YOUR LONDON AIRPORT Gatwick

Design Principles Questionnaire - Airports & ANSPs

Gatwick Airport Route 4 Departure

YOUR LONDON AIRPORT Gatwick

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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 RNAV[1] 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 design[2], 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 Review[3] 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.

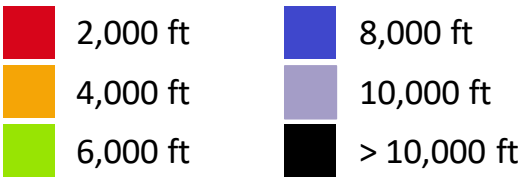

Figure 2 - Aircraft track upper altitude band.

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.

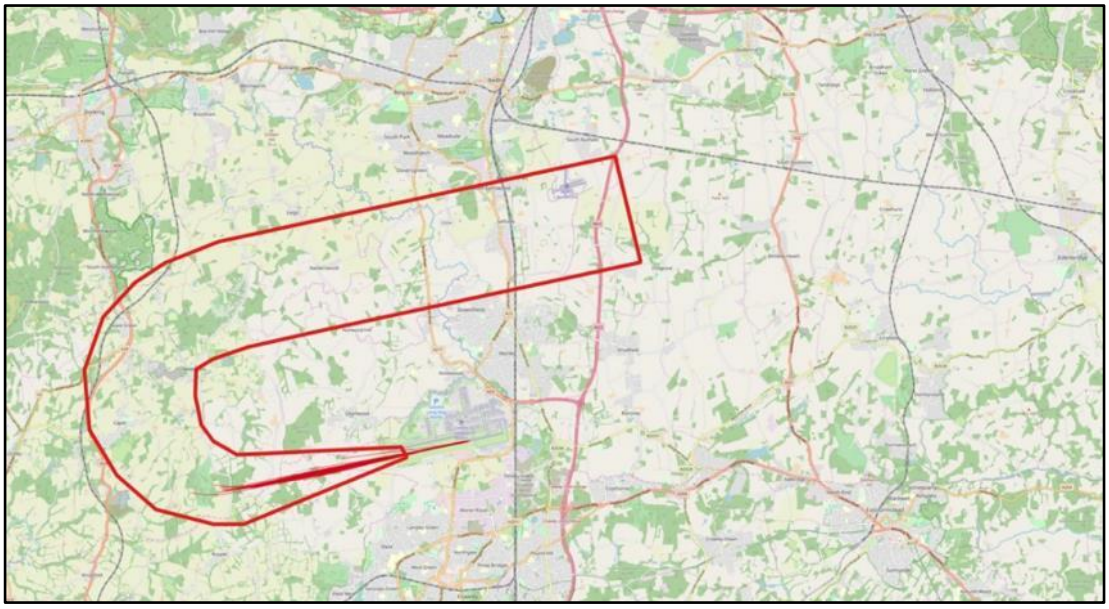

Figure 3 - Aircraft tracks at or below 2,000 ft AMSL (single summer day, 22nd July 2018).

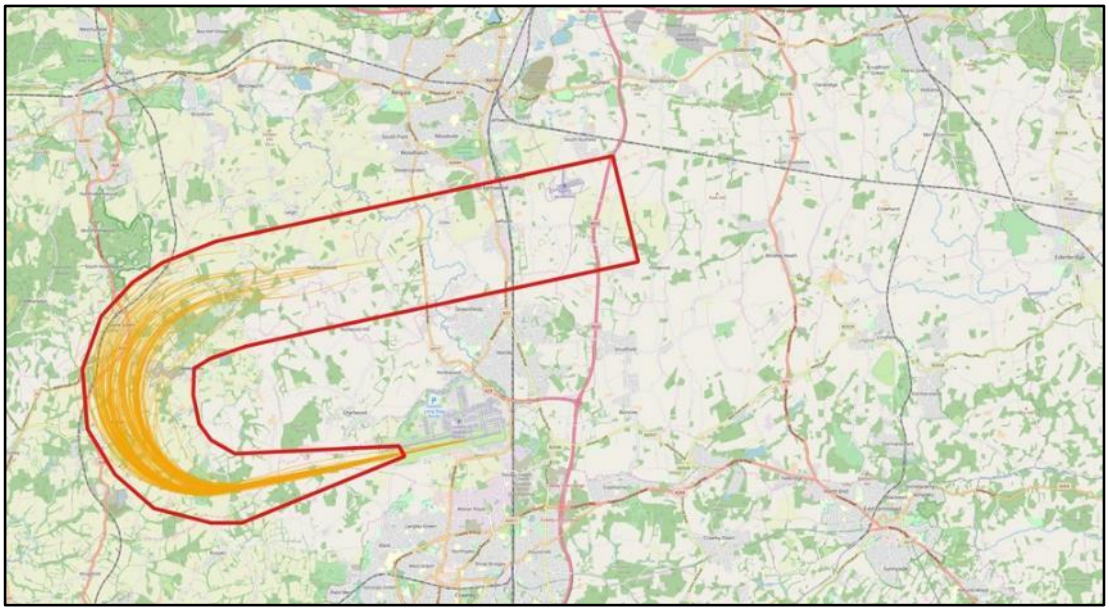

Figure 4 - Aircraft tracks at or below 4,000 ft AMSL (single summer day, 22nd July 2018).

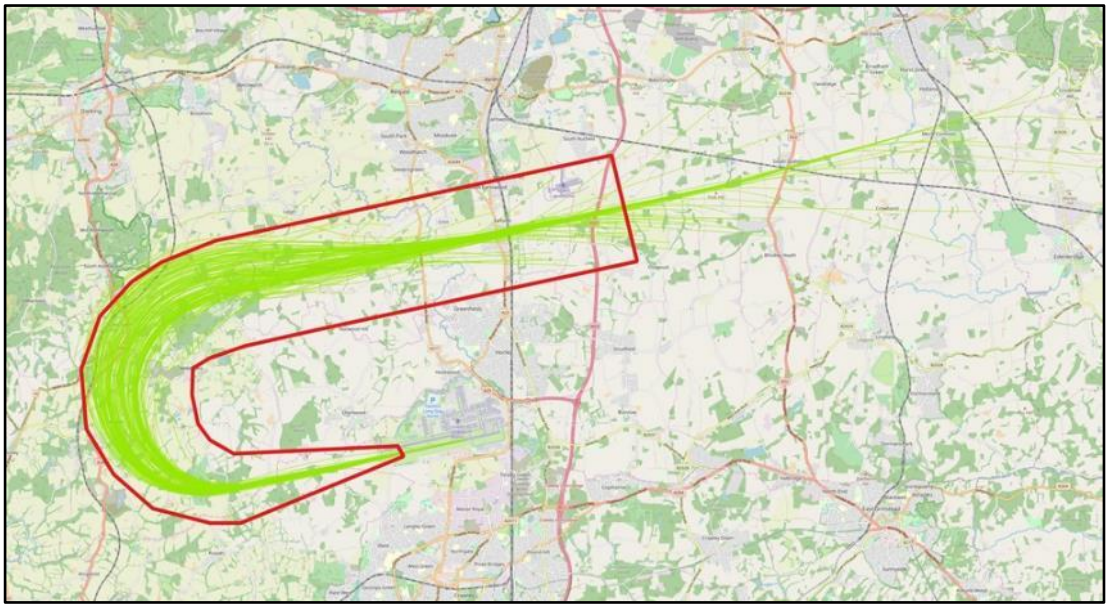

Figure 5 - Aircraft tracks at or below 6,000 ft AMSL (single summer day, 22nd July 2018).

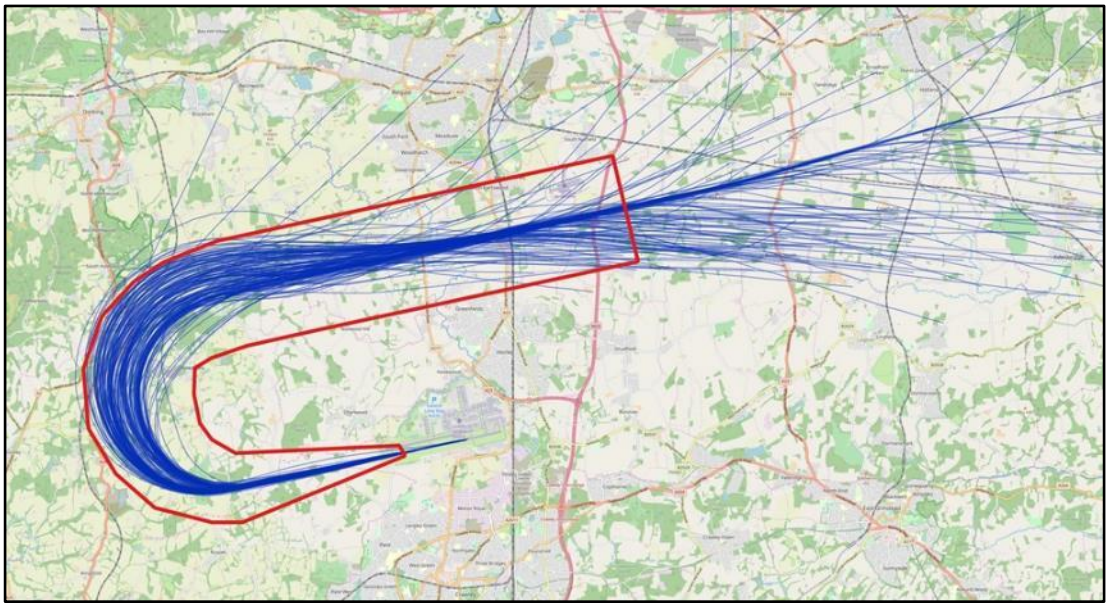

Figure 6 - Aircraft tracks at or below 8,000 ft AMSL (single summer day, 22nd July 2018).

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).

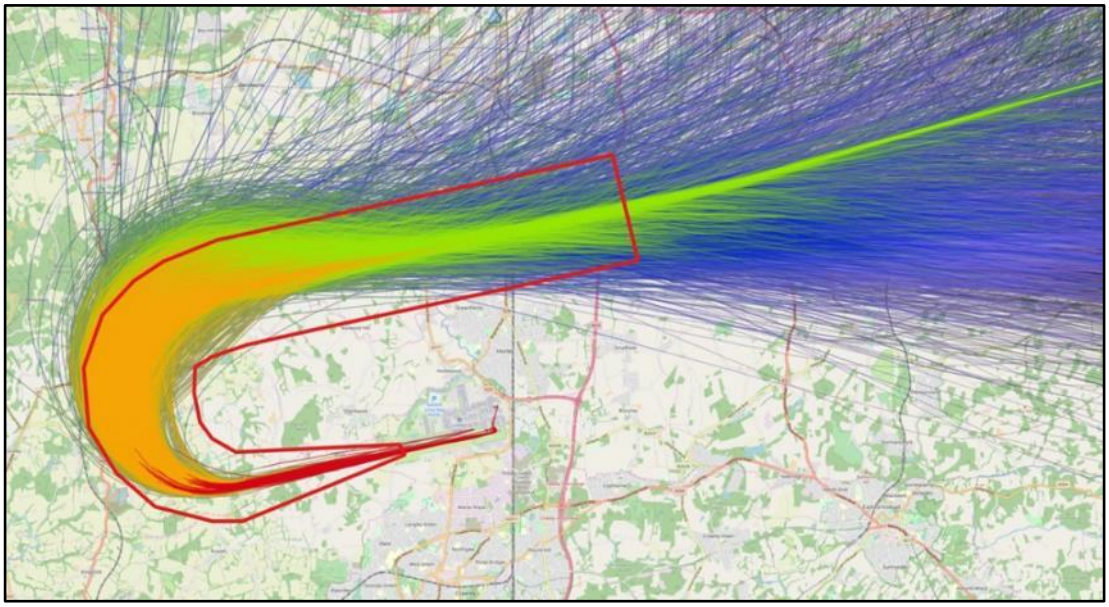

Figure 7 - Aircraft tracks over one summer month (July 2018).

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 overflown, 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 overflown 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

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:

<< Questionnaire>>

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.