



LONDON
GATWICK



Shaping the future: London Gatwick's Route 4 Airspace Change

Name	Date
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	Frequently Asked Questions (FAQs)
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1 Background & The Need for Change

1.1 Why do you need to transition to a satellite-based system?

The upgrade to satellite-based navigation is a long-term strategic requirement as outlined in the Government's Airspace Modernisation Strategy; thus, all UK airspace will eventually have to comply with this requirement as the existing ground based navigation technology currently serving Route 4 is being phased out.

Failure to adopt satellite-based navigation procedures on Route 4 would, barring Government or CAA intervention, result in aircraft being unable to utilise this departure route once the ground beacons supporting the Route 4 conventional procedure are decommissioned. This would be an unacceptable outcome if the integrity of the London Gatwick operation is to be maintained.

You can read more about this in Chapter 1 of our Main Consultation Document.

1.2 What was the historical preferential route?

All the background information to Route 4, including the flight path, the historic challenges with the route, and what is flown today can be found within our Main Consultation Document - Chapters 1 to 3.

1.3 Is the intention to increase the number of flights?

No, our intention is not to increase the number of flights. Our Full Options Appraisal (FOA) assessed a range of criteria, one of which included the assessment of impact to capacity and resilience. The outcome of the FOA indicates that none of the shortlisted options will increase or decrease the capacity on this route.

2 Route Design & The Four Options

2.1 How does this proposal differ from the historical route flown on Route 4, and how does it differ from the RNAV route temporarily introduced in 2016?

All shortlisted options have been designed to remain as close as possible to, or within, the published NPR conformance monitoring swathe, thereby aiming to minimise the number of newly overflown residents. An NPR is a track line on a map which aims to minimise the number of people overflown by departing aircraft. NPRs are set by the Government and have existed since the late 1950s, when the airports were in public ownership. NPRs are not within the scope of this consultation.

Two of the options seek to replicate existing procedures:

1. Option A reflects the current procedure as closely as possible; and
2. Option D replicates the 2016 procedure as closely as possible.

However, differences between conventional and satellite-based navigation standards mean it is not possible to replicate historical procedures precisely.

If you would like to learn more about the history and design principles of the Route 4 options, please refer to Chapters 2, 3 and 4 of the Main Consultation Document.

2.2 You said Option D replicates a 2016 route. Was that 2016 route the route that was historically withdrawn due to legal challenges?

Yes. That route was part of the previous airspace change which was withdrawn following a legal challenge of the process used to introduce that procedure.

However, this is a completely new airspace change process, which complies with the CAP1616 v5. We have included this option (Option D) since it is a valid flight procedure and provides an additional option for consideration.

2.3 Is there any reason Route 4 cannot track the M25 (far less tight turn) where noise would be much less of an issue?

Yes. The airspace to the north of Gatwick is constrained by other routes and London airports flying above Route 4.

Positioning the route further north to track the M25 would interfere with these existing airspace structures and operations, which we are required to avoid.

2.4 If the main aim is to stay as close to the current route, then shouldn't Option A be most preferred, and Option D the least preferred?

While staying close to the current route is a factor we considered in designing the route options, we are required to provide alternatives and assess these alternative options using the Government's Transport Analysis Guidance (TAG). Based on this assessment, Option D scored the highest, being the most favourable in terms of noise impact and emissions.

The full list of design principles can be found at Table 2, in Chapter 2 of the Main Consultation Document. The assessment results and outcomes can be found in Chapters 5, 6 and 7.

2.5 Which of the four options flies over the least densely populated areas overall?

Based on the detailed overflight assessment, conducted by Environmental Research and Consultancy Department (ERCD) of the CAA and the Transport Analysis Guidance (TAG) results, Option D performs best regarding noise, which indicates it overflies or impacts the fewest people.

Our population data is based on updated 2021 census supplied by CACI Ltd, which includes known future housing developments and population expansions.

3 Flight Operations & Track Keeping

3.1 Will the satellite-based system mean that aircraft fly the exact same route every time?

Satellite-based navigation is inherently more precise and therefore tends to result in increased concentration of traffic around the published route track. This has a mixed effect of potentially increasing the overflight of communities or locations directly under the flight path, while reducing overflight of locations around the path.

In earlier stages of this process, we agreed a set of design principles with local stakeholders. One of those principles is to disperse aircraft around the nominal track to provide respite in the initial turn phase of the route. We have included that optionality within our proposals - you can read more about the options - and the reason each option has been designed the way it has - in Chapters 2 to 4 of the Main Consultation Document (Table 2 is the full list of the Design Principles), and the Full Options Appraisal.

3.2 Won't this make flights more concentrated, surely this will increase impact on overflowed communities?

Although the only published Route 4 procedure at the moment is a conventional one, the aircraft currently using it predominantly fly a Flight Management System overlay of the conventional procedure. This means that in actual terms most of the aircraft currently using Route 4 fly it using satellite-based navigation. Therefore, our expectation is that the overall impact would remain broadly the same.

We have also responded to the feedback received from stakeholders to date, many of whom have expressed a preference for greater dispersion of aircraft to avoid excessive concentration. All options have a level of dispersion built into the 180° turn.

3.3 Why should we believe the proposed routes shown in your four options when a high proportion of planes fail to comply with the current NPR?

The current Noise Preferential Route (NPR) is aligned with the conventional procedure. The ability of aircraft to follow a route as set out in the published procedures is affected by a range of factors that lead to dispersion. For some aircraft, it is technically impossible to fly such tight turns, while for others, safety or weather-related considerations can introduce dispersion. This is why, in our depictions of the routes, we show a shaded dispersion range indicating where aircraft may be expected to fly if external factors influence their ability to remain precisely on the published track.

3.4 If you know a turn is 'tight', won't this mean the airlines are simply more likely to fail to comply with the route from day one?

The new route is not wholly about ensuring that the designed route is the most likely to be complied with, especially as feedback received from many stakeholders expressed a preference for greater dispersion of aircraft to avoid excessive concentration. There are a range of factors, technical, operational, environmental and otherwise which have determined the design and selection of the shortlisted options.

3.5 In your animations, why doesn't your example plane fly within the shaded zone which you explained is where the majority of planes will fly?

The line in the animation represents the "instruction" or nominal route the aircraft systems are programmed to fly. The shaded zone represents the modelled dispersion range that aircraft will likely fly due to variables like weather, aircraft weight, and avionics. In the turn, aircraft systems cannot always follow the centreline perfectly.

For Option D, the shaded dispersion area sits slightly behind the line because the turn is very tight, meaning aircraft may naturally drift outward, slightly wide of the instruction. The animation shows the designed route (the instruction), while the shading shows the likely real-world outcome.

3.6 In respect of dispersion, what variance in distance is available to flights operating within each of the shaded zones for each option

The shaded zones are not a "usable range" or a fixed corridor of available airspace. They are a projection generated by a fast-time simulation model. They demonstrate where aircraft are likely to be, given variation in conditions (e.g., weather, aircraft characteristics and capability) rather than a defined distance available to pilots.

3.7 Why are the media illustrations and online maps not true to what is flown; they do not show that the route vectors (turns) southeast?

All the maps accurately depict the departure route instructions that pilots are required to follow up to 4,000ft. However, once aircraft climb above 4,000ft, they are deemed to be clear of the Noise Preferential Route (NPR) and are no longer constrained by the departure route design. Above 4,000ft altitude, Air Traffic Control (ATC) may vector (turn) aircraft to direct them to their final destination or to ensure safe separation from other traffic. Consequently, the actual flown tracks may vary and diverge from the defined procedure shown on the consultation maps as aircraft climb above 4,000ft. This consultation concerns the published departure procedure itself, not the vectoring practices. Nevertheless, it should be noted that vectoring may deliver positive environmental and noise outcomes if conditions allow, by enabling earlier climb to higher altitudes (noise reduction) or offering more direct paths to destinations (emissions reduction).

3.8 How are you accounting for vectoring in your assessments?

This consultation focuses on the route design below 4,000 feet. Vectoring (when Air Traffic Control directs aircraft) typically happens above 4,000 feet or once aircraft have left the Noise Preferential Route (NPR).

Existing vectoring practices will continue regardless of this proposal. Vectoring is a standard practice where Air Traffic Control (ATC) gives specific heading instructions to pilots, rather than the pilot following the published automated route. ATC often intervene to improve efficiency or safety. For example, they might vector an aircraft to steer it slightly away to maintain safe separation from other aircraft.

For our assessments, we applied the same level of dispersion due to vectoring to all options, based on 10 years of historical data, to ensure a fair comparison.

4 Noise, Environmental Impacts & Data

4.1 Where can I find more information about the noise impacts for the four options?

Chapter 4 of the Main Consultation Document sets out each of the four options we are consulting on, including the geographical differences between the options. This is shown visually with both the departure route nominal track and the expected flight track dispersal area included. We also have tools on our website with more information:

1. We have an animated video which brings together all four options, and we have four standalone videos which help explain each of the options in more detail.

2. We also have a postcode look up tool which illustrates the different impacts of each option relative to a specific location.

Chapter 5 details the process followed to assess each of the shortlisted options against the baseline, while Chapters 6 and 7 show the relative impact of each option vs current day as well as the conclusions and preferred option recommendation resulting from the assessment.

4.2 Where is the historical Noise Preferential Route corridor, and what areas have been historically impacted?

The Noise Preferential Route (NPR) is a track line on a map established by the Government to minimise the number of people overflown by departing aircraft. These routes have existed since the late 1950s, and for Route 4, the NPR replicates the published conventional procedure and terminates at 4,000ft altitude. Once aircraft climb above this altitude, they are deemed to be clear of the NPR and may be vectored at the discretion of Air Traffic Control.

In 1991, a buffer extending 1.5km to each side of the NPR centre-line was introduced to help assess track-keeping, providing a conformance monitoring swathe of 3km. This was intended to prevent aircraft from departing the published procedure below 4,000ft altitude and to provide communities with assurance on where departing aircraft could be expected.

Historically, the route heads west before turning north and east, flying in the vicinity of South Holmwood, Leigh, Redhill and Reigate before continuing towards their destination. Full background information on the evolution of Route 4 can be found in Chapters 1 to 3 of the Main Consultation Document.

4.3 What will the noise shadow be from this concentrated route?

Satellite-based navigation is inherently more precise than conventional navigation and therefore, depending on the design, tends to result in an increased concentration of traffic along the published route. Particularly along straight segments of a route, it potentially increases the overflight of communities or locations directly under the flight path, while reducing overflight of locations around the path that were historically affected by the wider dispersion of conventional navigation.

In the turn, depending on the design, aircraft systems cannot always follow the centreline of a design perfectly. Chapter 4 of the Main Consultation Document sets out each of the four options, showing the track and the modelled dispersion range where aircraft may naturally drift outward, slightly wide of the designed centreline, showing the likely real-world dispersion effect.

We recognise that an aircraft doesn't need to be directly overhead for someone on the ground to feel it is flying over them or to experience noise from it. The Civil Aviation Authority (CAA) has set the criteria for what counts as an overflight and how aircraft noise should be assessed as a result. We have used these criteria to evaluate the noise impact of each option.

Our online tools, including an animated video, bring together all four options to further illustrate variances in track and noise impact.

4.4 Can you elaborate with regards to the specific factors that cause the changes in noise, emissions and fuel burn and why they differ from option to option.

The inputs for the modelling (aircraft types, destinations, numbers) are identical for all options. The differences arise from the geometry of the turn in each option thus potentially avoiding some densely populated areas (also potentially affecting others).

For example, Option D is further south and involves a tighter turn. To achieve this, aircraft flight management systems may use different power settings or height profiles compared to the northern options, resulting in different noise and fuel burn outcomes.

4.5 Where does the noise data used come from?

The noise data presented in this consultation is produced using the UK civil aircraft noise model known as ANCON. This model is developed and maintained by the Civil Aviation Authority (CAA), the UK's airspace regulator.

To calculate the impact, the ANCON model compares noise exposure against estimates of the number of people and households within the survey area, as well as noise-sensitive buildings like hospitals. Population data is taken from the latest 2021 Census information. The number of people experiencing exposure to noise is then evaluated for impacts on health and quality of life using the Department for Transport's aviation noise Transport Analysis Guidance (TAG) workbook.

For the specific baseline of this proposal, noise exposure from air traffic was measured over a busy 92-day summer period.

4.6 How do you know the assumptions in the model are accurate?

All the technical information presented in the consultation materials uses the most up-to-date data available, with modelling carried out in line with best practice. The noise contours are produced using the UK civil aircraft noise model (ANCON version 2.4), which is developed and maintained by the Civil Aviation Authority (CAA), the UK's airspace regulator.

To ensure the model reflects real-world outcomes as accurately as possible, our route depictions include a shaded dispersion area generated by a fast-time simulation model. This projection accounts for specific variable factors like weather conditions, aircraft weight, and avionics capabilities, all of which influence an aircraft's ability to remain precisely on the published track.

The baseline noise exposure was established by measuring anticipated 2027 and 2036 air traffic over a busy 92-day summer period.

5 Consultation Process & Government Policy

5.1 Is there any concern that consultation feedback will be skewed because Option D is so different to options A, B and C (i.e., anyone who objects to A will object to A, B and C and so they will all get more objections).

The consultation presents the options in a ranked order from 1 to 4; there is no mechanism within the consultation to "object" to any option.

The final determination of which option is taken forward will not be based solely on the number of responses favouring (or opposing) a particular option or on how an option is ranked. Decisions will be based on the rationale and arguments provided in the feedback, not just the volume of responses.

We are committed to full transparency throughout this process. All feedback and data collected will be shared with the Civil Aviation Authority (CAA) and published for public review, ensuring that the decision-making process is open and evidence based.

5.2 What will happen to this consultation if the air navigation guidance is changed?

The Government has recently consulted on changes to the Air Navigation Guidance, the outcome of which may impact how noise impacts are assessed as part of the airspace change process in the future. The Route 4 airspace change is guided by CAP1616 v5 and the Air Navigation Guidance 2017, which considers the noise impacts of aircraft flying between 4,000ft and 7,000ft. The impacts assessed as part of this consultation use the criteria set out in the Air Navigation Guidance 2017.

5.3 What will happen if the government changes air navigation guidance, so that noise is only considered up to 4,000ft – over which area(s) will the route be vectored (turned)?

The Route 4 airspace change is guided by the Air Navigation Guidance 2017, which requires the consideration of noise impacts for aircraft flying between 4,000ft and 7,000ft. While the Government has recently consulted on changes to this guidance, the current assessment for this proposal continues to use the existing criteria.

Regarding the path flown, the Noise Preferential Route (NPR) for Route 4 has a designated upper limit of 4,000ft. Once aircraft are above this altitude, they are no longer on the noise preferential route and may be vectored. This consultation concerns the departure routes themselves, not the paths taken by vectored aircraft.