# London Airspace Consultation
# Executive Summary

Air travel plays a crucial role in supporting economic growth and prosperity, particularly for an island nation like the UK. It is a part of modern life that we all take for granted; for business, international trade and leisure, flying is central to today's fast moving lifestyle.

Airlines and airports require the support of efficient airspace, the invisible infrastructure in the skies above us. The basis of today's airspace structure over London and the South East was established several decades ago when there were fewer aircraft in the skies and they had basic navigation technology.

Aircraft today use very accurate navigation technology and new European legislation requires all member states, including the UK, to revise our airspace to maximise the use of these new technologies. Change is therefore inevitable; our focus in this consultation is on how best to enable that change.

At the same time, this gives us the opportunity to modernise the old airspace structures to improve efficiency now that our skies are so much busier, and reduce the environmental impact of air traffic.

This consultation is the first stage in a wider programme of proposed changes to deliver the UK's Future Airspace Strategy, developed by the Civil Aviation Authority (CAA) with the support of the aviation industry. It will deliver significant benefits, including fuel savings for airlines which will also mean fewer $CO_2$ emissions, and less noise overall for people living below.

In this stage of the programme we address changes to the airspace supporting Gatwick Airport from ground level up, and to the airspace supporting London City Airport above 4,000ft. Later stages will address proposals for airspace supporting other parts of the London airports network, to be complete by 2020.

The following points should be noted:

- We are consulting on areas of airspace, not on routes. Final route positions will be determined after considering the consultation feedback
- The net effect of these proposals will be less noise – aircraft will climb higher, more quickly on departure and stay higher for longer on arrival. However, flight paths will change – and this may mean some areas will be overflown more than today, others less, and some will not notice any significant change
- We include the possibility of designing in 'respite routes' in some cases. These are additional routes that could provide some predictable respite from noise for people living below flight paths
- Our new design concept, making the most of new navigation capability, will significantly reduce the use of conventional holds (or stacks), and put new route structures over the sea where possible

If these changes might affect you, we would like your views. You can use our postcode search facility which makes it easy to see which proposed changes have most relevance to your location.

# London Airspace Consultation
# Part A
## Introduction

**Contents**

## 1 Introduction

1.1 Our airspace is a precious national resource, and how we use and manage it is a matter of great responsibility. The expertly controlled passage of aircraft above us ensures our safety and keeps aircraft flowing efficiently - and the more efficient we can make it, the more we can potentially minimise its impact on the environment.

1.2 This means that, from time to time, the organisations responsible for managing our airspace will make proposals for changes to the airspace structures in order to enhance safety and improve efficiency. These proposals are usually subject to consultation and when they change the flight paths for aircraft flying at low altitudes, that consultation is open to members of the public to provide feedback.

1.3 This consultation is part of a proposal to change airspace structures supporting airports in the south of England.

1.4 This consultation covers proposed changes to the following:

- Arrival routes for Gatwick and London City airports above 4,000ft
- Some departure routes at these airports to complement the changes to arrivals above 4,000ft
- All routes below 4,000ft in the immediate vicinity of Gatwick Airport (but not at London City Airport)
- Changes to some routes for traffic to/from London Biggin Hill and London Southend airports that share some of the same airspace as London City Airport

1.5 This introduction to the consultation provides:

- An overview of the consultation areas and the consultation document so that you can identify which parts may be of interest to you
- Context for the consultation, including the strategy and legislation driving the proposed changes, the legal framework determining how changes should be made, and the effects the proposed changes might have
- A summary of the development process, describing how the proposed changes fit with on-going development of surrounding airspace; the design work so far; the consultation process and how we will use the feedback we receive; and what happens next
- How to respond to this consultation

1.6 Any organisation that submits an airspace change proposal (ACP) to the Civil Aviation Authority (CAA) is referred to as a 'sponsor'. This consultation covers parts of the airspace system that are the responsibility of both NATS and Gatwick Airport Limited[1]. We are therefore co-sponsors of this proposal[2].

1.7 NATS operates under the terms of our Air Traffic Services Licence. This requires us to be capable of meeting, on a continuing basis, any reasonable level of overall demand for air traffic control services on the network of routes that link UK airports to each other and to the route systems of neighbouring states. In light of that requirement, we propose airspace design changes to the airspace regulator, the CAA.

1.8 Airports have a similar responsibility for low altitude[3] routes in the vicinity of the airport, so they also propose changes to the CAA where appropriate. NATS and Gatwick Airport are both seeking to progress with proposals which makes us co-sponsors of this consultation. London City Airport is not seeking to consult on changes to their low altitude routes at this time, so it is not a co-sponsor.

1.9 For information on Gatwick Airport see www.gatwickairport.com. For information on NATS see www.nats.co.uk. A short video explaining the role of NATS, how air traffic control (ATC) works and why we seek to change airspace can be found at www.londonairspaceconsultation.co.uk. References for the consultation document can be found in Appendix A and a glossary of the terms used in this material is in Appendix B.

## 2 Consultation Overview

2.1 This section provides an overview of what we are consulting on, and potentially affected areas. This is provided to help stakeholders identify areas of interest. A stakeholder is any group or individual with an interest in the airspace change.

2.2 The consultation covers a wide range of effects, and a wide geographic area; it is therefore likely that not all the material will be of interest to everyone. This section provides an overview of the consultation document so that you can identify which part(s) may be of interest to you.

[1] From herein references to 'Gatwick Airport Limited' are shortened to 'Gatwick Airport'.
[2] This consultation does not cover routes for London City Airport below 4,000ft. London City Airport is in the process of determining how to best modernise its existing routes below 4,000ft in line with FAS and the forthcoming European requirement for 'PBN' routes (these are described in Paragraph 3.5); their intention is to match the position of today's flight paths as closely as possible. NATS and London City Airport is working together to ensure that the changes above 4,000ft and the route modernisation below 4,000ft are coordinated, however, for the time being London City Airport are progressing this work independently, and hence they are not co-sponsors of this exercise; the intention is to draw the two strands of work together in a joint submission for London City Airport routes in the latter part of 2014.
[3] Altitude is measured in feet above mean sea level.

2.3 The airspace affected by this proposal is divided into three categories[4]; low altitude airspace, network airspace, and intermediate airspace. While safety is our overriding design consideration, each category has additional distinctive design priorities:

- **Low altitude airspace:** this is airspace in the vicinity of the airport containing arrival and departure routes below 4,000ft. Airports have the primary accountability for this airspace, as its design and operation is largely dictated by local noise requirements, airport capacity and efficiency
- **Network airspace:** this is higher altitude 'en-route' airspace above 7,000ft. NATS has accountability for this airspace and while local environmental effect is a design consideration, the primary objective is ensuring efficient flight profiles to minimise fuel burn and therefore $CO_2$ emissions
- **Intermediate airspace:** this is airspace between 4,000 and 7,000ft, where network interactions are key and so NATS has accountability. However, depending on local circumstances airports may also have airspace objectives and so may have joint accountability. In this airspace there needs to be a balance between local and network objectives

2.4 Each of these categories can be seen to cover a relatively distinct geographic area for traffic flows relating to each major airport.

2.5 This consultation is focused on changes to routes for Gatwick Airport at all altitudes and London City Airport traffic in intermediate and network airspace.

2.6 Figure A1 shows the geographic area for the proposed Gatwick changes; this includes all three airspace categories. Locations within these areas are all potentially affected. This means that more air traffic may be positioned directly overhead some areas in the future, and less over other areas although it is important to note that the whole area is already overflown today.

2.7 Figure A2 shows the geographic area for the proposed London City Airport changes covering only the network and intermediate airspace categories - not the low altitude airspace. Any changes to low altitude airspace are the responsibility of London City Airport and will be subject to their own separate development and consultation processes at a later date.

2.8 London Biggin Hill and London Southend airports use some of the London City Airport arrival route structures within the area shown. This consultation therefore includes some changes to arrival routes for these airports; these are discussed in the consultation document alongside the changes to the intermediate and network airspace used by London City Airport traffic. Low

[4] These categories are for design and consultation purposes for 'LAMP' airspace change proposals (see paragraph 4.2 for details of 'LAMP'). They are being applied generically to the LAMP area, but exceptions may exist due to local geography or airspace requirements. These categories of airspace are not related to the airspace classification system (Class A through to Class G) which remains as today – changes to airspace classification in particular areas are discussed in Part G.

altitude changes at either London Southend or London Biggin Hill airports are not within the scope of this consultation.

2.9 To help you find the information relevant to you, we have split the consultation document into parts, each covering the justification and effects for changes to each type of airspace for the traffic flows of each airport:

- Part B covers proposed changes to low altitude routes in the vicinity of Gatwick Airport
- Part C covers proposed changes to Gatwick routes through intermediate airspace over parts of Hampshire, Sussex, Surrey and Kent
- Part D covers proposed changes to Gatwick routes though network airspace over parts of Hampshire, the Isle of Wight, Sussex, Surrey and Kent
- Part E covers proposed changes to London City Airport and London Biggin Hill routes through intermediate airspace over parts of Essex and Kent
- Part F covers proposed changes to London City Airport, London Biggin Hill and London Southend routes in network airspace over parts of Suffolk, Essex and Kent
- Part G provides details of the entire proposal, with the emphasis on aviation effects

2.10 Parts B to F of the consultation document have been designed specifically for environmental stakeholders, in particular those who are mainly interested in local effects such as the number of aircraft that overfly particular areas. We have segmented the proposal in this way to simplify the consultation document; previous consultation exercises indicated that a large proportion of stakeholders are interested only in particular local areas, and that excessive detail may be a barrier to obtaining a response from a significant proportion of stakeholders.

2.11 We recognise that some stakeholders may wish to understand the proposal in its entirety. Part G of the consultation document therefore presents detail on the whole proposal and its justification: it is necessarily more technical in nature. Part G also covers potential effects on the aviation community; we recommend that airlines and/or aviation stakeholders study Part G.

2.12 Please use the maps in Figure A1 and Figure A2 to identify which part(s) of the consultation document are of interest to you. If the area of interest is on or near a boundary between two parts, then consideration should be given to both. You may also wish to use our postcode search facility at www.londonairspaceconsultation.co.uk which will automatically highlight the parts of the consultation document most relevant to that postcode.

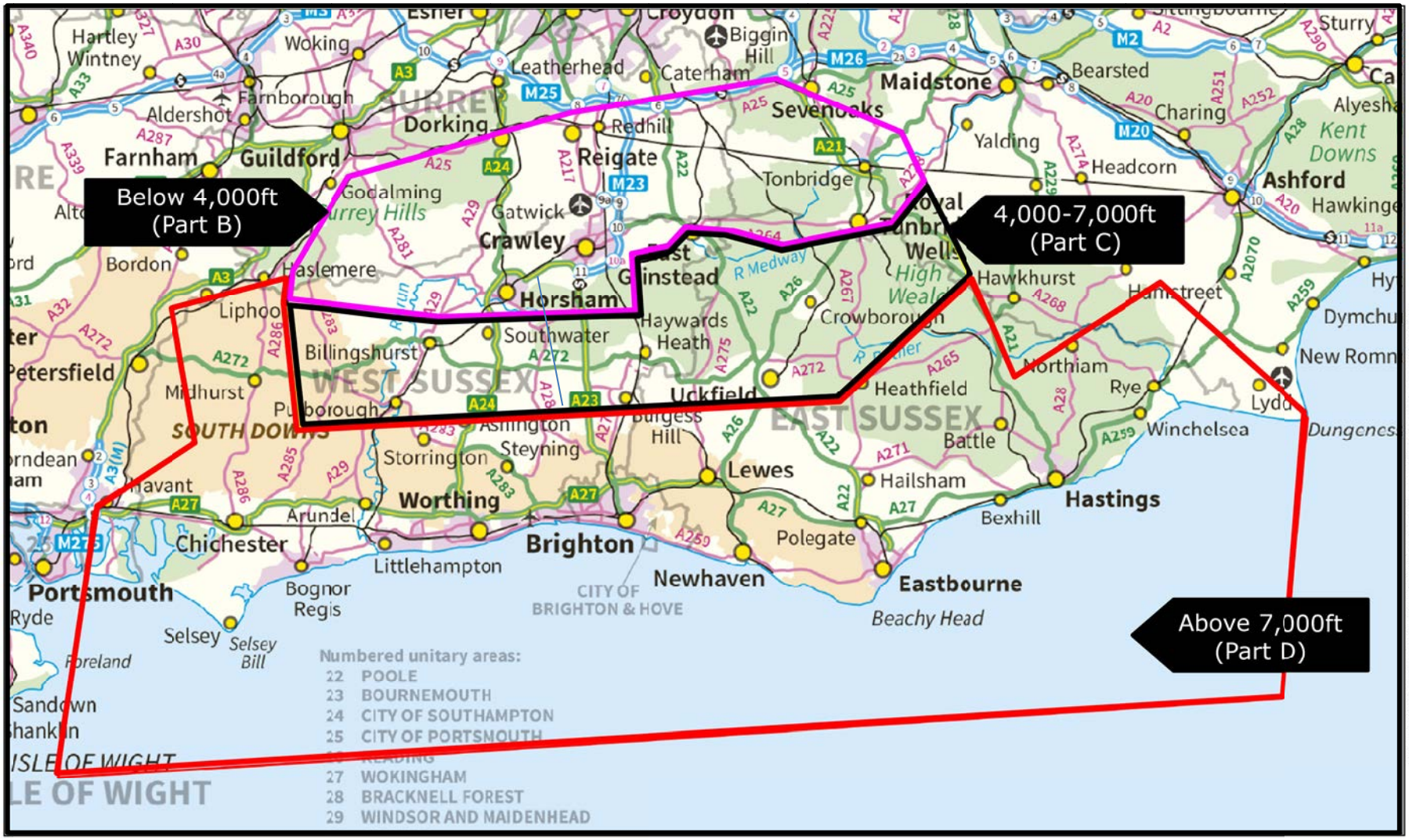



**Figure A1: Consultation areas for Gatwick routes**

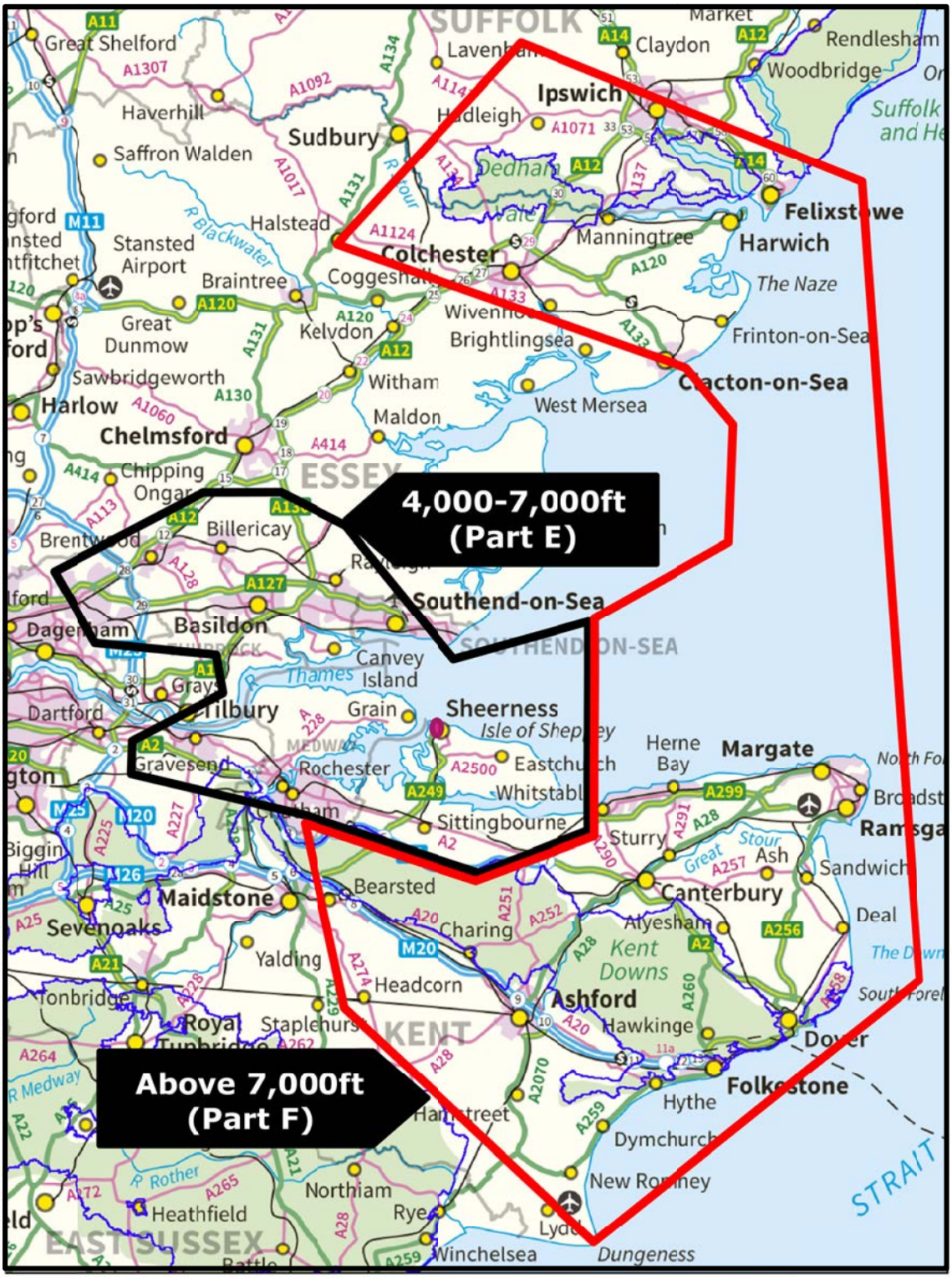





**Figure A2: Consultation areas for London City, London Biggin Hill and London Southend routes**

### Consultation sponsors

2.13 Paragraph 1.6 identifies that NATS and Gatwick Airport are joint sponsors of this consultation exercise. This is because the proposed changes cover the low altitude and the network route systems that are respectively the responsibility of the airport and NATS. It also covers intermediate airspace primarily used by Gatwick Airport in which we have identified both network and local requirements.

2.14 London City Airport is not consulting on low altitude route changes at this time, and the nature of London City Airport airspace means that the airport does not have specific local requirements in the intermediate airspace. The proposed changes affecting London City Airport air traffic routes are therefore sponsored by NATS.

2.15 The consultation document is split into separate parts relating to the geographic areas shown in Figures A1 and A2. In the introduction to each part we highlight which organisation or organisations are the sponsor. This is provided for information only; the consultation document has been prepared collaboratively so the mechanism for responding is the same for all stakeholders (either the response form on the website or the address provided in Section 4.35). We will feed any responses into the appropriate network and/or low altitude design process.

## 3 Context and Background to the Proposal

3.1 This section describes the strategy and legislation driving the proposed changes, the legal framework that determines how changes should be made, and how these relate to potential benefits and effects.

### Strategy and legislation

3.2 Achieving operational and environmental efficiency means, importantly, taking advantage of the very latest technology. To ensure the UK takes full advantage of this, the CAA has been working with the aviation industry to develop the Future Airspace Strategy (FAS[5]), a blueprint for modernising the UK's airspace.

3.3 Modernisation of the airspace system is essential for the UK and continental Europe to remain competitive in the global market. For this reason processes are underway at a European level to make modernisation a legal requirement for the UK and other European states by 2020[6]. Doing nothing is therefore not an option.

[5] The CAA explains the background to FAS here: www.caa.co.uk/default.aspx?catid=2408
[6] Eurocontrol explain the requirement and planned timescales for modernisation here: www.eurocontrol.int/articles/performance-based-navigation-pbn-mandate

3.4 The UK's airspace infrastructure is currently predicated on 'conventional' navigation, using ground based beacons. This system has been in place for many decades and does not exploit the modern navigational capabilities with which most commercial aircraft are already equipped (e.g. satellite technology). It is therefore relatively inefficient, both operationally and environmentally.

3.5 Modernisation will enable UK aviation to reap the benefits of the latest technologies such as Performance Based Navigation (PBN)[7]. A route system using PBN standards allows more flexible positioning of routes and enables aircraft to fly them more accurately. This helps improve operational performance in terms of safety and capacity, and also offers environmental benefits.

3.6 The environmental benefits of route flexibility include noise management by positioning some routes away from population centres or other sensitive areas, and more scope to minimise fuel burn and $CO_2$ emissions[8] by shortening and/or raising flight paths.

3.7 Modernising the system can also help improve resilience by enabling a quicker recovery from events that close runways and generate delay (such as emergencies and bad weather).

3.8 Given FAS and the upcoming European legislation, **the change to a PBN environment is inevitable and beyond the scope of this consultation; our focus is instead on how best to apply the change.** Stakeholders wishing to discuss the overall PBN strategy should contact the CAA.

3.9 Any development of runways arising from the report from the Airports Commission (chaired by Sir Howard Davies) will eventually require further changes to the airspace system. However, the development of runways does not happen quickly; the report to be provided by the Airports Commission is due in 2015 and any recommendation made will only be the start. Adoption of any recommendations, design, assessment, planning application and construction processes all take time; if/when the Government decides to progress new runway development we assume that any new runways will not be operational before 2025.

3.10 Our focus is therefore to meet short-to-medium term demands by providing an airspace system to help the UK meet the FAS and European requirements, and making best use of the existing runways. Therefore **this consultation does not relate to, nor does it take into account, potential development of additional runways at any airport.**

[7] PBN is a generic term for modern navigation standards.
[8] Burning fossil fuel means that $CO_2$ is produced; for aviation fuel, 1kg of fuel burnt means 3.18kg of $CO_2$ is emitted.

3.11 Any significant future changes to runway infrastructure will require further changes to the airspace system. The breadth of the required airspace changes will be entirely dependent on whatever option is chosen by the Government. Any such changes would be the subject of their own change processes and consultation at a later date.

3.12 Paragraph 1.7 states that NATS is required to meet any reasonable level of overall demand for air traffic control services. We assume a level of growth in demand of the coming years; this consultation seeks information to help us identify the airspace solution that best meets the demand. **This consultation is not on growth in air traffic demand** itself. Regulation of the UK aviation sector is the responsibility of the CAA.

**Legal framework**

3.13 Once airspace change sponsors have submitted their airspace change proposal, the CAA decides whether the proposal should be approved. To do this, they are required to consider a framework of legislation and guidance. This sets out the CAA's obligations, and the factors that it must take into account in assessing the merits of an airspace change proposal. These are outlined below.

3.14 The CAA's primary obligation is to exercise its air navigation functions so as to maintain a high standard of safety in the provision of air traffic service. This duty, which is imposed on the CAA by the Transport Act 2000 (the 'Transport Act'), takes priority over all of the CAA's other duties.

3.15 The Transport Act also directs the CAA to exercise its air navigation functions in the manner it thinks best calculated to:

- secure the most efficient use of airspace consistent with the safe operation of aircraft and the expeditious flow of air traffic
- satisfy the requirements of all airspace users
- take account of Government guidance on environmental objectives

3.16 In addition to the duties imposed by the Transport Act, the CAA is obliged, by the Civil Aviation Authority (Air Navigation) Directions 2001, to take into account the need to reduce, control and mitigate as far as possible the environmental impacts of civil aircraft operations, and the need for environmental impacts to be considered at the earliest possible stages of planning, designing, and revising, airspace procedures and arrangements.

3.17 NATS and Gatwick Airport have sought to reflect these duties and objectives, and the framework as a whole, in our development of these airspace change proposals and the consultation on them. We also take into account Government guidance on environmental objectives set out in the Department for Transport's document 'Guidance to the Civil Aviation Authority on

environmental objectives relating to the exercise of its air navigation functions' (see Appendix A)[9]. This sets out a number of environmental objectives, in relation to:

- greenhouse gas emissions and ozone depleting substances
- local air pollution
- noise (in particular in relation to aircraft below 7,000ft)
- tranquillity

3.18 In our judgement, the way in which these objectives are best balanced is heavily dependent on the local area. For example, in some places, it may be better to fly aircraft along a longer route (using more fuel, causing an increase in $CO_2$ emissions) in order to avoid increasing noise in a sensitive area. In other cases, the opposite may be true. However, in general, our view is that:

a) in low altitude airspace below 4,000ft, the priority should be to minimise aviation noise impact, and the number of people on the ground significantly affected by it

b) in intermediate airspace from 4,000ft to 7,000ft, the focus should continue to be minimising the impact of aviation noise, but this should be balanced with the need for an efficient flow of traffic that minimises emissions

c) in network airspace above 7,000ft, the priority is efficiency, and to minimise the global environmental impact of aviation (ie $CO_2$)

d) where practicable, and without a significant detrimental effect on efficiency or noise impact on populated areas, air routes below 7,000ft should be avoided over Areas of Outstanding Natural Beauty (AONBs) or National Parks

e) where two options are similar in terms of their effect on densely populated areas, the value of maintaining legacy arrangements should be taken into consideration

3.19 Airspace change sponsors must also take into account the guidance published by the CAA entitled 'CAP725 CAA Guidance on the Application of the Airspace Change Process' (see Appendix A). This guidance states that the environmental impact of an airspace change must be considered from the outset, which we have done and continue to do.

3.20 In considering the design of airspace we take account of the environmental effects in the current system, and the effects we would expect after implementation, should our proposal be accepted. These are represented in the consultation document by the density plots showing the location of current traffic, and the consultation swathe diagrams showing where routes may be positioned in the future. We consider these effects for populated areas,

[9] At the time of writing a new version of this guidance is being consulted on by the Department for Transport; however this is not yet published; therefore in our consultation we refer to the extant guidance dated 2002. Any subsequent changes to the guidance would be considered as part of the on-going design process.

AONBs/National Parks and any other area in which there is potential impact that may be highlighted to us through the consultation process.

3.21 We seek to mitigate the local environmental impact on these areas as best we can, referring to the legal framework set out above. This consultation forms part of that mitigation strategy as it will collect information on local significance for route positioning with regard to AONBs and other areas covered by the guidance. For example, where there are choices between overflight of AONBs or more populated areas alongside them, we will use the feedback from consultation to inform our proposed design alongside the guidance from the Government and CAA.

### Benefits and impacts

3.22 It is important to note that meeting the FAS and European legislative requirements will inevitably result in change. The conversion of a conventional route to a PBN route will, at the very least, mean that aircraft will fly more accurately along the centre of a route giving air traffic control and airline operators more certainty in planning/managing operations. Environmentally it will narrow the areas where most impact is felt, reducing the population significantly affected, in line with Government guidance. However, it will mean that those below the narrower band will be overflown more often.

3.23 Given that change to the system of routes and their impacts is inevitable, we are seeking to ensure that the change achieves the most optimal set of outcomes. To this end we are seeking to fundamentally redesign the route system and apply new methods of operation that are only possible in a PBN based system.

3.24 There will always be factors that constrain what we can achieve, for example the proximity of London's airports to one another and the limitations of aircraft climb and turn performance. However, PBN still offers a significant amount of flexibility in terms of how we design routes and, more importantly, where we position them.

3.25 Understanding stakeholder requirements is key to striking an optimal balance of benefits and impacts; locally relevant information is therefore the main focus of this consultation.

## 4 The Airspace Development Process

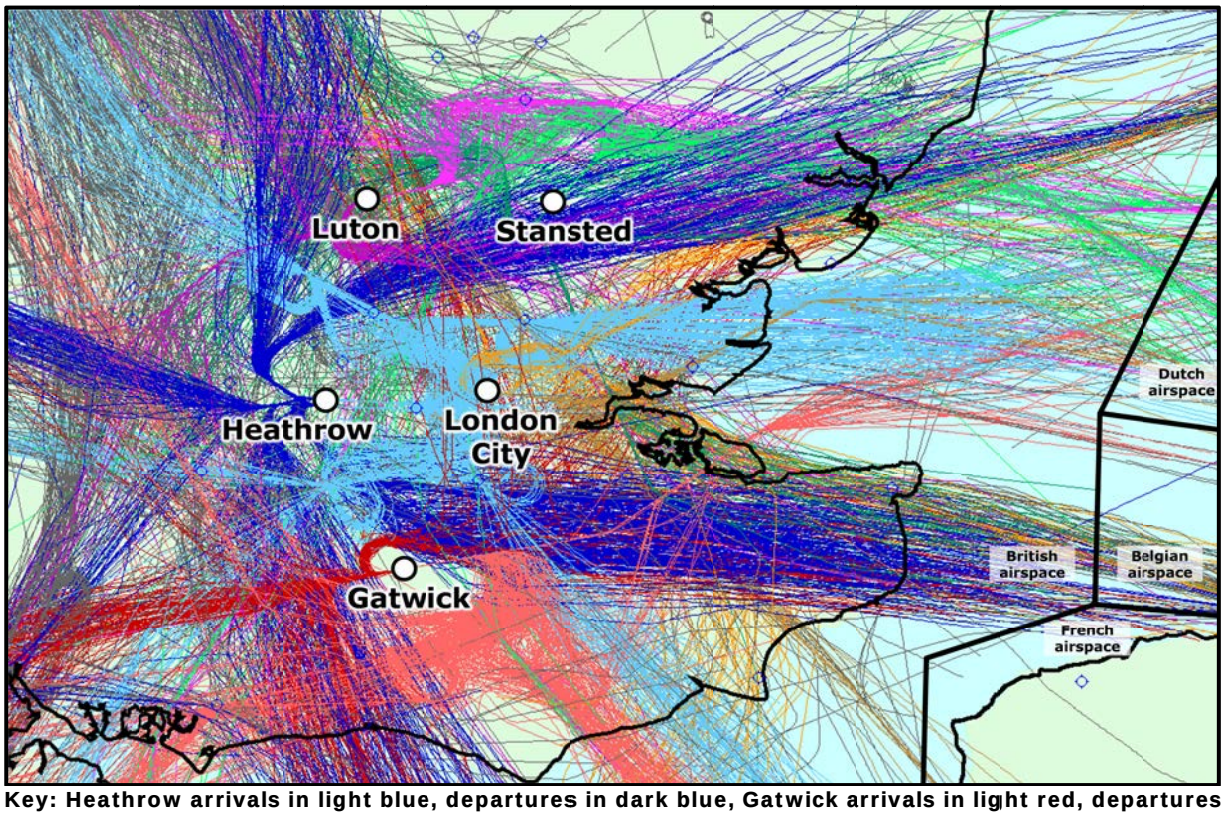
4.1 This section outlines the design work so far, the consultation process, and how we will feedback from this consultation.

### The 'LAMP' Programme

4.2 Implementing the FAS requires changes throughout UK airspace. For this reason NATS is working on a very extensive programme of modernisation centred on London's airports and the surrounding airspace, beyond the southern and eastern coasts, and as far northwest as the Midlands; this is referred to as the London Airspace Management Programme (LAMP). The changes being presented in this consultation are the first phase of LAMP.

### LAMP Phases

4.3 The complexity of the route system over the South East of England means that changing the whole system at once would present technical difficulties and potential safety issues. Figure A3 demonstrates this complexity as it shows one day's air traffic across the region (Appendix C provides further background showing the individual flows into and out of the major airports in the south east). LAMP will therefore be addressed in phases to deliver not only short-term individual improvements, but also the best solution for the overall airspace system when all phases are complete.




**Key: Heathrow arrivals in light blue, departures in dark blue, Gatwick arrivals in light red, departures in dark red, Stansted arrivals in light green, departures in dark green, Luton arrivals in pink, departures in purple, London City arrivals in light orange, departures in brown, all other flights in dark grey**

**Figure A3: One day of flight paths (5th August 2011) below 20,000ft**

4.4 The initial aim of LAMP was to redesign the airspace network over the whole of London and the South East and consult on a complete package of changes.

However, initial design work highlighted a significant constraint in achieving an optimised airspace structure. This constraint is known as the 'transition altitude'.

4.5 It is not necessary to understand the transition altitude in order to respond to this consultation (although more information can be found in Part G). However it is important to note that, in airspace design terms, the transition altitude caps the maximum altitude of most departure routes at 6,000ft. This doesn't stop aircraft climbing above 6,000ft but it does make the system for doing so more complex and is a major constraint to achieving an optimal airspace system for the LAMP area.

4.6 A project aiming to raise the transition altitude across the whole of the UK and continental Europe is under way at a pan-European level but will not deliver a change until at least 2017.

4.7 The phased development of LAMP therefore means we will progress those changes that can be made in advance of the transition altitude change (Phase 1), while the rest of the system will await the revised transition altitude (Phase 2). Phase 1 aims to make major changes in 2015[10], whereas Phase 2 will not be before 2017.

4.8 This consultation is for Phase 1; this phase focuses on the airspace supporting Gatwick Airport, and London City Airport that may be improved prior to the full redesign of the system. Other parts of Phase 1 are being developed and will be subject to separate consultation; they will not involve changes in the same areas as this consultation.

4.9 While the changes being proposed in this consultation can be implemented before the transition altitude change, they do not work in complete isolation from the rest of the airspace system. There may be further opportunities to refine these designs and realise greater improvement once the transition altitude has been changed.

4.10 Public consultation on changes in any given area of airspace will therefore inform not only Phase 1 but also any further development of the same airspace required for Phase 2. Reconsultation on the areas covered here is not required for Phase 2 unless the Phase 2 design work identifies new effects that we have not captured in this consultation document. In the event of any new effects we will add them to the Phase 2 consultation. Regardless of this we will continue to engage with key representative bodies (such as consultative committees, planning authorities and aviation groups) as part of the Phase 2 development programme to ensure that the design process is transparent.

[10] Subject to regulatory approval. NB while the main change for Phase 1 would not be implemented before 2015 we do not rule out bringing some small elements of Phase 1 forward to 2014 *if* they will present sufficient benefit and *if* the full process can be completed for them in advance of the main change.

4.11 Any solution identified in Phase 1 that is also optimal for Phase 2, will be maintained in the airspace structures for Phase 2. In this instance Phase 2 would develop the surrounding route structure only and leave the Phase 1 structures unchanged.

**Gatwick Airport route development**

4.12 Given that changes will need to be made as a result of LAMP, FAS and the European requirements, Gatwick Airport is taking the opportunity to consider changes that will make best use of the existing runways and improve the management of noise.

4.13 The optimal solution to meet these objectives will potentially change over time as the surrounding network airspace is developed from LAMP Phase 1 to LAMP Phase 2 (see paragraphs 4.9 to 4.11). Changes to low altitude routes at Gatwick Airport to be developed after this consultation will therefore need to be undertaken in two phases aligned to the LAMP phases for changing the surrounding network of routes. This consultation covers a wide geographic area so that all the options for the low altitude routes are considered, both for Phase 1 in the short term and Phase 2 in the long term.

4.14 Ensuring that the low altitude routes designed by Gatwick Airport complement the network of routes being designed by LAMP (and vice versa) is crucial if we are to realise the full benefit of the move to PBN. Gatwick Airport and LAMP are therefore working closely together – hence this joint consultation exercise covering a range of potential changes at low altitudes in the vicinity of the airport and in the higher altitude airspace to the south.

4.15 NB some other airports are progressing changes to airspace used by their flights in the same time period as this consultation. Some of their consultation areas overlap with those of this consultation. At the time of writing, we are aware of local proposals under development by Farnborough and London Southend airports.

4.16 We are coordinating with these airports to ensure that our designs would complement one another, but it should be noted that these are independent changes sponsored by Farnborough and London Southend airports. The consultation exercises are therefore also independent from one another and stakeholders may therefore wish to respond both to this consultation and to those being run by Farnborough or London Southend airports. For more information on Farnborough see www.tagfarnborough.com or for London Southend see www.southendairport.com.

**Design work to date**

4.17 Redesigning complex airspace such as that over London takes a long time; we have been working on concepts for the Gatwick Airport and London City Airport traffic flows for over two years. This work has given us an understanding of how we can use PBN to change the method of operation for managing air traffic to and from these airports. We now know what kinds of routes are required and the general areas within which they need to be positioned.

4.18 We have not, however, undertaken the detailed design work to finalise where the routes should go. Before we do this we need to understand the requirements for the wider stakeholder group who may be subject to impacts (or benefits). Understanding relevant requirements, including local factors that should be considered, is the objective of this consultation.

**Consultation process**

4.19 We have developed a consultation strategy to ensure stakeholder viewpoints are captured early in the process, to feed into the complex route design work that will follow. This involves undertaking a geographically wide consultation at an early stage, allowing us to capture requirements across a wide range of potential design options.

4.20 At the same time we are asking aviation stakeholders to contribute their views. This will provide us with the information necessary to identify an optimal solution that balances all stakeholder requirements.

4.21 We recognise that you need to understand the potential effects in order to provide a response. Therefore while this consultation does not present a final design, it does describe the potential effects across the full range of options so that you can see clearly what the proposal could mean for you.

4.22 We have provided maps and data that indicate potential noise and visual impacts across wide consultation swathes covering all the options for route alignment. These are accompanied by further maps showing today's air traffic flows, for comparative purposes.

4.23 The noise and visual impact experienced at a given location will depend on where the route is positioned within the consultation swathe; high concentrations of traffic would be directly overhead only a small proportion of the overall area. We are asking you to consider that the routes in question could be positioned anywhere within the consultation swathe, and to be mindful therefore that anywhere within the consultation swathe has the potential for noise and visual impact.

4.24 Information on the scale of potential impact is presented alongside or within the maps, describing:

- The potential number of aircraft that would fly on the route and which may be overhead subject to the final route position within the consultation swathe
- The altitude of these aircraft
- A measurement of how loud aircraft at that height would sound at ground level (a metric referred to as $L_{max}$)

4.25 With this information you can identify whether the potential impact is significant (i.e. the potential number of aircraft overhead, and the resultant noise and visual intrusion)[11].

4.26 Information relating to fuel burn and $CO_2$ is also presented for stakeholders with an interest in global climate change. The proposed changes have the potential to improve the efficiency of the system, reducing fuel burn and therefore the $CO_2$ emitted. This information is presented with the local impacts because one method of managing aircraft noise involves lengthening routes to fly around sensitive areas rather than directly over the top. However, this will increase fuel burn and $CO_2$ emissions and so the local noise and global $CO_2$ effects must be considered alongside one another.

4.27 Lastly, we present details of the potential benefits and impacts on different aviation user groups. This will allow us to gain an understanding of the needs of the aviation community, ranging from airlines through to private fliers, gliders and balloonists.

4.28 Stakeholders are invited to provide feedback via our website at www.londonairspaceconsultation.co.uk.

4.29 This consultation describes the full range of potential effects for this proposal. While we will continue engagement with key representative bodies through the on-going design process (see paragraph 4.10), we do not intend further public consultation unless the subsequent design process highlights new impacts that have not been captured here. For example, if the final routes go outside the consultation swathes presented in this material we would initiate further public consultation in those newly identified areas[12].

[11] Changes to departure routes at Gatwick Airport below 4,000ft (discussed in Part B only) would necessitate changes to the Noise Preferential Routes or NPRs. NPRs define an area around a route where noise impact can be expected (this is referred to as the NPR swathe).

[12] A further scenario is with regard to noise contours and noise footprints. These are noise measures that may be familiar to stakeholders in the vicinity of the airport and are specified in the airspace change guidance. We are not able to model the noise contours/footprints around the airports at this stage because these require a final centreline in order to model them (they cannot be calculated from a consultation swathe). Should the final design change the shape of a noise contour or footprint we will initiate further public consultation covering areas affected by the newly measured impacts.

### Consultation questions

4.30 We want to hear your views; specifically we want to find out new information and requirements that we should take into account in the on-going design process. We have therefore provided questions in the consultation document that fall into three general categories:

- **Justification:** in each part of the consultation document, we describe the kind of route system we are seeking to implement and the generic benefits and impacts. We ask you to consider and feedback your views on these objectives, given the generic system-wide impacts and benefits we expect they would generate if implemented
- **Design principles:** the detailed design process will involve balancing some benefits and impacts against one another. In many cases, the optimal solution for one benefit/impact means a sub-optimal solution for another type (for example the $CO_2$ impact of longer routes to avoid sensitive areas, as discussed in paragraph 3.18). We ask you to consider and feed back on the generic principles for balancing benefits and impacts
- **Identifying specific local requirements:** your local knowledge is valuable and we ask you to feed back details of any location that requires special consideration in the on-going design process, and the reasons why we should consider it special

4.31 Questions are highlighted in yellow and are also provided in the online response form.

4.32 There are no questions on issues outside the scope of this particular consultation, e.g. the general growth of air traffic, potential runway developments or changes to the generic guidance on airspace change which is provided by the CAA and Government (see Appendix A). We will log the receipt of all responses, but those pertaining to issues that are outside the scope of this proposal will not be analysed.

### Who are we consulting?

4.33 Appendix D lists the groups and organisations that have been notified of the consultation. These groups have been directed to the consultation website for further information and the opportunity to respond. This list is provided only to show the breadth of the consultation exercise; there are likely to be other interested parties or individuals that may also wish to provide feedback. If you or your organisation may be affected by this proposal, you are a stakeholder. For example, we are seeking views from airlines, aerodrome managers, representatives of residents within the consultation areas e.g. councils, special interest groups, and recreational flyers such as gliders and balloonists.

4.34 This consultation is open to any group, organisation or individual that considers themselves to be a stakeholder, including the general public.

4.35 We have publicised the availability of the consultation document via the website www.londonairspaceconsultation.co.uk and other media. Representative groups are encouraged to publicise this on their websites.

## 5 Next Steps

5.1 The period of consultation commenced on 15 October 2013 and closes on 21 January 2014 – a period of 14 weeks.

### Responding to the consultation

5.2 You are invited to answer the questions in this consultation, using the online response form which can be found at the web address below. The website also provides a postcode search facility, and an easy method for comparing today's traffic levels with the consultation swathes in which the proposed changes would occur:

www.londonairspaceconsultation.co.uk

5.3 The response form also provides an open question to enable you to provide any additional information you consider relevant. The online response form allows additional information to be attached electronically should that be necessary.

5.4 If it is not possible to submit your response online, you may do so by post to the following address:

Freepost RTGJ-SELT-JHTR
London Airspace Consultation
Harrow
HA1 2QG

5.5 Please be aware that we cannot guarantee that responses submitted directly or indirectly by any other means of delivery will be accounted for in the consultation exercise.

5.6 The response form on the website has been designed to capture the information that will enable us to ensure that comments can be correctly interpreted and acted on where necessary.

5.7 If not responding via the website please provide clear indication of your area of interest to ensure that we can categorise it correctly; if you have a particular local interest you could provide the postcode of that area, or refer to the part of the consultation document where it is discussed (ie Part B, C, D, E or F). Alternatively your area of interest may be best described as global climate change effects or effects on the aviation sector. Note that you may wish to identify a range of interests.

5.8 Similarly where your comment relates to a specific question, you should refer to the appropriate question. Failure to match your answer to the relevant areas of interest and/or questions may mean your response is not associated with the correct issue, which may reduce its effectiveness. Stakeholders are encouraged to use the response form on the website wherever possible.

5.9 Online responses to the consultation will be automatically acknowledged. Responses sent by post will not be acknowledged. If receipt of confirmation is required, please use a recorded delivery service.

5.10 NATS and Gatwick Airport have taken great care to provide all the information we believe is required to help you answer the questions presented in the consultation document. Where we consider that additional background information may be useful, whether it is raised by a respondent or comes to our attention through other channels, we will add it to the Frequently Asked Questions (FAQs) on the consultation website at www.londonairspaceconsultation.co.uk.

5.11 We will not enter into correspondence with individual respondents on issues relating to this consultation.

5.12 Late responses received after the close of the consultation will be logged and stored but not analysed.

5.13 A summary of the issues raised in the consultation, and further details of next steps, will be provided in a feedback report published approximately two months after the end of the consultation. No personal details of respondents will be included in that document. The feedback report will be available on the consultation website, www.londonairspaceconsultation.co.uk, approximately two months after the end of the consultation. This report will also provide an update on subsequent steps in the development process.

**Analysis of consultation feedback**

5.14 Gatwick Airport and NATS will consider all relevant feedback as part of the on-going airspace design process. We will consider all options and the balance of benefits/disbenefits, taking into account guidance from the Government and the CAA, and drawing on the consultation feedback.

5.15 All the feedback from the consultation will be made available to the CAA as part of our airspace change proposal; this will allow them to assess independently whether we have drawn appropriate conclusions in the development of the proposed design.

5.16 Responses will be treated with due care and sensitivity by us, by the consultation specialists we employ, and by the CAA. If you do not wish your personal data (e.g. name/full address) to be forwarded to the CAA, our online response form has an ‘opt out’ check box which will make your response appear anonymous to them (only your postcode will be retained). If you use a paper response form, please make it clear at the beginning whether you wish

us to make your submission anonymous. We undertake not to disclose personal data to any other party without prior permission, however, all information passed to the CAA will be disclosable under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

5.17 It will be the CAA's decision whether or not to approve any proposal that we generate following this consultation. The legal framework for this consultation can be found in section 2.15.

**Compliance with the consultation process**

5.18 Comments regarding our compliance with the consultation process as set out in the CAA's guidelines for airspace change (see Appendix A for references) should be directed to the CAA at:

Head of Airspace Policy, Coordination and Consultation
Safety and Airspace Regulation Group, CAA House
45-59 Kingsway, London WC2B 6TE

E-mail: airspace.policy@caa.co.uk

**NOTE: These contact details must not be used for direct response to this consultation: doing this will make it unlikely that your views will be captured.**