

Route 4 Airspace Change
Gatwick Airport Limited
7th Floor - Destinations Place
Gatwick
West Sussex
RH6 ONP

21st May 2019

Dear Sirs/ Madam

**Gatwick Airport Route 4 Departure;
Design in Principles Questionnaire – Local Government & Planners.**

As the newly elected Mole Valley District Councillor for Beare Green, I note Mole Valley's response in which they advised Gatwick Airport to consult with Parish Councils and in particular the Beare Green Village Association. I was a trustee of Beare Green Community Association until I had to stand down when I got elected in May. I suggest that in future consultations, if you wish to consult with the BGCA, you direct your papers to Trustee [REDACTED] who is interested in environmental matters. Route 4 passes directly over most of Beare Green and I note that the MVDC response does not specifically take into account local knowledge. I therefore respond as a past Trustee of the BGCA and as a local resident of 20yrs, who is the newly elected MVDC Councillor for Beare Green.

My response to your questionnaire is as follows:-

Q1 Issues and constraints you feel Gatwick Airport should consider when designing its new route 4 PBN departure procedure.

Any new route Route 4, should not allow any aircraft to slip outside the existing width of the NPR or to make a sharper turn. It should be positioned to pass over the minimum number of properties. This may mean that the apex of the turn could be widened slightly to ensure more flights go over less properties.

Consideration should be given to allowing a few flights to more southerly destinations to use the 26 Wizard route (currently used mostly for emergencies).

Q2 List facilities in the local areas that you believe could be prioritised when considering aircraft noise.

It is accepted that the path currently known as Route 4 provides a reasonable dispersal of noise when flights need to turn towards Dorking after take-off. However, it should also be noted that currently Route 4 planes often turn almost over the Weald Infant and Junior School and it's playing field, and that furthermore just down the road, are 2 Park Home Sites with about 170 caravans, the older of which are not fully insulated. The current route also has to fly over some ANOB, Green Belt and National Trust wooded common land. In respect of the land, consideration should be to the contours vs sound and plane heights, as some areas rise to 1000 feet.

Q3 Is dispersal of noise impact across a greater number of households preferable to the concentration of noise impacts on a smaller number of households.

Noise should be dispersed in fair measure around all properties within the existing NPR. No property or sensitive area like a Hospital, School, or area of high rural tourism, should suffer from excessive aircraft noise. Alternative routes are there to spread the load and effective traffic control should ensure that although 68% of flights are westerlies split across the 5 currently take-off routes, none should be in receipt of an unusually heavy amount of noise increase.

Q4 Highlight awareness of any particular sensitive issues with aircraft noise at night time.

Route 4 should not extend its "opening hours" beyond that already agreed. There are already planes taking off within the "closed hours" and this must not be extended. Anything that Gatwick Airport could do to lessen night-time noise through possibly lowering the capacity on Route 4 would be appreciated. This is a very rural area where noise disturbance is particularly noted at night when ambient noise is low. This is particularly prevalent in respect of the 2 Park Homes areas and the areas of ANOB which are generally quiet at night – until a plane flies over.

Q5 Identify any other areas, in adjacent Council/Borough areas that in your opinion may be sensitive to either direct overflight or exposure to Aircraft Noise.

Unable to comment

Q6 Do you believe that aircraft conducting continuous climbs to higher altitude after take-off may improve (lessen) exposure to noise. In your local area.

I have no personal knowledge of current research of engine noise relating to climb rate. I would expect that a steeper climb would probably lessen noise throughout the take-off and turning period. We currently seem to get more noise from planes turning than flying straight. If a steeper climb created more noise to properties below the route then it would obviously not be a good idea.

Q7 Tell us the locations of any particularly sensitive wildlife Habitats, not already notified that you feel aircraft should avoid.

Aircraft should be encouraged to stay within the NPR to lessen noise intrusion into the rural areas of Surrey Hills ANOB and Green Belt.

Q8 State the principals Gatwick Airport should adopt to mitigate (in full or part) concerns you may have regarding the impact of airliner emission or pollution.

Airlines will insist that aircraft should burn fuel at their most efficient rate, so emissions are currently likely to be as low as possible when near to the ground. Gatwick Airport cannot be responsible for the damage the aircraft is causing in areas outside the Airports control.

Gatwick Airport should already be working with the District Councils to test and monitor the quality of air in the overflowed areas on a regular basis. A new air quality test location is being considered in Beare Green to supplement the one already in Capel. The Airport may monitor its own air quality sites which can supplement the Mole Valley data.

Gatwick Airport / GATCOM should consider agreeing an acceptable level of air quality particulates and gasses that should be allowed inside and outside Schools and Hospitals, which are overflowed. In instances of poor quality, air purification machines should be considered within buildings occupied by young children. Hedges or fences hung with growing ivy has also been shown to be beneficial in cleansing poor quality air around schools.

It is presumed that Gatwick Airport already work closely with the Environment Agency to regularly check the water courses adjacent to the airports grounds. Water run-off from the runway will be contaminated with tyre and spilt fuel, thus all run-off into attenuation ponds should be filtered by any method possible, prior to any release into the River Mole or Tillingbourne.

Q9 Knowledge of any on-going local environmental studies of which Gatwick Airport should be aware.

I know of none.

Q10 Do existing long standing Noise Preferential Routes agreed with Gatwick Airport meet current and future planned local government requirements.

The clarity of NPR flight path's position provides knowledge, which one presumes assists residents in their choice of property location and assists the Council in future planning.

Q13 What other relevant local and national organisation should Gatwick Airport consult.

I know of no additional organisations whom Gatwick Airport should consult, but all District and Surrey County Councillors whose wards are overflowed, know what problems their residents are experiencing. They should be consulted in any further discussions around NPRs either individually or through their local Councils.

Yours sincerely

[Redacted Signature]

MVDC District Councillor for Beare Green

[Redacted Address]

■ I recently noted that Newdigate and Holmwood, were listed in the complaint's List of your quarterly flight performance report. However, you fail to specifically list Capel or Beare Green, both of whom get flown over on Route 4. There could be 3 miles between a Beare Green Property in Horsham Road and a Holmwood one in Holmwood Corner, so splitting your logging of complaints into post codes might create a more transparent report.

Route 4 Consultation - Design Principles Response

[REDACTED]
22/05/2019 at 10:20:28

From: [REDACTED]
Sent: 22/05/2019 at 10:20:28
To: [REDACTED]
Cc: [REDACTED] [REDACTED]

📎 1 Attachment(s) Total 182.6 KB View ^

 SurreyHills AONB.jpg (182.6 KB)

CYBER AWARE - Caution, this is an external email. Unless you recognise the sender and know the content is safe, do not click links or open attachments

Route 4 Design Principles as part of CAP 1616

Q1 Please advise us of any issues or constraints you feel Gatwick Airport should consider when designing its new Route 4 PBN departure procedure?

The Surrey Hills AONB is a nationally protected area celebrating its 60 year anniversary, which is situated just to the western and northern edges of the route 4 NPR. It runs from Tatsfield in the east to Hindhead in the west, a map is attached to this response. Leith Hill is the highest point at just over 1,000 feet and is situated very close to the NPR. According to figures produced by the National Trust, the AONB attracts over 1.5 million visitors per year who come all year round for its beauty and tranquillity. I suggest that members of this consortium visit Leith Hill Tower to monitor the current situation when Gatwick Airport is using Westerly operations including take-off route 4.

Aircraft using the NPR should stay as far away from this area as possible. If they were able to make a tighter turn using the inside of the NPR this would help alleviate this problem. I understand that there are issues with increased noise because of the tighter turn but if this were imposed along with Continuous Climb then it would considerably alleviate the whole area.

I also understand that the NPR has a ceiling of 4,000 feet because of a Heathrow NPR. This needs to be addressed so that aircraft using route 4 can climb much more quickly and hence get out of the affected areas sooner.

When NPR's were originally designed it was seen as preferable that aircraft travelled over rural areas because it affects less people. I strongly disagree with this principle as there is always background ambient noise in urban areas where there is very little ambient noise, often none at night, in the AONB and surrounding rural villages. Also if you consider the amount of tourists who visit the area then the argument about affecting less people is not valid.

It would also be worth investigating using the A24 and M25 corridors for the aircraft to fly over as this area is already very noisy.

Q2 Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

Noise should be dispersed to ensure a reduction in concentration but it must be within the NPR.

Q3 Please highlight your awareness of any particularly sensitive issues with aircraft noise during the night-time period?

At night the AONB and surrounding rural villages have virtually no background ambient noise so any aircraft have a huge impact. This would affect not only the residents and tourists but all the diverse fauna which live in and around the AONB.

Q4 Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Already answered previously.

Q5 Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI, etc) that you feel aircraft could avoid?

As well as the Surrey Hills AONB already discussed, considerable parts of this landscape have been designated as SSSI's.

Q6 Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?

Pollution from the runway goes into the River Mole and its tributaries in the AONB such as the Pippbrook and the Tillingbourne, and so great concern is for the pollution of waterways.

Q7 Please bring to our attention any recent or on-going local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?

Rural areas must not be targeted as it is acknowledged that rural areas enjoy tranquillity whereas urban areas have a high ambient noise day and night. It could also be said that more residents fly from urban areas and so a fair and equitable distribution over rural and urban areas must be achieved.

Q8 Do existing noise abatement procedures meet current and future local government and community requirements?

In general yes as NPR have been recognised for many years, allowing for transparency to where planes will fly. NPR must therefore remain at all costs otherwise aircraft would be flying over new areas significantly impacting tranquillity, wellbeing and house value of vulnerable residents that are not being consulted by Gatwick concerning these design principles. NPR's are a constraint for District Councils when granting planning permission for building new houses.

Q9 Please provide the location of any future planned facilities you are aware of in your local areas that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?

No comment

Q10 Please identify any other areas, that are not necessarily local to you, but in your opinion could be sensitive to direct overflight or exposure to localised aircraft noise?

No comment

Thanks and best regards,

████████████████████

Coldharbour Ward Councillor

Deputy Chairman Capel Parish Council

www.capel-pc.gov.uk

Tel: ██████████

Home Tel: ██████████

Mobile: ██████████

Design Principles Questionnaire - Airline Operators & General Aviation

Gatwick Airport Route 4 Departure

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1 Introduction & Background

1.1 Introduction

Over the last few years, the majority of UK airports, including London Gatwick Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport.

London Gatwick Airport now needs to make some modifications to its currently published Route 4 procedure. This document provides some background on why these changes are now necessary. The document describes in detail the current operations along Route 4 and also some points for your consideration, before finally asking for your responses in a short questionnaire. Details of how to send in your responses are provided at Section 4.

1.2 Background

This project concerns the submission of an airspace change proposal to the Civil Aviation Authority (CAA) for the introduction of Route 4 RNAV¹ Standard Instrument Departures (SIDs) at Gatwick Airport.

The introduction of RNAV SIDs along Route 4 has been subject to regulatory and legal challenge since its original approval in 2013. Originally the CAA approved the introduction of RNAV procedures along all nine of Gatwick's departure routes. In 2015 the CAA conducted a Post Implementation Review and approved the majority of the routes for continued use but found that Route 4 had not delivered the aim of the airspace change and required the route to be modified. This work was completed, and London Gatwick Airport submitted an amended Route 4 proposal which was ratified by the CAA.

However, the community group Plane Justice then sought a judicial review to challenge the CAA's Post Implementation Review Decision. Following a further detailed investigation, the CAA asked the court to quash their previous decision; Route 4 had to revert to a temporary status aligned with its position prior to the CAA April 2017 decision.

The purpose of this project is now to submit a new application for Route 4 RNAV SIDs under the guidance and requirements of the CAA's new Airspace Change Process CAP1616 (see para 1.3).

Gatwick Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to deliver safe, effective and sustainable departure procedures with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities are at the heart of the new CAP 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the Route 4 Design Options can be prepared. This will help us to ensure that the Route 4 departures are designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by this route.

¹ RNAV, or Area Navigation is a navigational accuracy specification, based on GPS technology, that permits an aircraft to follow any desired route without reliance on ground-based navigation beacons.

1.3 Governmental Guidance and the CAP 1616 Process

Under Section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under Section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals must follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with all relevant stakeholders including local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

<https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf>

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design², and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review³ that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

² Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."

³ Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

2 Gatwick Airport Current Operations

2.1 Introduction

As the UK's second largest airport, Gatwick Airport serves more than 230 destinations in 74 countries. In 2018 the airport handled 46.1 million passengers, representing a 6.1% increase on the previous year. Significantly, in October 2018 Gatwick Airport handled a record 4.02 million passengers in a single month. It is anticipated that passenger numbers will increase to nearly 53 million by 2023. Additionally, the airport handled over 100,000 metric tons of cargo to other UK regions, Europe, Canada, the Americas, Africa and the Far East.

In the UK the prevailing wind direction dictates that the majority of aircraft departures and arrivals are conducted in a westerly direction. Over the last 20 years, on 76% of occasions Runway 26 was utilised for all departing and arriving aircraft. Easterly operations therefore took place on 24% of occasions.

2.2 What is Route 4?

Route 4 is a departure route for aircraft taking off in a westerly direction from Runway 26. This route is one of nine departure routes from Gatwick Airport. Route 4 is aligned to the published Noise Preferential Route where, after take-off, aircraft turn right, through 180 degrees, and onto a near reciprocal heading, tracking in an easterly direction just to the South of Reigate and Redhill and north of Horley.

Over the last 12 months to February 2019 (inclusive) operations on the westerly runway (Runway 26) have taken place on 63.8% of occasions; slightly lower than the 20-year average quoted at para 2.1 above

Over the last 12 months to February 2019 (inclusive) 35,300 aircraft have used Route 4. This represents 25.4% of all departures across Gatwick Airport's nine departure routes.

Figure 1 below depicts the Route 4 Noise Preferential Route (NPR) and its associated swathe. The NPR swathe provides a degree of tolerance as aircraft using conventional navigation are likely to be more dispersed around the route centreline than aircraft using GPS technology. Once aircraft have climbed above 4,000 ft above mean sea level (AMSL), they are deemed to be clear of the NPR and can be vectored if required by Air Traffic Control.

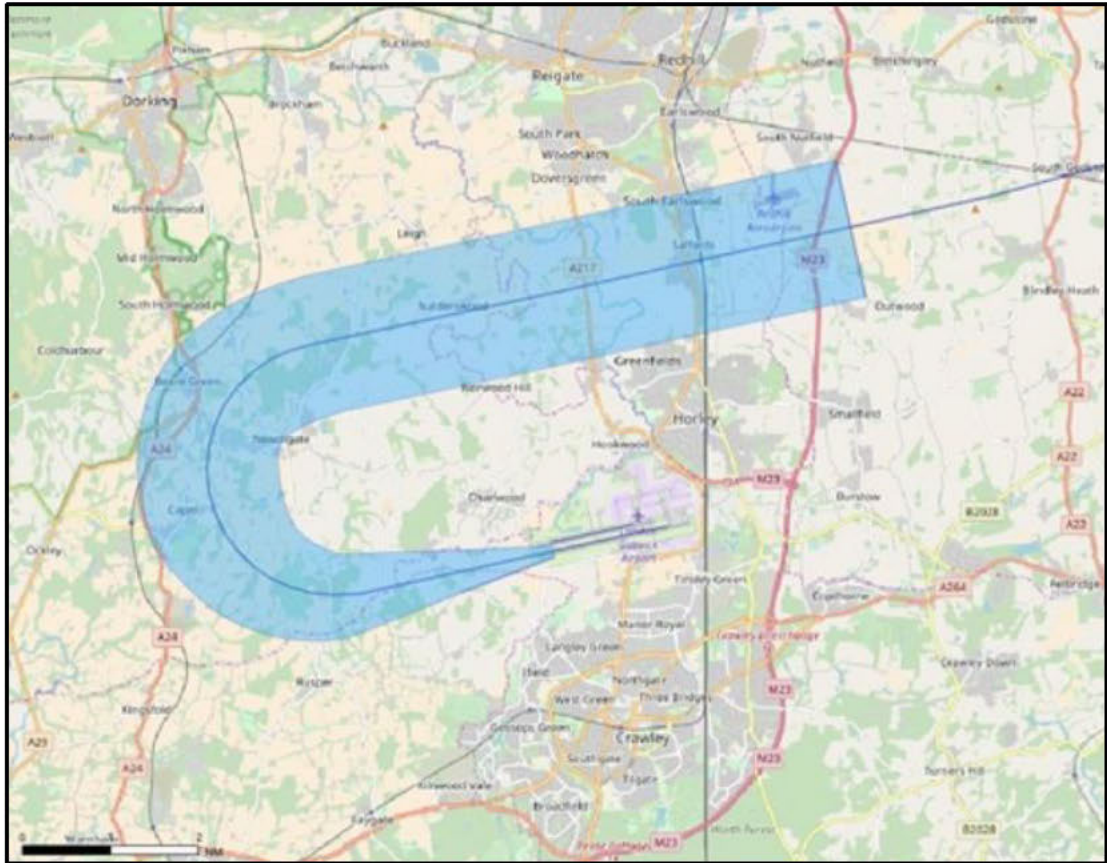


Figure 1 - Route 4 NPR and Swathe

Figure 2 below depicts the colours used to depict aircraft track altitude bands; it shows the top level for each 2,000 ft altitude band.



Figure 2 - Aircraft track upper altitude band.

Figure 3 to Figure 6 below, show the traffic over a 24-hour period during a single summer day/night. Each one depicts just the aircraft tracks at or below the altitude specified in the Figure captions. The source data is provided by the Gatwick Airport radar and Noise and Track Keeping (NTK) system. The radar data shows only those aircraft associated with a flight plan filed from Gatwick Airport and flown along Route 4 up to the specified altitude.

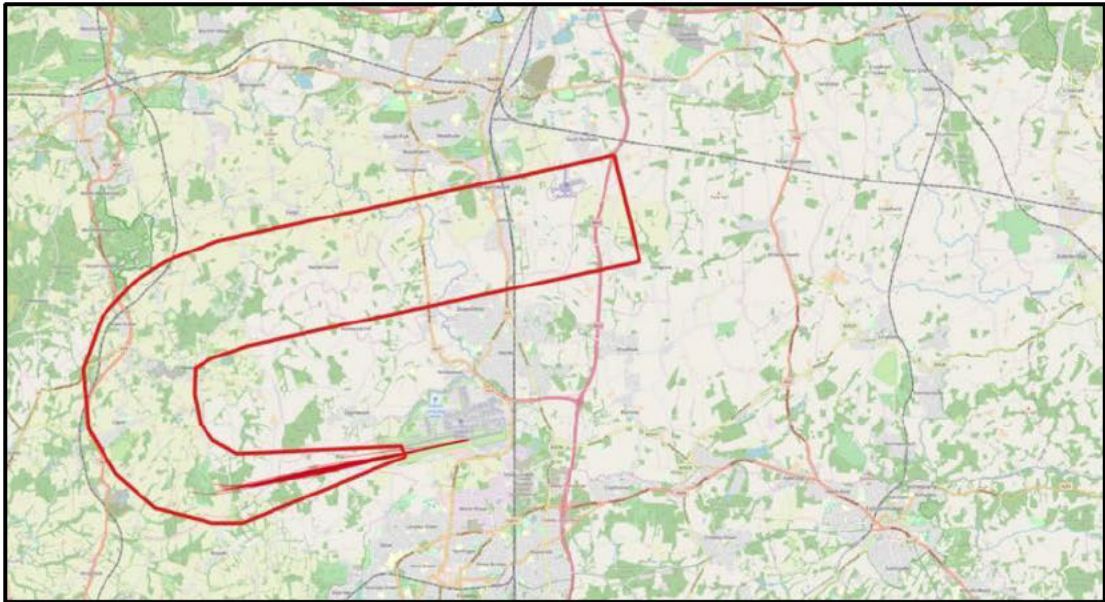


Figure 3 - Aircraft tracks at or below 2,000 ft AMSL (single summer day, 22nd July 2018).

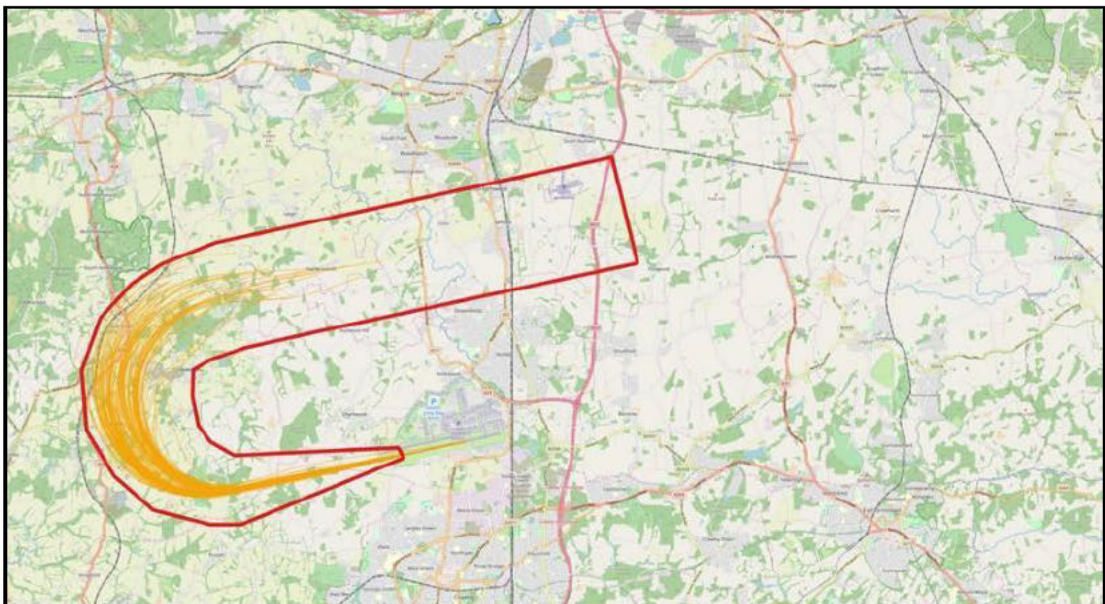


Figure 4 - Aircraft tracks at or below 4,000 ft AMSL (single summer day, 22nd July 2018).

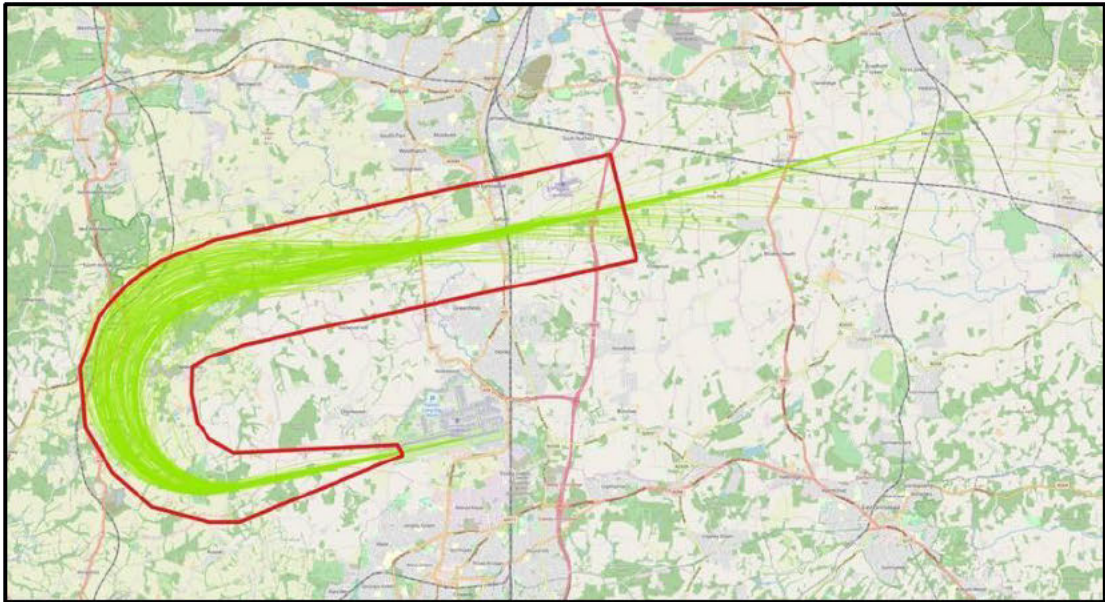


Figure 5 - Aircraft tracks at or below 6,000 ft AMSL (single summer day, 22nd July 2018).

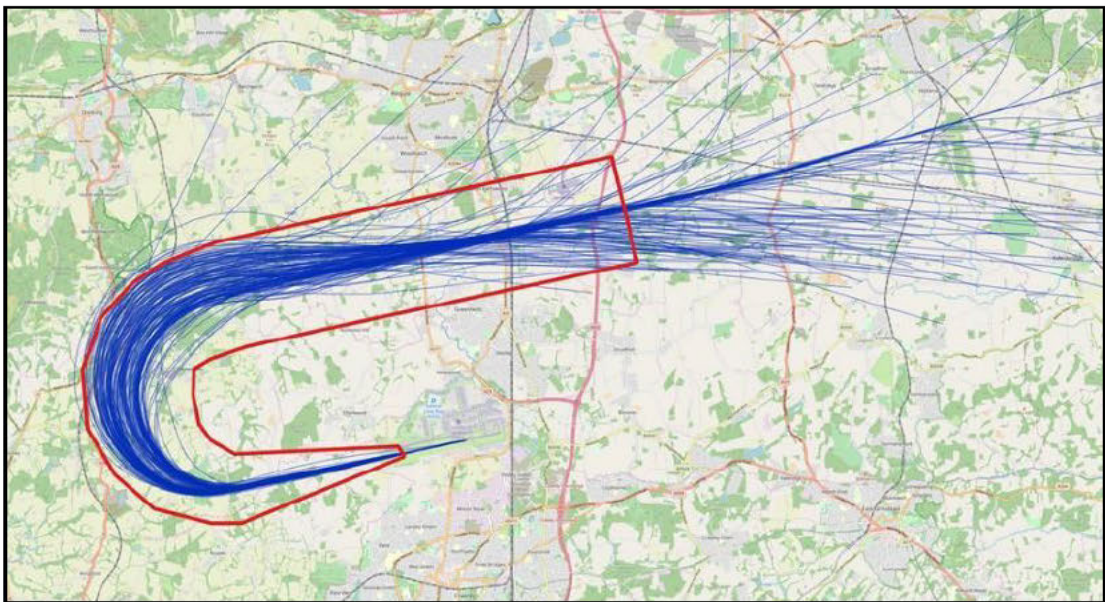


Figure 6 - Aircraft tracks at or below 8,000 ft AMSL (single summer day, 22nd July 2018).

Figure 7 below depicts all aircraft tracks using Route 4 during the month of July 2018. This figure shows more clearly how the distribution of tracks is biased towards the outside of the turn and this means some traffic tracked outside the NPR swathe; generally, traffic up to

4,000 ft (red and orange) remains inside the NPR swathe. The traffic outside of the NPR swathe is generally that in the altitude bands above 4,000 ft (green, blue and lilac).

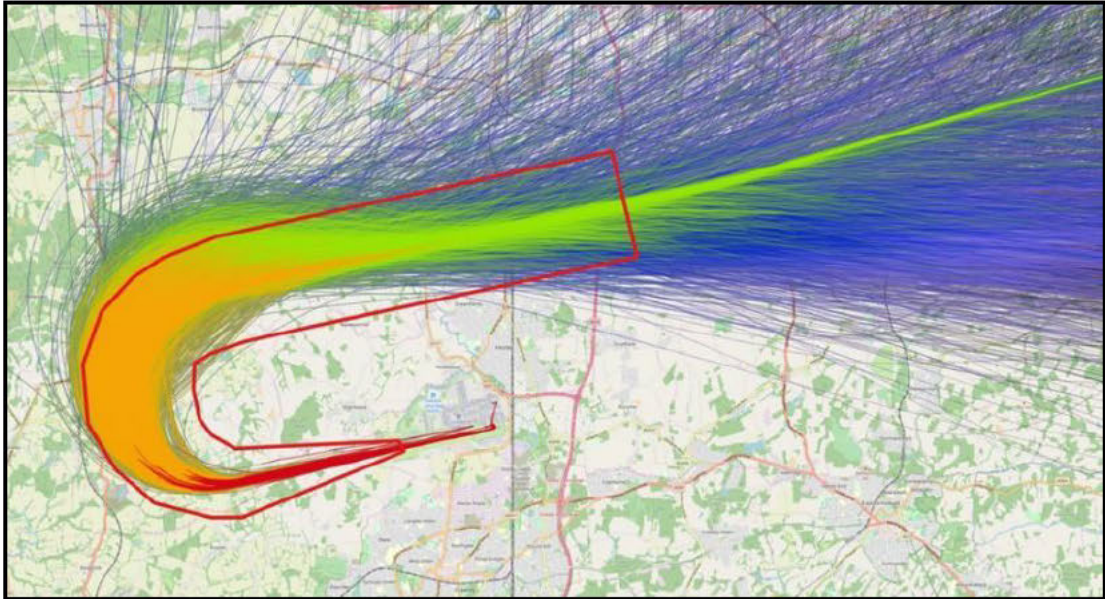


Figure 7 - Aircraft tracks over one summer month (July 2018).

3 Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2 RNAV Procedures

As described in paragraph 1.2, the new RNAV procedures make use of GPS technology to better guide aircraft over the intended track across the ground. When using routes defined by accurate GPS waypoints, it is important to understand that aircraft will follow the new published routes more accurately and consistently than they currently follow conventional routes. This improved track-keeping accuracy means aircraft will be less dispersed either side of each route. Therefore, fewer locations will be directly overflowed, but there will be an increase in the concentration of over-flights in those areas directly beneath the new published routes.

It may be possible to formulate designs that minimise the numbers of new people overflowed or by designing procedures that distribute noise over different areas; however, the track to be redesigned is relatively short and is largely constrained by fixed start and end points.

3.3 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing routes that are planned to overfly either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.4 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (eg parks) by designing flight procedures that avoid these areas. However, in large urban areas it may not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.5 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.6 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4 Engagement and How to Respond

4.1 Engagement

Gatwick Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Gatwick Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options can be evaluated. After the Design Options are drawn up, Gatwick Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a full public consultation exercise planned towards the end of 2019/ start of 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Gatwick Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

LGWairspace.Rte4@gatwickairport.com

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

We will also accept legible postal responses to the following address within the timescales specified below:

Route 4 Airspace Change
Gatwick Airport Ltd
7th Floor, Destinations Place
Gatwick Airport
West Sussex
RH6 0NP

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

4.3 Focus Groups

During May 2019 Gatwick Airport intends to organise a limited number of Focus Groups with its key stakeholders. It would be useful if you could complete the attached questionnaire and return this ahead of these events by the date shown in para 4.4 below.

During the Focus Group discussions any additional views will be recorded. Following analysis of all the views articulated by the groups and in the individual responses, Gatwick Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the full public consultation will be conducted at the end of 2019/start of 2020. Gatwick Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

For your questionnaire to be used to help the Focus Group discussions, it would be helpful to have your completed response by 10th May 2019.

5 Questionnaire Airline Operators and General Aviation

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at para 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Question
<p>Q1 - Please list any altitude constraints, together with your reasons, that you feel Gatwick Airport could consider when designing its new Route 4 PBN procedure?</p>
<p>Your Response:</p> <p style="margin-left: 40px;">There are no specific altitude constraints</p>
<p>Q2 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Gatwick Airport and adjacent ATC units that should be considered during the development of new Gatwick Airport Route 4 PBN procedures?</p>
<p>Your Response:</p>
<p>Q3 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Gatwick Airport? If so, do you see this as:</p> <ul style="list-style-type: none"> (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).

Your Response:

N/A

Q4 - Please let us know if there are any day time or night time constraints that you consider Gatwick Airport could take into account when updating its Route 4 PBN procedure? Please provide details and reasons.

Your Response:

The procedures should allow for the adoption of existing or new noise mitigation within the aircraft systems

Q5 - Please tell us if there are there any other operational constraints that Gatwick Airport will need to consider when planning its new Route 4 departure procedure?

Your Response:

RF legs should be adopted but allowance for speeds that reduce drag incorporated into the design

Q6 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Gatwick Airport should engage with during the process of designing its new Route 4 departure procedure? Please provide details and reasons.

Your Response:

N/A

Q7 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Gatwick Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?

Your Response:

N/A

<p>Q8 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact Gatwick Airport's Route 4 PBN departure procedure design project?</p>
<p>Your Response:</p> <p>N/A</p>
<p>Q9 - Please advise us of any other issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.</p>
<p>Your Response:</p> <p>The procedures should be RNP based and possibly be designed with both the All engine and engine our considerations incorporated.</p>
<p>Q10 - Please provide details of any issues or constraints due to local GA/VFR operations that you believe may have an impact on Gatwick Airport's Route 4 PBN departure procedure?</p>
<p>Your Response:</p> <p>N/A</p>
<p>Q11 - Please provide details of any constraints that may be occasioned by local gliding activities on, or adjacent to, the Gatwick Airport Route 4 PBN departure procedure?</p>
<p>Your Response:</p> <p>N/A</p>

Table 1 - Questions for Airline Operators & General Aviation

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which Route 4 options can be drafted.

Gatwick Airport Route 4 Departures

Design Principles Questionnaire

Q.	Y / N	Remarks
1.	--	Operator preference is continuous climb
2		Seamless handover with no altitude restrictions or change in separation standards.
3		Nil MOU.
4		No.
5		No.
6		Nil.
7		Nothing additional to add.
8		None known.
9		ARINC 424 flight management computer coding that will ensure aircraft follow the desired, designed lateral and vertical paths.
10		None
11		None known

Design Principles Questionnaire - Public Representatives

Gatwick Airport Route 4 Departure

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Introduction & Background

1.1 Introduction

Over the last few years, the majority of UK airports, including London Gatwick Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport.

London Gatwick Airport now needs to make some modifications to its currently published Route 4 procedure. This document provides some background on why these changes are now necessary. The document describes in detail the current operations along Route 4 and also some points for your consideration, before finally asking for your responses in a short questionnaire. Details of how to send in your responses are provided at Section 0.

1.2 Background

This project concerns the submission of an airspace change proposal to the Civil Aviation Authority (CAA) for the introduction of Route 4 RNAV¹ Standard Instrument Departures (SIDs) at Gatwick Airport.

The introduction of RNAV SIDs along Route 4 has been subject to regulatory and legal challenge since its original approval in 2013. Originally the CAA approved the introduction of RNAV procedures along all nine of Gatwick's departure routes. In 2015 the CAA conducted a Post Implementation Review and approved the majority of the routes for continued use but found that Route 4 had not delivered the aim of the airspace change and required the route to be modified. This work was completed, and London Gatwick Airport submitted an amended Route 4 proposal which was ratified by the CAA.

However, the community group Plane Justice then sought a judicial review to challenge the CAA's Post Implementation Review Decision. Following a further detailed investigation, the CAA asked the court to quash their previous decision; Route 4 had to revert to a temporary status aligned with its position prior to the CAA April 2017 decision.

The purpose of this project is now to submit a new application for Route 4 RNAV SIDs under the guidance and requirements of the CAA's new Airspace Change Process CAP1616 (see para 1.3).

Gatwick Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to deliver safe, effective and sustainable departure procedures with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities are at the heart of the new CAP 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the Route 4 Design Options can be prepared. This will help us to ensure that the Route 4 departures are designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by this route.

¹ RNAV, or Area Navigation is a navigational accuracy specification, based on GPS technology, that permits an aircraft to follow any desired route without reliance on ground-based navigation beacons.

1.3 Governmental Guidance and the CAP 1616 Process

Under Section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under Section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals must follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with all relevant stakeholders including local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

<https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf>

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design², and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review³ that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

² Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."

³ Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

Gatwick Airport Current Operations

2.1 Introduction

As the UK's second largest airport, Gatwick Airport serves more than 230 destinations in 74 countries. In 2018 the airport handled 46.1 million passengers, representing a 6.1% increase on the previous year. Significantly, in October 2018 Gatwick Airport handled a record 4.02 million passengers in a single month. It is anticipated that passenger numbers will increase to nearly 53 million by 2023. Additionally, the airport handled over 100,000 metric tons of cargo to other UK regions, Europe, Canada, the Americas, Africa and the Far East.

In the UK, the prevailing wind direction dictates that the majority of aircraft departures and arrivals are conducted in a westerly direction. Over the last 20 years, on 76% of occasions Runway 26 was utilised for all departing and arriving aircraft. Easterly operations therefore took place on 24% of occasions.

2.2 What is Route 4?

Route 4 is a departure route for aircraft taking off in a westerly direction from Runway 26. This route is one of nine departure routes from Gatwick Airport. Route 4 is aligned to the published Noise Preferential Route where, after take-off, aircraft turn right, through 180 degrees, and onto a near reciprocal heading, tracking in an easterly direction just to the South of Reigate and Redhill and north of Horley.

Over the last 12 months to February 2019 (inclusive) operations on the westerly runway (Runway 26) have taken place on 63.8% of occasions; slightly lower than the 20-year average quoted at para 2.1 above

Over the last 12 months to February 2019 (inclusive) 35,300 aircraft have used Route 4. This represents 25.4% of all departures across Gatwick Airport's nine departure routes.

Figure 1 below depicts the Route 4 Noise Preferential Route (NPR) and its associated swathe. The NPR swathe provides a degree of tolerance as aircraft using conventional navigation are likely to be more dispersed around the route centreline than aircraft using GPS technology. Once aircraft have climbed above 4,000 ft above mean sea level (AMSL), they are deemed to be clear of the NPR and can be vectored if required by Air Traffic Control.



Figure 1 - Route 4 NPR and Swathe

Figure 2 below depicts the colours used to depict aircraft track altitude bands; it shows the top level for each 2,000 ft altitude band.



Figure 2 - Aircraft track upper altitude band.

Figure 3 to Figure 6 below, show the traffic over a 24-hour period during a single summer day/night. Each one depicts just the aircraft tracks at or below the altitude specified in the Figure captions. The source data is provided by the Gatwick Airport radar and Noise and Track Keeping (NTK) system. The radar data shows only those aircraft associated with a flight plan filed from Gatwick Airport and flown along Route 4 up to the specified altitude.

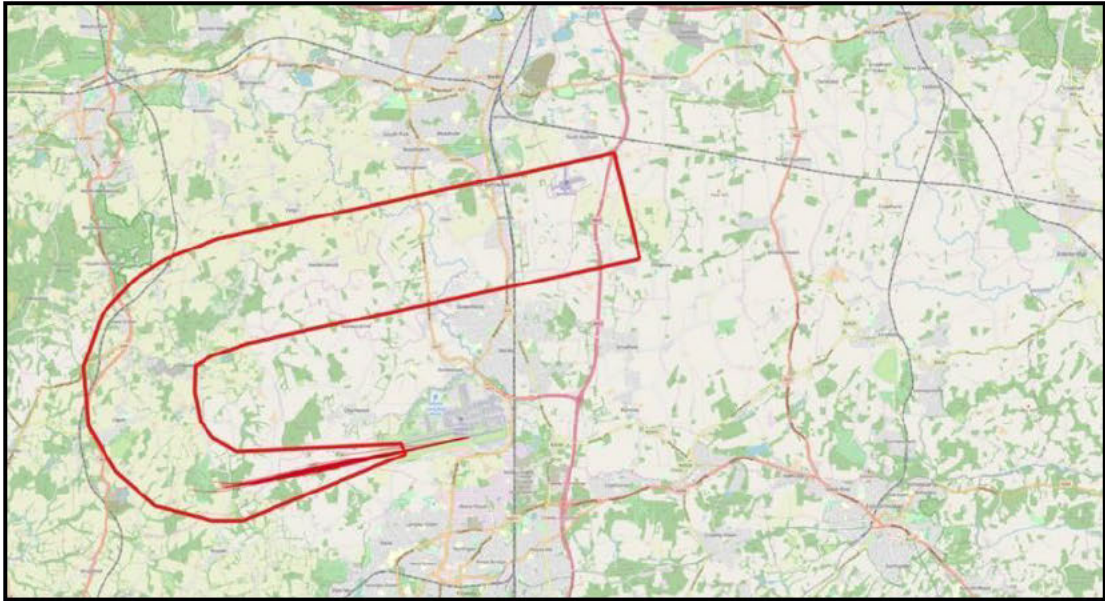


Figure 3 - Aircraft tracks at or below 2,000 ft AMSL (single summer day, 22nd July 2018).

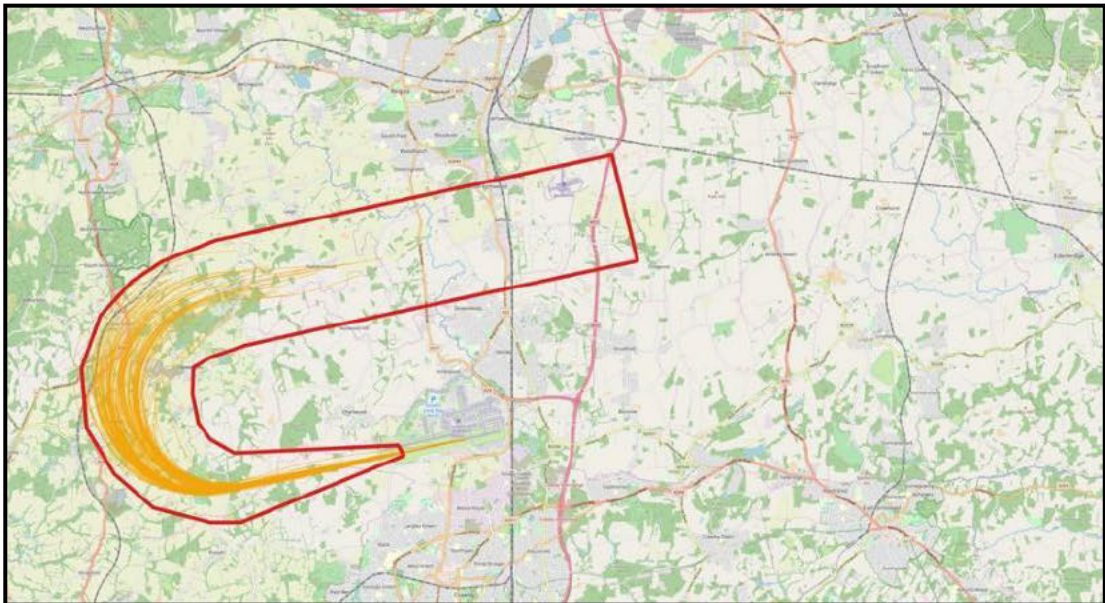


Figure 4 - Aircraft tracks at or below 4,000 ft AMSL (single summer day, 22nd July 2018).

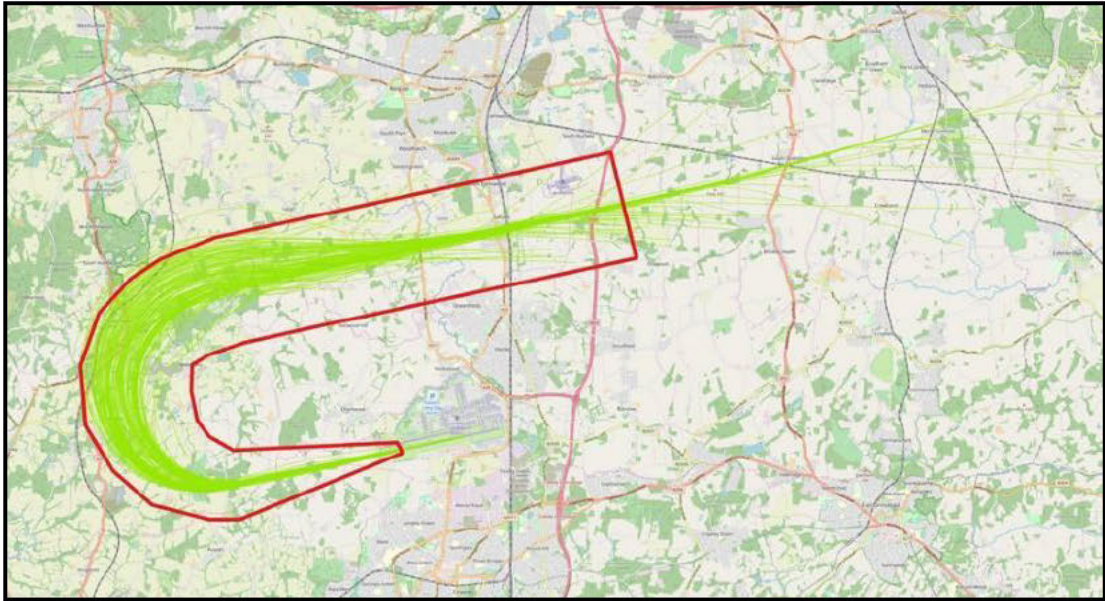


Figure 5 - Aircraft tracks at or below 6,000 ft AMSL (single summer day, 22nd July 2018).

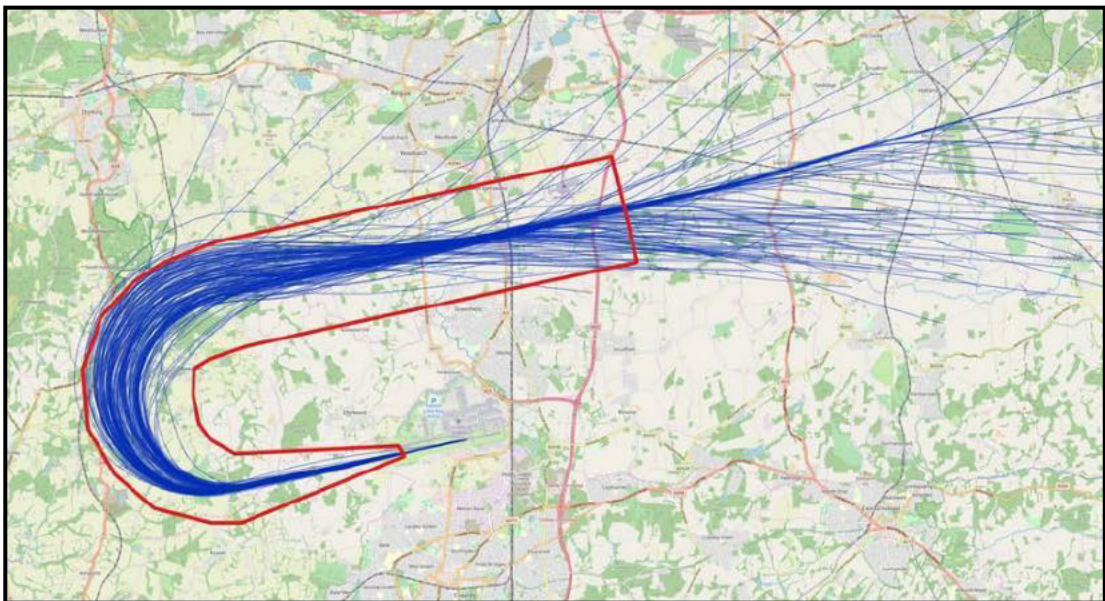


Figure 6 - Aircraft tracks at or below 8,000 ft AMSL (single summer day, 22nd July 2018).

Figure 7 below depicts all aircraft tracks using Route 4 during the month of July 2018. This figure shows more clearly how the distribution of tracks is biased towards the outside of the turn and this means some traffic tracked outside the NPR swathe; generally, traffic up to 4,000 ft (red and orange) remains inside the NPR swathe. The traffic outside of the NPR swathe is generally that in the altitude bands above 4,000 ft (green, blue and lilac).

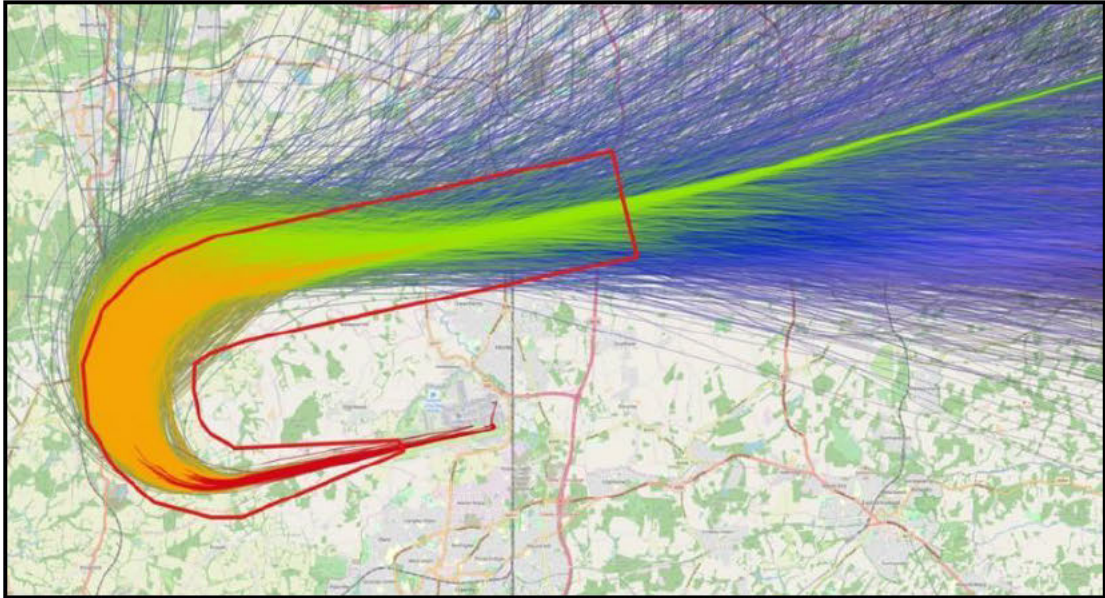


Figure 7 - Aircraft tracks over one summer month (July 2018).

Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 0.

3.2 RNAV Procedures

As described in paragraph 1.2, the new RNAV procedures make use of GPS technology to better guide aircraft over the intended track across the ground. When using routes defined by accurate GPS waypoints, it is important to understand that aircraft will follow the new published routes more accurately and consistently than they currently follow conventional routes. This improved track-keeping accuracy means aircraft will be less dispersed either side of each route. Therefore, fewer locations will be directly overflowed, but there will be an increase in the concentration of over-flights in those areas directly beneath the new published routes.

It may be possible to formulate designs that minimise the numbers of new people overflowed or by designing procedures that distribute noise over different areas; however, the track to be redesigned is relatively short and is largely constrained by fixed start and end points.

3.3 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing routes that are planned to overfly either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.4 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (eg parks) by designing flight procedures that avoid these areas. However, in large urban areas it may not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.5 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and

associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.6 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

Engagement and How to Respond

4.1 Engagement

Gatwick Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Gatwick Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options can be evaluated. After the Design Options are drawn up, Gatwick Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a full public consultation exercise planned towards the end of 2019/ start of 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 0 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Gatwick Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

LGWairspace.Rte4@gatwickairport.com

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

We will also accept legible postal responses to the following address within the timescales specified below:

Route 4 Airspace Change
Gatwick Airport Ltd
7th Floor, Destinations Place
Gatwick Airport
West Sussex
RH6 0NP

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

4.3 Focus Groups

During May 2019 Gatwick Airport intends to organise a limited number of Focus Groups with its key stakeholders. It would be useful if you could complete the attached questionnaire and return this ahead of these events by the date shown in para 4.4 below.

During the Focus Group discussions any additional views will be recorded. Following analysis of all the views articulated by the groups and in the individual responses, Gatwick Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the full public consultation will be conducted at the end of 2019/ start of 2020. Gatwick Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

For your questionnaire to be used to help the Focus Group discussions, it would be helpful to have your completed response by 10th May 2019.

Questionnaire Public

Representatives

7.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at para 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Question
<p>Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.</p> <p>Your Response: Providing the departures do not conflict, Gatwick should be looking for continuous climb on their departures through Route 4 and the aircraft should stay within the NPR well beyond the normal vectoring height by Air Traffic Control. This will help to avoid new housing developments in Horley.</p> <p>However, if the Gatwick Master Plan Scenario 2 becomes operational, turning will take the aircraft outside the NPR on turning so how will this be overcome?</p>
<p>Q2 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?</p> <p>Your Response: Any dispersal should be distinctive i.e. flying at each end of the 3 km swathe (maybe also include one straight down the middle). Flying in dispersal fashion should be programmed to use each route on certain days or times of the day so long as flying conditions/weather allows.</p>
<p>Q3 - Please highlight your awareness of any particularly sensitive issues with aircraft noise during the night-time period?</p> <p>Your Response: Occasionally, there are particularly noisy flights during the night and every effort should be made to prevent departures of such aircraft. QC4 aircraft have not been flying from Gatwick at night and they should be banned over the night time with this airspace change.</p>

<p>Q4 - Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?</p>
<p>Your Response: Yes, it is more likely to lessen noise.</p>
<p>Q5 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?</p>
<p>Your Response: No comment.</p>
<p>Q6 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?</p>
<p>Your Response: Aircraft should be flown in a manner that keeps emissions and pollution to a minimum. Flying further or emitting extreme engine thrusts will add to pollution so this may require flying over properties not overflown before, especially if dispersal is adopted (See Q2)</p>
<p>Q7 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?</p>
<p>Your Response: SONA.</p>
<p>Q8 - Do existing noise abatement procedures meet current and future local government and community requirements?</p>
<p>Your Response: Yes, to a great extent, NADP1 and NADP2 procedures are both adopted at Gatwick and the most appropriate to adopt will be considered through the END NAP.</p> <p>However, calls on the Government to give guidance under National Planning Policy Framework (NPPF) to prevent new homes being built under existing and proposed flight paths is urgently required.</p>

<p>Q9 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?</p>
<p>Your Response: In the Tandridge Local Plan currently being considered by The Planning Inspectorate, a new village comprising 4000 homes is proposed in South Godstone and is likely to be affected by Route 3 and Route 4 to a lesser extent. Once again, continuous climb on Route 4 could alleviate some of the noise over this village.</p>
<p>Q10 - Please identify any other areas, that are not necessarily local to you, but in your opinion could be sensitive to direct overflight or exposure to localised aircraft noise?</p>
<p>Your Response: It is assumed that this Route 4 Airspace Change just acknowledges departures from the main runway. That is fine except:</p> <ol style="list-style-type: none"> 1. Dispersal as mentioned in Q2 response which might cause concern. 2. Outwood has experienced problems since Route 4 was changed with the introduction of PR-NAV and the extreme overflying of Horley that resulted from early vectoring by Air Traffic Control, even though the aircraft had reached vectoring height. Still, noise complaints are very high. Keeping aircraft on continuous ascent within the NPR and not vectoring away at 4000 feet should alleviate this problem. 3. If the Gatwick Master Plan Scenario 2 is adopted, will there be another airspace change under CAP 1616 or is it proposed to include with the current proposal?

Table 1 - Questions for Public Representatives

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which Route 4 options can be drafted.

1 Questionnaire Airports & ANSPs

1.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at para 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Gatwick Airport could consider when designing its new Route 4 PBN procedure?
<p>Your Response:</p> <p>We would be happy to engage direct with Gatwick Airport to ensure that any possible interactions are identified and understood.</p>
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
<p>Your Response:</p> <p>Information on all of Heathrow's live airspace change proposals can be found on the CAA's airspace change portal.</p>
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Gatwick Airport and adjacent ATC units that should be considered during the development of new Gatwick Airport Route 4 PBN procedures?
<p>Your Response:</p> <p>This question should be addressed to NATS, our ANSP, for specific ATC requirements</p>

<p>Q4 - Are there any current ATM coordination arrangements with Gatwick Airport that you would like to see remain or change as a result of Gatwick Airport's new procedure design? Please provide a brief description.</p>
<p>Your Response:</p> <p>This question should be addressed to NATS, our ANSP, for specific ATC requirements, however, we would welcome the opportunity to investigate possible improvements to separation splits for SID interactions.</p> <p>There are currently no ATM requirements between Heathrow and Gatwick Airports.</p>
<p>Q5 - Are there any aspects of FAS (e.g. airway entry/exit points, existing planned or new handover points) that Gatwick Airport should take into account in the design of procedures? Please provide details.</p>
<p>Your Response:</p> <p>Heathrow, through its membership of FASI-South, is already working with NATS, Gatwick and other airports to develop and deliver a coordinated plan of airspace change in line with the CAA's Airspace Modernisation Strategy.</p> <p>We believe that FASI-South is the appropriate forum to discuss future developments in airspace design relating to airspace modernisation.</p>
<p>Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Gatwick Airport Route 4 PBN procedure development? Please provide details.</p>
<p>Your Response:</p> <p>As above. Heathrow is already working with Gatwick, NATS and other airports, through FASI-South to develop a joined-up approach to delivering the relevant aspects of the CAA's Airspace Modernisation Strategy. This work includes identifying any risks, opportunities and interdependencies from the numerous airspace changes required.</p>
<p>Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Gatwick Airport? If so, do you see this as:</p> <ul style="list-style-type: none"> (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
<p>Your Response:</p> <p>Not applicable</p>
<p>Q8 - Please let us know if there are any daytime or night time constraints that you consider Gatwick Airport could take into account when updating its Route 4 PBN procedure? Please provide details and reasons.</p>
<p>Your Response:</p> <p>No comment</p>

<p>Q9–Please tell us if there are there any other operational constraints that Gatwick Airport will need to consider when planning its new Route 4 departure procedure?</p>
<p>Your Response:</p> <p>NATS, our ANSP, should be engaged in these discussions for specific ATC requirements. An example of such coordination could be that TC South routinely vectors Runway 27L/R DET departures off EPM on a heading of approximately 125°. There may be other examples which will need to be considered if Gatwick are trying to identify opportunities to increase the initial altitude of Route 4 departures above 4,000ft.</p>
<p>Q10 – Please inform us of who you consider to be the other key local aviation stakeholders that you believe Gatwick Airport should engage with during the process of designing its new Route 4 departure procedure? Please provide details and reasons.</p>
<p>Your Response:</p> <p>No comment</p>
<p>Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Gatwick Airport flight operations(e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?</p>
<p>Your Response:</p> <p>Not applicable.</p>
<p>Q12–Please indicate if you feel there is a requirement for improved coordination between Gatwick Airport and adjacent ANSP (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Gatwick Airport Route 4 PBN departure procedure?</p>
<p>Your Response:</p> <p>Any changes to Gatwick’s Route 4 departure route must not impact on the throughput of operations at Heathrow. However, without specific analysis of the revised route, it is difficult to determine any impact. Continued engagement between Heathrow and Gatwick on the airspace change proposal would be welcomed. In addition, NATS should be engaged throughout this airspace change programme</p>
<p>Q13–Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact Gatwick Airport’s Route 4 PBN departure procedure design project?</p>
<p>Your Response:</p> <p>Not applicable</p>

<p>Q14 - Please advise us of any other issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.</p>
<p>Your Response:</p> <p>Any revised procedure must does not negatively impact on Heathrow's operational throughput or environmental performance.</p>
<p>Q15 - Please provide details of any issues or constraints due to local GA/VFR operations that you believe may have an impact on Gatwick Airport's Route 4 PBN departure procedure?</p>
<p>Your Response:</p> <p>Not applicable</p>

Table 1 - Questions for Airports & ANSPs

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which Route 4 options can be drafted.

HORLEY TOWN COUNCIL



Tel: [REDACTED]

24 April 2018

Route 4 Airspace Change
Gatwick Airport Ltd
7th Floor, Destinations Place
Gatwick Airport
West Sussex
RH6 0NP

By email: [REDACTED]

To whom it may concern,

Horley Town Council response

Please accept this letter as the response to the Design Principles Questionnaire - Local Government & Planners.

Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.

The current no overflight of Horley rule must be maintained. You are already aware of the major development in north Horley, known as West Vale Park, comprising some 1510 dwellings. This development lies under the Route 4 NPR. The impact of this & possibly other future developments in this area is urbanising the gap between Horley & Reigate/Redhill.

Q2 - When Gatwick Airport design new procedures for the Route 4 departure, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?

Within the West Vale Park development will be a new two form entry primary school.

Q3 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

There is a demand from some residents for dispersal/respice. However, to achieve respice; advice is that flight paths would have to be 5km apart for residents to realise any noticeable reduction in noise levels & the current NPR is 3km wide. Therefore, to achieve respice would involve residents newly overflown. On balance & bearing in mind the demographics of the area with several large urban areas & the height of the aircraft on completing the turn we would propose that concentration is the way forward so far as it applies to Route 4.

Q4 - Please highlight your awareness of any particularly sensitive issues with aircraft noise over the night-time period?

No comment.

Q5 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise?

Reigate & Redhill urban areas.

Q6 - Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Will improve exposure to noise levels from departing aircraft.

Q7 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?

No comment.

Q8 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?

Encourage airlines to use the latest models of aircraft e.g. A320 Neos, B737 Max, B787 Dreamliner & consider over time a pricing structure to make it attractive to do so. A matrix of landing charges geared to the aircraft emissions by type.

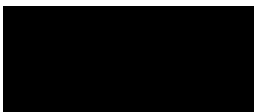
Q9 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?

No comment.

Q10 - Do existing long standing Noise Preferential Routes (NPRs), agreed with Gatwick Airport, meet current and future planned local government requirements

In so far as Horley is concerned the current NPR meets our requirements.

Yours sincerely,



LONDON BIGGIN HILL AIRPORT

GATWICK AIRPORT - ROUTE 4 DEPARTURE FEEDBACK

Q1 - Please list any altitude constraints, together with your reasons, that you feel Gatwick Airport could consider when designing its new Route 4 PBN procedure?

London Biggin Hill Airport is currently running an ACP for an RNAV Approach to runway 03. The details of the IAP for the 03 GNSS Approach has been delivered to Gatwick and we are awaiting feedback. We request that consideration is made for the provision of Procedural Separation from our 03 GNSS Approach in the design of your Route 4 Departure. It is evident from your Figure 4 that the likelihood of aircraft being in conflict with an aircraft inbound to London Biggin Hill Airport on a 03 RNAV is minimal, However, we would like some confirmation that Procedural Separation actually exists. Perhaps the establishment of specific point in the departure profile where an aircraft must achieve 4000ft could be introduced, to ensure that procedural separation between the two procedures can be achieved and maintained.

Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?

London Biggin Hill Airport currently has an ACP for the 03 GNSS Approach running, which we hope to introduce towards the end of 2019. This ACP was commenced prior to the introduction of the CAP 1616 procedure.

London Biggin Hill Airport also has an ACP in progress for the LAMP project, which is running alongside the Gatwick Airport LAMP ACP.

Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Gatwick Airport and adjacent ATC units that should be considered during the development of new Gatwick Airport Route 4 PBN procedures?

London Biggin Hill Airport will be funding a new co-ordination line between London Biggin Hill ATC and NATS Terminal Control Finals for Gatwick. This communications line is being introduced as part of the London Biggin Hill Airport 03 GNSS ACP, to provide a direct line between controllers in the event that an aircraft inbound to London Biggin Hill Airport infringes Gatwick Airport Controlled Airspace.

Q4 - Are there any current ATM coordination arrangements with Gatwick Airport that you would like to see remain or change as a result of Gatwick Airport's new procedure design? Please provide a brief description.

See Question 3.

Q5 - Are there any aspects of FAS (e.g. airway entry/exit points, existing planned or new handover points) that Gatwick Airport should take into account in the design of procedures? Please provide details.

As part of the FASI-S LAMP Project, London Biggin Hill Airport has already engaged with Gatwick Airport Airspace team at a bi-lateral meeting which is subject to a NDA, which outlines our Future Airspace Strategy.

Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Gatwick Airport Route 4 PBN procedure development? Please provide details.

No.

Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Gatwick Airport? If so, do you see this as:

- (a) An agreement you would like to see remain, preferably in its current form.
- (b) An opportunity to alter or extend this agreement – and how?
- (c) An agreement that is unfit for purpose (or may come to be as a result of the change).

London Biggin Hill Airport does not have a direct MoU or LoA with Gatwick Airport. However, we do have an MoU with Thames Radar, so an assurance would be required that they are content with the Route 4 Departure profile, with regards to London Biggin Hill Airport traffic.

Q8 - Please let us know if there are any day time or night time constraints that you consider Gatwick Airport could take into account when updating its Route 4 PBN procedure? Please provide details and reasons.

No constraints recognised.

Q9 - Please tell us if there are there any other operational constraints that Gatwick Airport will need to consider when planning its new Route 4 departure procedure?

The introduction of the 03 GNSS Approach to London Biggin Hill should be considered.

Q10 – Q15 = No Comment.

Deputy Safety & Compliance Manager

London Biggin Hill Airport

Route 4 Airspace Change
Gatwick Airport Limited
7th Floor, Destinations Place
Gatwick Airport
West Sussex
RH6 0NP

If telephoning please ask for: [REDACTED]

Email: [REDACTED]

By email only: [REDACTED]

9 May 2019

Dear Sir / Madam,

Gatwick Airport Route 4 Departure: Design Principles Questionnaire – Local Government & Planners

I am writing on behalf of Mole Valley District Council (MVDC) in response to Gatwick Airport Limited (GAL)'s engagement with key stakeholders on changes to Route 4.

Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.

The new Departure Route 4 should be within the existing Noise Preferential Route (NPR) swathe as overflight of residents that are not currently overflowed should be avoided. GAL must consider the impact on communities and residents located close to the airport and affected by aircraft using the departure route in this process.

Q2 - When Gatwick Airport design new procedures for the Route 4 departure, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?

Noise-sensitive buildings such as schools and hospitals should be avoided by aircraft overflight where possible. If an equitable and fair distribution of aircraft is achieved across the NPR swathe this will help ensure that the frequency of noise events upon these sensitive buildings is limited.

Q3 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

Neither. Noise impacts from aircraft should be dispersed equitably and fairly across the existing NPR swathe. Concentration of aircraft over a smaller number of households will unfairly intensify the adverse impacts upon a smaller number of residents that will suffer as a consequence, but equally no new households should be overflowed. We therefore favour the distribution of noise impacts across the existing NPR swathe.

Q4 - Please highlight your awareness of any particularly sensitive issues with aircraft noise over the night-time period?

[REDACTED]

[REDACTED]

[REDACTED]

The World Health Organisation Environmental Noise Guidelines for the European Region published in 2018 highlight the adverse health effects on those affected by environmental noise (including from aircraft), particularly at night. The guidelines recommend limiting exposure of people to aircraft noise to reduce the potential for adverse health effects. We welcome any measures to reduce night-time aircraft noise exposure on local communities to ensure that residents do not suffer adverse health effects as a consequence.

Q5 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise?

We are not best placed to comment on sensitive areas in other districts or boroughs and will therefore allow neighbouring authorities to comment accordingly.

Q6 - Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Continuous climb upon take-off will lessen noise impacts on those communities further from the airport. However, an optimum climb rate must be set that does not exacerbate noise impacts for communities closest to the airport in order to benefit those that are further away. Aircraft must also ensure that they stay within the NPR swathe during this continuous climb to minimise noise impacts upon those not currently overflown.

Q7 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?

Aircraft should stay within the predefined NPR swathe and therefore avoid overflight of the Surrey Hills Area of Outstanding Natural Beauty (AONB), nationally designated to conserve and enhance its natural beauty and tranquillity.

GAL should consult with Surrey Wildlife Trust to better understand if there are any particularly sensitive wildlife habitats that should be avoided by aircraft.

Q8 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?

Aircraft using the most efficient routes to reduce fuel burn and therefore emissions is supported. However, a balance must be struck with mitigating noise disturbance and fuel efficiency should not be prioritised over minimising noise impacts on communities close to Gatwick Airport.

Q9 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?

No comment.

Q10 - Do existing long standing Noise Preferential Routes (NPRs), agreed with Gatwick Airport, meet current and future planned local government requirements?

NPRs give certainty to local residents as to where aircraft will fly and therefore where there may be noise impacts. The NPRs also give certainty and clarity to local authorities as to the areas affected by aircraft noise that can be taken into account when forward planning.

Q11 - Do existing noise abatement procedures meet current and future local government and community requirements?

We encourage GAL to further investigate the potential benefits and dis-benefits of both Noise Abatement Departure Procedures (NADP1 and NADP2), with a view to implementing a preferred procedure that minimises noise impacts on communities. This preferred procedure must not unfairly distribute noise impacts on a particular community, whether it be close to the airport or further away.

Q12 - Are there any other local development projects, perhaps currently at the planning stage, that Gatwick Airport should be aware of and consider when planning its new Route 4 PBN departure procedure?

MVDC are preparing a new Local Plan that will allocate sites for development in the District until 2033. While we have considered the 2017 standardised Gatwick 54dB LAeq (day) and 48dB LAeq (night) noise contours as a constraint for strategic development, there may be development sites in the south of Mole Valley that fall outside of this contour but are still affected by aircraft noise owing to the limitation of the metric. A public consultation on the draft Plan will be held this summer and we will consult GAL as part of that consultation.

Q13 - Please list any other relevant local or national organisations that you believe Gatwick Airport should ensure are involved in its formal consultation.

GAL should consult with the following organisations:

- Capel Parish Council
- Charlwood Parish Council
- Holmwood Parish Council
- Leigh Parish Council
- Newdigate Parish Council
- Ockley Parish Council
- Beare Green Village Association
- All community noise groups
- Surrey Wildlife Trust

All parish councils and village associations in or adjacent to the Route 4 swathe and community groups representing residents affected by current aircraft noise should be consulted by GAL as they are best placed to explain the local effects of noise from Route 4 and can therefore usefully inform the airspace change process. GAL should additionally engage with each of these organisations from the beginning of the process, outside of the formal consultation for this reason. GAL should also consult with Surrey Wildlife Trust regarding noise-sensitive wildlife habitats, as outlined in Q7.

Other matters

We welcome this engagement and look forward to further information in due course.

Yours faithfully,



Executive Head of Service (Place & Environment)

4th May 2019

Design Principles Questionnaire - Gatwick Airport Route 4 Departure

Nutfield Conservation Society (NCS) is a voluntary group based in Nutfield Parish, Surrey. NCS has a number of environmentally based interests. We operate via the above c/o address and can be contacted via email address info@nutfieldconservationsociety.org.uk

QUESTION 1

Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure.

NCS feel it is essential that the revised track results in residential settlements (and as few households as possible) not being overflown. The changes originated in 2012/13 (and thereafter by PBN) and resulted in R4 directly overflying the rural settlements of South Nutfield and Outwood. This had not previously been the case as the track previously overflow fields to the south of the village of South Nutfield.

Restoration of the original main track will significantly reduce the numbers of households adversely impacted by R4. Such restoration should be a priority in amendments to R4.

QUESTION 2

Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

Dispersal & Concentration advantage/disadvantage depends on specific locations. In principle any implementation should avoid impacting households not currently impacted. In the case of Nutfield parish, restoration of the original track bisecting South Nutfield and Outwood and overflying open land serves the principle and reduces the number of households impacted. See also Q1.

QUESTION 3

Please highlight your awareness of any particularly sensitive issues with aircraft noise during the night-time period.

It is noticeable that, since the introduction of PBN, Gatwick aircraft are overflying the area earlier in the morning and later at night than previously applied.

QUESTION 4

Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve/lessen exposure to noise in your local area?

Overflying at an increased altitude will reduce the noise impact on areas directly overflown or involving flights in adjacent areas. Continuous climb before reaching the area south of Nutfield will result in a higher altitude of operation in the vicinity and should be considered with the points in Q1 to alleviate current unnecessary and avoidable noise impact.

QUESTION 5

Please tell us the locations of any particularly sensitive wildlife habitats, not already linked to AONB, SSSI etc, that you feel aircraft could avoid.

No locations currently identified.

QUESTION 6

Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution.

Gatwick should apply significant penalty to airlines operating the most polluting aircraft. Alternatively, positive incentives could be applied to those operating the most efficient.

QUESTION 7

Please bring to our attention any recent or ongoing local environmental studies you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure.

None known

QUESTION 8

Do existing noise abatement procedures meet current and future local government and community requirements?

NCS are not sufficiently qualified to comment

QUESTION 9

Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary.

None other than the planned expansion of Crabhill House Dementia Carehome at Kings Lodge in South Nutfield where residents are affected by increased noise from overflying aircraft.

QUESTION 10

Please identify any other areas that are not necessarily local to you but, in your opinion, could be sensitive to direct overflight or exposure to localised aircraft noise.

Problems were created in the corridor of settlements between Godstone and Redhill when Gatwick departure routes 3 and 4 were changed with the introduction of R-NAV in 2015 (following trials which began in 2012). Severe increases in noise levels were reported to NCS as a result of Gatwick aircraft flying on tracks further north and at lower altitudes than previously applied.

NCS have raised these issues on numerous occasions and hope that the current rigid approach will change and result in a more sensible approach being adopted.

We await further developments regarding an amended design for Gatwick Departure Route 4 and also hope that some attention will be given to the associated departure route 3 which involves aircraft flying even further north and at lower altitudes than currently being considered.

Many thanks,


Chairman

Nutfield Conservation Society

www.nutfieldconservationsociety.org.uk

5 Questionnaire Public Representatives

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at para 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Question
<p>Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.</p> <p>Your Response:</p> <p>To avoid the more densely populated areas and encourage aircraft to gain altitude as quickly as possible.</p>
<p>Q2 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?</p> <p>Your Response:</p> <p>Dispersal is preferable. The route should also be over less densely populated areas.</p>
<p>Q3 - Please highlight your awareness of any particularly sensitive issues with aircraft noise during the night-time period?</p> <p>Your Response:</p> <p>Sleep disturbance. Especially when windows are opened in summer periods. Night flight quota system should be fair for all parties concerned.</p>

<p>Q4 - Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?</p>
<p>Your Response:</p> <p>Yes</p>
<p>Q5 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?</p>
<p>Your Response:</p> <p>This will require us to investigate further.</p>
<p>Q6 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?</p>
<p>Your Response:</p> <p>Gatwick should encourage the use of newer aircraft by introducing financial penalties for older aircraft. The strictest air pollution/emission regulations should be adopted as standard.</p>
<p>Q7 - Please bring to our attention any recent or on going local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?</p>
<p>Your Response:</p> <p>The design of the new Route 4 should be a holistic solution and not just be moved to a different residential area.</p>
<p>Q8 - Do existing noise abatement procedures meet current and future local government and community requirements?</p>
<p>Your Response:</p> <p>Noise abatement procedures should be kept under continual review. It is impossible to predict future local government and community requirements. The direction of travel should be to reduce noise impacts.</p>

<p>Q9 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?</p>
<p>Your Response:</p> <p>You should be aware of Local Authority Local Plans so that any new major housing development schemes are avoided.</p>
<p>Q10 - Please identify any other areas, that are not necessarily local to you, but in your opinion could be sensitive to direct over flight or exposure to localised aircraft noise?</p>
<p>Your Response:</p> <p>Any densely populated areas, especially if aircraft altitude is suppressed like Gatwick Route 3 currently operates.</p>

Table 1 - Questions for Public Representatives

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which Route 4 options can be drafted.

5 Questionnaire Public Representatives

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at para 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Question
<p>Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.</p> <p>Your Response:</p> <p>To avoid the more densely populated areas and encourage aircraft to gain altitude as quickly as possible.</p>
<p>Q2 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?</p> <p>Your Response:</p> <p>Dispersal is preferable. The route should also be over less densely populated areas.</p>
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<p>Q4 - Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?</p>
<p>Your Response:</p> <p>Yes</p>
<p>Q5 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?</p>
<p>Your Response:</p> <p>This will require us to investigate further.</p>
<p>Q6 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?</p>
<p>Your Response:</p> <p>Gatwick should encourage the use of newer aircraft by introducing financial penalties for older aircraft. The strictest air pollution/emission regulations should be adopted as standard.</p>
<p>Q7 - Please bring to our attention any recent or on going local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?</p>
<p>Your Response:</p> <p>The design of the new Route 4 should be a holistic solution and not just be moved to a different residential area.</p>
<p>Q8 - Do existing noise abatement procedures meet current and future local government and community requirements?</p>
<p>Your Response:</p> <p>Noise abatement procedures should be kept under continual review. It is impossible to predict future local government and community requirements. The direction of travel should be to reduce noise impacts.</p>

<p>Q9 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?</p>
<p>Your Response:</p> <p>You should be aware of Local Authority Local Plans so that any new major housing development schemes are avoided.</p>
<p>Q10 - Please identify any other areas, that are not necessarily local to you, but in your opinion could be sensitive to direct over flight or exposure to localised aircraft noise?</p>
<p>Your Response:</p> <p>Any densely populated areas, especially if aircraft altitude is suppressed like Gatwick Route 3 currently operates.</p>

Table 1 - Questions for Public Representatives

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which Route 4 options can be drafted.



PLANE JUSTICE – ETHICAL PRINCIPLES FOR AIRSPACE DESIGN

A. Introduction

In the management of airspace there is something of an inevitable tension between commercial aviation interests and what we would call the ethical interests of people on the ground. We are not suggesting for a moment that commercial stakeholders in aviation cannot conduct themselves ethically. We do apprehend however that it falls in particular to community noise groups (and to local councils which also exhibit a strong ethical sense in most cases), to input an ethical dimension into the balancing of these two spheres of interest.

Before we address the questions posed by Gatwick in the FASI-South consultation on design principle development, we therefore feel the need to explain our thinking on the principle of **pre-knowledge**, which informs a great deal of our reasoning on the management of airspace and airspace change.

B. The ethical framework of pre-knowledge

We mean by pre-knowledge, the fact a would-be householder can see and hear for themselves whether aircraft are flying overhead, or whether they are not, and make home life decisions accordingly. The householder can normally choose to move under that stream of aircraft, or choose not to.

Those already overflown:

If a householder chooses to move under that stream of aircraft, they literally 'buy into' that situation, and that decision has consequences, the pros and cons of which we suggest are as follows:-

- (i) The householder accepts the level of aircraft noise and the frequency of aircraft (ATMs) present when they moved in (including whether they are overflown by one, or more, routes)
- (ii) They should expect a realistic level of organic growth in ATMs over time, in a similar way that people would normally expect levels of road traffic to increase over time. *But at the same time it is also reasonable that they should expect all feasible steps to be taken to mitigate the noise that affects them, short of overflying new communities.*
- (iii) They may well have reaped a monetary benefit in securing their home, in terms of it being valued lower because of the overflight.
- (iv) Because of their pre-knowledge of the overflight, they are far less prone to what researchers call the non-acoustic effects of aircraft noise (the psychological but very real effects suffered by the 'not previously overflown' which are borne out of the anxiety and stress of loss, unfairness and sense of hopelessness felt by those who find a flight path has been introduced or moved over them).



Those who were not overflown:

The situation of the above householders with pre-knowledge, must be compared and contrasted with householders who find themselves overflown by an airspace change where they were not overflown before. For these people there are also consequences, but unlike households with pre-knowledge, the consequences are only negative:-

- a) They find their home life, lifestyle, and the enjoyment of their home, disrupted. Sleep patterns may be disturbed by unfamiliar interruptions, and previous enjoyment of any outside space degraded.
- b) In addition to the physical impact of unfamiliar aircraft noise, they are likely to suffer also from the non-acoustic effects of noise (see B(iv), page 1 above)¹. This may be further exacerbated by the monetary effect of the overflight (see below).
- c) The physical and psychological impacts of new aircraft noise may be intensified still further where they live in a non-urban area of low ambient noise.
- d) They will have secured their home at 'full market value' because it was not overflown, and may well now find its value depressed by dint of the overflight, thereby suffering a monetary 'double whammy'.
- e) For many people their retirement plans may be linked to the value of their home, leading to yet further stress and anxiety.

C. A policy blind spot?

We apologise to those reading this, if a lot of this seems blindingly obvious. But for the founders of Plane Justice after departure Route 4 was moved in 2016, one of the greatest shocks was the realisation that for some of the decision makers engaged in airspace change, this way of thinking seemed far from self-evident.

In particular, some decision makers seemed oblivious or indifferent to there being any particularly special significance attaching to people who are or would be newly overflown: To these decision makers as it seemed to us, there were really only 'populations', to be calculated and weighed in the balance, and if perhaps e.g. a population of 5,000 could be replaced by a population of 2,000 by shifting a route then that might be considered a good result, and the fact the 5,000 population had always been overflown while the 2,000 population had not, didn't seem to matter very much.

This seemed all the stranger, because an overarching Government policy principle of long-standing is **"to limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise"**

We have sometimes heard it said this principle is open to widely varying interpretation, but for the founders of Plane Justice its meaning was clear from the first time of reading:-

¹ More research is needed into these non-acoustic effects of noise, but it could be that the psychological stress and anxiety they generate is at least equal if not more damaging to health than the direct acoustic effects of noise.



“to limit”: It seems entirely clear to us this is an instruction to limit the spread of aircraft noise by taking every feasible step possible to avoid the overflight of new communities

“and, where possible, reduce the number of people in the UK significantly affected...”:

This is a direction to take every feasible opportunity to reduce noise for communities already overflowed (for example by altering vertical profiles and incentivising quieter aircraft) so that it ceases to be ‘significant’ whilst doing everything possible to avoid breaching the first instruction “to limit”.

D. The implications of this ethical framework for airspace planning

To our way of thinking, adopting this ethical framework based on pre-knowledge then has a number of implications, as airspace planners and decision makers go about the task of planning or modernising airspace below 7,000 feet:-

1. **New overflight:** Airspace planners’ and decision makers’ first concern should be to do everything in their power to avoid overflying new communities, whether large or small, unless or until it becomes unavoidable after all other feasible avenues have been explored².
2. **Relative population sizes:** The fact an already overflowed community is large or small should not weigh in the balance – an already overflowed community of 10,000 has ‘bought into’ the overflight just as much as an already overflowed community of 1,000.
3. **Overflight by more than one route:** The fact a community is already overflowed by more than one route does nothing to alter the fact this community ‘bought into’ that situation. Airspace planners faced with a community in this position should therefore only posit the idea that one or more routes could be removed from that community or their impact lessened ***if this can be accomplished without overflying new communities (large or small)***.
4. **Outlying communities:** Communities located more than 1.5 kilometres from the curtilage of the airport and which are already overflowed should expect a realistic level of organic growth over time in the frequency of aircraft (i.e. ATMs), in a similar way that people would normally expect levels of terrestrial road traffic to increase over time. We consider a realistic level of organic growth in ATMs over time to be 20%, and that anything above this would amount to a step-change in ATM growth (see D7(a) below, page 4). ***But it is also paramount that such communities should expect all feasible steps to be taken to mitigate the noise that affects them, short of overflying new communities.***
5. **Communities in the airport’s vicinity:** Those living ‘in the vicinity’ to the airport (which we regard as being within 1.5 kilometres of the curtilage of the airport) have a special degree of pre-knowledge borne of the fact the airport’s operations for them are an inescapable presence. We submit this is not the same as you move further away, where someone living

² In any case where new overflight is utterly unavoidable, compensation must be payable for loss of amenity, health impacts and any diminution of property value (on the same basis as applies to the construction of new terrestrial highways under the Land Compensation Act). It is not a case of newly overflowed households choosing compensation – what they want is for their life choice to be respected and not to be overflowed. But if they are to be subjected to overflight that they didn’t buy into, then compensation must follow. *We apprehend the subject of compensation is beyond the scope of this present consultation, but Government should put in place the necessary amending legislation where any new overflight were to be contemplated.*



for example 5 kilometres from the airport who is not overflown could be capable of going about their daily life with little or no perception of the airport's existence or proximity.

Those living in the airport's vicinity as described, have 'bought into' the airport's operations at close quarters. It is also very likely they will have secured their home at a value which took account of this. It is our view that those living within 1.5 kilometres of the curtilage of the airport have bought into a higher expectation of organic growth of the airport's operations than those living further away. ***Again however, it is also right and reasonable that very local communities should expect all feasible steps to be taken to mitigate the noise from the airport's operations, short of overflying new communities.***

6. **The baseline growth year:** Paragraph 4 above immediately begs the question over what time period is it reasonable that these levels of organic growth in ATMs should be expected? We take the view that the time period should take 2012 as the baseline. This marks the time before the airport, NATS and the CAA embarked on a whole series of ill-starred airspace changes which chronically disturbed the equilibrium in the communities around Gatwick and led to the creation of a large number of new community noise groups. This is borne out by the fact MPs whose constituencies are in the Gatwick catchment area had no significant correspondence about Gatwick flightpaths in their 'postbags' up to 2012, with a step change thereafter.
7. There are two important consequences that we believe should flow from taking 2012 as the baseline for ATM growth:-
 - a) **Overflown communities experiencing a step-change in ATMs:** On average, overflown communities more than 1.5 kilometres from the curtilage of the airport have experienced something like an 18% increase in ATMs (using published figures) between 2012 and 2018, so that we are already approaching the 20% threshold we have suggested in paragraph 4 (page 3), above which those overflown communities will be experiencing a step-change in ATM frequency.

Where projected ATM growth over those overflown communities exceeds 20%, ways should be found to mitigate the effects of this increase in frequency of overflight. If as a last resort however, the overflight of new communities is contemplated to help mitigate this, ***only any excess of ATMs over and above the 20% should be moved over any new community, with compensation payable (see footnote 1 above).***
 - b) ***In modernising airspace routes in and out of Gatwick below 7,000 feet, airspace planners and decision makers should take where the aircraft were actually flying in 2012 as their baseline starting point for any design.***
8. **Concentration of routes:** The introduction of PBN technology at the airport after 2012 caused routes to be concentrated over a narrower lateral path than had been the case previously when flying RNAV coded overlays of conventional routes. This was the cause of a



great deal of the outcry that occurred in communities around Gatwick in the ensuing years. Though the concentration of routes is still less unjust than moving a route over new people (because a concentrated route is overflying people who were overflowed before, albeit with greater frequency), it is nonetheless an ethically invidious approach to take, when measures are available to at least partially offset the concentration effect.

We believe two such measures should be incorporated, *in every instance*, into the FASI South project:-

- a. RNAV1 technology should be used in all cases rather than RNP, because the latter tends to concentrate flight paths more than RNAV1.
 - b. Some emulation of the dispersion experienced when flying RNAV1 coded overlays should be designed-in. This can be accomplished by taking each RNAV1 route design and developing two or three marginally different route designs around its nominal track, which could be designated to be flown by different aircraft types or airlines through agreement between stakeholders³.
9. **NPRs:** Lastly but very importantly, airspace planners and policymakers seeking to deal with the principle of pre-knowledge may look in the direction of NPRs in relation to departures. **However we contend that NPRs provide no credible answer to the ethical dilemmas posed by airspace management.**

NPRs provide a false sense of public pre-knowledge for airspace planners and policy makers, creating the danger of a misplaced sense of entitlement to overfly new communities which fall within an NPR monitoring swathe but who are not currently overflowed. They further create an ethical divide in the treatment of communities affected by arrivals, and those affected by departures, which is itself ethically undesirable.

The vast majority of the general public remain unaware of NPRs, far less what they are meant to signify. It would appear from our experience that most conveyancers and estate agents also remain unaware, unless perhaps they practice in very close proximity indeed to an airport or are aviation specialists (and bearing in mind that when people are moving to the locality of an airport they are more likely to use a conveyancer in the area they are moving from). Even that rare member of the public who may be aware they live in an NPR but isn't overflowed – perhaps seeing planes flying half a kilometre or more to the side of them - may very well assume 'this is what it means' to live within an NPR corridor.

We think NPRs pay lip service to ethical principle and are an anachronism used by only a handful of countries. **We see FASI as providing a unique opportunity to dispense with NPRs and maintain the focus where it ethically should be – on where the aircraft are actually flying.**

³ To be clear, we are here not talking about what are often described as 'multiple routes or multiple pathways'. What we envisage would be for example Route 1A, 1B & 1C where the lateral distance between the nominal tracks of each sub-route design would be something like 0.3 kilometres.



E. How FASI-South could conceivably prove a game changer

We can envisage 2 potential features of the FASI/LAMP2 project encompassing all relevant airports, which could dramatically reduce the geographical area within which the principles enunciated above would need to be applied:-

- **Vertical profile**

If departures could rapidly climb to between 7,000 & 10,000 feet after take-off, then the above principles would only need apply to the area immediately around the airport that was flown over until this altitude is reached.

Similarly with arrivals, the area around the airport where the above principles would need to be applied might be smaller, if aircraft could remain in the 7,000 -10,000 ft altitude zone for longer until they were closer to the airport.

- **Lateral profile**

If departures could take off and immediately or almost immediately set a course toward their destination, then a form of natural dispersion might thereby be introduced which might eliminate or partially eliminate the need to apply the above principles.

Similarly if arrivals as a result of airspace modernisation could approach from a multiplicity of directions governed by their point of departure and join the final runway approach much later, then again this might eliminate or partially eliminate the need for the above principles to be applied.

However it would be necessary to examine detailed modelling and quantitative analysis to determine whether - and to what extent - the above design features (Vertical profile / Lateral profile) could justify moderation of the principles in Section D above.

PLANE JUSTICE

Design Principles Questionnaire - Public Representatives Gatwick Airport Route 4 Departure

5 Questionnaire Public Representatives

5.1 Your Responses The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at para 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.

Your Response:

Overriding design principle

As the Statement of Need and Design Principles Questionnaire acknowledge, this application for Route 4 RNAV SIDs was brought about through judicial review (JR). The JR led in February 2018 to the quashing of the CAA's 7 April 2017 decision (CAP1531) which had rendered the current RNAV1 SIDs permanent, and of its direction to Gatwick calling for a correction to the conventional Route 4 SIDs (sections 118 – 123 of CAP1531).

In the JR Consent Order signed by the CAA and sealed by the Court on 7.2.2018, the CAA conceded (quote): *"it ought to have taken the value of preserving the existing patterns of traffic and the value of leaving the route in its 2012 location into account and given weight to that"*.

The inescapable consequence of this admission must be that the design of the current RNAV1 SIDs is fundamentally flawed. It cannot be otherwise, because the CAA has admitted they failed to take into account where planes were flying in 2012 and indeed that they were labouring under a total misapprehension as to the disposition of the historical route, something which Gatwick has further elucidated following the conclusion of the JR and the data it obtained from the CAA and published on its blog.

The current RNAV1 route is therefore based on a design which has been comprehensively discredited by the JR, and confirmed as permanent by the CAA in an unlawful decision.

To avoid any similar circumstances and misfortune arising in the future, the starting point for any route design under this ACP process begun in December 2018 must be the 2012 lateral location of route 4.

This is further underlined and reinforced by the restoration of the pre-7 April 2017 conventional SIDs¹ approved by the CAA and due to be published later this year to coincide with de-notifying the existing conventional SIDs in compliance with the Consent Order.

¹ Which should also reasonably represent the route flown in 2012, given the absence of any substantial changes to those SIDs in the intervening period.

Outline Route Design

Accordingly we commissioned from [REDACTED] an outline RNAV-1 SID design with the brief to replicate, as closely as possible, the originally published Route 4 conventional procedures that were published prior to 7 April 2017 and substantially as in force since 2012. A number of design options following this brief were produced by the designers, and the option chosen (option 4) which exhibited the 'cleanest' turn and least noise profile.

The design is based on two fly by waypoints placed at the perpendicular of the 26L departure track, chosen as the configuration which delivers a greater degree of control and stability. Other design parameters have been chosen so as to conform to the MSD required between waypoints to enhance stability and track adherence as well as facilitate an improved climb performance within the limitations presented by the vertical airspace and the weather conditions that prevail when the SID is in use.

On roll out from the second turn, option 4 flies toward ACORN, because the design is predicated on the historical conventional route. A fifth design, based on option 4, recognises that the SUNAV waypoint is specified in the Statement of Need, and has been modified accordingly so that aircraft route toward SUNAV instead of ACORN on roll out from the second turn.

We are happy to share these outline designs with Gatwick at whatever time may be appropriate.

Other route design options

Those who may be set to argue for a different lateral positioning of Route 4, are perhaps most likely to be those who were historically overflown by Route 4, and who reaped an unjustified windfall in the past few years when RNAV 1 technology was introduced on Route 4 in what can only be described regrettably as a botched process, as borne out e.g. by the conclusions of the JR.

We believe that airspace design should be informed by ethical as well as commercial and technical considerations, and in particular the principle of pre-knowledge, as set out in our paper 'Ethical Principles for Airspace Design' ("EPAD") accompanying this document, which was originally prepared for the FASI-South modernisation programme but most of which is equally germane here (please see EPAD sections B & D in particular).

NPR

A fundamental reason why the CAA got its decision-making so wrong on Route 4 in 2015-17, is that at some point in the process it changed tack and tried to force through its 'modification' to the RNAV 1 route design, by attempting to align the SIDs with the NPR centreline, when the converse is what the Air Navigation Guidance clearly required. This is borne out by Annex 6 to the CAA's Post-Implementation Review in November 2015 (CAP1346), whereby the CAA attempted to justify its 'modification' strategy with this explanatory statement: *"It was envisaged/planned that the NPR swathe would be realigned to encompass both the conventional and RNAV1 SIDs, which did not occur."*

In the context of this ACP, we would respectfully refer decision makers to sections 5.16 & 5.17 of the 2017 Air Navigation Guidance. We would also refer to Section D9 (page 5) of the EPAD paper on NPRs originally submitted in relation to the FASI-South project.

Built-up areas

We must also record our surprise and dismay at finding this statement in the opening remarks to the Questionnaire: *"It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas."*

We contend a built-up area should enjoy no special treatment simply by dint of being so (and please see D2, EPAD). The question that should be asked, contextualised for Route 4, is: Was the built-up area overflowed by Route 4 in 2012? The answer to that question should determine whether or not that built-up area is overflowed by the route emerging from this ACP.

This stark statement in the questionnaire introduction furthermore conflicts with paragraph 3.3 earlier in the document, which invites respondents to consider the advantages and disadvantages of designing routes that are planned to overfly either urban or rural areas.

We would wholeheartedly agree that aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities in built-up areas, whereas it is likely to pre-dominate in rural or semi-rural areas.

This again takes us back to the principle of pre-knowledge (section B, EPAD) and the life choices people make. Someone choosing to live in a built-up area under a flight path may well be making a trade-off between the noise of urban life, and the amenities that come with living there, whereas someone choosing to live in a rural area that isn't overflowed is very likely to regard the peace and tranquillity as one, if not the main, reason that they moved there.

Q2 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

Your Response:

If this question is really asking if we favour multiple routes or multiple pathways, then the answer is 'no' if this would involve overflying new communities, unless full compensation were to be paid to those newly overflowed (please refer to Sections B to D of EPAD).

On the other hand, we are most strongly in favour of incorporating into the Route 4 design being pursued in this ACP, some emulation of the dispersion experienced when flying by conventional navigation (or when flying RNAV1 coded overlays of a conventional route).

Our aviation consultants [REDACTED] have confirmed this can be accomplished by taking the baseline route design and developing two or three marginally different route designs around its nominal track (e.g. so you have Route 4A, Route 4B & Route 4C), which could be designated to be flown by different aircraft types or different airlines through agreement between stakeholders. We have gone on to discuss this design concept with one or two commercial pilots who declared it viable².

² To be completely clear, we are here not talking about multiple routes. What we envisage is that the lateral distance between the nominal tracks of each sub-route design would be something like 0.3 kilometres.

Q3 - Please highlight your awareness of any particularly sensitive issues with aircraft noise during the night-time period?

Your Response:

The impact of night flights on sleep patterns, health and general wellbeing is one of the better researched areas of aviation activity and the deleterious effects are well documented.

We would repeat what we said in the first engagement stage of the FASI-South ACP, that we would wish to see a moratorium on further expansion of night flights beyond 2018 levels with a phased reduction thereafter. Better planning of aircraft movements would be part of this, as well as assigning the earliest daytime slots only to the very quietest aircraft types which would help incentivise fleet upgrades.

Q4 - Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Your Response:

We believe continuous climb to a higher altitude than at present - *provided this would not involve a steep sharp turn* - would improve (lessen) exposure to noise on Route 4, certainly for those living more than 1.5 kilometres from the curtilage of the airport.

Ultimately (and certainly in the context of FASI-South which will conclude later than this Route 4 ACP), aircraft should take-off adopting continuous climb and maintain their westerly trajectory, only starting to turn once they have reached 7,000 feet.

For those living at the end of the runway in these scenarios we would refer to section D5 EPAD (page 3). However a noise analysis should be carried out and if these households in close proximity would be experiencing a severe step change in noise as a result of continuous climb operations as above then predictable respite paths should be contemplated or compensation.

Q5 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?

Your Response:

Because of its setting and largely rural or semi-rural nature, the vicinity of Route 4 is somewhere people would wish to visit for a host of recreational purposes, quite apart from those who live here. This underlines the importance of deploying all viable noise mitigation strategies.

Q6 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?

Your Response:

As a general principle aircraft should be higher more quickly and please see Q4 in this regard.

Though in no way limited to Route 4, on many days aircraft emission odour can be experienced in the communities affected, together with an oily film that is sometimes apparent on surface water in the vicinity. These are indicators of an impact that can only be of detriment to health and wellbeing.

Gatwick should permanently station air monitors under flight paths to sample this pollution, with regular independent analysis of the data by environmental health to ascertain whether the levels are within safe limits. Samples taken from standing water and water courses should be regularly analysed in similar manner.

Gatwick should constantly review incentives (e.g. departure & landing charges) to incentivise continuous development and innovation of low-emission engines and energy efficient aircraft.

Q7 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?

Your Response:

We are unaware of any such.

Q8 - Do existing noise abatement procedures meet current and future local government and community requirements?

Your Response:

Please refer to Question 4 above.

Q9 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?

Your Response:

We are unaware of any such in relation to Route 4.

Q10 - Please identify any other areas, that are not necessarily local to you, but in your opinion could be sensitive to direct overflight or exposure to localised aircraft noise?

Your Response:

Aside from the responses given above, we are unaware of any such.

Plane Wrong - Response to the Gatwick Airport Route 4 Design Principles Questionnaire

10th May 2019

Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.

The Route 4 NPR should be retained in its historic location. The NPR has been in place for many years and very large numbers of people have made very significant investment and lifestyle decisions based on the stability of NPRs. To change those would be absolutely unacceptable.

The PRNAV routing should replicate the spread of flight paths within the NPR experienced historically with the SIDs being flown using conventional navigation.

The aim should be that 100% of flights, other than aircraft avoiding weather or experiencing emergencies, remain within the NPR. The NPR is 3 km in width and 100% compliance for PRNAV operation is a very realistic target.

In fact in a response to a Plane Wrong Freedom of Information Request to the DfT dated the 21st of August 2017. [REDACTED] Head of Airspace and Noise Policy, Aviation Directorate. Replied- *"...In your letter, you also raised a number of other concerns. We, of course, recognise that the poor track keeping performance on departure Route 4 is a concern for communities as indeed is poor track keeping on any of flightpaths at one of the designated airports. This is one of the main reasons why we are have proposed to place new information expectations on the designated airports, including Gatwick, as part of our revised air navigation guidance. It may also be useful to note that the Department for Transport's technical advisory committee (ANMAC) on aircraft noise, did not expect a track keeping compliance rate of 100% and 95% has usually been accepted as a more realistic target. With the implementation of PBN, we are expecting that track keeping compliance can increase to something closer to 100%, but there will always be occasions when aircraft fail to comply, including for legitimate reasons relating to safety."*

If you would like to see the full letter I would be happy to forward it to you.

The PRNAV procedure should be revised to place the majority of aircraft on the centre line of the NPR and not on the northern edge, as is currently the case. We believe that operating at 220Kts the majority of aircraft will be in the northern third of the NPR. In fact, we calculate that even an accurately flown continuous 25 degree bank angle turn at 220Kts in zero wind would place the aircraft approximately 550m north of the centre line. We believe that further consideration should be given to restricting operating speed until the turn is complete. Completing the turn at 190Kts would ensure that virtually all aircraft, under all wind conditions, would remain easily within the NPR. The track distance covered during the turn would be approximately 34% less compared with a turn at 220Kts. If track distance is representative of numbers of houses overflown, then 34% fewer residents are affected by noise directly overhead during the turn at 190Kts vs 220Kts. We would appreciate seeing accurately calculated data showing the end of turn position relative to the NPR centre line for a range of speeds and bank angles.

In the past the 190Kts turn option has been dismissed by the airlines on the basis of fuel efficiency and noise. We would appreciate seeing data from Airbus and Boeing detailing the differences between a 190kt climbing turn vs a 220 Kt climbing turn on representative aircraft.

Q2 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

Concentration of the noise impact is by far the worst option.

Many of the residents that we represent have experienced the adverse effect of concentrated flight paths since the introduction of PRNAV and find this intolerable compared to their historical intermittent noise experienced with the SIDS on Route 4 being flown using conventional navigation. In addition to Route 4 concentrated flight paths most residents that we represent also currently experience a similar concentration of Route 3 flight paths.

All homes under the NPR have experienced overflying flights in the past and dispersal of flights, reverting to sharing the adverse effects of noise impact across a greater number of residents within the NPR, is our much preferred option.

We believe strongly that dispersal should be on a continual basis and not by having a number of routes which are used on a periodic basis creating a situation whereby residents experience concentrated flights on a periodic basis.

We believe that you should consult with aircraft manufacturers and providers of Navigation Data Bases and Flight Management Systems on the most efficient ways of replicating the spread of flight paths within the NPR, without taking away the air traffic control benefits of accurate navigation.

Q3 - Please highlight your awareness of any particularly sensitive issues with aircraft noise during the night-time period?

Clearly night time noise is hugely intrusive to people and detrimental to health. Therefore there should be an absolute ban on night flights to and from airports such as Gatwick.

Q4 - Do you believe aircraft conducting continuous climb to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

In principle yes, however it would assist making an informed decision and validating our opinion if you could provide comparative data on the noise level of aircraft at 4,000 flying level at say 250Kts and aircraft at various higher levels with climb power set. We do have concerns that 4 engine aircraft, with their lower climb rates, may create more noise within the NPR with a continuous climb than two engine aircraft. It may well be that some aircraft types need to be excluded from continuous climb departures.

The use of modern navigational, communication and surveillance technology provides a step change in airspace capacity and the opportunity for a radical redesign of airspace use. An opportunity that would be a "win win" for industry and the environment would be to facilitate continuous climb on most departures and in particular on Route 4.

The original departure and arrival routes for Gatwick were designed against a background of conventional procedural navigation, communications and surveillance. As a consequence a significant number of departures, including Route 4, were routed into the congested airspace between Heathrow and Gatwick, avoiding Gatwick arrival routes to the south, but being climb restricted at 3000 / 4000 feet by conflicting Heathrow routes. Other departure routes suffer similar climb restrictions. As a consequence many communities around Gatwick suffer unnecessary noise from these low level aircraft, which in fact have the climb capability to be well above 7,000 feet as they pass overhead. Current enhanced air traffic control technology could facilitate continuous climb for these departures. In fact in the same way that Continuous Descent Approaches are the norm for arrivals, so Continuous Climb Departures should be the norm for most Gatwick departures.

Q5 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?

Holmwood Common and Leith Hill are local sites with high ecological value. Holmwood Common is particularly impacted by aircraft as it is directly overflown. Leith Hill is also impacted by aircraft on the bend of Route 4, especially from non compliant aircraft flying outside of the NPR.

Reigate Heath, which is a site of Specific Interest and a nature reserve is currently overflown by aircraft deviating to the north of Route 4 and also by aircraft on Route 3. (http://www.reigate-banstead.gov.uk/info/20083/countryside_in_the_borough/78/reigate_heath)

The recent UN report (see link below) presents a devastating picture of human impact on the planet with a dangerous decline in ecosystem health. In the UK, the Wildlife Trust has reported a 50% loss of species in the past 50 years.

In this context, much further research is required to understand the impact of aircraft pollution, including noise, on local habitats. We are not aware of any studies, but recommend that Gatwick works with the Surrey Wildlife Trust and Surrey Nature Partnership www.surreynaturepartnership.org.uk/our/work to review the impact of its operations, and potential growth, on the local environment. Whilst we have highlighted two specific sites, there are many smaller interlinked sites which also provide important wildlife corridors. Gatwick should also understand the impact on these and the Wildlife Trust's proposed Nature Recovery Networks.

<https://www.bbc.co.uk/news/science-environment-48169783>

Q6 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution.

Continuous climb procedures reduce the impact of emissions at ground level, and also, with lower fuel burn, reduce emissions overall.

Gatwick should encourage the use of the most modern fuel efficient and low emission aircraft with penal charges or outright bans on other aircraft. However impact assessments of pollution for future growth should be based on a realistic assessment of the speed with which aircraft technological advances will reduce pollution and the speed of acquisition by airlines of the that most modern equipment.

Q7 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?

This is a major issue in respect of habitat loss and destruction and clearly Route 4, being the busiest Gatwick departure route, has a disproportionately large environmental impact. We do not have details of the most recent studies but believe that it is important that you should consult with the Surrey Wildlife Trust (surreywildlifetrust.org) to obtain that detail and input into your process.

Further information is available on and www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services

Q8 - Do existing noise abatement procedures meet current and future local government and community requirements?

Absolutely not, in the case of the residents that we represent, who have no respite at all from Gatwick noise. A key factor in all discussions, whether government or community, on the effects of aircraft noise is that of respite. Located under the flight paths of both Routes 3 and 4, residents represented by our organisation are affected by departure noise regardless of runway direction in use. The only communities that cannot be provided with respite are those on the extended centre line of single runway airports. That is not the case for residents north of Gatwick who suffer noise from both Routes 3 and 4, and increasingly from Heathrow departures.



SALFORDS AND SIDLOW PARISH COUNCIL

Airspace Change - Gatwick Airport Route 4 Standard Instrument Departures

Please complete the following:

Q1 - Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.

Gatwick Airport (LGW) should design the new Route 4 to be as close to the original legacy position only correcting any areas where this went outside the NPR. Work should be undertaken to seek the best technology to achieve this

The original objective was to replicate as closely as possible the existing conventional track flown over the ground of the conventional SIDs whilst maintaining the existing vertical profiles, whilst at the same time not contravening the lateral and vertical parameters associated with Noise Preferential Route definition. If this was not achieved the route would return to the previous position.

We have argued this objective was not met. Adjusting aircraft *“contravening the lateral and vertical parameters associated with Noise Preferential Route definition”* on one small section of Route 4 as they turned towards the east did not require the rest of the easterly route to be moved south over the centreline of the Route 4 NPR.

The CAA decided the modified Route 4 could not be allowed to stand because it was based upon a misunderstanding of the relevant facts. Gatwick Airport could not have conducted a proper consultation in 2016 because relevant information was not available to be provided to consultees to enable them to respond properly to the consultation. The CAA has also agreed that it ought to have taken into account the value of preserving existing patterns of traffic in that decision.

The objective to replicate as closely as possible the existing conventional track flown over the ground of the conventional SIDs was not achieved and the commitment that Route 4 would revert to the legacy position should be fulfilled.

Q2 - Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

Assurances have been given that the noise from increasing number of aircraft would be offset by the introduction and use of quieter aircraft and this assurance must be met rather than making more noise and dispersing this over more and new people. The use of aircraft which ensure the assurances given are met would mean dispersal is not necessary.

Q3 - Please highlight your awareness of any particularly sensitive issues with aircraft noise during the night-time period?

Night flights should not be allowed or at least kept to a minimum from LGW. Night movements in and out of Gatwick should be limited to the quietest aircraft and there should be a large surcharge on all movements between 10.30pm and 6am



Rural areas at night are extremely quiet so having departure flights take off in these hours causes distress to residents, livestock, horses and other wildlife.

Q4 - Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Departures should be encouraged to fly high as quickly as possible without dispersal or vectoring before 7000 feet where possible.

Q5 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?

None

Q6 - Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?

Gatwick should maximise the use of technology to use the most direct routes available while recognising the constraints of the NPRs and avoid stacking.
 Gatwick should do all in its power to make maximum use of modern aircraft which have the best airframe and engine design to reduce the amount of emissions produced. Growth at Gatwick should not be allowed if this leads to any increase in overall noise and emissions.

Q7 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?

None.

Q8 - Do existing noise abatement procedures meet current and future local government and community requirements?

Unknown

Q9 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?

None

Q10 - Please identify any other areas, that are not necessarily local to you, but in your opinion could be sensitive to direct overflight or exposure to localised aircraft noise?

None

Q1

-

Please advise us of any issues or constraints you feel Gatwick Airport could consider when designing its new Route 4 PBN departure procedure? Please provide details.

Your Response:

Q2

-

Please tell us if dispersal of noise impacts across a greater number of households is preferable than the concentration of noise impacts on a smaller number of households?

Your Response:

This question does not cover households not living under the route but the general public seeking to enjoy the tranquillity of the higher ground of the Surrey Hills AONB.

Q3

-

Please highlight your awareness of any particularly sensitive issues with aircraft noise During the night-time period?

Your Response:

At any time but probably greater during daytime when the public seek to enjoy the tranquillity of the Surrey Hills AONB

Q4

-

Do you believe aircraft conducting continuous climbs to higher altitude after taking off (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Your Response:

Unable to comment

Q5

-

Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to AONB, SSSI etc), that you feel aircraft could avoid?

Your Response: Surrey Hills AONB especially around Leith Hill at 1,000ft high and Coldharbour nearby

Q6

-

Please state what principles you believe Gatwick Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner emissions or pollution?

Your Response: No expertise in this respect

Q7

-

Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Gatwick Airport when designing the new Route 4 PBN departure procedure?

Your Response: No answer

Q8

-

Do existing noise abatement procedures meet current and future local government and community requirements?

Your Response: No expertise in this respect

Q9

-

Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?

Your Response:None

Q10

-

Please identify any other areas, that are not necessarily local to you, but in your opinion could be sensitive to direct overflight or exposure to localised aircraft noise?

Your Response:Not relevant

