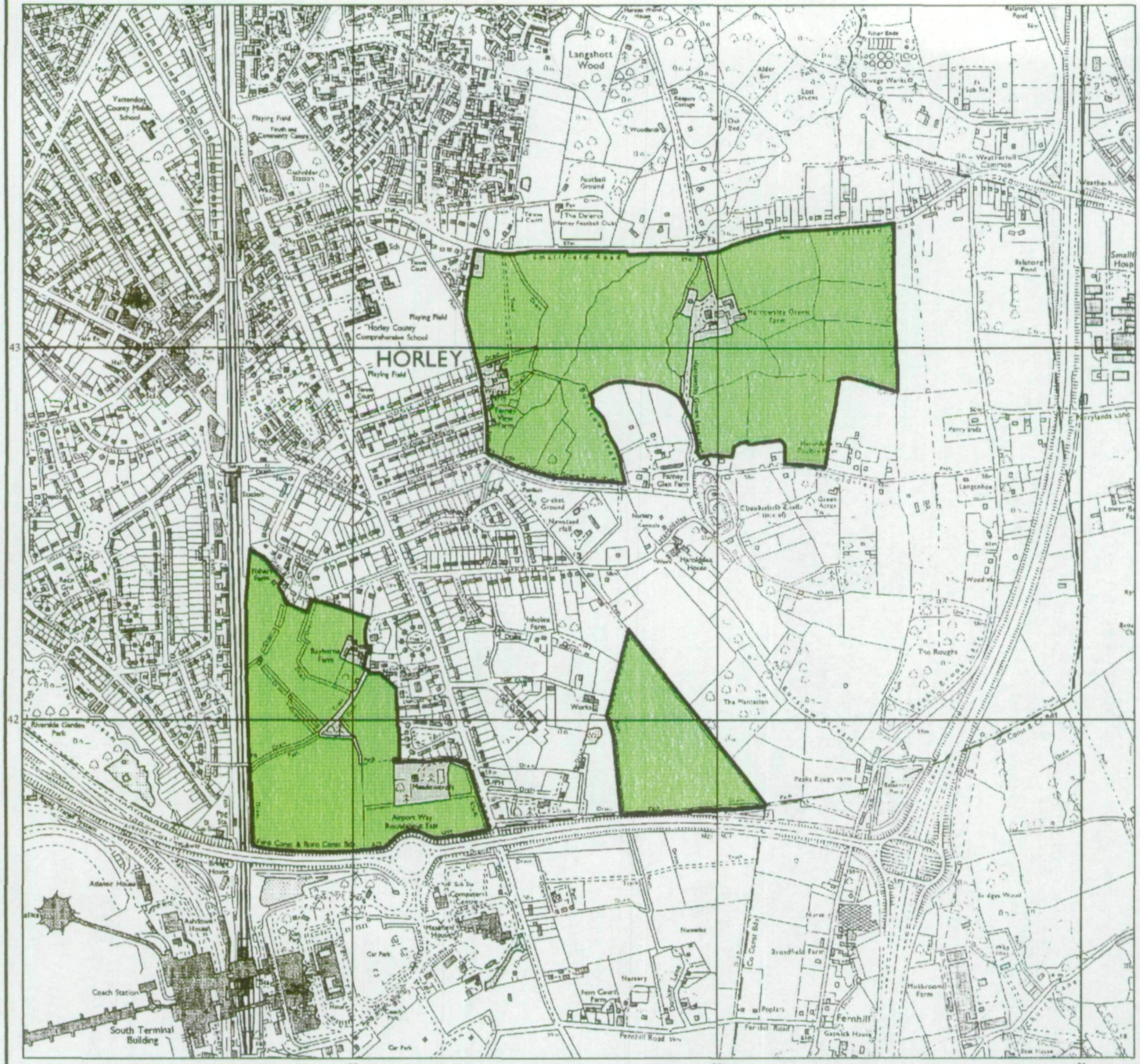
SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES ---- PED COL	ABUN	CONT	COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
27	0-25	HZCL	25Y 62	75YR56	C	D		Y	0	0		0							
	25-65	ZC	25Y 63	75YR68	M	D		Y	0	0		0			P		Y		
	65-80	ZC	25Y 71 73	05YR58	C	D		Y	0	0		0			P		Y		
28	0-28	MZCL	25Y 62	75YR56	C	D		Y	0	0		0							
	28-50	ZC	25Y 73 72	75YR66	C	D		Y	0	0		0			P		Y		
	50-95	ZC	05Y 71	75YR58	M	D		Y	0	0		0			P		Y		
29	0-35	MZCL	25Y 62	75YR46	C	D		Y	0	0		0							
	35-42	HZCL	25Y 72	75YR68	C	D		Y	0	0		0			M		Y		
	42-100	ZC	05Y 71	75YR68	M	D		Y	0	0		0			P		Y		
30	0-25	MZCL	25Y 52	75YR56	C	D		Y	0	0		0							
	25-50	HZCL	25Y 62	75YR5658	C			Y	0	0		0			P		Y		
	50-80	C	25Y 72	75YR58	M			Y	0	0		0			P		Y		
31	0-30	HCL	25Y 42	10YR46	C	D		Y	0	0	HR	2							
	30-60	C	05Y 62	10YR5868	M	D		Y	0	0		0			P		Y		
32	0-30	HCL	10YR53						0	0	HR	2							
	30-55	C	25Y 62	10YR58	M	D		Y	0	0		0			M		Y		
	55-120	C	25Y 62 72	75YR5868	M	D		Y	0	0		0			P		Y		
33	0 30	HZCL	25Y 52	75YR56	C	D		Y	0	0		0							
	30-80	C	25Y 62	75YR58	M	D		Y	0	0		0			P		Y		
34	0-35	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	35-45	HZCL	25Y 62	75YR66	C	D		Y	0	0		0			M		Y		
	45-80	ZC	25Y 63 71	75YR66	M	D		Y	0	0		0			P		Y		
35	0-28	MZCL	10YR42	75YR46	F	F			0	0		0							
	28-48	MZCL	25Y 53	75YR56	C	F		Y	0	0		0			M				
	48 55	HZCL	25Y 63	75YR66	C	D		Y	0	0		0			P		Y		
	55-85	ZC	25Y 72	75YR68	M	D		Y	0	0		0			P		Y		
	85-95	HCL	25Y 73	10YR58	M	D		Y	0	0	HR	10			P		Y		
36	0-25	MCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	25-65	HCL	25Y 81	75YR58	M	D		Y	0	0	HR	2			P		Y		
	65-80	C	25Y 71	75YR68	M			Y	0	0	HR	2			P		Y		
37	0-35	MZCL	10YR42	10YR46	F	D			0	0		0							
	35-60	HCL	25Y 63	10YR68	C	D		Y	0	0	HR	10			P		Y		
	60 120	MCL	05Y 71	75YR68	M	D		Y	0	0	HR	15			P		Y		V pale- prob spl
38	0 28	MZCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	28-42	HCL	25Y 63	75YR56	C	D		Y	0	0	HR	5			P		Y		
	42-60	C	25Y 71	75YR68	M	D		Y	0	0	HR	2			P		Y		
	60-80	HCL	25Y 71	10YR58	M	D		Y	0	0	HR	10			P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
39	0-30	MCL	25Y 62	75YR46	C	D		Y	0	0		0							
	30-40	HCL	25Y 53	75YR56	C	D		Y	0	0	HR	2			P		Y		
	40-75	HCL	25Y 71	75YR58	M	D		Y	0	0	HR	2			P		Y		
	75-120	HCL	05Y 81	10YR558	M	D		Y	0	0	HR	5			P		Y		
40	0-30	MCL	10YR42						0	0	HR	2							
	30-65	HCL	25Y 63 62	10YR58	C	D		Y	0	0		0			P		Y		
	65-80	SCL	25Y 72	75YR58	M	D		Y	0	0	HR	10			P		Y		
	80-120	ZC	05Y 71	10YR68	M	D		Y	0	0		0			P		Y		
41	0-35	MZCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	35-48	ZC	25Y 62	75YR56	M	D		Y	0	0	HR	2			P		Y		
	48-60	C	25Y 72	75YR5666	M	D		Y	0	0	HR	2			P		Y		
	60-80	ZC	05Y 81	05YR58	M	D		Y	0	0		0			P		Y		
42	0-30	MCL	10YR42						0	0	HR	2							
	30-70	HCL	25Y 53 62	10YR5868	M	D		Y	0	0		0			P		Y		
	70-120	ZC	05Y 71 72	75TR58	M	D		Y	0	0		0			P		Y		
43	0-28	MCL	10YR43 32						0	0	HR	2							
	28-55	HCL	25Y 53 62	10YR68	M			Y	0	0	HR	5			P		Y		
	55 75	HCL	25Y 53 61	10YR58	M			Y	0	0	HR	10			P		Y		
	75-85	MSL	10YR42 43	10YR58	C			Y	0	0	HR	20			M				Imp 85 stony/Mn
44	0-25	MCL	10YR42	10YR58	F				0	0	HR	2							
	25-38	C	25Y 62 61	75YR68	M			Y	0	0		0			P		Y		
	38-70	C	10YR62	75YR58	M			Y	0	0		0			P		Y		
45	0-25	MZCL	25Y 52	75YR46		C		Y	0	0	HR	2							
	25-40	HZCL	25Y 63	75YR58	C	D		Y	0	0	HR	2			P		Y		
	40-80	ZC	05Y 81	75YR68	M	D		Y	0	0		0			P		Y		
46	0-25	MZCL	25Y 62	75YR46	C	D		Y	0	0	HR	2							
	25 58	HZCL	25Y 72	10YR58	M	D		Y	0	0	HR	10			P		Y		
	58-80	ZC	05Y 71	75YR68	M	D		Y	0	0		0			P		Y		
47	0 28	MZCL	25Y 52	75YR46	C	D		Y	0	0	HR	2							
	28-50	HCL	25Y 64 74	75YR68	M	D		Y	0	0	HR	25			M				Stonier- Q spl
	50-75	HCL	25Y 72	75YR58	M	D		Y	0	0	HR	45			M				Stonier- Q spl
	75-120	ZC	05Y 81	10YR58	M	D		Y	0	0		0			P		Y		
48	0-28	MCL	10YR52	10YR58	C			Y	0	0		0							
	28 40	HCL	25Y 51 52	75YR68	M			Y	0	0		0			P		Y		
	40 50	C	25Y 51 52	75YR68	M			Y	0	0	HR	2			P		Y		
	50 120	HCL	10YR53 52	10YR58	C			Y	0	0	HR	50			M		Y		
49	0-28	MCL	10YR42 52	10YR58	C			Y	0	0	HR	2							
	28-95	HCL	25Y 53 62	10YR68	M			Y	0	0	HR	2			P		Y		
	95-105	HCL	10YR53	10YR56	C			Y	0	0		0			P		Y		Imp 105 stony

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
50	0-25	MZCL	25Y 42						0	0	HR	2							
	25-70	ZC	05Y 71	10YR68	M	D		Y	0	0		0			P		Y		
51	0-20	MCL	10YR42	10YR46	F	D			0	0	HR	2							
	20-70	ZC	05Y 71	10YR68	M	D		Y	0	0		0			P		Y		
52	0-20	MZCL	10YR53	10YR58	C			Y	0	0		0							
	20-70	C	10YR52	10YR56	M			Y	0	0	HR	4			P		Y		
53	0-25	MCL	10YR43						0	0	HR	2							
	25-35	HCL	10YR53	10YR56	C			Y	0	0	HR	2			M		Y		
	35-50	HCL	10YR72 63	10YR68	C			Y	0	0		0			M		Y		
	50-60	HCL	25Y 71 72	10YR68	C			Y	0	0		0			M		Y		
	60-120	C	25Y 71 72	10YR68	C			Y	0	0		0			P		Y		
54	0-25	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	25-40	HZCL	25Y 72	75YR68	M	D		Y	0	0		0			P		Y		
	40-80	ZC	25Y 71	75YR58	M	D		Y	0	0		0			P		Y		
55	0-22	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	22-35	HZCL	25Y 71	75YR68	C	D		Y	0	0		0			P		Y		
	35-60	HZCL	25Y 71	75YR68	M	D		Y	0	0	HR	2			P		Y		
56	0-28	MCL	10YR42	00MN00	F				0	0	HR	2							
	28-45	HCL	25Y 53 62	10YR58	C			Y	0	0		0			P				
	45-55	SCL	25Y 42	10YR58	C			Y	0	0	HR	25			M				{ Lighter
	55-90	SCL	25Y 62 71	75YR5868	C			Y	0	0	HR	35			M				{ and
	90-120	MCL	25Y 71 72	75YR68	M			Y	0	0	HR	20			M				{ stonier
57	0-20	MCL	10YR43						0	0		0							
	20-40	MCL	10YR53	75YR56	C			Y	0	0		0			M				
	40-75	HCL	25Y 51 52	75YR56	M			Y	0	0		0			M		Y		
58	0-28	MCL	10YR42						0	0	HR	2							
	28-45	HCL	25Y 53 62	10YR68	M	D		Y	0	0		0			P		Y		
	45-55	SCL	25Y 42	10YR58	C	D		Y	0	0	HR	25			P		Y		
	55-90	SCL	25Y 62 74	75YR5868	M	D		Y	0	0	HR	30			P		Y		
	90-120	MCL	25Y 71 72	75YR68	C	D		Y	0	0	HR	20			M				
59	0-28	MCL	10YR42						0	0	HR	2							
	28-60	HCL	25Y 63 62	75YR58	M			Y	0	0		0			P		Y		
	60-120	ZC	05Y 71	75YR68	M			Y	0	0		0			P		Y		
60	0-10	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	10-62	HZCL	25Y 72	75YR68	M	D		Y	0	0	HR	2			P		Y		
	62 80	HCL	25Y 71	10YR58	M	D		Y	0	0	HR	20			M				Prob spl- see 4P
61	0 20	MZCL	25Y 52	75YR46	C	D		Y	0	0		0							
	20-80	HCL	25Y 72	75YR58	M	D		Y	0	0	HR	2			P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
62	0-20	ZC	25Y 72	75YR58	M	D		Y	0	0		0							
	20-35	MZCL	25Y 52	75YR58	C	D		Y	0	0		0		M					
	35-60	HCL	25Y 73 72	10YR58	M	D		Y	0	0	HR	5		P		Y			
	60-75	SCL	25Y 71	75YR58	M	D		Y	0	0	HR	40		M					
63	0-25	MCL	25Y 42						0	0	HR	2							
	25-35	MCL	25Y 42 52	10YR58	C	D		Y	0	0	HR	5		M					
	35-60	HCL	25Y 53 62	10YR58	C	D		Y	0	0	HR	5		P		Y			
	60-80	HCL	10YR53	10YR5868	C	D		Y	0	0	HR	20		P		Y			
	80-120	HCL	05GY41	10YR68	C	D		Y	0	0	HR	15		P		Y			
64	0-25	MCL	10YR52						0	0		0							
	25-50	C	10YR52	10YR58	C			Y	0	0	HR	5		P		Y			
	50-55	HCL	10YR52	10YR58	C			Y	0	0	HR	35		M					Imp55 stonier
65	0 28	MCL	10YR42						0	0	HR	2							
	28 60	HCL	25Y 53 62	10YR5868	M	D		Y	0	0	HR	5		P		Y			
	60-75	HCL	25Y 53 61	10YR5868	C	D		Y	0	0	HR	20		P		Y			Prob spl- see 4P
	75-85	SCL	10YR43 53	10YR68	C	D		Y	0	0	HR	30		M					Imp 85 stony/Mn

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES- --- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
1P	0-24	MZCL	25Y 62	75YR46 68	C	D		Y	0	0	ZR	2						
	24-56	HZCL	25Y 63 71	75YR68	M	D		Y	0	0	ZR	5	MDMPR	FM	P	Y		Y
	56-70	ZC	05Y 81	75YR56	M	D		Y	0	0	ZR	10	WKVCAB	FM	P	Y		Y
	70-120	ZC	05Y 71	05YR58	M	D		Y	0	0	ZR	25	STVCPL	FM	P	Y		Y
2P	0-29	MZCL	25Y 52	75YR56	C	F		Y	0	0	HR	2						
	29-42	HZCL	25Y 52 62	75YR68	C	D		Y	0	0	HR	2	WKCAB	FM	P	Y		Y
	42-50	C	25Y 71	75YR68	M	D		Y	0	0	HR	2	WKCAB	FM	P	Y		Y
	50-70	HCL	25Y 62	75YR68	M	D		Y	0	0	HR	20		FM	P			
3P	0-20	MZCL	10YR42	10YR56	F	D			0	0	HR	2						
	20-43	C	25Y 62 61	75YR58	M	D		Y	0	0		0	MDCAB	FM	P	Y		Y
	43-53	HZCL	05Y 71	75YR56	M	D		Y	0	0		0	MDCAB	FR	M	Y		Y
	53-70	HCL	05Y 71	75YR58	M	D		Y	0	0	HR	5	MDCAB	FR	M	Y		Y
4P	0-28	MCL	10YR42	10YR58	C			Y	0	0	HR	2						
	28-40	HCL	25Y 53 63	75YR68	M			Y	0	0	HR	2	MDCAB	FR	M	Y		Y
	40-55	C	25Y 63 62	75YR6866	M			Y	0	0		0	WKCAB	FM	P	Y		Y



MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Reigate & Banstead District Local Plan
Land south-east of Horley
Semi-detailed Survey

Legend

	Quality	Area (ha)
Grade 1	Excellent	Nil
Grade 2	Very Good	Nil
Grade 3a	Good	Nil
Grade 3b	Moderate	95.2
Grade 4	Poor	Nil
Grade 5	Very Poor	Nil
	Agricultural land not surveyed	Nil
	Other land	5.9
	Site Boundary	
	Total survey area	95.2
	Total site area	101.1

* Not present within survey area

Scale - 1:15,000

0 200 400 600 Metres

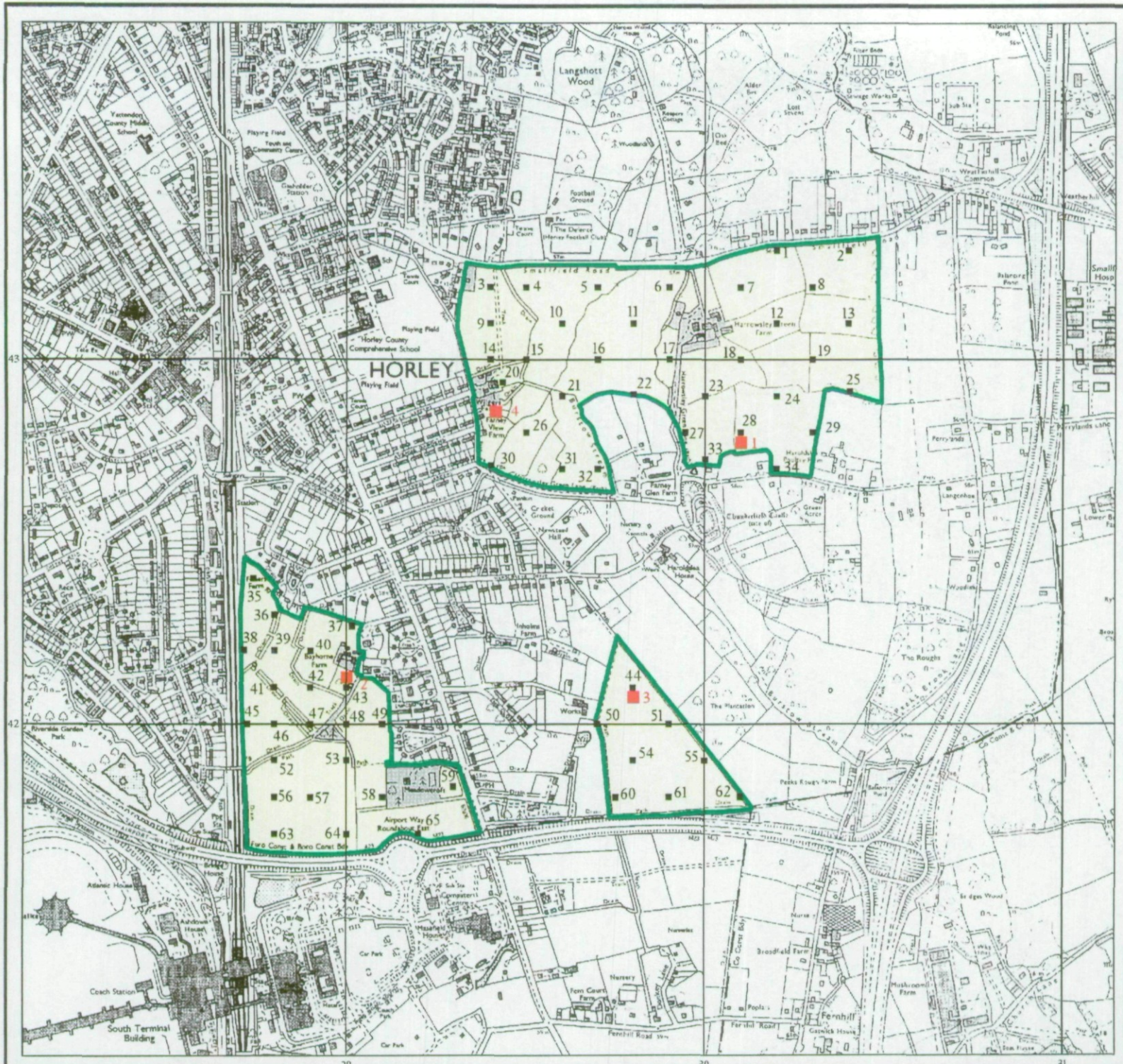
Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. Maff (publications), London SE99 7TP.

The information is accurate at base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, FRCA, Reading

Source map(s): tq24se, tq34sw

Reference no: 4005 /123 /97



MAFF Ministry of Agriculture Fisheries and Food

Agricultural Land Classification

Reigate & Banstead District Local Plan

Land south-east of Horley

Semi-detailed Survey

Sample Point Map

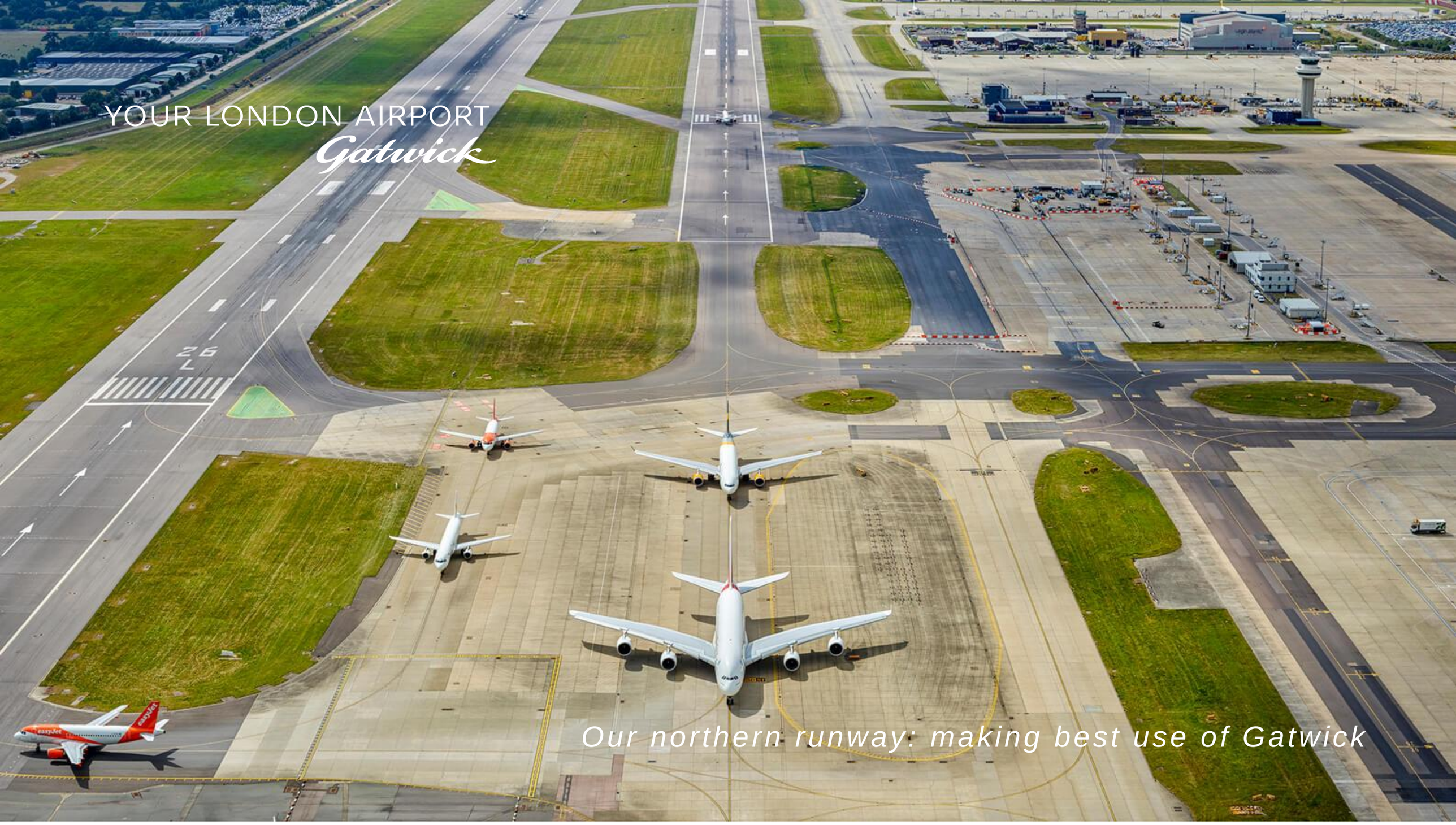
Legend

- 1 — Location of soil pit
- 1 — Location of auger sample point
- Boundary of survey area
- Agricultural land not surveyed
- Other land

Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. Maff (publications), London SE99 7TP.
The information is accurate at base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, FRCA, Reading.

MAFF Licence No: GD272361
Source map(s): tq24se, tq34sw
Reference no: 4005/123/97



Preliminary Environmental Information Report
Appendix 18.6.2: Soil Survey Results

September 2021

Table of Contents

1 Introduction

1.1 General

1.1.1 This document forms Appendix 18.6.2 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the soil survey results for the Project.

2 Soil Survey Results

2.1 Colours

- dgb Dark grey brown
- gb grey brown
- yb yellowish brown

2.2 Others

- c clay
- hcl heavy clay loam
- fdom few distinct ochreous mottles
- cdom common distinct ochreous mottles
- mn manganese concretions
- SPL slowly permeable layer

Table 2.2.1: Auger Boring Descriptions

	Depth	Colour	Texture	Description	Wetness Class	Grade
1						
	0 - 22	dgb	c	cdom	IV	3b
	22- 30	gb	c	cdom, mn		
	30 - 70+	gb	c	cdom, SPL		
2						
	0 - 24	dgb	c	cdom	IV	3b
	24 - 35	gb	c	cdom, mn		
	35 - 70+	gb	c	cdom, SPL		
3						
	0 - 23	dgb	c	cdom	IV	3b
	23 - 37	gb	c	cdom, mn (lots)		
	37 - 70+	gb	c	cdom, SPL		
4						
	0 - 23	dgb	c	cdom	IV	3b
	23 - 34	gb	c	cdom, mn (lots)		
	34 - 70+	gb	c	cdom, SPL		
5						
	0 - 24	dgb	c	cdom	IV	3b
	23 - 35	gb	c	cdom, mn (lots)		
	35 - 70+	gb	c	cdom, SPL		
6						
	0 - 22	dgb	c	cdom	IV	3b
	22 - 30	gb	c	cdom mm		
	30 - 60+	gb	c	thick cdom		
7						
	0 - 24	dgb	c	cdom	IV	3b
	23 - 35	gb	c	cdom, mn (lots)		
	35 - 70+	gb	c	cdom, SPL		
8						
	0 - 23	dgb	c	cdom	IV	3b
	23 - 35	gb	c	cdom, mn (lots)		
	35 - 70+	gb	c	cdom, SPL		
9						
	0 - 24	dgb	c	cdom	IV	3b
	23 - 36	gb	c	cdom, mn (lots)		
	36 - 70+	gb	c	cdom, SPL		
10						
	0 - 24	dgb	hcl			
	24-30	yb	hcl	cdom		
	30- 60+	gb	c	cdom SPL	IV	3b
11						
	0 - 24	dgb	hcl			
	24-30	yb	hcl	cdom		
	30- 60+	gb	c	cdom, SPL	IV	3b
12						
	0 - 25	dgb	hcl			
	25-34	yb	hcl	cdom		
	34- 60+	gb	c	cdom, few mn, SPL	IV	3b
13						
	0 - 25	dgb	hcl	fdom		
	25-32	yb	hcl	cdom		
	32- 60+	gb	c	cdom, SPL	IV	3b
14						

	Depth	Colour	Texture	Description	Wetness Class	Grade
	0 - 25	dgb	hcl	fdom		
	25-32	yb	hcl	cdom		
	32-60+	gb	c	cdom SPL	IV	3b
15						
	0 - 24	dgb	hcl			
	24-33	yb	hcl	cdom		
	33-60+	gb	c	cdom, few mn, SPL	IV	3b
16						
	0 - 25	dgb	hcl			
	25-32	yb	hcl	cdom		
	32-60+	gb	c	cdom, few mn, SPL	IV	3b
17						
	0 - 24	dgb	hcl			
	24-30	yb	hcl	cdom		
	30-60+	gb	c	cdom, SPL	IV	3b
18						
	0 - 24	dgb	hcl			
	24-33	yb	hcl	cdom		
	33-60+	gb	c	cdom, few mn, SPL	IV	3b

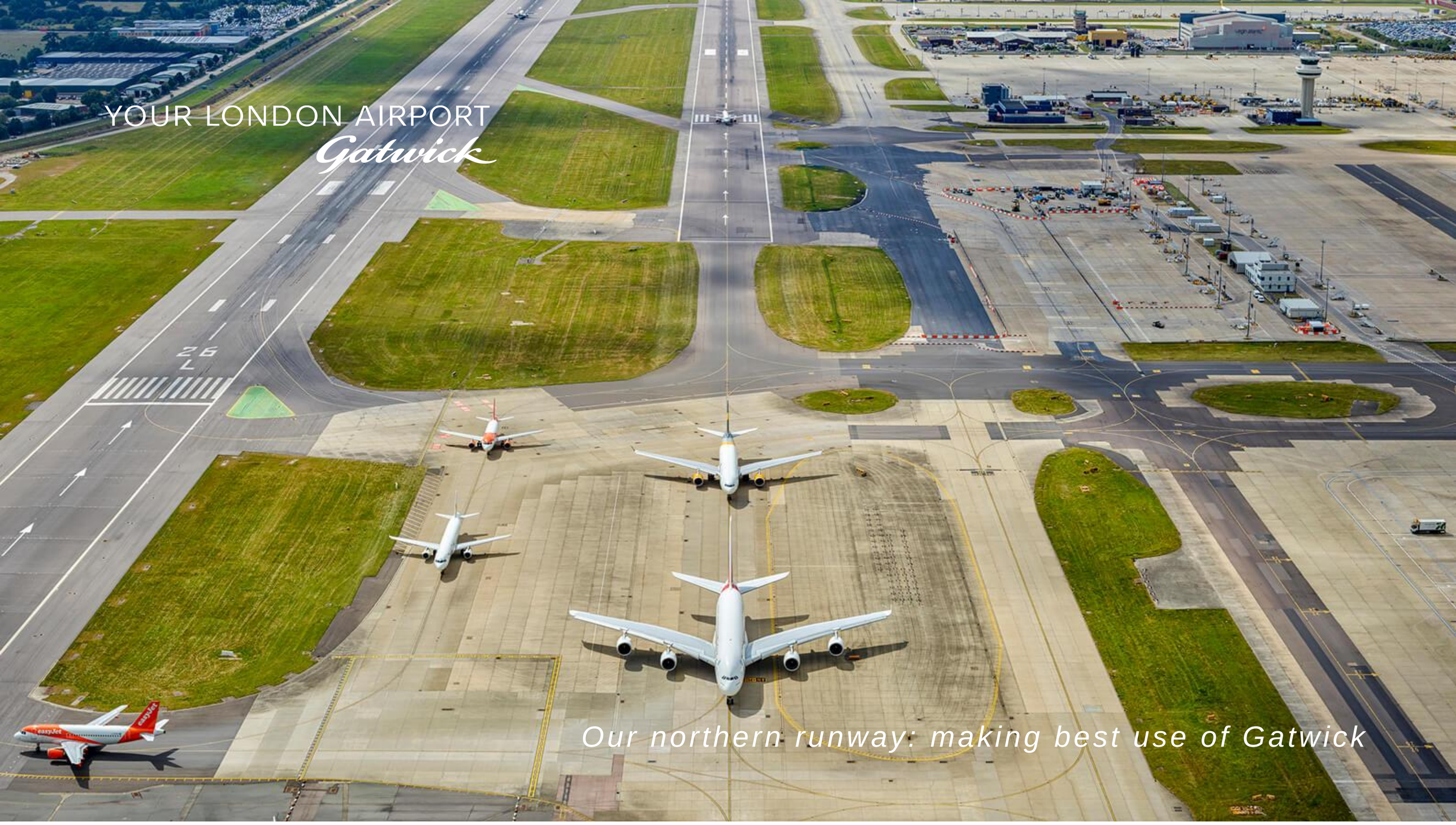
Term	Description
fdom	Few distinct ochreous mottles
GAL	Gatwick Airport Limited
gb	Grey brown
hcl	Heavy clay loam
mn	Manganese concretions
PEIR	Preliminary Environmental Information Report
SPL	Slowly permeable layer
yb	Yellowish brown

3 Glossary

3.1 Glossary of Terms

Table 3.1.1: Glossary of Terms

Term	Description
c	Clay
cdom	Common distinct ochreous mottles
dgb	Dark grey brown
EIA	Environmental Impact Assessment



Preliminary Environmental Information Report
Appendix 18.6.3: Recreational User Survey

September 2021

Table of Contents

1 Introduction

1.1 General

1.1.1 This document forms Appendix 18.6.3 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document provides the Recreational User Survey for the Project.

1.2 Survey Background

1.2.1 RPS has undertaken recreational user surveys along the alignment of National Cycle Route 21 (NCR21) within Riverside Garden Park in Horley to inform the development proposals for the Project in relation to the use of this area of public open space by non-motorised users (NMUs). The surveys were undertaken between May and August 2019. These surveys included spot counts of users of NCR21 within Riverside Garden Park, together with questionnaire surveys.

1.2.2 Riverside Garden Park is located close to the Project site's north eastern boundary on the north of the A23 and is approximately 12.3 hectares. Riverside Garden Park is an area of public open space within Horley that is bounded by the A23 London Road to the south and the Gatwick Stream and the residential areas of Horley to the north. It was once part of Horley Common and comprises semi-natural woodland, areas of open grassland and a lake. The park is screened from the A23 by a broad swathe of vegetation. The park is owned by Reigate and Banstead Borough Council and is managed by Horley Town Council in partnership with the Borough, Sussex Wildlife Trust, Gatwick Greenspace Partnership and Horley Piscatorial Society. Season tickets for private fishing are available and the lake is stocked with carp, crucian carp and bream. In addition, Gatwick Stream, which borders the park's north eastern boundary, is home to several fish species including barbel, chub, dace and roach. There is a car park accessed from The Crescent in Horley and identified picnic areas.

Figure 1.2.1: The lake at Riverside Garden Park looking north west

1.2.3 NCR21 is routed through the south eastern portion of the park and provides a connection between the residential development at Horley and the South Terminal of Gatwick Airport. The wider NCR21 cycle route provides approximately 95 miles of cycling route between London Greenwich and Eastbourne.

Figure 1.2.2: NCR21 through Riverside Garden Park

1.2.4 This report outlines the survey carried out, including the methods used (Section 2) and the findings of the survey (Section 3). A discussion of the survey findings is provided in Section 4.

2 Methodology

2.1 Objectives

2.1.1 The objectives of the surveys were:

- to provide an understanding of the existing use of NCR21 through Riverside Garden Park and adjoining routes used by pedestrians and cyclists;
- to provide an understanding of the potential impacts on all NMUs arising from the construction and operation of the Project; and
- to inform the development of the mitigation and/or enhancement proposals in relation to the provision of facilities for NMUs.

2.1.2 The surveys aimed to provide robust baseline data on the level and type of use of this part of Riverside Garden Park and in particular NCR21.

2.1.3 The objectives of this report are as follows:

- to summarise the number of pedestrians and cyclists using NCR21 on a weekday, a weekend day and a bank holiday;
- to record the type of activities for which people use NCR21; and
- to draw conclusions of the typical uses of the NCR21 through Riverside Garden Park.

2.2 Survey Locations

2.2.1 The user surveys were undertaken at two locations along NCR21 which are shown on Figure 1.2.1 and are listed below. The surveyors moved between the two locations to avoid interaction with the large number of geese grazing along the shore of the lake. The survey locations were as follows:

- Location 1: On NCR21 at the end of the eastern end of the lake; and
- Location 2: On NCR21 between the lake and the Gatwick Stream.

2.2.2 The survey locations (see Figure 1.2.1) were identified to capture maximum NMU activity within the park. NCR21 is the main

surfaced route through Riverside Garden Park for recreational users and those travelling to work on cycle or foot.

Figure 2.2.1: Survey Locations

2.3 Scope of the Surveys

2.3.1 In order to establish the extent of use of NCR21 at the identified survey locations, the surveys were conducted using on site observers, who recorded the type and frequency of use and requested further information from users in the form of a questionnaire.

2.3.2 The spot count user surveys described in this report provide information about the nature and use of NCR21 within Riverside Garden Park from survey locations 1 and 2 on the following dates.

- Saturday 25 May 2019 (Bank Holiday Weekend);
- Monday 15 July 2019 (Weekday); and
- Sunday 11 August 2019 (Weekend).

2.3.3 The data recorded represent the situation at these locations on the days surveyed.

2.4 Survey Methodology

2.4.1 No methodology for the counting of pedestrians is included in the October 2019 version of the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 6 'LA 112 Population and Human Health' (formerly DMRB Volume 11, Section 3, Part 6 (Land), Volume 11, Section 3, Part 8 (Pedestrians, Cyclists, Equestrians and Community Effects) and Volume 11, Section 3, Part 9 (Vehicle Travellers)).

2.4.2 Accordingly, the methodology set out in the former Volume 11, Section 3, Part 8 (Highways Agency *et al*., 1993) has been used for the recreation user surveys on NCR21 within Riverside Garden Park. This states at Annex 1:

"Counts of pedestrian flows should be arranged so that the results are as representative as possible of typical flows. They should generally take place over two days, preferably spread out over a number of months, to avoid variations caused by the weather or local factors. Spring or autumn are likely to be the most appropriate times of year. In residential areas, counts taken on a weekday during school term time are likely to be most typical. In holiday or recreational areas, counts during the summer months will probably be required. All pedestrian journeys between 8 am and 6 pm should be counted and their direction indicated (in exceptional circumstances, longer hours may be needed to reflect local factors)."

2.4.3 This methodology focuses primarily on the collection of flow data to determine the number of people likely to be affected by changes to journey patterns and lengths as a result of a development. Whilst it is not intended to specifically cover recreational surveys, it provides a framework for collecting data on the use of linear routes by pedestrians and other NMUs. In this instance, the data collected has been extended to include cyclists, as well as capturing some of the characteristics and activities of users. The recreation surveys were undertaken in late Spring/Summer of 2019 due to programming restrictions. The surveys involved counting of total NMU movements, ie in both directions. However, it is considered that the results are as representative as possible of typical flows along this cycle route.

2.4.4 The survey dates were chosen to include a weekday (to reflect everyday use of NCR21), a weekend day and a bank holiday weekend (as this tends to coincide with the greatest level of use of NCR21 and the wider park). The surveys took place between 8 am and 6 pm, during the hours of daylight. The number and type of user was recorded within 30 minute intervals.

2.4.5 At the start of each survey day the ground and weather conditions were recorded and any significant changes during the day were noted. The surveyors were positioned as a pair at the survey location.

2.4.6 The surveyors recorded users of NCR21 in the following categories (see Annex 1):

- pedestrian (including dog walkers);
- cyclist; and
- other (eg runner or jogger).

2.4.7 Survey counts were limited to one recording per individual to avoid double-counting of individuals who used NCR21 multiple times per survey day.

2.4.8 In order to develop a more comprehensive understanding as to the purpose of existing use of NCR21 and the wider park, a questionnaire survey was also conducted. A copy of the questionnaire is provided at Annex 2. Users of NCA21 were asked to answer questions to enable data to be collected under the categories outlined below:

- resident/visitor (a visitor was defined as someone who lived outside of the study area, ie not in one of the settlements close to the new section of motorway corridor);
- activity being undertaken;
- purpose;
- time spent on the activity;
- start and finish location of activity;
- frequency of use of the public right of way;
- distance from primary residence;
- nature of party (eg family group);
- group size;
- whether dogs were accompanied by the user of the public right of way;
- age group; and
- gender (male / female).

2.4.9 Not all users observed using the public rights of way (PRoW) network during the surveys answered questions on the questionnaire. The reasons for this included the following:

- refusal;
- previously surveyed; and

- distance from survey location, e.g. some users observed were too far away to be questioned.

2.5 Survey and Analysis

2.5.1 This report presents the results of these user surveys within the area of Riverside Garden Park that may be affected by the Project, together with the results of the questionnaire responses.

2.5.2 The information gained from these user surveys is considered to be sufficient to provide an indication of the level and purpose of use of NCR21 and the broader area of open space within the park.

3 Survey Results

3.1 Survey Weather and Ground Conditions

3.1.1 The following weather conditions were experienced on the survey days as follows:

- Saturday 25 May 2019 (Bank Holiday Weekend) – Dry with cloud and sunny intervals (maximum 20ºC);
- Monday 15 July 2019 (Weekday) – Dry and warm with sunny intervals (maximum 21ºC); and
- Sunday 11 August 2019 (Weekend) – Warm with sunny intervals and some cloud and scattered light rain (maximum 20ºC)

3.1.2 The ground condition of NCR21 at both survey locations comprises a hard-surfaced tarmac path providing a shared route for pedestrians and cyclists.

3.1.3 The weather was good on all survey dates, and therefore the data collected is considered to represent normal levels of activity. The A23 is screened from the park by thick vegetation, and whilst road noise was discernible on all survey days, it did not appear to affect use of the park. Aircraft noise was also evident on all survey days due to the proximity of the park to the airport.

3.2 Level of Use

3.2.1 The completed user count survey sheets are included at Annex 1 and a summary of the results for each survey is provided in Table 3.2.1 below.

Table 3.2.1: Summary of User Count Surveys on NCR21

	Bank Holiday Weekend Saturday 25 May 2019 8 am – 6 pm (10 hours)	**Weekday Monday 15 July 2019 8 am – 6 pm (10 hours)**	**Weekend Sunday 11 August 2019 8 am – 6 pm (10 hours)**
No. of Pedestrian Movements	222	211	217
No. of Cyclist Movements	151	127 (+ a group of 14 school children on a cycling course)	111
No. of Jogger Movements	12	20	19
Others	5 mobility scooters	4 mobility scooters	3 mobility scooters
Total number of NMU movements	**390**	**362**	**350**

3.2.2 The surveys demonstrate that NCR21 within the park is well used at all times, ie on a weekday, a weekend day and on a bank holiday weekend. Some of the walkers and cyclists were also observed coming from/going to the informal path running alongside the southern side of the lake from NCR21.

3.2.3 On the bank holiday weekend of Saturday 25 May 2019 most of those walking along NCR21 were recreational users, approximately 30% of whom were walking a dog and who were observed at all times of the day. Peak activity for those without a dog was between 14:30 and 15:30. One family were observed walking through the park on their way back from holiday with suitcases. Approximately 4% of users observed were walking to/from their place of work. By contrast nearly 18% of cyclists were travelling to/from work and using NCR21 regularly throughout the day. Three people were observed fishing in the lake.

3.2.4 On Monday 15 July 2019 the majority (46%) of those walking along NCR21 were recreational users but there was a lower number of dog walkers (approximately 16.5%) and a higher number (nearly 20%) were walking to/from work than the numbers observed at the weekend. Peak activity was between 12 noon and 14:00 and included walkers using the park on their lunch break (approximately 10%). A larger number of holidaymakers (approximately 7.5%) were also observed walking through the park along NCR21 to/from the airport than had been the case at the weekend.

3.2.5 As expected, the majority (approximately 72.5%) of those cycling along NCR21 on the weekday were travelling to/from work, with the remainder (27.5%) being recreational cyclists. A slightly higher number of joggers were also observed on the weekday, with a slight peak between 12 noon and 13:00 and later in the day between 17:00 and 17:30.

3.2.6 Two people were observed fishing in the lake on the weekday.

3.2.7 On the weekend day of Sunday 11 August 2019 there were a similar number of pedestrians to those observed on the bank holiday and on the weekday. There were fewer dog walkers, with most observed between 08:00 and 09:30. There was a noticeable peak in walking activity between 09:30 and 10:30 in the morning, followed by a lunchtime/early afternoon peak between 12:30 and 15:00 and a later afternoon peak between 16:00 and 17:30. Cyclists were observed at all times of the day with a slight peak between 11:30 and 13:30. The majority of joggers were observed in the morning between 08:30 and 11:00. One person was observed fishing in the lake.

3.2.8 Approximately 60 questionnaires were completed over the three survey days. A summary of the questionnaire responses over all the survey days are detailed in Table 3.2.2 below. These were predominantly compiled from responses to those using NCR21 and the wider park for recreational purposes since those who were walking or cycling to/from work were generally reticent to stop and answer questions. It is worthy of note that some of those using the park were doing so either between flights at the airport or where they needed to stay overnight locally to catch their connecting flight the next day. It should also be noted that cyclists using NCR21 were more difficult to interview as they were generally travelling at a speed that made them more difficult to approach than pedestrians.

Table 3.2.2: Summary of Questionnaire Responses

Are you a resident of the area or are you a visitor?	
Resident	84%
Visitor	16%

What activity are you doing here today?	
Walking	88%
Running / Jogging	2%
Cycling	5%
Other (mobility scooter)	5%
How long will you spend on this activity today?	
Under 1 hour	80%
1 - 4 hours	18%
Over 4 hours	2%
How often do you use this route?	
More than once a week	72%
More than once a month	13%
More than twice a year	0%
More than once a year	0%
Less than the above	15%
How far away from here do you live?	
Under 2 miles	80%
2 - 5 miles	6%
6 - 10 miles	1.5%
11 - 20 miles	1.5%
Up to 100 miles	0%
Elsewhere in the UK	3%
Elsewhere in the World	8%
What is the nature of your party?	
A single person	61%
A group of young people all under 25	3%
A group of adults	18%
A group of people all over 60	5%
A family group	13%
An organised group	0%
Does the user have a dog with them (or more than one)?	
Yes	51%
No	49%
Age group of users?	
Below 15 years	11%
16 - 60 years	68%
Over 60 years	21%
Sex of user?	
Male	56%
Female	44%

3.2.9 The questionnaire responses indicate the following user trends along NCR21, the connecting network of paths and the wider park.

- The majority of users are local residents (84%).
- The main activity is walking (88%).
- Most users spend under an hour on their activity (80%).
- The majority of those using the park do so frequently, ie more than once a week (72%)'
- Most users live within two miles of Riverside Garden Park (80%).
- Most users comprise a single person group (61%).
- There is an almost even split between those walking dogs and those without a dog.
- Most users fall within the 16-60 age group.
- There are slightly more male users (56%).

3.2.10 The results from both the user count survey and the questionnaire illustrate that NCR21 within Riverside Garden Park is a well-used resource, primarily by local residents who live close to the park, for recreational purposes and as a means of access on foot or cycle to their place of work.

4 Conclusions

4.1.1 The surveys carried out on the three survey days between May and August 2019 provide an indication of the quantity and characteristics of the usage of NCR21 and the wider park on both a weekday, a weekend day and on a weekend bank holiday day. These can be summarised by the below statements.

- NCR21 and the wider park are well used by pedestrians and cyclists on all days of the week.
- It was observed on all survey days that the car park within Riverside Garden Park is also well used, with pedestrians observed accessing the western area of the park away from NCR21. This use was not recorded as part of the surveys.
- The users are comprised of those who use NCR21 to get to and from their place of work, either on foot or by cycle and local residents who use the route and the wider park as a recreational resource.
- During the week it was observed that Riverside Garden Park is also used as a resource for airport workers during lunch breaks.
- The surveys identified a number of pedestrians who use the park as a resource either between flights at the airport or as a means of accessing local accommodation between connecting flights where these require an overnight stay.

4.1.2 It is considered that both the level of use and range of activities recorded on the survey days at this location and the characteristics of the users are likely to reflect those that may be expected during similar times of the week throughout the year and under similar weather conditions.

4.1.3 Taking into account the observed use of NCR21, the connecting paths and the wider area of public open space, it is clear that Riverside Garden Park is a well-used resource by local residents, airport workers and visitors both on foot and by cycle. Any proposals that have the potential to disrupt the land or routes within the park would need to take careful account of this and develop a package of well thought out mitigation measures to ensure that pedestrian and cyclist access is maintained, particularly between Horley, Gatwick airport and Horley/Gatwick train stations within a well vegetated area of public open space. In the event that land within Riverside Garden Park is lost, this mitigation package would require the provision of additional land to serve as public open space within the local neighbourhood.

5 References

Highways Agency, Transport Scotland, Welsh Assembly Government and The Department for Regional Development Northern Ireland (1993) Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 8 Pedestrians, Cyclists, Equestrians and Community Effects.

6 Glossary

6.1 Glossary of Terms

Term	Description
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment

Term	Description
GAL	Gatwick Airport Limited
NCR	National Cycle Route
NMU	Non-motorised users
PEIR	Preliminary Environmental Information Report
PRoW	Public Right of Way

Annex 1

Recreation User Count Survey Sheets

Surveyors	Julia Tindale and Eunice Stephenson
Location	Riverside Garden Park - National Cycle Route 21
Date	Saturday 25 May 2019
Weather conditions	Dry with cloud and sunny intervals – maximum 20ºC

Time	Walker	Cyclist	Jogger	Other	Comment
08:00-08:30	5	2	1	0	
08:30-09:00	8	0	0	0	
09:00-09:30	4	5	0	0	
09:30-10:00	7	2	0	0	
10:00-10:30	10	2	2	1	Mobility scooter
10:30-11:00	12	7	1	0	
11:00-11:30	6	9	1	0	
11:30-12:00	8	7	0	0	
12:00-12:30	6	20	0	0	
12:30-13:00	9	11	0	0	
13:00-13:30	16	11	1	0	
13:30-14:00	7	10	1	0	
14:00-14:30	8	14	0	0	
14:30-15:00	31	13	0	0	
15:00-15:30	25	11	0	1	Mobility scooter
15:30-16:00	12	4	0	1	Mobility scooter
16:00-16:30	11	14	0	1	Mobility scooter
16:30-17:00	11	3	0	1	Mobility scooter
17:00-17:30	14	2	3	0	
17:30-18:00	12	4	2	0	
Totals	**222**	**151**	**12**	**5**	

Surveyors	Eunice Stephenson and Anna Gillespie
Location	Riverside Garden Park - National Cycle Route 21
Date	Monday 15 July 2019
Weather conditions	Dry and warm with sunny intervals – maximum 21ºC

Time	Walker	Cyclist	Jogger	Other	Comment
08:00-08:30	2	6	0	0	
08:30-09:00	11	10	0	0	
09:00-09:30	4	5	0	0	
09:30-10:00	5	3	0	0	
10:00-10:30	6	2	0	0	
10:30-11:00	9	0	0	0	
11:00-11:30	6	4	1	0	
11:30-12:00	12	4	0	0	
12:00-12:30	9	5	2	0	
12:30-13:00	19	6	5	0	
13:00-13:30	19	3	1	0	
13:30-14:00	13	2	0	0	
14:00-14:30	12	4	2	0	
14:30-15:00	6	2	2	0	
15:00-15:30	10	7	1	1	Mobility scooter
15:30-16:00	10	7	0	1	Mobility scooter
16:00-16:30	10	12	0	0	
16:30-17:00	11	13	1	0	
17:00-17:30	19	15	4	2	Mobility scooters
17:30-18:00	18	17	1	0	
Totals	**211**	**127**	**20**	**4**	

Surveyors	Anna Gillespie and David Gabb
Location	Riverside Garden Park - National Cycle Route 21
Date	Sunday 11 August 2019
Weather conditions	Warm with sunny intervals and some cloud and scattered rain -maximum 20^{o}C

Time	Walker	Cyclist	Jogger	Other	Comment
08:00-08:30	5	5	0	0	
08:30-09:00	8	3	6	0	
09:00-09:30	6	6	6	0	
09:30-10:00	15	4	1	0	
10:00-10:30	15	6	1	0	
10:30-11:00	2	3	3	0	
11:00-11:30	6	4	0	0	
11:30-12:00	10	12	0	0	
12:00-12:30	6	12	0	0	
12:30-13:00	15	6	0	0	
13:00-13:30	24	10	0	0	
13:30-14:00	11	4	0	1	Mobility scooter
14:00-14:30	19	3	0	1	Mobility scooter
14:30-15:00	13	9	0	0	
15:00-15:30	8	1	0	0	
15:30-16:00	7	2	0	0	
16:00-16:30	13	10	1	1	Mobility scooter
16:30-17:00	20	7	1	0	
17:00-17:30	10	2	0	0	
17:30-18:00	4	2	0	0	
Totals	**217**	**111**	**19**	**3**	

Annex 2

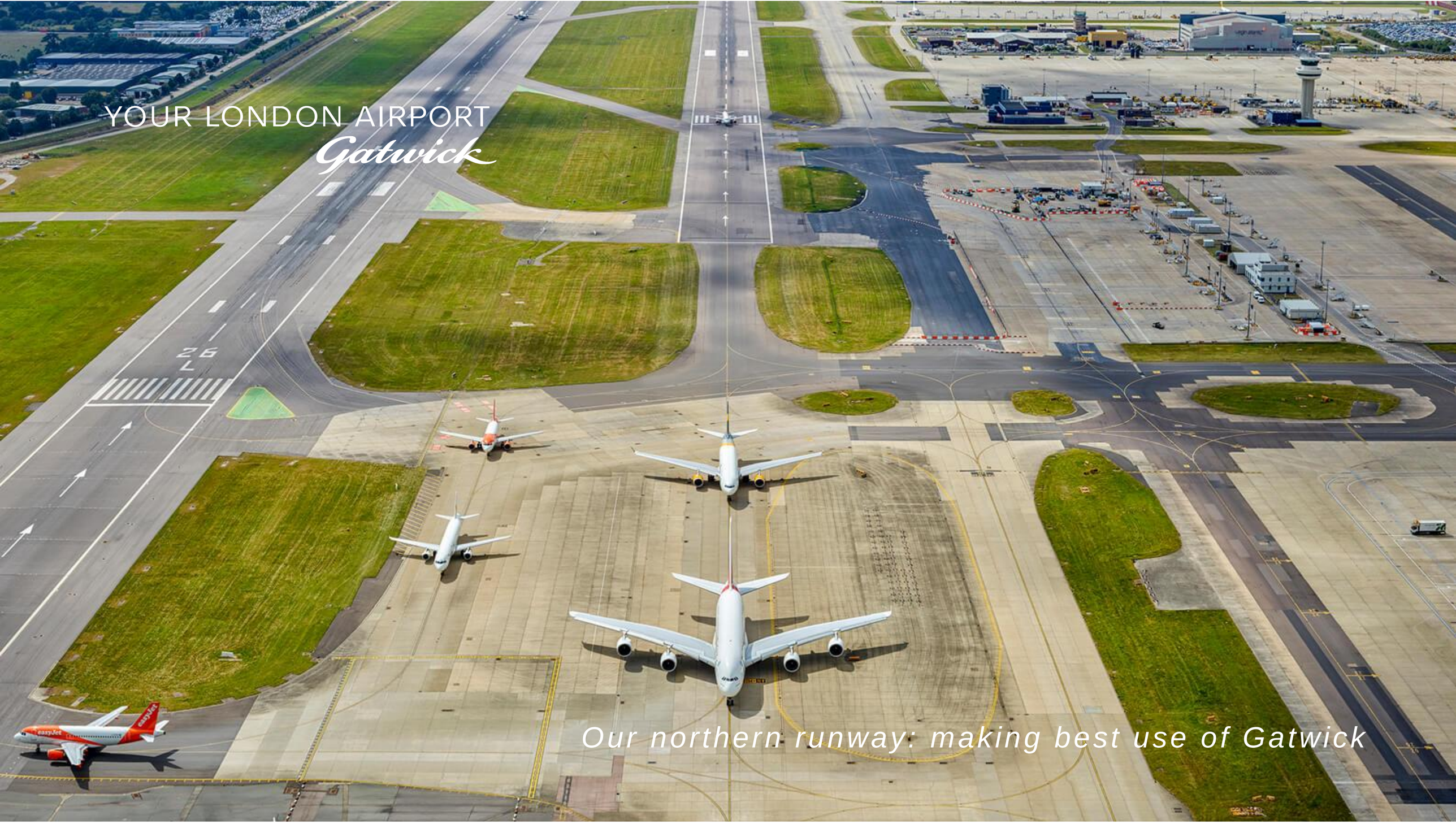
Recreation Questionnaire Proforma

Interviewers		**Date**	
Location	Riverside Garden Park – NCNR 21	**Time**	
Weather conditions			
1	**Are you a resident of the area or are you a visitor?**		
1	Resident		
	Please specify location:		
2	Visitor		
	Please specify location:		
2	**What activity are you doing here today?**		
1	Walking		
2	Running/Jogging		
3	Cycling		
4	Horse riding		
5	Riding/Driving powered vehicle		
6	Other, please specify:		
3	**How long will you spend on this activity today?**		
1	Under 1 hour		
2	1 to 4 hours		
3	Over 4 hours		
5	**Where did you start from your activity today?**		
1	Specify location		
6	**Where will you finish your activity today?**		
1	Specify location		
7	**How often do you use this route?**		
1	More than once a week		
2	More than once a month		
3	More than twice a year		
4	More than once a year		
5	Less than the above		

8	**How far away from here do you live?**	
1	Under 2 miles	
2	2 – 5 miles	
3	6 – 10 miles	
4	11 – 20 miles	
5	21 – 30 miles	
6	31 – 100 miles	
7	Elsewhere in the UK	
9	Elsewhere in the World	
	Thank you for your time and trouble in giving this information	

	ADDITIONAL INFORMATION – TO BE RECORDED	
9	**Nature of the party?**	
1	A single person	
2	A group of young people all under 25	
3	A group of adults	
4	A group of people all over 60	
5	A family group	
6	Organised party	
10	**Number of people in the party/group?**	
1	1	
2	2	
3	Up to 5	
4	Up to 10	
6	Over 10	
11	**Does the person/party have a dog with them (or more than one)?**	
1	Yes	
2	No	
12	**Age group of person/party?**	
1	Below 15 years	
2	16 – 60 years	
3	Over 60 years	

13	**Sex of person/party?**	
	Male	
	Female	



Preliminary Environmental Information Report
Appendix 19.4.1: Cumulative Effects Assessment Long and Short List

September 2021

'Other development' details

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
Tier 1 - Planning Applications												
Crawley Borough Council												
1	Crawley Borough Council	CR/2017/0997/OUT	Inspired Asset Management application for demolition of existing building and erection of residential-led scheme incorporating retail at ground level with six storey residential flats (10 x studios, 55 x one bed and 13 x two bed) above.	3.4	527192	136870	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0997/OUT#documents	1	N	Permitted on 14/02/2019	1.23ha	No
2	Crawley Borough Council	CR/2016/0858/ARM	Persimmon Homes Ltd application for Approval for Reserved Matters for Phase 3 Employment Building, car parking, internal access roads, footpaths, parking and circulation areas, hard and soft landscaping and other associated infrastructure and engineering works.	1.6	528829	139135	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0858/ARM	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted on 31/01/2019	2.74ha	Yes
3	Crawley Borough Council	CR/2016/0083/ARM	Persimmon Ltd & Taylor Wimpey Ltd application for approval of reserved matters for phase 2c for the erection of 249 dwellings, car parking including garages, internal access roads, footpaths, parking and circulation area, hard and soft landscaping and other associated infrastructure and engineering works (revised description and amended plans received). NMA app - CR/2016/0083/NM1	2.1	529144	138653	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0083/ARM#documents	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted on 31/01/2019	4.7ha	Yes
4	Crawley Borough Council	CR/2018/0433/FUL	Goya Developments & BP2017 (Crawley) LLP application for construction of a single new building of 3,093m2 GEA falling within use classes B1(b), B1(c), B2 & B8	1.3	526960	138980	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0433/FUL#documents	1	N	Permitted on 07/01/2019	0.57ha	No
5	Crawley Borough Council	CR/2018/0341/FUL	Arcus PDC application for part 8/part 6 storey building to provide a total of 98 flats on car-park land fronting Northgate Avenue	3.5	527323	136827	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0341/FUL	1	N	Permitted on 16/08/2018	0.43ha	No
6	Crawley Borough Council	CR/2017/1057/FUL	Brook & Churches Ltd application for Demolition of existing showroom & redevelopment of site to B1 office and associated parking and landscaping.	1.9	528342	138695	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/1057/FUL#documents	1	N	Permitted on 09/08/2018	0.44ha	No
7	Crawley Borough Council	CR/2016/0089/FUL	Arcus PDC application erection of a part 8 and part 6 storey building to provide a total of 90 flats, with associated parking, landscaping and frontage service bay on car park land fronting northgate avenue	3.5	527323	136827	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0089/FUL#documents	1	N	Permitted on 14/03/2018	0.43ha	No
97	Crawley Borough Council	CR/2015/0435/FUL	Allocation within Crawley Local Plan 2030 (Adopted). Windsor Developments Limited application for construction of an industrial warehouse building comprising three units, a, b and c, to provide b2 and b8 usage, together with associated parking and amenity space	1.2	526509	139023	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0435/FUL#documents	1	N	Permitted on 09/08/2018	0.59ha	No
9	Crawley Borough Council	CR/2016/0962/ARM	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Persimmon Homes & Taylor Wimpey application for Approval of Reserved Matters for approval of reserved matters for phase 3b for 151 dwellings and associated works pursuant to cr/2015/0552/ncc for a mixed use neighbourhood	2.2	529966	138952	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0962/ARM	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted on 11/12/2017	4.59ha	Yes
10	Crawley Borough Council	CR/2017/0125/ARM	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Persimmon Homes & Taylor Wimpey application for vary conditions pursuant to application cr/1998/0039/out for a new mixed use neighbourhood at forge wood, crawley	2.3	529966	138952	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0125/ARM#documents	1	Y - with the updated outline application (CR/2015/0552/N	Permitted on 27/10/2017	4.26ha	No
11	Crawley Borough Council	CR/2017/0127/ARM	Persimmon Homes & Taylor Wimpey application for Approval of Reserved Matters for Phase 4 Road and Drainage Infrastructure, Noise fence, Sports Pitches, Changing Room Building, LEAP, car parking, internal access roads, footpaths, parking and circulation areas, hard and soft landscaping and other associated infrastructure and engineering works.	2.3	529966	138952	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0127/ARM#documents	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted on 26/10/2017	Not stated.	No
12	Crawley Borough Council	CR/2017/0116/FUL	Boeing Commercial Air Services Europe Ltd and Gatwick for Construction of a new hangar and other associated works including aircraft apron, connection to taxiway 'Uniform', vehicle parking and external parts storage area, fire suppression plant, diversion of Larkins Road and realigned security fencing, drainage and lighting, together with associated landscaping and ecological mitigation and enhancement works	0.0	526070	140927	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0116/FUL#documents	1	N	Permitted on 19/10/2017	10.44ha	No
13	Crawley Borough Council	CR/2016/0501/FUL	Colsilverbird C SARL application for creation of a car park to provide up to 401 spaces for use in conjunction with nova and astral towers	1.2	526810	139034	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0501/FUL#documents	1	N	Permitted on 01/09/2017	0.8ha	No
14	Crawley Borough Council	CR/2016/0662/FUL	Haywards Heath Investments LDA application for demolition of existing car park and the erection of a part 3 storey, part 6 storey & part 9 storey building to provide a total of 91 flats with associated parking	3.4	526871	136849	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0662/FUL#documents	1	N	Permitted on 19/07/2017	0.27ha	No
15	Crawley Borough Council	CR/2016/0114/ARM	Persimmon Homes & Taylor Wimpey APPROVAL OF RESERVED MATTERS FOR PHASE 2D FOR THE ERECTION OF 75 DWELLINGS, CAR PARKING INCLUDING GARAGES, INTERNAL ACCESS ROADS, FOOTPATHS, PARKING AND CIRCULATION AREA, HARD AND SOFT LANDSCAPING AND OTHER ASSOCIATED INFRASTRUCTURE AND ENGINEERING WORKS AND NOISE BARRIER COMPRISING BUND AND ACOUSTIC FENCE PURSUANT TO OUTLINE PLANNING PERMISSION CR/2015/0552/NCC FOR A NEW MIXED USE NEIGHBOURHOOD (AMENDED DOCUMANTS AND PLANS RECEIVED)	2.1	529144	138653	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0114/ARM#documents	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted on 28/04/2017	4.7ha	Yes
16	Crawley Borough Council	CR/2016/0600/FUL	application for permanent permission previously permitted on a temporary basis under CR/2015/0041/FUL for change of use to clay pigeon shooting area and erection of shed	5.4	527348	134512	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0600/FUL#documents	1	N	Permitted on 21/03/2017	Not stated.	No
17	Crawley Borough Council	CR/2016/0780/ARM	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Persimmon Homes & Taylor Wimpey application for approval of reserved matters for phase 3a for 225 dwellings and associated works pursuant to outline planning permission cr/2015/0552/ncc for a mixed use neighbourhood	2.2	529966	138952	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0780/ARM#documents	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted on 20/03/2017	6.24ha	Yes
18	Crawley Borough Council	CR/2016/0722/FUL	Private developer application for erection of three B8 24 hour operation warehouses	1.8	527503	138575	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0722/FUL#documents	1	N	Permitted on 19/01/2017	1.62ha	No
19	Crawley Borough Council	CR/2015/0695/FUL	Boeing UK Training and Flight Services Ltd application for proposed extensions to flight training centre	1.7	527272	138562	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0695/FUL#documents	1	N	Permitted on 02/09/2016	1ha	No
20	Crawley Borough Council	CR/2016/0048/ARM	Persimmon Homes & Taylor Wimpey application for approval of reserved matters for phase 1 for the erection of a primary school with sports pitches and courts, playing fields, playground, car and cycle parking, internal access roads, footpaths and circulation areas, hard and soft landscaping, and other associated infrastructure and engineering works (amended plans received)	2.2	529144	138653	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0048/ARM#documents	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted on 07/06/2016	2.78ha	No
21	Crawley Borough Council	CR/2015/0720/FUL	British Land Retail Warehouses Ltd application for erection of single storey warehouse unit (b8) with associated two storey office accommodation	2.8	526691	137453	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0720/FUL#documents	1	N	Permitted on 29/02/2016	1.37ha	No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
22	Crawley Borough Council	CR/2015/0524/RG3	Crawley Borough Council application for change of use of land to new cemetery with new pedestrian and vehicular access off the a264, new bus stop facilities and signal controlled pedestrian crossing, removal of existing trees, re-profiling of existing levels, new carriageway and footway infrastructure, boundary fencing and gates, surface water drainage, street lighting, soft landscaping and tree planting, operational compound and multi purpose facilities building	6.9	525827	133390	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0524/RG3	1	N	Permitted on 11/11/2015	4.9ha	No
23	Crawley Borough Council	CR/2015/0097/FUL	Papergraphics Ltd application for construction of an industrial warehouse building comprising three units, a, b and c, to provide b2 and b8 usage, together with associated parking and amenity space	2.3	527391	137964	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0097/FUL#documents	1	N	Permitted on 13/05/2016	0.44ha	No
123	Crawley Borough Council	CR/2015/0609/FUL	Inspired Asset Management application for demolition of existing building and erection of residential-led scheme incorporating retail at ground level with six storey residential flats (10 x studios, 55 x one bed and 13 x two bed) above. Key Housing Site Allocation for 57 dwellings under Local Plan. Granted PP CR/2015/0609/FUL for 78 units in 2016 with an NMA granted in 2019.	3.6	526938	136637	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0609/FUL	1	N	Permitted on 20/04/2016	0.17ha	No
25	Crawley Borough Council	CR/2014/0437/FUL	Harwoods Group application for erection of new car showroom, vehicle servicing workshops and smart repair workshop, all with associated storage, delivery & administration facilities, car parking and landscaping	2.0	527512	138332	https://planningregister.crawley.gov.uk/Planning/Display/CR/2014/0437/FUL#documents	1	N	Permitted on 09/01/2015	2.57ha	No
26	Crawley Borough Council	CR/2014/0102/FUL	South East Coast Ambulance Service NHS Foundation application for erection of new ambulance make ready centre (mrc) and hazardous area response team unit	1.9	527585	138429	https://planningregister.crawley.gov.uk/Planning/Display/CR/2014/0102/FUL	1	N	Permitted on 09/07/2014	0.50ha	No
27	Crawley Borough Council	CR/2013/0517/OUT	Minelock Ltd application for extension of time limit for cr/2009/0352/out - outline application for demolition of 45 ifield road and erection of 218 flats together with creche, gym, management estates office and basement car park	3.2	526506	136622	https://planningregister.crawley.gov.uk/Planning/Display/CR/2013/0517/OUT#documents	1	N	Permitted on 04/03/2014	not stated	No
28	Crawley Borough Council	CR/2015/0788/CON	Consultation from Gatwick Airport Ltd for a temporary two-bay aircraft maintenance hangar and associated development.	0.0	526963	141328	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0788/CON	1	N	Permitted 04/02/2016	0.5ha	No
29	Crawley Borough Council	CR/2016/0860/CON	Consultation from Gatwick Airport Ltd for an extension to Gatwick Airport Waste Care Centre	0.0	526668	140856	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0860/CON	1	N	Permitted - 17/02/2018	0.01ha	No
30	Crawley Borough Council	CR/2017/0523/CON	Consultation from Gatwick Airport Ltd for construction of a single decked car park over the existing surface car park zones F & G in the south terminal long stay car park to provide additional passenger parking	0.0	529351	140683	https://planningregister.crawley.gov.uk/Planning/Display/CR%2F2017%2F0523%2FCON	1	N	Permitted 04/07/2018	2.8ha	No
31	Crawley Borough Council	CR/2018/0373/CON	Consultation from Gatwick Airport LTd for reconfiguration of three stands on PEIR 5, north terminal to provide a Code F stand	0.0	527493	141561	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0373/CON	1	N	Permitted - 27/07/2018	Not stated	No
32	Crawley Borough Council	CR/2018/0481/CON	Consultation from Gatwick Airport Limited for works to realign part of Quebec Taxiway	0.0	527434	141119	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0373/CON	1	N	Permitted - 27/07/2018	7.5ha	No
33	Crawley Borough Council	CR/2017/1010/FUL	Erection of an effluent treatment plant to the rear service yard consisting of a shipping container size unit and assocaited underground draiange pipes	0.0	526857	140105	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/1010/FUL	1	N	Permitted 09/03/2018	7.5ha	No
34	Crawley Borough Council	CR/2013/0048/FUL	Demolition of existing building and erection of a two storey block and single storey workshop unit	0.0	527085	140026	https://planningregister.crawley.gov.uk/Planning/Display/CR/2013/0048/FUL	1	N	Permitted 07/08/2014	0.64ha	No
35	Crawley Borough Council	CR/2013/0610/ARM	Approval of reserved matters for 204 dwellings and related works pursuant to CR/1998/0039/OUT for the erection of up to 1900 dwellings, 5000sqm og use class B1, B2 and B8 employment floorspace, 2500 sqm of retail floorspace a local community centre, a new primary school, recreational open space, landscaping, the relcoation of 123kv OHV power line adjacent to M23, infrastrucutre and means of access	2.3	529356	139407	https://planningregister.crawley.gov.uk/Planning/Display/CR/2013/0610/ARM	1	Y - with the updated outline application (CR/2015/0552/NCC)	Permitted 14/03/2014	4.26ha	No
36	Crawley Borough Council	CR/2017/0544/FUL	Temporary change of use from a warehouse (class B8) to light industrial	0.0	526635	141310	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0544/FUL	1	N	Permitted 24/08/2017	0.43ha	No
37	Crawley Borough Council	CR/2016/0972/FUL	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Richmond Care Villages Holdings Ltd application demolition of existing buildings and erection of a continuing care retirement community (class c2)	4.2	526244	136043	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0972/FUL#documents	1	N	Permitted on 05/10/2018	1.57ha	No
38	Crawley Borough Council	CR/2017/0974/FUL	East Street Homes (South East) Ltd application for Demolition of existing building and erection of a new part 3/part 4 and part 5 storey building containing 66 no. 1 and 2 bedroom apartments	4.0	527010	136282	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0974/FUL#documents	1	N	Permitted on 04/09/2018	0.30ha	No
39	Crawley Borough Council	CR/2017/0589/FUL	Wrenbridge (PCDF IV Crawley) LLP application for Erection of a building comprising two units for B1(c) (Light Industrial), B2 (General Industrial) and/or B8 (Storage or Distribution)	2.3	527325	137979	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0589/FUL#documents	1	N	Permitted on 30/01/2018	0.9ha	No
40	Crawley Borough Council	CR/2016/1020/FUL	Surrey County Council application for Erection of one B1 operations building and one B1/D1 training & office building, both with ancillary uses and associated landscaping and car parking	2.1	528282	138490	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/1020/FUL#documents	1	N	Permitted on 19/05/2017	2.18ha	No
131	Crawley Borough Council	CR/2015/0389/FUL	Barratt David Wilson application for erection of 193 dwellings. Ifield Community College - Key Housing Site Allocation for 125 dwellings under Local Plan. Granted PP CR/2015/0389/FUL in 2015 for a total of 193 housing units.	2.3	525177	137206	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0389/FUL	1	N	Permitted on 23/12/2015	3.64ha	No
42	Crawley Borough Council	CR/2016/0294/OUT	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Rockspring UK Value Crawley (Jersey) Ltd C/O Arora application for demolition of existing office building and integrated railway station building, footbridges and ancillary structures together with erection of 308 studio, 1, 2 and 3 bedroom residential apartments and associated parking (C3 Use Class); integrated railway station building, footbridges, and ancillary structures; flexible use retail / coffee shop / business centre (A1 / A3 / B1 Use Classes); 120 space multi-deck station car park, vehicle drop-off lay-by and associated highway works and public realm enhancements. (Outline application with all details reserved)	3.9	527050	136325	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0294/OUT#documents	1	N	Permitted on 16/08/2016	2.10ha	No
43	Crawley Borough Council	CR/2019/0157/FUL	Alterations to ground floor to create 15 additional hotel rooms, new food and drinks area, reposition of kitchen, facede alterations and alterations to car park	0	527276	140125	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0157/FUL		N	Submitted - 24/04/2019	0.66ha	No
44	Crawley Borough Council	CR/2018/0400/FUL	Maizelands Limited & Arringford Limited application for Demolition of existing unit and redevelopment of the site to provide a modern employment unit of 3,255 sq m (GIA) for flexible employment purposes within use classes B1c/B2/B8	1.8	527662	138606	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0400/FUL	1	N	Withdrawn on 21/01/2019	0.65ha	No
45	Crawley Borough Council	CR/2018/0473/FUL	CAE Training and Services UK Ltd application to Develop existing Diamond Point building to provide a Flight Training Facility. The proposal is to add a mezzanine floor, external plant rooms, Sprinkler tank and additional car parking spaces in lieu of HGV parking bays. Change of Use from B1 to Sui-Generis.	1.5	527799	138960	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0473/FUL#documents	1	N	Permitted 14/03/2014	1.90ha	No
46	Crawley Borough Council	CR/2018/0544/OUT	Allocation in Crawley Local Plan 2030 (Adopted).Homes England application for up to 150 residential units; new site access from Birch Lea with enhanced access from Kenmara Court, demolition of the existing Oakwood Football Club	2.1	528649	138518	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0544/OUT#documents	1	N	Refused	11.7ha	Yes

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
47	Crawley Borough Council	CR/2018/0273/FUL	Network Rail application for the proposed; 'Construction of; a new station concourse / airport entrance area, link bridges, platform canopies, back of house (BoH) TOC accommodation building and associated improvement works at Gatwick Airport Station. NMA app - CR/2018/0273/NM1	0.1	528705	141305	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0273/FUL#documents	1	N	Permitted on 19/03/2019	1.54ha	No
48	Crawley Borough Council	CR/2017/0810/FUL	WT Lamb Holdings Ltd Planning application for the temporary use (for a period of 5 years) of the site as a Park and Ride car park, comprising 892 car parking spaces (814 long stay) and associated infrastructure including offsite highway improvements and the temporary conversion of the existing bungalow into associated office space.	1.2	529800	141207	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0810/FUL	1	N	Target decision date was 08/01/2018, no decision has been made	2.78ha	Yes
155	Crawley Borough Council	CR/2018/0894/OUT	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Outline Application for up to 185 residential dwellings with associated vehcile and pedestrian access via steers lane, car parking and cycle storage and landscaping (all matters reserved except access)	1.3	529463	139568	https://planningregister.crawley.gov.uk/Planning/Display/CR%2F2018%2F0894%2FOUT	1	N	Taget decision March 2019. No decision has been made	5.5ha	Yes
102	Crawley Borough Council	CR/2014/0760/FUL	Crawley Local Plan 2030 (Adopted). Part of the Manor Royal Main Employment Area Site Allocation. Planning permission, subject to legal agreement, for erection of two office buildings, a four and a half storey decked car park, a single storey decked car park and surface car parking with landscaping and new access from private roads linking to Fleming Way and London Road.	1.5	527184	138773	https://planningregister.crawley.gov.uk/Planning/Display/CR/2014/0760/FUL	1	N	Granted - 11/03/2015	2ha	Yes
158	Crawley Borough Council	CR/2016/0997/FUL	Part of the Manor Royal Main Employment Area Site Allocation under Local Plan. DEMOLITION OF 3 EXISTING OFFICE BUILDINGS AND ERECTION OF A NEW B1(A) OFFICE BUILDING. The Employment Trajectory identifies this 0.8 hectare site which is of sufficient size to provide some 10,960 sqm for buisness space, 10,960 sqm for office space. PP CR/2016/0997/FUL was granted in 2018 for a new B1(A) office building of 12,930m2.	2.0	528358	138667	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0997/FUL	1	N	Granted - 04/01/18	2.2ha	Yes
159	Crawley Borough Council	CR/2012/0134/OUT	Allocation in Crawley Local Plan 2030 (Adopted). OUTLINE APPLICATION FOR ERECTION OF A MIXED USE EMPLOYMENT PARK TO INCLUDE USE CLASSES B1C (LIGHT INDUSTRIAL), B2 (GENERAL INDUSTRIAL), B8 (STORAGE AND DISTRIBUTION) AND A BUSINESS HUB ACCOMMODATING A MIX OF USES, INCLUDING B1A (OFFICES), B1C (LIGHT INDUSTRIAL), B8 (STORAGE AND DISTRIBUTION), C1 (HOTEL), A1 (RETAIL), A3 (RESTAURANTS AND CAFES), A5 (HOT FOOD TAKE-AWAY) AND CAR DEALERSHIPS (SUI-GENERIS)	2.4	527781	138015	https://planningregister.crawley.gov.uk/Planning/Display/CR/2012/0134/OUT	1	N	Granted 2013	12.5ha	Yes
160	Crawley Borough Council	CR/2017/0921/FUL	Allocation in Crawley Local Plan 2030 (Adopted). EXTERNAL ALTERATIONS AND EXTENSIONS TO EXISTING BUILDING IN CONNECTION WITH ITS USE AS 111 FLATS (USE CLASS C3), TOGETHER WITH SITE WORKS INCLUDING LANDSCAPING	3.0	526932	137226	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0463/FUL and https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0921/FUL	1	N	Granted Feb 2016	1.6	No
162	Crawley Borough Council	CR/2017/0997/OUT	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Hybrid application for construction of a new town hall and offices, associated car parking, 182 residential units and commercial space (ca. 15,000m2 of non-residential floor space).	3.3	527156	136852	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0997/OUT	1	N	Granted 14/02/19	2.9	Yes
163	Crawley Borough Council	CR/2017/0444/FUL	Redevelopment of Kilnmead Car Park for residential comprising 37 affordable housing units with associated parking & landscaping (amended plans received)	3.8	527081	136989	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0444/FUL	1	N	Granted 30/01/2018	0.52	No
164	Crawley Borough Council	CR/2014/0764/OUT	Hybrid application approved subject to legal agreement. Full application for Parcel 2; 1 x 4 storey, 6,720 sq.m B1(a) building (including 3,544 sqm Sui Generis). Outline application for Parcel 1 (2 x B1(a) buildings totalling 13,840sq.m) and Parcel 3 (3 x A1 and A3/A5 buildings totalling 1,025 sq.m). Assumes 78.8% of site area (4.1ha) is included in trajectory (after taking into account non B class uses)	2.4	528206	138657	https://planningregister.crawley.gov.uk/Planning/Display/CR/2014/0764/OUT	1	N	Granted 05/05/2015	4.12	No
199	Crawley Borough Council	CR/2019/0681/FUL	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Additional storey to provide a further 9 flats (6 x 1 bed and 3 x 2 bed)	5.37	527010	136282	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0681/FUL	1	N	Granted	0.31	No
200	Crawley Borough Council	CR/2018/0139/FUL	District Energy Centre Building as part of the wider Town Hall Redevelopment (CR/2017/0997/OUT) and other Developments within Crawley Town Centre)	4.85	527192	136870	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0139/FUL	1	N	Permitted 23/11/2018	0.127	No
201	Crawley Borough Council	CR/2019/0694/OUT	Up to 185 residential dwellings (Duplicate outline application) - Land at Steers Lane, Crawley	2.25	529499	139542	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0694/OUT	1	N	Granted	5.5	No
202	Crawley Borough Council	CR/2019/0660/FUL	Up to 81 residential apartments plus retail and remodelled station (Station Way)	5.32	527050	136325	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0660/FUL	1	N	Granted	0.11	No
203	Crawley Borough Council	CR/2019/0696/FUL	Industrial warehouse (B2/B8) - this is 0.7 ha but adjacent to LGW s omay be worth reviewing further.	11.91	526509	139023	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0696/FUL	1	N	Granted	0.69	No
204	Crawley Borough Council	CR/2019/0521/FUL	1D Gatwick Gate - external alterations including 3.03m high security fence, lighting, crossings etc.	9	527150	140189	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0521/FUL	1	N	Permitted 30/09/2019	0.582372	No
205	Crawley Borough Council	CR/2019/0542/FUL	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Demolition of Nightclub and construction of 152 apartments plus commercial/retail (Moka, Station Way)	5.2	527142	136342	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0542/FUL	1	N	Permitted 04/04/2020	0.36	No
206	Crawley Borough Council	CR/2019/0545	Demolition of existing barn abd Bungalow Wings and construction of new dog kennel facility and Greyhound Trust HQ offices. (Conditions relating to 17/01956/F) (approx. 1.1 ha)	2.1	530508	141924	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0545/CON	1	N	Granted	NA	No
207	Crawley Borough Council	CR/2019/0330/FUL	New 4 bed dwelling (0.58 ha) (Pound Hill, Crawley)	4.99	530207	136341	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0330/FUL	1	N	Granted	0.6298	No
208	Crawley Borough Council	CR/2019/0242/FUL	British Airways Maintenance Base Hangar 6 (replacement works)	0	527921	140191	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0242/FUL	1	N	Granted	0.1572	No
209	Crawley Borough Council	CR/2019/3003/EIA	EIA Screening Request for Multi Storey Car Park and LGW North Terminal	0	NA	NA	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/3003/EIA	1	N	N/A	NA	No
260	Crawley Borough Council	CR/2019/0696/FUL	Erection of a warehouse building to provide B8 use together with associated car parking and landscaping (amended plans and description)	1.2	526509	139023	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0696/FUL	1	N	Submitted - 18/09/19	0.62	No
261	Crawley Borough Council	CR/2019/0190/191	Certificate of lawfulness for an existing development to confirm that works undertaken on site are pursuant to planning permission Ref CR/2015/0720/FUL, comprise commencement of development and that the planning permission has been lawfully commenced	2.8	526691	137453	https://planningregister.crawley.gov.uk/Planning/Display/CR%2F2019%2F0190%2F191	1	N	Permitted on 15/05/2019	1.37ha	No
262	Crawley Borough Council	CR/2015/0322/FUL	Amendments to approved application CR/2014/0437/FUL for new car showroom, vehicle servicing workshops and smart repair workshop, all with associated storage, delivery and administration facilities, car parking and landscaping	2.0	527512	138332	https://planningregister.crawley.gov.uk/Planning/Display/CR%2F2015%2F0322%2FFUL	1	N	Permitted on 09/09/2015	2.57ha	No
263	Crawley Borough Council	CR/2019/0271/PA3	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Prior approval for change of use from office (B1) to residential (C3) for 44 Residential units	4.0	527010	136282	https://planningregister.crawley.gov.uk/Planning/Display/CR%2F2019%2F0271%2FPA3	1	N	Permitted on 28/05/2019	0.30ha	No
98	Crawley Borough Council	CR/2014/0524/PA3	Housing allocation in Crawley Local Plan 2030 (Adopted). Prior approval for change of use from B1 (Office) to C3 (Residential) for 94 X 1&2 Bed apartments	1.3	527058	139000	https://planningregister.crawley.gov.uk/Planning/Display/CR/2014/0524/PA3	1		Approved 10/09/2014		No
100	Crawley Borough Council	CR/2012/0034/OUT	Part of the Manor Royal Main Employment Area Site Allocation under Crawley Local Plan 2030 (Adopted). PP CR/2012/0034/FUL was granted in 2012 for erection of a new office building comprising 11,362 square metres of office floorspace with a site area of 2.7 hectares. CR/2016/0500/NCC was granted in 2017 for a minor material amendment.	1.4	526962	138891	https://planningregister.crawley.gov.uk/Planning/Display/CR/2012/0034/FUL and https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0500/NCC	1		Approved 02/11/2012		No
108	Crawley Borough Council	CR/2014/0352/FUL	Part of the Manor Royal Main Employment Area Site Allocation under Crawley Local Plan 2030 (Adopted). PP CR/2014/0352/FUL has been granted for a four storey office building. The development is complete.	1.6	527442	138714	https://planningregister.crawley.gov.uk/Planning/Display/CR/2014/0352/FUL	1		Approved 19/08/2014		No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
115	Crawley Borough Council	CR/2012/0134/OUT	Part of the Manor Royal Main Employment Area Site Allocation under Local Plan. The site has an extensive planning history. Outline PP CR/2012/0134/OUT was granted for a mixed use employment park. Reserved matters CR/2015/0286/ARM was approved in 2015. Applications for the approval of the design for the spine road, linking Crawley Avenue to Manor Royal, and details required by some of the conditions attached to this Outline Planning Permission, and in particular the Landscape Master Plan, have also been approved under references CR/2012/0134/ARM, CR/2012/0134/CC1 and CR/2012/1034/CC2. The spine road is complete. Reserved matters were approved last year for the remainder of the site under reference CR/2014/0415/ARM.	2.4	527781	138015	https://planningregister.crawley.gov.uk/Planning/Display/CR/2012/0134/OUT	1		Crawley Local Plan 2030 (Adopted)		No
118	Crawley Borough Council	CR/2006/0695/OUT	Key Housing Site Allocation for 93 dwellings in Crawley Local Plan 2030 (Adopted). The site has an extensive planning history. It was granted Outline PP CR/2006/0695/OUT for 93 key worker flats for NHS staff. This PP was subsequently extended and amended.	3.3	526258	136941	https://planningregister.crawley.gov.uk/Planning/Display/CR/2006/0695/OUT	1		Approved 14/05/2008		No
124	Crawley Borough Council	CR/2009/0352/OUT	Key Housing Site Allocation for 218 dwellings and mixed use under Local Plan. The site has an extensive planning history. Outline PP CR/2009/0352/OUT was granted and extended by CR/2013/0517/OUT in 2014 for 218 flats, a creche, gym, a management office and car park (the latter application also approved reserved matters for access and scale). Further reserved matters CR/2015/0763/ARM was granted in 2016.	3.6	526511	136640	https://planningregister.crawley.gov.uk/Planning/Display/CR/2009/0352/OUT and https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0763/ARM	1		Crawley Local Plan 2030 (Adopted)		No
103	Crawley Borough Council	CR/2015/0552/NCC	Allocated in Crawley Local Plan 2030 (Adopted). Erection of up to 1900 dwellings, 5000sq.m. of use class b1,b2 & b8 employment floorspace, 2500sq.m. of retail floorspace, a local centre/community centre (including a community hall), a new primary school, recreational open space, landscaping, the relocation of the 132kv ohv power line adjacent to the m23, infrastructure and means of access. CR/1998/0039/OUT permitted through appeal on 16/02/2011. A variation of condition application, CR/2015/0552/NCC, was approved in 2016 and did not change the quantum of development, the proposed land uses or for the most part the general disposition of those land uses within the site. There have since been a number of reserved matters applications for the phased stages of development (1A,1C,2A,3A) and non-material amendments made. Reserved matters application CR/2016/0083/ARM.	1.6	529495	139377	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0552/NCC	1		Approved 15/11/2016	Unknown	Yes
273	Crawley Borough Council	CR/2021/3001/EIA	Screening opinion for redevelopment of land adjacent to Hydehurst Lane to construct three employment units totalling approximately 10,000sqm of floorspace (flexible Use Classes E(g)(iii), B2 and B8) across the units (the 'Development').	1.78km	527382	139173	https://planningregister.crawley.gov.uk/Planning/Display/CR/2021/3001/EIA	1	Y	Under Consideration	3.6ha	No
274	Crawley Borough Council	CR/2020/0719/FUL	Erection of 2no. Commercial buildings (classes E (light industrial), B2 and B8) along with access and servicing arrangements, car parking, landscaping, relocation of substation and associated works.	2.78km	528028	138296	https://planningregister.crawley.gov.uk/Planning/Display/CR/2020/0719/FUL	1	N	Under Consideration (Determination Date: 08/03/2021)	1.57ha	No
275	Crawley Borough Council	CR/2020/0274/FUL	Demolition of existing ambulance centre and erection of 44 flats with associated parking and amenity	3.7km	526250	137355	https://planningregister.crawley.gov.uk/Planning/Display/CR/2020/0274/FUL	1	N	Under Consideration (Determination Date: 28/02/2021)	0.43ha	No
276	Crawley Borough Council	CR/2020/0155/FUL	Erection of 4 storey extension to existing B8 Storage Building	5.82km	530132	135825	https://planningregister.crawley.gov.uk/Planning/Display/CR/2020/0155/FUL	1	N	Under Consideration (Determination Date:31/03/2021)	0.5ha	No
277	Crawley Borough Council	CR/2020/0192/RG3	Erection of 85 affordable houses & flats, comprising: 18 x one bedroom flats, 38 x two bedroom flats, 9 x two bedroom houses, 17 x three bedroom houses, 3 x four bedroom houses, access roads, car parking, sports pitch, open space & associated works. (amended plans and description)	6.53km	524623	134908	https://planningregister.crawley.gov.uk/Planning/Display/CR/2020/0192/RG3	1	N	Expired	2.7ha	No
278	Crawley Borough Council	CR/2020/0037/FUL	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Erection of L-shaped 4 storey building comprising 59 x flats with associated landscaping, refuse and cycle storage, infrastructure works and parking court at the rear (amended plans received)	4.54km	528294	136461	https://planningregister.crawley.gov.uk/Planning/Display/CR/2020/0037/FUL	1	N	Under Consideration (Determination Date: 08/02/2021)	0.32ha	No
279	Crawley Borough Council	CR/2019/0487/FUL	Retrospective application for the retention of 2 no. Storage units along the western rear elevation of the Gurjar Hindu union temple building	1.6km	525290	138288	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0487/FUL	1	N	Granted on 10/02/2020	1.2ha	No
280	Crawley Borough Council	CR/2019/0845/FUL	Change of use from C2 (residential school) to D1 (educational use) (amended plans received)	5.5km	526391	134555	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0845/FUL	1	N	Granted on 25/02/2020	0.28ha	No
281	Crawley Borough Council	CR/2019/0542/FUL	Demolition of existing nightclub and redevelopment of site providing 152 apartments, ground floor commercial/retail space (class A1, A3, A4, B1 and/or D2 uses) split between 2 to 4 units, new publicly accessible public realm (including pocket park), new publicly accessible electric vehicle charging hub, car club and associated works	4km	527142	136342	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0542/FUL	1	N	Granted on 04/05/2020	0.36ha	Yes
282	Crawley Borough Council	CR/2020/0220/FUL	Creation of refuse and recycling enclosure with adjacent garden waste container	2.1km	528307	138432	https://planningregister.crawley.gov.uk/Planning/Display/CR/2020/0220/FUL	1	N	Granted on 06/07/2020	0.53ha	No
283	Crawley Borough Council	CR/2015/0718/ARM	Allocation within Crawley Local Plan 2021-2037 (Regulation 19). Approval of Reserved Matters for Phase 2B for 169 dwellings and associated works purusant to outline permission CR/2015/0552/NCC for a new mixed use neighbourhood	1.6	529495	139377	https://planningregister.crawley.gov.uk/Planning/Display/CR/2015/0718/ARM	1		Granted 31/01/2019	5.56	Yes
285	Crawley Borough Council	CR/2020/0024/FUL	Demolition of Longley House (offices) & erection of building ranging between 4 to 9 storeys to provide 121 x residential units (class C3) with associated sub-station, car/cycle parking, tree works, public realm improvements and landscaping	4.1km	527089	136261	https://planningregister.crawley.gov.uk/Planning/Display/CR/2020/0024/FUL	1	N	Granted on 01/12/2020	0.5ha	No
286	Crawley Borough Council	CR/2016/0176/FUL	Erection of 1 x commerical mixed use building (class B8/A1) including mezzanine, outdoor project centre and secure compound, access and servicing arrangements, car parking, landscaping and associated works (amended drawings and additional information received)	1.4km	526676	138804	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0176/FUL	1	N	Granted on 20/07/2016	0.8ha	No
287	Crawley Borough Council	CR/2019/0456/FUL	ERECTION OF FRONT AND REAR EXTENSIONS TO UNITS XA1/XA2 OF NYETIMBER LTD WINERY BUILDING	1.6ka	528047	138751	https://planningregister.crawley.gov.uk/Planning/Display/CR/2019/0456/FUL	1	N	Granted on 23/03/2020	1.7ha	No
288	Crawley Borough Council	CR/2016/0820/FUL	PART DEMOLITION, CONVERSION AND EXTENSION OF EXISTING BUILDING AND CHANGE OF USE FROM INDUSTRIAL (B1, B2 & B8) TO FORM MULTI-CAR DEALERSHIP (SUI GENERIS) (AMENDED DESCRIPTION)	1.4km	527383	138910	https://planningregister.crawley.gov.uk/Planning/Display/CR/2016/0820/FUL	1	N	Granted on 03/01/2017	1.23ha	No
387	Crawley Borough Council	CR/2018/0273/FUL	PROPOSED CONSTRUCTION OF NEW STATION CONCOURSE/AIRPORT ENTRANCE AREA, LINK BRIDGES, PLATFORM CANOPIES, BACK OF HOUSE STAFF ACCOMMODATION AND ASSOCIATED IMPROVEMENT WORKS	0			https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0273/FUL	1	N	Granted on 19/03/2019		Yes
Reigate & Banstead Borough Council												
49	Reigate and Banstead Borough Council	18/01179/S73	Construction of a class a1 use retail food store of 15,093sqm gross external floorspace, a hotel, a gym, a multi storey car park of 927 spaces, general townscape improvement and associated works. Variation of condition 24(e) of permission ref no 13/00168/S73 so that it allows further time for these works to be completed.	9.0	528038	150668	https://bdsdocs.reigate-banstead.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&viewdocs=true&SDescription=18/01179/S73	1	N	Permitted on 23/08/2018	ee original Applicatior	No
50	Reigate and Banstead Borough Council	16/00333/S73	Full planning application and listed building consent for conversion, extension and refurbishment of Tudor House and garden cottage; demolition of all other buildings and redevelopment to form 102 new dwellings in total (25 dwellings for blind and partially sighted people and 77 open market houses); hub facility (b1, d2 and d3 uses); new landscaped open space; surface vehicle and cycle parking; access and associated and ancillary development. Removal of Condition 13 of 14/02562/F which requires off site junction works.	7.7	528877	149531	https://bdsdocs.reigate-banstead.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&viewdocs=true&SDescription=16/00333/S73	1	N	Permitted on 11/08/2016	ee original Applicatior	No
51	Reigate and Banstead Borough Council	18/01180/F	The redevelopment of the site to include four employment buildings incorporating 5 units for open B1(b), B1(c), B2 and B8 use comprising 15,831sqm GEA with associated parking and landscape planting. S73 - 19/02199/S73	3.1	528519	145141	https://bdsdocs.reigate-banstead.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&viewdocs=true&SDescription=18/01180/F	1	N	Permitted on 30/11/2018	3.12ha	No
52	Reigate and Banstead Borough Council	04/02120/OUT	Comprehensive mixed use development to comprise housing (approx 1510 dwellings), neighbourhood centre, primary school, recreation and open space uses, plus associated infrastructure and access roads linking the development to A23 and A217. NMA and Reserved Matters applcaitions - 04/02120/RM3C, 04/02120/RM4A/NMAMD2, 04/02120/RM5C, 04/02120/RM5D, 04/02120/RM5B, 04/02120/RM4A	5.0	N/A	N/A	https://bdsdocs.reigate-banstead.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&viewdocs=true&SDescription=04/02120/OUT	1	Y	Permitted on 02/12/2014	94.3	Yes
53	Reigate and Banstead Borough Council	18/00967/OUT	Outline planning application for the partial demolition of existing buildings, erection of 4 apartment blocks comprising 23 x 1 bed flats and 37 x 2 bed flats (60 in total). S73 - 20/00812/S73	8.0	527836	149721	https://bdsdocs.reigate-banstead.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&viewdocs=true&SDescription=18/00967/OUT	1	N	Permitted 19/07/2019	0.52ha	No
54	Reigate and Banstead Borough Council	14/02647/P3JPA	Change of use from offices to form 38 residential apartments	1.1	528435	143054	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=NGRZILMV00O00		N	Permitted 04/02/2015	Not stated.	No
55	Reigate and Banstead Borough Council	14/02124/F	Refurbishment and conservation of existing farm buildings to form 9 new dwellings; demolition of existing bungalow, other outbuildings and structures; construction of 29 new dwellings, with associated garaging, boundary treatments, hard and soft landscaping. Application for Listed Building Consent for demolition of outbuildings and removal of haha wall.	2.0	527218	144582	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=ND7SSAMVKA000&activeTab=summary		N	Permitted 28 /082015	2.38ha	No
56	Reigate and Banstead Borough Council	14/01263/P3JPA	Change of use of offices (Class B1a) to form 18 residential apartments	1.1	528435	143054	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=N7M4BKMV08800&activeTab=summary		N	Permitted 29 /08/2014	Not stated.	No
57	Reigate and Banstead Borough Council	15/00731/F	Erection of 19 no. dwelling houses, new vehicular/pedestrian access point from public highway, associated parking and hard and soft landscaping.	0.9	527778	143441	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=NM6SP9MVLHM00&activeTab=summary		N	Permitted 04/06/ 2015	0.44ha	No
58	Reigate and Banstead Borough Council	15/00640/P3JPA	Change of use of the first floor offices to 14 residential apartments	1.1	528393	143062	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=NLPMV4MV08800&activeTab=summary		N	Permitted 5/05/2015	Not stated.	No
59	Reigate and Banstead Borough Council	15/00500/F	Mixed used redevelopment comprising of 2 retail units, 56 no. 1 and 2 bedroom flats, 6 no. 2 bedroom houses together with associated car parking and landscaping.	1.1	528523	142920	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=NKSQ87MVIXJ00&activeTab=summary		N	Permitted 03/07/2015	0.37ha	No
60	Reigate and Banstead Borough Council	15/01569/PAP3O	Change of use of offices to 20 residential apartments	1.1	528523	142920	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=NR9N3CMV08800&activeTab=summary		N	Permitted 28/08/ 2015	Not stated.	No
61	Reigate and Banstead Borough Council	16/01739/PAP3O	Development is the change of use of offices to 25 self contained flats.	1.1	528357	142886	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=OAX363MV0N600&activeTab=summary		N	Permitted 9/09/2016	Not stated.	No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
62	Reigate and Banstead Borough Council	16/01739/PAP3O	The development is the change of use of offices to 22 self contained flats.	1.1	528357	142886	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PH1X2YMV0P500&activeTab=summary		N	Permitted 09/09/2016	Not stated.	No
63	Reigate and Banstead Borough Council	19/00147/F	Erection of 40 new 1,2,3,4 and 5 bedroom dwellings together with associated access from Bonehurst Road, car parking, landscaping and open space.	2.8	528242	145252	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PLSLMAMVI9S00&activeTab=summary		N	Refused 04/07/2019	Refused (N/A)	No
80	Reigate and Banstead Borough Council	16/02556/CON	The retention of the existing exploratory well site and vehicular access onto Horse Hill; the appraisal and further flow testing of the existing bore hole (Horse Hill - 1) for hydrocarbons, including the drilling of a (deviated) sidetrack well and flow testing for hydrocarbons; installation of a second well cellar and drilling a second (deviated) borehole (Horse Hill - 2) and flow testing for hydrocarbons; erection of security fencing on an extended site area; erection of acoustic/light barrier; modifications to the internal access track; installation of plant, cabins and equipment, all on some 2.08ha, for a temporary period of three years, with restoration to agriculture and woodland	2.4	525316	143598	http://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2016/1813&theTabNo=3		N	Permitted on 01/10/2016	2.08ha	No
180	Reigate and Banstead Borough Council	19/00062/F	Redevelopment of the site to incorporate the erection of a part two and part three storey office building together with associated car parking and cycle parking spaces, hard and soft landscaping and other ancillary works. As amended on 15/03/2019 and on 17/05/2019.	3.1	528835	143452	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PL5XUJMVH9M00&activeTab=summary	1	N	Permitted on 04/07/2019	1.16ha	No
210	Reigate and Banstead Borough Council	18/01971/F	Proposed development of a 76 bedroom specialist dementia nursing care home	5.9	528058	147183	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PVEB34MV0P500	1	N	Decided (Approved)	NA	No
211	Reigate and Banstead Borough Council	17/02486/PAP30	Conversion of existing 2 storey office building (class B1) into 18 No. self contained dwellings (class C3)	8.11	528063	149435	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PV1C8JMV0O800&activeTab=summary	1	N	Registered	NA	No
212	Reigate and Banstead Borough Council	19/01365/S73 (Lodgecrest Development Site)	Construction of 50 residential units (including affordable housing) and a community hall (relates to 17/02876/F)	9.23	528042	150471	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PUDR62MVM5H00&activeTab=summary	1	N	Decided (Approved with Conditions)	NA	No
213	Reigate and Banstead Borough Council	19/01327/CONLA	Consultation from Gatwick Airport Ltd for a rapid exit taxiway (RET) to runway 26L	0	NA	NA	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PU49QPMV0P500&activeTab=summary	1	N	Granted	NA	No
214	Reigate and Banstead Borough Council	17/02196/F	Redevelopment to form 31 retirement apartments (as amended 01/12/2017 and 14/12/2017) - some conditions recently discharged hence inclusion as uncertain if constructed.	7.96	525617	148668	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PWJI81MVHJN00&activeTab=summary	1	N	Decided (Approved)	NA	No
215	Reigate and Banstead Borough Council	18/02690/F	Construction of 6 dwellings over the former Reigate Garden Centre site (0.8 ha).	8.13	525091	148534	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PXYZ0HMVJBG00&activeTab=summary	1	N	Granted	0.8	No
216	Reigate and Banstead Borough Council	17/02876/F	Provision of 50 residential units (former Redhill Youth Association Hall) and a community hall.	9.28	528042	150471	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PXO72JMVJ0800	1	N	Granted	NA	No
217	Reigate and Banstead Borough Council	19/01623/F	Brownfield redevelopment to provide 4 new residential blocks (10 residential units in total) (amended 16/10/2019).	6.34	527884	147606	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PWHNL8MVHG700&activeTab=summary	1	N	Granted	0.0541	No
218	Reigate and Banstead Borough Council	19/02018/SCREEN	Approximately 350 dwellings plus 1,500 sqm non-residential floorspace. (at rear of garden centre, Sandcross Lane, Reigate).	7.95	NA	NA	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PZ3MWIMV0P500	1	N	Granted	NA	No
219	Reigate and Banstead Borough Council	17/02876/F	Provision of 50 residential units (Marketfield Court, Redhill)	9.11	528045	150481	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PZ0BHDMVKIL00	1	N	Granted	NA	No
220	Reigate and Banstead Borough Council	17/01830/F	Construction of 12 residential flats (41 and 43 Doods Park, Rigate).	9.45	526471	150481	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PZCVIQMV0P500	1	N	Granted	NA	No
221	Reigate and Banstead Borough Council	19/01955/CONLA	Industrial warehouse building (B2/B8) - unsure of size (Land at Jersey Farm, Long Green, Crawley)	12.03	NA	NA	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PYQWUGMV0P500&activeTab=summary	1	N	Granted	NA	No
222	Reigate and Banstead Borough Council	19/00210/OUT	Construction of 57 flats at former Brook Road Garage	8.59	527837	149998	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PZSXDMMV0P500&activeTab=summary	1	N	Decided (Approved)	NA	No
223	Reigate and Banstead Borough Council	19/01973/OUT	Construction of 11 dwellings (detached) (171-175 Smallfield Road)	2.61	530327	143354	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PYSYQEMVKCA00&activeTab=summary	1	N	Refused	1.13	No
224	Reigate and Banstead Borough Council	19/02143/F	Site of 0.7 ha - demolition of existing and replacement with dwelling and relocated garage (added in due to scale)	9.25	523314	149033	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PZVWHVMVLMX00&activeTab=summary	1	N	Refused	1.03	No
182	Reigate and Banstead Borough Council	18/01158/F	Town Centre Development Site for retail allocated in Development Management Plan 2018-2027 (Adopted Sept 2019). The application is for the demolition of existing building and construction of new building which will include: 1no A1, A2, A3 and/or A5 and/or D1 & D2 class unit, 16no one bedroom flats and 16no two bedroom flats with associated external works. As amended on 05/07/2018. As amended on 3/9/2018	8.2	527857	150465	https://planning.reigate-banstead.gov.uk/online-applications/caseDetails.do?caseType=Application&keyVal=P9HCK5MV0O800	1		Approved 06/09/2018	0.08	No
183	Reigate and Banstead Borough Council	19/00063/F	Town Centre Development Site allocated in Development Management Plan 2018-2027 (Adopted Sept 2019). for approx. 2,500m2 of office and 30 homes or residential only (60 homes) or 4,000m2 of office or retention of parking. Deploy 2nr 14m2 and 1nr 8m2 shipping containers within the car park, to be utilised as storage for the Town Centre Market operation. It is proposed that the containers be sited here for 3 years. The proposal increases the number of parking bays from 274 to 293 by reconfiguring the layout of the car park.	8.1	527900	150963	https://planning.reigate-banstead.gov.uk/online-applications/caseDetails.do?caseType=Application&keyVal=PL5XUNMVH9N00	1		Approved 07/03/2019	0.76	No
192	Reigate and Banstead Borough Council	18/00222/OUT	Housing allocation in Development Management Plan 2018-2027 (Adopted Sept 2019). Outline application with all matters except access reserved, for the demolition of the existing building and redevelopment of the site for residential purposes (maximum of 40 units), provision of associated parking and refuse facilities. Provision of replacement public car park with 12 spaces including creation of new access onto Kings Road. As amended on 26/04/2018.	1.8	528327	143084	https://planning.reigate-banstead.gov.uk/online-applications/caseDetails.do?caseType=Application&keyVal=P3BDD8MVH3E00	1		Awaiting decision	0.29	No
289	Reigate and Banstead Borough Council	20/02515/SCREEN	Screening opinion for erection of a crematorium together with associated access, parking and landscaping	7.17km	526627	148039	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=QJOP82MV0PV00&activeTab=summary	1	N	EIA is not required	Not Stated	Yes
290	Reigate and Banstead Borough Council	20/02386/AGD	Two new agricultural buildings each 500 square metres	3.93km	525944	144597	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QJ0HNLMVMQO00	1	N	Objection	35ha	No
291	Reigate and Banstead Borough Council	20/02034/F	Conversion of guest house and coach house to create eight self contained flats for occupation by residents in need of a limited element of care (use class C3). Single storey extensions to front and rear elevations of main building and extension to the coach house.	0.94km	527837	142872	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=QH2EPCMVJBC00&activeTab=summary	1	N	Granted on 07/12/2020	0.09ha	No
292	Reigate and Banstead Borough Council	20/02017/S73	Part demolition of existing building, conversion of upper floors of existing building to residential with additional floor, connected 5 storey new build residential building. To provide total 43 apartments. Variation of Conditions 1, 5 and 14 of 14/00317/F - Conditions 1, 5 and 14 will need to be changed to reflect the requirement for the site access to remain as existing (ie one vehicular access only) - Condition 1 - Relates to the development being carried out in accordance with the approved plans. The approved plans will need to be changed to reflect the application for variation as shown on the revised drawings. Condition 5 - Relates to a requirement for the proposed two new vehicular accesses to be constructed in accordance with the approved plans. This now no longer applies as we intend to use the existing vehicular access .Condition 14 - Relates to details of the vertical clearance at both access points to the site. This needs to be varied as there is now only one access point (as existing). Variation of Conditions 5,6, and 8 of permission 14/02653/S73. For the refurbishment block to be fully functional we are proposing temporary measures to overcome cycling and parking provision, whilst the new block is being built and completed. Change wording from 'prior to occupation' to 'prior to completion' to enable the 15 apartments to be occupied with temporary provisions for cycle and vehicle parking as listed below : Condition 5 - Any residents with vehicles and/ or deliveries can utilise Victoria Road car park temporarily. Condition 6 - Any residents/ visitors with vehicles can utilise Victoria Road car park temporarily. Condition 8 - The Ground floor cycle hoops have been installed enabling 4 cycle spaces as the attached photo. The First, Second and Third Floor apartments have 5 lockable storage areas on each floor as per the attached floor plans and photo. These enable a minimum of 15 cycle spaces and maximum of 30 spaces.	1.53km	528363	143019	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=QH06V3MVJ4J00&activeTab=summary	1	N	Granted on 30/12/2020	Not Stated	Yes
293	Reigate and Banstead Borough Council	20/02801/CON	The continuation of a waste disposal facility with the provision for the extraction of landfill gas and phased restoration of the whole site and alterations to the boundary of the site without compliance with Conditions 1 (approved plans and particulars), 15 (Biodiversity Action Plan), 19 (Bund Construction), 23 (Restoration); Condition 24 (Aftercare); and 25 (Access routes (footpath)) of planning permission ref: RE/P/13/00203/CON dated 13 December 2013 to provide updated restoration details, detail of western bund construction, use of internal haul roads and to review approved plans and particulars. (Part retrospective)	10.55km	529585	151186	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	No Objection on 12/01/2021	Not Stated	No
294	Reigate and Banstead Borough Council	19/00210/RM1	Reserved matters applicaiton for demolition of existing buildings and erection of building comprising 57 flats. Details of appearance and landscape. As amended on 17/12/2020 and on 06/01/2021	8.17km	527837	149998	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QJA364MVFGE00	1	N	Granted on 11/01/2021	Not Stated	No
295	Reigate and Banstead Borough Council	20/01923/HHOLD	Proposed single storey rear extension and new roof	0.45km	527882	142306	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Granted on 06/11/2020	Not Stated	No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
296	Reigate and Banstead Borough Council	20/02656/HHOLD	Increasing height of the existing flat roof, providing new external bi-fold doors to the rear elevation and infilling existing external side door.	0.8km	527662	142835	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Granted on 25/01/2021	Not Stated	No
297	Reigate and Banstead Borough Council	20/01199/S73	Construction of two detached 4-bed houses. Variation of condition 1 of permission 17/01969/F. Amendments - Plot 1: room in the roof added. Plot 2: footprint amended and room in the roof added. Variation of Condition 1 of permission 17/02910/S73. Changes to internal floor layout of Plot 2, including conversion of garage to additional habitable accommodation. Minor consequential elevation changes.	0.9km	528064	142810	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Granted on 13/08/2020	Not Stated	No
298	Reigate and Banstead Borough Council	20/01103/F	Demolition of existing dwelling and replacement with 2no. three bedroom semi-detached dwellings.	0.5km	528054	142401	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Granted on 06/08/2020	0.09ha	No
299	Reigate and Banstead Borough Council	20/02644/HHOLD	Remove existing garage to side of property and replace with a 2 story chart bungalow style extension to form attached granny annexe. Convert part of roof space to form additional bedroom with rear dormer. Very slight rise in ridge level locally to accommodate dormer. As amended on 04/01/2021.	0.45km	527949	142343	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Granted on 22/01/2021	Not Stated	No
300	Reigate and Banstead Borough Council	20/01704/OUT	Demolition of existing dwelling formally operated as a Guest House and the construction of bespoke apartment building containing 8 dwelling flats with associated access and supporting works	0.95km	528328	142817	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Not determined (Determination Date: 05/10/2020)	0.11ha	No
301	Reigate and Banstead Borough Council	20/02099/F	Proposed workshop building following demolition of existing non-agricultural buildings.	1km	529648	142052	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Granted on 23/12/2020	0.1ha	No
302	Reigate and Banstead Borough Council	20/01125/S73	Amended proposal Demolition of the existing metal barn and the residential bungalow Wings and construction of a new dog kennel facility and office headquarters for the Greyhound Trust (GT). Variation of condition 12 of permission 17/01956/F. Amendment to SUDs design	1.5km	530508	141924	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Granted on 06/08/2020	Not Stated	No
303	Reigate and Banstead Borough Council	21/00020/CU	Change of use of dog kennel (Sui Generis) to a flexible use as E (a) retail, E (c) E(c)(i) financial services; E(c) (ii) professional services; and, E(c)(iii) other appropriate services. E (g) Uses which can be carried out in a residential area without detriment to its amenity (E(g)(i) offices to carry out any operational or administrative functions; (E(g)(ii) research and development of products or processes; and, E(g)(iii) industrial processes) and B8 storage or distribution with associated improvement to the existing building.	1.0km	530723	142426	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Under Consideration (Determination Date: 12/03/2021)	0.2ha	No
304	Reigate and Banstead Borough Council	20/02770/F	Erection of two detached 2 bedroom chalet bungalows and associated landscaped parking area with arched features over the existing vehicle and pedestrian access entrances.	1.15km	528220	143608	https://planning.reigate-banstead.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Under Consideration (Determination Date: 16/02/2021)	0.07ha	No
305	Reigate and Banstead Borough Council	20/01477/PAP3O	Change of use from offices (Use Class B1a) to residential (Use Class C3) to accommodate 46 residential units (Class O, 56 day Prior Approval Application). As amended on 27/08/2020.	8km	525477	150047	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=QDIEFJMV0PV00&activeTab=summary	1	N	Prior Approval Refused on 07/09/2020. Appeal has been lodged	Not Stated	No
306	Reigate and Banstead Borough Council	20/01191/S73	Demolition of existing buildings and closure of vehicular accesses. Erection of detached building comprising 12 residential flats (10 x 2 bedroom and 2 x 3 bedroom), bin store, formation of parking forecourt, provision of bike store, formation of new vehicular and pedestrian accesses, new hard and soft landscaping and associated works. Variation of condition 2 of appeal permission 17/01830/F. Minor changes to building footprint, elevations and internal layout of flats: consequent amendments to drawings. As amended on 24/07/2020 and on 02/08/2020.	8.1km	526479	150480	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=QBRYFQMVJ5V00&activeTab=summary	1	N	Granted on 21/09/2020	Not Stated	No
307	Reigate and Banstead Borough Council	20/01880/CONLA	PLEASE NOTE THAT ALL COMMENTS REGARDING THIS APPLICATION SHOULD BE SUBMITTED TO MOLE VALLEY DISTRICT COUNCIL. Change of Use of land to use as a residential caravan site for 4 No. pitches including the erection of Facilities block and hard standing	0.2km	526875	142098	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=QG1DZ9MV0P500&activeTab=summary	1	N	No Objection on 23/09/2020	Not Stated	No
308	Reigate and Banstead Borough Council	20/01332/CONLA	Erection of single storey building. Change of use of land to crematorium and burial ground incorporating associated parking, access and landscaping works. As amended on 24/07/2020	7.5km	535270	145584	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QCQMH1MV0PV00	1	N	Objection on 04/08/2020	4.7ha	No
309	Reigate and Banstead Borough Council	20/00862/PAP3O	Convert the 1st, 2nd and 3rd floors from offices (use class B1a) into 19 dwellings (use class C3)	1.18km	528519	143063	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=Q9K4FEMV0PV00	1	N	Prior Approval Not Required on 17/06/2020	Not Stated	No
310	Reigate and Banstead Borough Council	19/01417/OUT	Demolition of existing buildings and erection of one four storey block containing 12 1-bed apartments. As amended on 28/11/2019 and on 06/02/2020.	1.3km	528536	143006	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PUUDCAMVMVF00&activeTab=summary	1	N	Refused on 27/04/2020. An appeal has been lodged	0.24ha	No
311	Reigate and Banstead Borough Council	19/00210/OUT	Demolition of existing buildings and erection of building comprising 57 flats. As amended on 16/05/2019 and on 05/06/2019.	8km	527815	149992	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PM7IOJMVIVE00&activeTab=summary	1	N	Granted on 08/04/2020	0.16ha	No
312	Reigate and Banstead Borough Council	20/00548/CON	Extension of an existing materials recycling/recovery building to allow for the internal reconfiguration of the recycling/recovery plant and machinery, and to allow for internal stockpiling of unprocessed waste	3.3km	525944	144597	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=Q71A7HMV0P500	1	N	No Objection on 27/03/2020	0.13ha	No
313	Reigate and Banstead Borough Council	19/01973/OUT	Erection of 11no. detached dwellings with associated parking and access road. Alterations to 175 Smallfield Road to facilitate new access road. As amended on 15/01/2020, 03/02/2020 and on 10/03/2020.	2.6km	530327	143354	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PYSYQEMVKCA00&activeTab=summary	1	N	Refused on 23/03/2020	1.13ha	No
314	Reigate and Banstead Borough Council	19/01931/S73	Demolition of no. 19 Church Road and the erection of 8 new detached dwellings on land to the rear of 17-23 Church Road and 58 - 60 Massetts Road Horley, with access from Church Road, together with car parking and landscaping. Variation of condition 2 of permission ref no 17/01057/F. Amending the conditions attached to the planning permission, including seeking to make minor material amendments. Variation of condition 2 of permission 18/00969/S73. Variation of condition 1 of permission 19/00018/S73. Amendment to approved plans. As amended on 04/02/2020, 27/02/2020 and on 03/03/2020.	0.9km	527976	142924	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PYMXIBMV0O800&activeTab=summary	1	N	Granted on 19/03/2020	Not Stated	No
315	Reigate and Banstead Borough Council	19/02199/S73	The redevelopment of the site to include four employment buildings incorporating 5 units for open B1(b), B1(c), B2 and B8 use comprising 15,831sqm GEA with associated parking and landscape planting. - Application to remove condition 23 of permission 18/01180/F which restricts the amount of B8 floorspace. Variation of conditions 1, 7, 11 and 15 of permission 19/01370/S73. Amendment to approved plans. As amended on 20/12/2019 and on 11/02/2020.	3.2km	528519	145141	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=Q08W47MVM2K00&activeTab=summary	1	N	Granted on 24/02/2020	Not Stated	No
316	Reigate and Banstead Borough Council	20/02823/PAP3O	Change of use of offices (Class B1a) to form 22 apartments	1.2km	528436	143056	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=QLFRSVMV0P500&activeTab=summary	1	N	Pending Consideration (Determination Date: 03/02/2021)	Not Stated	No
317	Reigate and Banstead Borough Council	19/00986/F	Erection of 10 dwellings with site access, private amenity space, garaging, parking and access to neighbouring development. As amended on 12/07/2019, 21/04/2020 and on 01/12/2020 and on 22/12/2020.	2.7km	527346	144779	https://planning.reigate-banstead.gov.uk/online-applications/applicationDetails.do?keyVal=PRJRX0MVIBU00&activeTab=summary	1	N	Pending Consideration (Determination Date: 02/03/2021)	0.79ha	No
Tandridge District Council												
64	Tandridge District Council	2019/548/EIA	Request for screening opinion for the Proposed Development of circa 360 residential units made up of 2, 3 and 4-bedroom detached, semi-detached and terraced houses, and potentially some 1-bedroom flats and a small amount of commercial development of circa 7,000 sqft. The properties will not exceed 3-storeys	1.5	531214	143209	http://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-548-EIA		Y	Screening Decision 30/04/19 = EIA 7	17.85ha	Yes
65	Tandridge District Council	2019/169	Use of land as a Thai Buddhist Centre along with the construction of disabled ramps; minor alterations to an existing access off Copthorne Bank and provision of 6 car parking spaces	3.92	532240	140294	http://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-169	1	N	Permitted 21/03/2019	1.58ha	No
66	Tandridge District Council	2018/2567	Approval of reserved matters (namely, appearance, landscaping, layout and scale) for the development of 51 dwellings following the grant of outline planning permission on appeal under ref: 2014/1809	1.9	531045	143264	http://tdcws01.tandridge.gov.uk/ArcusPlanning/Planning/Planning/Planning?reference=2018/2567	1	N	Permitted 24/05/2019	1.83ha	No
67	Tandridge District Council	2017/687	Change of use of land to allow for the formation of one polo pitch and one practice polo pitch; together with associated engineering works, vehicular access and landscaping	4.9	533773	144567	http://tdccomweb.tandridge.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&$Description=2017/1576&viewdocs=true	1	N	Permitted 07/11/2017	0.90ha	No
68	Tandridge District Council	2017/1782	Demolition of existing buildings. Erection of workshop and office	4.16	532791	140734	http://tdcws01.tandridge.gov.uk/ArcusPlanning/Planning/Planning/Planning?reference=2017/1782	1	N	Permitted on 2/08/2018	2ha	No
69	Tandridge District Council	2018/806	Proposed use of site, including existing buildings and structures thereon, for B2 or B8 use or plant hire use or as a recycling facility, or a combination of any or all of the above uses together with the retention of the 5m high screen along part of the northern boundary	1.7	530343	141791	http://tdccomweb.tandridge.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&$Description=2018/806&viewdocs=true	1	N	Permitted on 10/12/2018 - assumed under construction	0.47ha	No
225	Tandridge District Council	2016/1684	Former garden centre, construction of 7 dwellings (site is > 2ha)	7.97	535778	144141	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2016-1684-COND1	1	NA	Approved 12/09/2016	NA	No
226	Tandridge District Council	2017/1296	Erection of 9 dwellings with associated garaging, landscaping and the formation of a meadow.)	9.46	536889	145415	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2017-1296-Cond1	1	NA	Approval of Details	NA	No
228	Tandridge District Council	2019 / 1948	Variation of condition No. 2 (Approved Plans) of planning permission: 2014/711 dated 08/07/2014 to mirror the original approved application without changing the mass & bulk and volume (Erection of 3 office buildings and ground source heat pump)	9.43	538258	142078	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-1948	1	N	Approved 08/01/2020	NA	No
229	Tandridge District Council	2016 / 2099 / COND5	Details pursuant to the disharge of Condition 8 (Access Scheme) of planning permission ref: 2016/2099 dated 16/11/2017 (Demolition of existing buildings. Erection of garden centre buildings, formation of enlarged car park and new access.)	5.62	533752	140131	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2016-2099-COND5	1	N	Approved 20/12/2019	NA	No
230	Tandridge District Council	2019 / 1703	Construction of an all-weather pitch with associated fencing, floodlighting and access paths.	4.9	533158	139449	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-1703	1	N	Approved 03/01/2020	0.8592	No
231	Tandridge District Council	2019 / 1212	Consultation from Gatwick Airport Limited for a rapid exit taxiway. (Consultation from Crawley Borough Council)	0	NA	NA	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-1212	1	N	Adjoining local authority consultation - no objection	NA	No
232	Tandridge District Council	2019 / 1183	Variation of condition 2 (Approved Plans) of planning permission ref: 2018/2308 dated 14/02/2019 to allow various alterations to the approved plans as detailed in the application form (Removal of condition 2 (Approved Plans) of planning permission ref: 2018/1072 dated 14/09/2018 to include further details of the development on the plans (Demolition of existing commercial buildings and the erection of 7 dwellings with associated access and parking)	7.47	530933	148646	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-1183	1	N	Approved (over 0.5 ha) (~0.75)	NA	No
233	Tandridge District Council	2019 / 1156	Demolition of existing barn and stables. Erection of detached outbuilding comprising of No.4 stables, tack room and feed store.	8.31	537039	140128	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-1156	1	N	Approved (within 8km distance and site large enough)	2.1	No
234	Tandridge District Council	2019 / 1115	Erection of 88 dwellings, access and car parking (Outline permission with some matters reserved).	4.41	NA	NA	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-1115	1	?	Appeal Dismissed	NA	No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
318	Tandridge District Council	2020/2297	The erection of 4no. Affordable bungalows and 2no. General needs bungalows with associated access, parking, landscaping and other associated work	1	531774	142808	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2020-2297	1	N	Awaiting decision	0.23	No
319	Tandridge District Council	2020/1782	Erection of an industrial unit (Application for a Lawful Development Certificate for a Proposed Development)	1	530568	140653	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2020-1782	1	N	Permitted 01/12/2020	NA	No
320	Tandridge District Council	2020/1099	Use of land as a dwellinghouse within Class C3 (Certificate of Lawfulness for Existing Use or Development)	1	530680	141453	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2020-1099	1	N	Permitted 21/08/2020	0.0736	No
321	Tandridge District Council	2017/2292/cond1	Details pursuant to Condition 11 (renewables) attached to PP 2017/2292 for the conversion of coach house to residential use and redevelopment of stables and outbuildings to provide 2 cottages	1	531268	142738	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2017-2292-cond1	1	N	Permitted 27/07/2020	NA	No
322	Tandridge District Council	2019/2101	Change of use of land for doggy day care and dog walking (Amended description)	1	531272	141673	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-2101	1	N	Permitted 14/07/2020	0.6	No
323	Tandridge District Council	2020/555	Construction of access road from Crawley Down Road to serve the residential development within Mid Sussex District (Amended Site Address).	8.3	536662	139541	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2020-555	1	N	Permitted 9/7/2020	2.6	No
324	Tandridge District Council	2019/1703	Construction of an all weather pitch with associated fencing, floodlighting and access paths	4.9	533158	139449	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2019-1703	1	N	Permitted 03/01/2020	0.8592	No
325	Tandridge District Council	2019/2184	Approval of reserved matters for landscaping pursuant to CR/2018/0337/OUT - Outline Application for erection of multi-storey hotel car park (consultation from Crawley Borough Council)	1	528935	141333	http://tdccomweb.tandridge.gov.uk/Planning/dialog.page?org.apache.shale.dialog.DIALOG_NAME=gfplanningsearch&Param=lg.Planning&SDescription=2019/2184&viewdocs=true	1	N	Permitted 03/01/2020	NA	No
326	Tandridge District Council	2017/168	Part demolition of existing building. Erection of part replacement building.	8	529832	148746	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2017-168	1	N	Approved 14/07/2017	0.49	No
327	Tandridge District Council	2015/1861	Demolition of remaining fire damaged building. Erection of single storey building incorporating offices (class use B1) and café (use class A3) together with associated access, parking and landscaping.	7.5	529783	148199	https://tdcplanningsearch.tandridge.gov.uk/Planning/Planning/Planning?reference=2015-1861	1	N	Approved 15/06/2016	0.67	No
Horsham District Council												
73	Horsham District Council	DC/17/2481	Outline planning application for the development of approximately 227 dwellings (between 204 and 250 dwellings) with the construction of a new access from Calvert Link, a pumping station and associated amenity space (all matters reserved except for access).	6.3	523000	134622	http://snafpacc.horsham.gov.uk/AniteIM.WebSearch/Results.aspx	1	Y	Permitted on 04/10/2018	9.3ha	Yes
76	Horsham District Council	DC/15/0340	Non material amendment to previously approved DC/10/1612 (Outline approval for the development of approximately 2500 dwellings, new accesses, neighbourhood centre, main pumping station, land for primary school and nursery, land for employment uses, new rail station, energy centre and associated amenity space & full planning permission for engineering operations associated with landfill remediation, the development of Phase 1 of 291 dwellings and the construction of a 3 to 6 metre high noise attenuation landform) to enable various elevation and fenestration alterations, internal arrangement changes, revised bin/cycle stores and repositioning of plots 254 and 257.	5.6	523649	135217	http://snafpacc.horsham.gov.uk/AniteIM.WebSearch/Results.aspx	1	Y - Original outline application (DC/10/1612)	Permitted on 26/06/2015	Unstated	No
77	Horsham District Council	DC/14/2132	Outline planning application for a development of up to 95 dwellings with associated open space and landscaping with all matters reserved, except for access	4.1	523692	136668	http://snafpacc.horsham.gov.uk/AniteIM.WebSearch/Results.aspx	1	N	Refused on 12/02/2015 Allowed on Appeal	N/A	No
78	Horsham District Council	DC/13/0368	Outline application for the redevelopment of land at Rusper Road, Ifield (encompassing Summerwood, Avalon, Rose Lawn, High Trees, Budleigh, White Cottage, Ventura and Avebury) for up to 36 dwellings, together with associated access road, car parking, landscaping and open space	3.9	524327	136672	http://snafpacc.horsham.gov.uk/AniteIM.WebSearch/Results.aspx	1	N	Permitted on 31/07/2014	1.19	No
79	Horsham District Council	DC/18/2227	Reserved matters application for the erection of 130 dwellings for Phase 2D, 2E and 2F with associated landscaping and parking following approval of outline application DC/15/2813, relating to layout, appearance, landscaping, scale and access.	5.8	523664	134916	http://snafpacc.horsham.gov.uk/AniteIM.WebSearch/Results.aspx	1	Y - Original outline application (DC/10/1612)	Permitted 26/04/2019	2.57ha	No
235	Horsham District Council	DC/19/1529	Construction of sand school	7.7	520466	133543	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=PVARY3IJK7M00	1	N	Permitted - 05/09/2019	1800 sqm	No
236	Horsham District Council	NC/19/0032	New Highways Layby and Proposed Field Access Minor Improvements	4.9	520860	137210	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=PUU5VWIJ02X00	1	N	No objection to consultation	Unknown	No
237	Horsham District Council	DC/19/1368	Creation of a recreational ground incorporating specialist play equipment	2.0	524979	138838	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=externalDocuments&keyVal=PU5VR8IJJX800	1	N	Permitted - 28/08/2019	280 sqm	No
238	Horsham District Council	S106/19/0014	Variation of Schedule 3 of the legal agreement under ref: DC/14/2132 to allow changes to the mortgagee exclusion requirements	3.3	523692	136668	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=externalDocuments&keyVal=PWLD5GIJ02X00	1	N	Permitted 01/10/2020	3.87 ha	No
239	Horsham District Council	DC/19/1612	Construction of a Bus Gate to enable buses to pass between the residential neighbourhoods of Bewbush and Kilnwood Vale along with associated pedestrian walkway, drainage and landscaping	4.8	523954	135029	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=PVVDN2IJKCL00	1	N	Permitted 11/02/2020	0.03 ha	No
240	Horsham District Council	DC/19/2310	Retrospective application for the removal of 10m of hedging, the creation of new road access, installation of a 300mm pipe into existing ditch and laying of hardstanding	2.4	523169	138274	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?keyVal=Q0V5UCIJLJ900&activeTab=summary	1	N	Registered	8400 sqm	No
241	Horsham District Council	DC/19/2289	Outline application for the demolition of existing residential units and erection of 22 two storey residential units with ancillary parking, landscaping and access. All matters reserved	5.5	521472	135510	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=Q0NR7SJJLI300	1	N	Withdrawn	1440 sqm	No
149	Horsham District Council	DC/10/1612	Housing/Mixed Development site allocated in the Horsham DC Planning Framework (Adopted 2015). Outline approval for the development of approximately 2500 dwellings, new access from A264 and a secondary access from A264, neighbourhood centre, comprising retail, community building with library facility, public house, primary care centre and care home, main pumping station, land for primary school and nursery, land for employment uses, new rail station, energy centre and associated amenity space. Full planning permission for engineering operations associated with landfill remediation and associated infrastructure including pumping station. Full permission for the development of Phase 1 of 291 dwellings, internal roads, garages, driveways, 756 parking spaces, pathways, sub-station, flood attenuation ponds and associated amenity space. Full permission for the construction of a 3 to 6 metre high (above ground level) noise attenuation landform for approximately 700 metres, associated landscaping, pedestrian/cycleway and service provision (land known as Kilnwood Vale). Additional phase reserved matters applications: DC/17/1473, DC/17/1993, DC/16/1841, DC/18/1213, DC/17/1223.	6.7	521976	135454	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?keyVal=L6VMS8IJ01S00&activeTab=summary	1	YES	Permitted 17/10/2011 Under construction		Yes
151	Horsham District Council	DC/16/1677	Horsham Strategic Location, allocated in the 2015 Local Plan. Outline planning application for a mixed use development for up to 2,750 dwellings and up to 46,450m2 of business park, plus retail and community facilities.	9.8	518749	133814	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?keyVal=QAWWY6IJLCX00&activeTab=summary	1	YES	Permitted 01/03/2018		No
329	Horsham District Council	DC/20/0882	Change of use from residential dwelling to mixed-use purposes comprising a residential living unit and as a community meeting facility. Demolition of existing structures and erection of part single storey, part two-storey rear extension with associated internal alterations and two-storey meeting hall with glazed link to proposed extension. Alterations to existing access and proposed car parking.	1.3km	525125	138572	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=QA69REIJFQP00	1	N	Granted on 10/12/2020	0.2ha	No
330	Horsham District Council	DC/20/0380	Erection of a replacement building, study centre, polytunnels and kitchen / cafe to provide enhanced day care facilities on site along with associated hard and soft landscaping and enhanced car parking layout, following demolition of existing garage building and derelict building	1.1km	524979	138838	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=Q69LW4IJMSW00	1	N	Granted on 23/12/2020	2.67ha	No
332	Horsham District Council	DC/20/1794	Temporary change of use of part of Building No.4 from an equestrian livery (Sui Generis) to a vintage car storage use (Use Class B8) for a period of two years	5.3km	520678	137042	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=QGV0FLIJHG400	1	N	Granted on 26/11/2020	0.1ha	No
333	Horsham District Council	NC/20/0015	Erection of 85 affordable houses and flats, access roads, car parking, sports pitch, open space and associated works	5.3km	524631	134908	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?keyVal=Q9GF3FIJ02X00&activeTab=summary	1	N	No Objection on 09/06/2020	Not Stated	No
334	Horsham District Council	DC/20/0470	Outline application for the erection of 473 dwellings, with new access provided off the Crawley Road, with associated areas of open space and landscaping. All matters reserved apart from access	8.2km	520501	132635	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?keyVal=Q6RVZMIJ0F800&activeTab=summary	1	N	Refused on 29/07/2020. An Appeal has been lodged - APP/Z3825/W/21/3266503	26.4ha	Yes
Mole Valley DC												
242	Mole Valley District Council	MO/2019/1139	Change of use from storage (Use Class B8) to car servicing unit (Use Class B2)	0.8	526424	142548	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1139&theTabNo=3	1	N	Appoved with conditions - 19/09/2019	3417 sqm	No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
243	Mole Valley District Council	MO/2019/1347	Erection of conservatory following removal of existing structure.	0.9	527228	142403	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1347&theTabNo=1	1	N	Approved with conditions - 13/09/2019	Unknown	No
244	Mole Valley District Council	MO/2019/1326	Change of use of land for Horse Rescue Centre. Erection of 24 No. stables and 3 No. tack rooms, storage building and sandschool (20m x 10m).	2.7	523606	142986	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1326&theTabNo=3	1	N	Application under appeal	0.1 ha	No
245	Mole Valley District Council	MO/2019/1602	Erection of single storey garage to the front of the property.	0.6	526582	141907	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1602&theTabNo=1	1	N	Refused and dismissed on appeal	Unknown	No
246	Mole Valley District Council	MO/2019/1632	Certificate of Lawfulness for a proposed development in respect of the erection of a rear single storey extension following demolition of existing.	1	526450	141920	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1632&theTabNo=1	1	N	Approved - 30/10/2019	Unknown	No
247	Mole Valley District Council	MO/2019/1808	Demolition of existing buildings and erection of 8 No. residential units with associated landscaping and parking.	1	524601	140989	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1808	1	N	Refused and dismissed on appeal	0.09 ha	No
248	Mole Valley District Council	MO/2019/1900	Erection of detached double garage, workshop and store following demolition of existing detached garage.	1	524305	140870	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1900&theTabNo=1	1	N	Approved with conditions 17/01/2020	Unknown	No
249	Mole Valley District Council	MO/2019/1946	Prior notification for the erection of a single storey rear extension of 8 metres deep by 4 metres high and a height at the eaves of 3 metres.	1.2	526715	142624	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1946&theTabNo=1	1	N	Prior approval not required 04/12/2020	Unknown	No
250	Mole Valley District Council	MO/2019/1954	Erect upper floor over existing bungalow, with new roof structure and front porch canopy.	2	526715	142624	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/1954	1	N	Approved 11/12/2019	Unknown	No
251	Mole Valley District Council	MO/2019/2088	Erection of single storey side extension.	1.4	525120	141195	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/2088&theTabNo=1	1	N	Approved 17/01/2020	Unknown	No
177	Mole Valley District Council	MO/2012/1621	Identified for housing allocation - ca. 34 units. Outline PP MO/2012/1621 was refused in 2013 and dismissed on appeal. On five grounds, including that it would be an "Undesirable intrusion of residential development" and inappropriate development contrary to Policy CS1 of the Core Strategy. Permission was also refused on grounds of prematurity, lack of infrastructure contribution, flooding evidence and archaeological evidence.	1.7	526356	142739	http://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2012/1621	1		Refused 09/04/2013	3.4	No
335	Mole Valley District Council	MO/2020/0412	Outline application for the consideration of access in respect of the erection of 12 No. dwellings following the demolition of all existing buildings on the site (part of site in Mole Valley area).	2.5km	524568	143277	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2020/0412	1	N	Refused on 03/12/2020	0.6ha	No
336	Mole Valley District Council	MO/2020/0639	Outline application for the erection of 12 proposed dwellings following demolition of all existing buildings. All matters reserved except for access. (Reigate and Banstead application - for consultation purposes only)	2.4km	524568	143277	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2020/0639	1	N	Objection on 27/11/2020	Not Stated	No
337	Mole Valley District Council	MO/2020/0667	Outline planning permission for a residential scheme of up to 60 dwellings, with associated landscaping, amenity space, sustainable urban drainage system (SuDS), and associated works. All matters reserved except for access.	8km	516634	140205	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2020/0667	1	N	Refused on 08/10/2020	4ha	No
338	Mole Valley District Council	MO/2020/0191	Change of use from Use Class B1 (Offices) to Use Class A1 (Beautician).	0.2km	526893	142184	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2020/0191&theTabNo=1	1	N	Approved on 30/04/2020	0.004ha	No
339	Mole Valley District Council	MO/2019/0070	The retention of the existing exploratory well site and vehicular access onto Horse Hill; the appraisal and further flow testing of the existing bore hole (Horse Hill - 1) for hydrocarbons, including the drilling of a (deviated) sidetrack well and flow testing for hydrocarbons; installation of a second well cellar and drilling a second (deviated) borehole (Horse Hill - 2) and flow testing for hydrocarbons; erection of security fencing on an extended site area; erection of acoustic/light barrier; modifications to the internal access track; installation of plant, cabins and equipment, all on some 2.08ha, for a temporary period of three years, with restoration to agriculture and woodland	3.37	424316	143598	https://www.molevalley.gov.uk/swiftlg/apas/run/WPHAPPDETAIL.DisplayUrl?theApnID=MO/2019/0070	1	N	Approved 05/09/2019	Unknown	No
Mid Sussex District Council												
81	Mid Sussex District Council	13/04127/OUTES	Outline planning application for up to 500 homes, a primary school and doctors surgery, up to 15,500sqm employment floorspace (B1c light industry/B8 storage and distribution), public open space, allotments, associated landscaping, infrastructure (including sub stations and pumping station) and pedestrian and cycle access, with a principal vehicular access from the A264 and a secondary vehicular access from Shipley Bridge Lane with all matters reserved except for access.	2.7	530506	138843	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?keyVal=MX8I7SKT0BF00&activeTab=summary	1	Y	Permitted on 25/05/2016	54.2ha	Yes
82	Mid Sussex District Council	DM/18/3525	Use of land as a permanent residential site for travellers. SITE A - laying out of 10 pitches. Erection of manager's office and amenity blocks. SITE B - laying out of 3 permanent pitches. Construction of internal access roads, drainage works and landscaping. Single vehicular access to Copthorne Road to serve both sites. Provision of footpath within the highway verge along Copthorne Road.	3.3	530976	138541	https://pa.midsussex.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Permitted on 25/02/2019	1.85ha	No
83	Mid Sussex District Council	14/04662/OUT	Demolition of existing buildings associated with Holly Farm and the Hollywood Holiday Camp site and redevelopment of the site so as to accommodate 45 dwellings together with associated new access road, car parking, landscaping and open space.	2.9	530752	138730	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=NH1EYCKT07Z00	1	N	Permitted on 21/07/2015	3.58	No
252	Mid Sussex District Council	DM/15/4094	Reserved Matters application relating to outline application AP/16/0038 (DM/15/4094) seeking the approval of layout, scale, appearance and landscaping. Amended plans received on 26 September showing revised levels, revised house types and revised layout | Land South Of Hazel Close Crawley Down West Sussex	5.9	535261	137492	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PV6ZETKT0DA00	1	N	Permitted 22/11/2019	2.71 ha	No
253	Mid Sussex District Council	DM/19/2938	Outline application for up to 30 self-custom build plots with all matters reserved apart from access	6.2	535923	138746	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PV39BPKT0CP00	1	N	Refused	3.7 ha	No
254	Mid Sussex District Council	DM/19/2758	Erection of stables and associated hardstanding	4.5	532178	136395	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PUGYRYKT0DH00	1	N	Permitted - 23/08/2019	1.5 ha	No
255	Mid Sussex District Council	DM/19/2719	Demolition of existing single storey extensions and detached outbuilding. Erection of three storey side and rear extension to create 8 flats (2 x 1 bedroom and 6 x 2 bedroom) and a staff flat (1 x 2 bedroom) with Juliette balconies on the front, rear and south side elevations. Associated car and cycle parking, and landscaping. Refurbishment of retained public house. Continued use of part of ground floor at public house with ancillary floor space in the basement.	5.8	534665	137492	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PUDCDXKT0DH00	1	N	Refused	0.11 ha	No
256	Mid Sussex District Council	DM/19/3983	Certificate of Existing Lawful Use or Development for a mixed-use comprising: car breakers yard for the dismantling, processing and recycling of motor vehicles including the sale of parts and vehicles; long term off-airport car parking; and, outdoor storage of motor vehicles for organisations and companies not associated with Bridges Recycling Ltd	6.8	526173	132524	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PYFSXCKT08C00	1	N	Pending consideration	Unknown	No
257	Mid Sussex District Council	DM/19/4553	Construction of a footpath/cyclepath	1.6	530388	138624	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=Q0FVJYKT0CP00	1	N	Approved 21/10/2020	0.75 ha	No
132	Mid Sussex District Council	DM/15/4711	Housing allocation in Mid Sussex District Plan 2014-2031 (Adopted 2018). The phased development of approximately 600 dwellings (Use Class C3), (including affordable housing), 48 bed care facility (Use Class C2), Community building (Use Class D1), cafe (Use Class A3) and retail (Use Class A1), up to 1 form-entry primary school (Use Class D1), hard/soft landscaping including a noise bund/fence, infrastructure provision, creation of accesses and car parking. The application includes demolition of 2 dwelling houses, ancillary agricultural buildings, removal of waste facility and stopping up existing vehicular access (post construction). (additional information submitted 7th March 2016)	6.9	526809	133318	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?keyVal=NYDCZGKT04L00&activeTab=summary	1		Approved 28/11/2016	44.89ha	No
340	Mid Sussex District Council	DM/21/0028	Change of use of existing dwelling and outbuildings to create a C2 care facility with staff accommodation and associated landscaping and parking	7.3	533534	139307	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QMGYCJKT07Z00	1	N	Awaiting decision	1370sqm	No
341	Mid Sussex District Council	DM/20/4127	Outline application for an expansion of the existing commercial estate with up to 7,310 sq m of new commercial space. There is currently 3,243 sq m of existing commercial space, of which 2,530 sq m will be retained and 713 sq m of lower-quality, temporary buildings and portacabins removed. The proposed increase over the existing commercial floor space is 6,597 sq m and the total amount of commercial space available on the site post expansion will be up to 9,840 sq m. We are also seeking permission for a replacement of the existing dwelling, and the creation of a new public footpath. The application is in outline, with all matters reserved except for access.	7.3	533472	138911	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QJDGE4KT0CP00	1	N	Awaiting decision	6.7	Yes
342	Mid Sussex District Council	DM/20/3081	The development of a 64 bed care home (Class C2) and associated infrastructure, including a new access road, car park and landscaped gardens	7.2	533519	139402	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QFK80PKT0CP00	1	N	Awaiting decision	3919.4sqm	No
343	Mid Sussex District Council	DM/20/2332	Demolition of Cedars and erection of B1/B2/B8 (flexible) floorspace across 4 buildings (7 units) of varying sizes. Alteration to site access and provision of hard/soft landscaping.	8.8	526079	132502	https://pa.midsussex.gov.uk/online-applications/simpleSearchResults.do?action=firstPage	1	N	Awaiting decision	2.3	No
344	Mid Sussex District Council	DM/20/4562	Erection of a 'drive thru' building together with associated 'drive thru' lane and associated signage	8.2	526179	133096	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QL2UM9KT08C00	1	N	Awaiting decision	3964sqm	No
345	Mid Sussex District Council	DM/20/3808	Demolition of existing agricultural building and the construction of a replacement building for leisure use	7.9	532359	135899	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QI72U9KT0DA00	1	N	Permitted 21/12/2020	Unknown	No
346	Mid Sussex District Council	DM/20/1183	Construction of a new two storey Sixth Form Centre and associated landscaping works	8.9	531870	134281	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?keyVal=Q7UIWGKT0DA00&activeTab=summary	1	N	Permitted 22/06/2020	5545sqm	No
347	Mid Sussex District Council	DM/20/2150	Alteration and extension to the existing public car parking area to form 18 electric vehicle charing spaces and 20 no charging spaces for an overall addition of 10 parking spaces	8.2	526179	133096	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=QCDGL7KT04L00	1	N	Permitted 27/08/2020	2.5	No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
348	Mid Sussex District Council	DM/19/2242	Reserved Matters Application pursuant to planning consent DM/15/3614 for the erection of 44no. dwellings and associated car parking, play area, hard and soft landscaping, and swales. (Amended drawings received dated 5th December relating to layout and design matters)	8	533796	137993	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?activeTab=summary&keyVal=PTAFLNKT04L00	1	N	Permitted 23/01/2020	4.2	No
350	Mid Sussex District Council	DM/17/2648	Creation of a new B2 use workshop building with ancillary offices and associated site works and landscaping.	7.91	526126	132988	https://pa.midsussex.gov.uk/online-applications/applicationDetails.do?keyVal=OS7BZHKT0CP00&activeTab=summary	1	N	Approved 26/01/2018	Unknown	No
West Sussex CC												
85	West Sussex County Council	WSCC/040/17/BA	Temporary permission for exploration and appraisal comprising the flow testing and monitoring of the existing hydrocarbon lateral borehole along with site security fencing, the provision of an enclosed testing flare and site restoration	3.6	531033	129250	https://westsussex.planning-register.co.uk/Planning/Display/WSCC/040/17/BA	1	N	Permitted on 10/01/2018 - assumed under construction	0.58ha	No
86	West Sussex County Council	WSCC/053/16/CR	Erection of a rail fed concrete batching plant, with associated ancillary structures and facilities, including HGV and car parking	1.2	528680	139074	https://westsussex.planning-register.co.uk/Planning/Display/WSCC/053/16/CR	1	N	Permitted on 01/11/2016 - assumed completed	0.31ha	No
87	West Sussex County Council	WSCC/032/19	Construction and operation of a sludge cake reception building and sludge cake loading tunnel/building.	4.0	528947	120699	https://westsussex.planning-register.co.uk/Planning/Display/WSCC/032/19	1	N	Permitted 02/04/2019	1.67ha	No
Surrey CC												
193	Surrey County Council	Horse Hill Well Site (RE18/02667/CON)	Retention and extension of an existing well site, HH1 and HH2 wells, and vehicular access to allow: the drilling of four new hydrocarbon wells and one water reinjection well; the construction of a process and storage area and tanker loading facility; new boundary fencing; well maintenance workovers and sidetrack drilling; and ancillary development enabling the production of hydrocarbons from six wells, for a period of 25 years.	1.9	525342	143607	https://planning.surreycc.gov.uk/planappdisp.aspx?AppNo=SCC+Ref+2018%2f0152	1		Permitted - 27/09/2019	2.8ha	No
351	Surrey County Council	2020/0025	Operation of the Earlswood Material Bulking Facility for the importation, bulking, storage and transfer of waste, weighbridge office and two weighbridges, external covered bulking bays with hardstanding area, all accessed via the existing Earlswood Depot.	6.4km	527644	148312	https://planning.surreycc.gov.uk/planappdisp.aspx?AppNo=SCC%20Ref%202020/0025	1	N	Granted on 23/11/2020	0.9ha	No
325	Surrey County Council	2020/0015	Extension of an existing materials recycling/recovery building to allow for the internal reconfiguration of the recycling/recovery plant and machinery, and to allow for internal stockpiling of unprocessed waste.	3km	525944	144597	https://planning.surreycc.gov.uk/planappdisp.aspx?AppNo=SCC%20Ref%202020/0015	1	N	Granted on 03/08/2020	0.13ha	No
Tier 2 Sites												
328	Horsham District Council	EIA/20/0004	EIA Scoping for West of Ifield - allocated site. EIA Scoping for West of Ifield - allocated site. The proposed development is on a site of 194 hectares in size with a minimum of 3,250 homes and up to 4,000 homes along with social infrastructure, green infrastructure and highway links.	1.5km	524943	138596	https://public-access.horsham.gov.uk/public-access/applicationDetails.do?activeTab=summary&keyVal=QH4751UJ02X00	1	Y	EIA Advice Given on 07/12/2020	Not Stated	Yes
385	London Borough of Hillingdon	TR020003 (PINS Reference)	Expansion of Heathrow Airport to enable at least 740,000 air traffic movements per annum and including a new runway to the north-west of the existing airport; supporting airfield, terminal and transport infrastructure; works to the M25, local roads and rivers; temporary construction works, mitigation works and other associated development.	40km	507237	175755	https://infrastructure.planninginspectorate.gov.uk/projects/london/expansion-of-heathrow-airport-third-runway/?ipcsection=overview#	2	Yes	Scoping report submitteed		Yes
Tier 3 Sites												
Crawley Borough Council												
111	Crawley Borough Council	Land to the south east of Heathy Farm, Balcombe Road	Part of the Forge Wood Key Housing Site Allocation under Local Plan, identified as "Residual Land at Forge Wood". No applications have come forward to date.	2.2	529795	138958		3		Crawley Local Plan 2030 (Adopted)		No
112	Crawley Borough Council	Tinsley Lane	Key Housing Site Allocation for 120 dwellings and community uses under Local Plan. Outline application CR/2018/0544/OUT for 150 units and community uses submitted in July 2018 which was refused.	2.2	528420	138402	https://planningregister.crawley.gov.uk/Planning/Display/CR/2018/0544/OUT	3		Crawley Local Plan 2030 (Adopted)		Yes
113	Crawley Borough Council	Land East of London Road, Northgate	Land identified as broad location for housing development circa 171 net dwellings	2.3	526977	137973		3		Crawley Local Plan 2030 (Adopted)		No
114	Crawley Borough Council	Former GSK Site, Manor Royal	Employment - The site is cleared with planning permission for 2 x B8 data storage buildings, associated external plant, HV sub-station, future siting of prefabricated data storage building and associated plant. 6.59 hectares with 25,317 sqm available for buisness space.	2.4	527781	138015		3		Crawley Local Plan 2030 (Adopted)		No
115	Crawley Borough Council	Former GSK Site, Manor Royal	Part of the Manor Royal Main Employment Area Site Allocation under Local Plan. The site has an extensive planning history. Outline PP CR/2012/0134/OUT was granted for a mixed use employment park. Reserved matters CR/2015/0286/ARM was approved in 2015. Applications for the approval of the design for the spine road, linking Crawley Avenue to Manor Royal, and details required by some of the conditions attached to this Outline Planning Permission, and in particular the Landscape Master Plan, have also been approved under references CR/2012/0134/ARM, CR/2012/0134/CC1 and CR/2012/1034/CC2. The spine road is complete. Reserved matters were approved last year for the remainder of the site under reference CR/2014/0415/ARM.	2.4	527781	138015	https://planningregister.crawley.gov.uk/Planning/Display/CR/2012/0134/OUT	3		Crawley Local Plan 2030 (Adopted)		No
353	Crawley Borough Council	7 - 13 The Broadway & 1 - 3 Queens Square	Housing allocation for 25 dwellings	4.6	526936	136737	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.07	No
354	Crawley Borough Council	Land adjacent to Sutherland House	Housing allocation for 30 dwellings	5.1	528303	136541	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.2	No
355	Crawley Borough Council	Shaw House, Pegler Way	Housing allocation for 33 dwellings	4.7	526663	136659	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.2	No
356	Crawley Borough Council	Land adjacent to Desmond Anderson	Housing allocation for 150 dwellings	6.6	526984	134729	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	3.39	Yes
357	Crawley Borough Council	Land to the southeast of Heathy Farm, Balcombe Road	Housing allocation for 150 dwellings	4.1	529902	138968	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	4.15	Yes
358	Crawley Borough Council	The Imperial, Broadfield Barton	Housing allocation for 19 dwellings. Development of this site must include a drinking establishment (A4 Use) and two retail (A1 Use) units	6.7	525676	134654	https://planningregister.crawley.gov.uk/Planning/Display/CR/2017/0519/FUL	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.1	No
359	Crawley Borough Council	Telford Place/ Haslett Avenue	Town Centre Key Opportunity Site - Housing allocation for 300 dwellings	5	527349	136433	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	1.68	Yes
360	Crawley Borough Council	County Buildings	Town Centre Key Opportunity Site - Housing allocation for 100 dwellings	4.5	527303	136937	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.58	No
361	Crawley Borough Council	Crawley College	Town Centre Key Opportunity Site - Housing allocation for 400 dwellings	4.7	527381	136726	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	3.05	Yes
362	Crawley Borough Council	Land at Cross Keys	Town Centre Key Opportunity Site - Housing allocation for 20 dwellings	4.8	526850	136575	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.24	No
363	Crawley Borough Council	Breezehurst Drive Playing Fields	Mixed use allocation comprising 65 dwellings, improvements/new recreation facilities and provision of allotments	6.7	524648	134920	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	2.71	No
364	Crawley Borough Council	Henty Close, Bewbush	Housing allocation for 24 dwellings with replacement play area in a suitable location	6.7	524010	135063	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.35	No
365	Crawley Borough Council	Rushetts Road Play Area	Housing allocation for 14 dwellings with replacement play area in a suitable location	3.3	525794	138103	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.4	No
366	Crawley Borough Council	Land east of Balcombe Road/Street Hill	Housing allocation for 15 dwellings	6.4	530150	136116	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	1.4	No
367	Crawley Borough Council	St. Catherine's Hospice	Housing allcoation for 60 dwellings (Class C3 Use) for older people and/or residential rooms as Class C2 (Residential Home) Use	5.6	526764	135783	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	0.73	No
368	Crawley Borough Council	Land east of Balcombe Road and South of the M23 Spur - 'Gatwick Green'	Allocated for an industrial-led Strategic Employment Location that will provide as a minimum 24.1ha new industrial land, predominantly for B8 storage and distribution use	2.5	529030	141252	n/a	3		Crawley Local Plan 2021-2037 (Regulation 19)	24.1	Yes
386	Crawley Borough Council	Gatwick Airport Sewage Treatment Works	Land within the airport available for extension to the Crawley Sewage Treatment Works if required.	0	529213	140141	n/a	3		Potential Gatwick future development.	Unknown	Yes
Mid Sussex DC												
369	Mid Sussex District Council	Cedars (Former Crawley Forest School), Brighton Road, Pease Pottage	Employment land within use classes B1 (Business/Light Industrial), B2 (General Industrial) and B8 (Storage and Distribution) are appropriate for this site, and proposals for these uses will be supported.	8.8	526066	132527	n/a	3		Site Allocations Document Development Plan Document (Submitted to Planning Inspectorate - December 2020)	2.3	No
370	Mid Sussex District Council	Pease Pottage Nurseries, Brighton Road, Pease Pottage	Employment land within use classes B1 (Business/Light Industrial), B2 (General Industrial) and B8 (Storage and Distribution) are appropriate for this site, and proposals for these uses will be supported.	9	526073	132357	n/a	3		Site Allocations Document Development Plan Document (Submitted to Planning Inspectorate - December 2020)	1	No
371	Mid Sussex District Council	Land north of Burleigh Lane, Crawley Down	Housing allocation for 50 dwellings	9.4	535011	137260	n/a	3		Site Allocations Document Development Plan Document (Submitted to Planning Inspectorate - December 2020)	2.25	No
372	Mid Sussex District Council	Withypitts Farm, Selsfield Road, Turners Hill	Housing allocation for 16 dwellings	9.9	534177	134969	n/a	3		Site Allocations Document Development Plan Document (Submitted to Planning Inspectorate - December 2020)	1.7	No
373	Mid Sussex District Council	Land to the West of Woodhurst Farm, Old Brighton Road South, Pease Pottage	SHELAA ref 603. Currently used for agriculture, the site has the potential to yield 660 units in mid-long term.	8.32	525509	132675	n/a	3		SHELAA Site	Unknown	No

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374	Mid Sussex District Council	Woodhurst Farmhouse, Old Brighton Road South, Pease Pottage	SHELAA ref 581. Currently used for dwellings, agriculture and outdoor activities, the site has the potential to yield 150 nunits in mid- long term	8.3	525864	132589	n/a	3		SHELAA Site	Unknown	No
375	Mid Sussex District Council	Copthorne Golf Club, Copthorne Common Road, Copthorne	SHELAA ref 141, site area 8.6 ha. Currently used for sports facilities and grounds. The site has the potential to yield 135 dwellings in mid-long term.	5.3	532317	139331	n/a	3		SHELAA Site	Unknown	No
376	Mid Sussex District Council	Land to west of Turners Hill Road, Crawley Down	SHELAA ref. 688	7.2	533573	137432	n/a	3		SHELAA Site	Unknown	No
377	Mid Sussex District Council	Crabbet Park, Old Hollow, Near Crawley, Worth	SHELAA ref 18. site area 172 ha. Currently used for agriculture, forest and dwellings. Has the potential to yield 2300 dwellings in mid-long term development.	4.43	530392	137725	n/a	3		SHELAA Site	Unknown	No
Reigate & Banstead Borough Council												
133	Reigate and Banstead Borough Council	Land west of Balcombe Road, Horley Strategic Business Park	Horley Employment Park - Strategic Employment Site - 83ha with 200,000 sqm office space.	0.4	528952	141987		3		Development Management Plan 2018-2027 (Adopted Sept 2019)		Yes
134	ite and Banstead Borough Cou	Land off the Close and Haroldslea Drive	Residential allocation, up to 40 new homes, 2.4 hectare site.	1.2	529680	142225		3		Development Management Plan 2018-2027 (Adopted Sept 2019)		Yes
135	Reigate and Banstead Borough Council	Land at Meath Green	Residential - up to 75 new homes + open space, 9.9 hectares site.	2.4	527222	144199		3		Development Management Plan 2018-2027 (Adopted Sept 2019)		No
137	Reigate and Banstead Borough Council	Perrywood Business Park	Employment - Mixed Use 7ha site with 24,890 sqm buisness space, 52 units.	4.4	528831	146322	Existing	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	7	No
138	Reigate and Banstead Borough Council	Land at Dovers Farm	The site is allocated for 120 homes including 25 homes for older people and 1 traveller pitch	6.2	525956	147746	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	6.1	No
139	Reigate and Banstead Borough Council	East Surrey Hospital	Employment - 24 hectare land for hospital uses, medical related ancillary uses and key worker accommodation	6.3	528471	148263	Existing but some areas for expansion no applications submitted	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	26	No
140	Reigate and Banstead Borough Council	Land at Sandcross Lane	Thakeham Homes - 290 housing units and small scale commercial as well as health facility and open space on a 16.1 hectare site.	7.2	525136	148534	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	16.67	No
141	Reigate and Banstead Borough Council	Land west of Copyhold Works and Former Copyhold Works	Employment - 17.2 hectare site for 210 units and a school or community facility	8.3	529095	150188	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	17.2	No
142	Reigate and Banstead Borough Council	Reading Arch Road/ Brighton Road North	Employment - 1.94 hectare site with 4,000 sqm for office space and 150 residential units	8.5	527917	150188	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	1.94	No
143	Reigate and Banstead Borough Council	Salfords Industrial Estate	Employment - 24.8 hectare site with 77,965 sqm buisness space.	3.9	528425	145893	Existing	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	24.8	No
144	Reigate and Banstead Borough Council	RNIB College, Philanthropic Road	total of 61 housing units. PP 14/02562/F was granted for 102 dwellings, 500m2 B1, D2 and D3, parking and landscaping. Conditions have been discharged and the scheme seems to be under construction. (Further conditions have since been discharged, e..g16/00333/S73) Same as ID50	7.7	528724	149478	See ID 50	3		Development Management Plan 2018-2027 (Adopted Sept 2019)		No
165	Reigate and Banstead Borough Council	Former Chequers Hotel, Bonehurst Road	Approx. 45 homes	2.5	528409	144102	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	1.1	No
166	Reigate and Banstead Borough Council	59-61 Brighton Road, Horley	Approx. 20 homes	1.9	528545	142953	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	1	No
167	Reigate and Banstead Borough Council	Telephone Exchange, Victoria Road South	Approx. 30 homes and community uses	1.9	528307	143044	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	0.3	No
184	Reigate and Banstead Borough Council	Colebrook, Noke Drive	Approx. 110 units and community uses	9.0	528353	150717	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	1.47	No
185	Reigate and Banstead Borough Council	Former Longmead Centre	Approx. 20 homes	7.8	527722	150488	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	0.22	No
186	Reigate and Banstead Borough Council	Land at Hillsbrow, Redhill	The site is allocated for 145 homes including 25 homes for older people and 1 traveller pitch	7.9	528714	149986	No recent applications submitted. Outline application 09/00832/OUT was refused in Nov 2009 for a small area for Mixed use dev 93 residential units, retail space, medical centre and creche	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	9.3	No
187	Reigate and Banstead Borough Council	Land adjacent to the Town Hall, Castlefield Road	Office only: approximately 1,500sqm; or Residential only: approximately 30 new homes	8.6	525414	150376	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	0.25	No
188	Reigate and Banstead Borough Council	Library and Pool House, Bancroft Road, Reigate	Opportunity site for Retail, commercial, leisure or community: up to 1,000sqm; and Residential: approximately 25 new homes	7.9	525532	150156	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	0.22	No
189	Reigate and Banstead Borough Council	Land West of Castle Drive	Approximately 10 new homes	8.0	525600	147835	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	1.06	No
190	Reigate and Banstead Borough Council	High Street Car Park, Horley	Approximately 1,000m2 of retail/leisure and approx. 40 homes	8.1	525774	159825	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	0.28	No
191	Reigate and Banstead Borough Council	Horley Police Station, 15 Massetts Road	Approx. 20 homes	1.8	528437	142923	No applications	3		Development Management Plan 2018-2027 (Adopted Sept 2019)	0.15	No
Tandridge District Council												
145	Tandridge District Council	Land at Plough Road and Redehall Road, Smallfield	160 residential units, 5 hectare site under Proposed Plan	3.6	532038	143032	No applications	3		Local Plan 2033 (Reg 19 - to be adopted Q1 2020)	9.2	Yes
146	Tandridge District Council	Land North of Plough Road, Smallfield	120 residential units, 9.2 hectare site under Proposed Plan	4.0	532241	143436	No applications	3		Local Plan 2033 (Reg 19 - to be adopted Q1 2020)	9.2	Yes
147	Tandridge District Council	Cophall Farm, Copthorne	8 hectare site under Proposed Plan - employment use	4.3	532880	140719	No applications	3		Local Plan 2033 (Reg 19 - to be adopted Q1 2020)	8	No
148	Tandridge District Council	Hobbs Industrial Estate, Felbridge	22 hectare site under Proposed Plan - employment use	7.4	536003	141243	No applications	3		Local Plan 2033 (Reg 19 - to be adopted Q1 2020)	22	No
168	Tandridge District Council	Chapel Road, Smallfield and Woodlands Garage, Chapel Road	25 units under Proposed Plan	3.7	531782	143381	No applications	3		Local Plan 2033 (Reg 19 - to be adopted Q1 2020)	0.5	No
378	Tandridge District Council	Woodlands Garage, Chapel Road, Smallfield	Housing allocation for 10 dwellings	5.6	531786	143371	n/a	3		Local Plan 2033 (Submission January 2019)	0.2	No
380	Tandridge District Council	Snowhill Business Centre, Copthorne	Employment allocation for additional 0.03ha	7.3	533567	139314	n/a	3		Local Plan 2033 (Submission January 2019)	0.35	No
381	Tandridge District Council	Systems House, Blindley Heath	Employment allocation for regeneration, enhancement and protection of site	10.5	536205	145689	n/a	3		Local Plan 2033 (Submission January 2019)	0.98	No
382	Tandridge District Council	Redhill Aerodrome Industrial Area, South Nutfield	Employment allocation for additional 0.43ha	7.5	529788	148180	n/a	3		Local Plan 2033 (Submission January 2019)	6.01	No

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383	Tandridge District Council	Priory Farm, South Nutfield	Employment allocation for regeneration, enhancement and protection of site	9.4	530255	150075	n/a	3		Local Plan 2033 (Submission January 2019)	1.46	No
Horsham												
150	Horsham District Council	Warnham and Wealden Brickworks, North West Horsham	Employment Site Allocation (Policy CP11): AL14 for 24.4 hecrates. This site is close to the allocated site "North of Horsham". It is allocated for the the retention and rationalisation of the Warnham brick making factory; consider the provision of a new waste management facility; the provision of employment floorspace for B8 (Storage) and B2 (Industrial) uses; the retention of the existing power generation plant served by the adjacent landfill; and the preservation (either in situ, by conversion, or by comprehensive record) of structures of industrial archaeological interest on the site. A number of planning application are associated with the site, all associated with contiuous industrial use. Keep development of site under review.	9.71	517260	134557		3		Horsham DC Planning Framework (Adopted 2015)		No
Mole Valley DC												
152	Mole Valley District Council	Land north of Rosemary Lane	Identified for a potential ca. 150 housing units, 5.12 hectare site.	1.4	524405.0	141304.0	Not promoted in the Future Mole Valley Local Plan	3		Housing & Traveller Site Plan (Adopted 2014)		Yes
153	Mole Valley District Council	Land east of Ifield Road	Identified for a potential ca. 150 housing units, 9 hectare site with 5 hectares developable.	1.4	524176.0	140511.0	Not promoted in the Future Mole Valley Local Plan	3		Housing & Traveller Site Plan (Adopted 2014)		Yes
169	Mole Valley District Council	Breakspear Farm	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020) for 55 dwellings (SA06)	7.7	517404	144124	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	3.6	No
170	Mole Valley District Council	Land off Highlands Road	Identified for a potential ca. 15-20 homes.	7.6	517372	143415		3		Housing & Traveller Site Plan (Adopted 2014)	0.48	No
171	Mole Valley District Council	Land West of Old Horsham Road	Identified for a potential ca. 180-200 homes.	7,6	517154	143811		3		Housing & Traveller Site Plan (Adopted 2014)	9.8	No
172	Mole Valley District Council	Capel House Farm	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020) for 10 dwellings (net)	7.4	517633	141043	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	0.6	No
173	Mole Valley District Council	Land West of Horsham Road	Identified for a potential ca. 55 dwellings.	7,.5	517602	141290		3		Housing & Traveller Site Plan (Adopted 2014)	2.75	No
174	Mole Valley District Council	Land North of Bennetts Wood	Identified for housing - numbers not specified (site area is ca. 0.56 ha so numbers would be fairly low - assumed 10-20).	7.7	517180	140399		3		Housing & Traveller Site Plan (Adopted 2014)	0.56	No
175	Mole Valley District Council	Boxhill Caravans, Old Kiln Farm, Coles Lane	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020) for 37 dwellings and retention of existing commercial use	7.8	517052	140423	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	3.3	No
176	Mole Valley District Council	Land Rear of Moonshiners, Dolby Green	Identified for housing - numbers not specified (site area is ca. 0.26 ha so numbers would be fairly low - assumed ca. 10).	1.9	524135	140917		3		Housing & Traveller Site Plan (Adopted 2014)	0.26	No
264	Mole Valley District Council	Land West of Reigate Road, Hookwood Site Allocation Policy SA42	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020) for 450 dwellings and two gypsy and travellers pitches	0.3	526196	142428	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	22.3	Yes
265	Mole Valley District Council	Land rear of Redlands House, 62 The Street, Capel	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 6 dwellings	7.4	517472	141041	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	0.4	No
266	Mole Valley District Council	Land at Brook Cottage, Wolves Hill, Capel	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 46 dwellings	7.4	517271	139903	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	3.9	No
267	Mole Valley District Council	Land South of Beare Green	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 480 dwellings including two gypsy and traveller pitches plus site for primary school (ref SA05)	8.0	517381	143048	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	32	No
268	Mole Valley District Council	Land at the Priest's House, Leigh	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 13 dwellings (ref SA57)	6.5	522496	146780	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	0.5	No
269	Mole Valley District Council	Land at Tapners road, Leigh	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 10 dwellings (ref SA58)	6.6	522038	147095	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	0.4	No
270	Mole Valley District Council	Land south of Kennel Lane, Hookwood	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 21 dwellings (ref SA43)	0.3	526565	142597	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	0.7	No
271	Mole Valley District Council	Land adjacent to Three Ares, Hookwood	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 19 dwellings (ref SA44)	0.3	526627	142519	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	1	No
272	Mole Valley District Council	Land to the rear of the Six Bells, Newdigate	Site identified in the Reg 18 consultation draft local plan (Feb 2020 to March 2020)for 10 dwellings (ref SA61)	5.7	519629	142009	http://www.molevalley.gov.uk/media/pdf/6/i/Item_3_-_Future_Mole_Valley___consultation_on_draft_Local_Plan_.pdf	3		Regiulation 18 Consultation Draft Locla Plan Feb 2020 to March 2020	0.7	No
West Sussex County Council												
258	West Sussex County Council	Safeguarded Railheads, Crawley (Policy Map 7)	Policy M10: Crawley Good Yard (Policy Map 7) permanent railhead is safeguarded for the purposes of mineral transportation.	1.2	528684	139044	Existing rail head	3		Mineral and Waste Site	5	No
259	West Sussex County Council	Brockhurst Wood, near Horsham (Tier 3 long list site id 150)	Policy W10: allocated to meet identified shortfalls in transfer, recycling and recovery capacity. This site is allocated to meet an identified shortfall in non-inert landfill capacity.	8.8	517084	134819	Existing recycling facility and proposed landfill extension	3		Mineral and Waste Site	10	No
Surrey County Council												
194	Surrey County Council	South Holmwood Brickworks, Newdigate		6.6	518448	142399		1		Mineral and Waste Site	70	No
195	Surrey County Council	Clockhouse Brickworks, Capel	The site is a mothballed brickworks and clay quarry (safeguarded under Policy MC6 of the adopted Surrey Minerals Plan (2011)), with an area of search identified under Policy MC9 of the adopted Surrey Minerals Plan (2011).	7.6	517394	138540		1		Mineral and Waste Site	60+	No

ID	Local Authority	Application Reference	Applicant for 'other development' and brief description	Distance from project (km)	Easting	Northing	Application Details	Tier	Is EIA Required	Status (under construction, permitted, but not implemented, submitted and not determined)	Site Area (ha)	Included in PEIR shortlist
196	Surrey County Council	Days Rail Aggregate Depot, Salfords	The site is safeguarded as a rail aggregate depot under policy MC16 of the adopted Surrey Minerals Plan (2011), and is allocated for development as a temporary aggregate recycling facility under Policy AR2 of the adopted Aggregates Recycling Joint Development Plan Document (2013) for Surrey.	3.5	528495	146117		1		Mineral and Waste Site		No
197	Surrey County Council	Land at Earlswood Depot & Sewage Treatment Works, Woodhatch Road, Redhill	The area of land to the west of the sewage treatment works at Earlswood is currently allocated under Policy WD2 (Recycling, Storage, Transfer, Materials Recovery, & Processing Facilities (excluding Thermal Treatment)) of the adopted Surrey Waste Plan. That allocation would not be carried forward under the emerging Surrey Waste Local Plan.	5.5	527681	148271		1		Mineral and Waste Site		No
198	Surrey County Council	Former Copyhold Works, Nutfield Road, Redhill	The area of land to the east of the Patteson Court Landfill is currently allocated under Policy WD2 (Recycling, Storage, Transfer, Materials Recovery, & Processing Facilities (excluding Thermal Treatment)) of the adopted Surrey Waste Plan. That allocation would not be carried forward under the emerging Surrey Waste Local Plan.	7.8	528830	150393		1		Mineral and Waste Site		No
384	Surrey County Council	Land at Lambs Business Park, Terra Cotta Raod, South Godstone	Allocated for a small, medium or large scale thermal treatment facility	10.9	534955	148418	n/a	3		Surrey Waste Local Plan adopted December 2024	3	No