

Summary of Discussions - Stage 2 Methodology and Outputs FASI-South Programme

Ref: ACP 2018-60 & CAP 1616

10 Sept 19

Present:

Future Airspace Coordination	Gatwick Airport (contractor)	Chair/Sec
Head of Airspace	Gatwick Airport	
Principal Airspace Regulator	CAA	
Airspace Regulator (Coord & Engagement)	CAA	
ACP Account Manager	CAA	
Airspace Regulator	CAA	
Principal Airspace Regulator (Coord & Engagement)	CAA	
Airspace Regulator (Environment)	CAA	
Airspace Specialist (Environment)	CAA	
Airspace Regulator (Economist)	CAA	
Legal Advisor	CAA	
Legal Advisor	CAA	
Airspace Change	NATS	
Airport Integration	ACOG	

Item	Discussion, Decisions and Actions	Responsibility for Actions
1	<p>Introductions, Purpose and Objectives</p> <p>1.1 Following introductions, the Chair thanked the CAA for agreeing to the meeting and making a wide array of CAA subject matter expertise available. The Chair also thanked ACOG and NATS representatives for attending and advised that they should consider themselves active participants in the discussions. A record of the discussion would be developed and circulated for review ahead of further dissemination, through ACOG, and would also be posted on the airspace change portal. It was anticipated that most actions would fall to the CAA in the form of areas of clarification about which further CAA guidance was sought. The timescales and format for additional guidance was at the discretion of the CAA, unless otherwise agreed.</p> <p>1.2 The Chair stated that the purpose of the discussion was to seek further clarity of the application of CAA guidance, primarily in the form of CAP1616, in relation to FASI-South. The following objectives were tabled and agreed:</p> <ul style="list-style-type: none"> • Seek CAA feedback on options development and assessment methodology. • Seek clarity on the extent and nature of products required for Gateway 2 Assessment. • Seek clarity on aspects of the assessment criteria (for Stage 2 and subsequent stages). 	

	A slide deck was used to support the discussion, the relevant content of which has been absorbed into this record of the discussion.	
2	<p>Options Identification & Methodology Framework</p> <p>2.1 An important product of Stage 2 was a comprehensive list of options; the first part of the discussion centred on definition and interpretation of the term ‘comprehensive’. Airspace Regulation offered that ‘comprehensive’ was not meant to infer ‘all possible options’. In keeping with the guidance, airports were meant to be the judge as to what was considered contextually proportional and practical and recognised the constraints that airspace change had to contend with. Airspace Regulation confirmed that they did not have a ‘framework’ against which a comprehensive list was analysed, nor was it the intent to create one. However, it was expected that airports make clear why they believe the list of options is ‘comprehensive’ and relevant to the objectives within the airspace modernisation strategy and the airport’s ACP objectives. Demonstration as to how this has been informed by airport analysis, NERL’s suggestions and the canvassing of other external stakeholders would be an important part of the formulation of the list and its analysis. The CAA confirmed that other options that don’t involve an airspace change, or progressive (technology based) solutions should also be included if appropriate.</p> <p>2.2 The discussions moved on to consider what the CAA expected to review to satisfy itself that sponsors had demonstrated adequate stakeholder engagement. Airspace Regulation offered that it was sufficient to observe that stakeholders, who had been engaged in Stage 1, had also had the opportunity to input into the options discussions; this did not infer that all stakeholders need to be engaged in the same way nor at the same time, as they recognised that discussions with different groups would have different objectives and emphasis. Stakeholder input into options development should be recorded, and evidence provided that it had been considered using the methodology developed by the sponsor. Stakeholders should, as part of the options development process, be involved in discussions about the benefits and drawbacks of different options, but it was not necessary to seek, collect or record the sentiment of stakeholders about an option or a range of options; this was the purpose of Stage 3.</p> <p>2.3 Gatwick tabled a framework upon which they intended to build a methodology that met the ‘consistent, repeatable and objective’ criteria as set out in CAP 1616. Gatwick set out how this was based on Section 70 of the Transport Act 2000 and recognised the factors and functions which the CAA is required to consider. There was discussion about application of a 3-sift approach that considered concepts and options in qualitative terms before introducing the quantitative assessment in sift 4. The group discussed the issue of eliminating options at an early stage, but the CAA also recognised the need to reduce the quantity of options under consideration to a practical level so that the options at Stage 3 could be clearly defined and understood. It would be important for airports and NERL to explain why an option</p>	

	<p>was being withdrawn from further consideration. The CAA had no objection to the proposed framework as the basis for a methodology but stressed it should be understandable to the general public. Gatwick offered to share an initial draft with the CAA and ACOG for their and other airports' consideration. It was also agreed that there was no requirement for all airports to have the same methodology, although there were merits in a consistent approach.</p> <p>2.4 It was noted that Appendix F and G, to CAP1616, and Section 70 of the Transport Act did offer some limited guidance on the criteria for consideration of the air navigation functions, specifically, airspace efficiency and capacity, operator requirements and the integration of operations, Airspace Regulation. However, CAA Legal agreed to consider if additional guidance was appropriate for airports enacting airspace modernisation through the FASI-South Programme. Gatwick requested that if this guidance was to be forthcoming it should be made available before December 2019 so that it can be incorporated into Stage 2A products, specifically, the initial assessment of the comprehensive list.</p>	
3	<p>Stage 2A Outputs and Review Criteria</p> <p>3.1 Gatwick considered that the outputs from Stage 2A were clear, aside from the definition of 'comprehensive' (discussed above) and the CAA confirmed that qualitative analysis was required as a minimum. Gatwick agreed that an initial version of the evaluation methodology was appropriate to include as part of the package of Stage 2A products but expected this to be a high-level document that would be further developed, and an updated version published at the end of Stage 2B. The conclusion of the discussion was that the CAA expected airports to publish on the portal the following products at the conclusion of Stage 2A, CAP1616 references shown:</p> <ul style="list-style-type: none"> • High level objectives and design principles [E25] • Comprehensive list of airspace change design options [p39/E25] – these should be identified and described [E12] and sources referenced • Design principle evaluation (qualitative assessment [para 124/p39/E25]) • Evaluation methodology – an initial draft [para 132/E12] <p>3.2 Gatwick commented that it was unclear as to what input data the CAA might routinely consider appropriate [ref E55 and E56] to be submitted at Stage 2A. Gatwick asked what specific data sets the CAA considered of merit and to advise the FASI-South sponsors, through ACOG, as soon as possible.</p>	
4	<p>Stage 2B Outputs and Review Criteria</p> <p>4.1 Gatwick offered that the list of products to be produced for assessment at the end of Stage 2B was harder to determine than for other stages as references were scattered throughout CAP 1616.</p>	

	<p>Gatwick's analysis concluded that the following were required, CAP1616 references shown:</p> <ul style="list-style-type: none"> • A description of the baseline (do nothing, or do minimum but not both) [E12/E21] • Description of the change proposal [E12] • Qualitative assessment of shortlist of options [E25] using CAA Proforma (App E p167) <ul style="list-style-type: none"> ○ Compliant with required technical criteria [para 122 & 124/ App F] • An indication of likely noise impacts [E12] • Initial safety assessment – qualitative statements on potential impact [E49 & E50] • A detailed qualitative description of the particular costs and benefits [E33] • High level assessment of other costs and benefits involved [E12] • An indication of the preferred option [E12] • Identification of further evidence collection to support a 'Full' appraisal [E12] <p>4.2 Gatwick offered that a 'do nothing' option was inappropriate in the case of the FASI-South Programme as the airport is required to comply with European Implementation Regulation 1048, which will impact Gatwick arrivals and the VOR network will be further reduced over the next few years, necessitating changes to some SIDs and STARs. The network design above 7000 feet AMSL will also change to accommodate R3 at Heathrow, the implications for Gatwick are not yet known. The same external factors are likely to affect other London airports. Gatwick proposed that a fully described 'do minimum' would be more appropriate, to which the CAA offered no objections.</p> <p>4.3 CAP 1616, offered multiple references to ensuring that assessments of options were compliant with 'technical criteria' in Appendix F. However, there is ambiguity as to which specific aspects of Appendix F this is referring to. Airspace Regulation were asked to provide greater clarity on the nature and extent of the technical criteria that needs to be applied at 2B.</p> <p>4.4 At E12, CAP 1616, suggested that an indication of the likely noise impacts may be appropriate. Gatwick offered that as the emphasis for Stage 2 was a qualitative analysis of the options, it may not be possible to offer a meaningful noise assessment, as the ground track, vertical profile and other aspects of the airspace design were unlikely to be fully evaluated prior to Stage 3. Therefore, the inclusion of a noise assessment, all be it an indicative one, may be counter-productive and raise unwarranted concerns. Gatwick would prefer not to offer noise assessments at Stage 2B. If the CAA, consider this essential, then it was requested that appropriate guidance should be provided setting out the type, nature and extent of the noise analysis</p>	
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	<p>that was warranted at Stage 2B in the context of the FASI-South Programme.</p> <p>4.5 Gatwick sought clarity on the extent and application of cost and benefit data in support of Stage 2B. The CAA confirmed that at stage 2B sponsors should provide:</p> <ul style="list-style-type: none"> • A detailed description of the benefits and costs that would be included in future assessments; and • An explanation within the methodology as to how these would be applied in subsequent stages. <p>The CAA considered it would be appropriate to include these two aspects in the methodology.</p> <p>4.6 Gatwick recognised the merits of offering a preference between the options under consideration but asked that the CAA accept proposals that did not offer a preference as this may be premature or inappropriate. Gatwick offered that as it was considering redesigns for all its departure and arrival procedures, and it was entirely possible that both of the scenarios above could be credible option outcomes at the end of Stage 2B. The CAA recognised that, given the scale and complexity of the potential changes under FASI-South both scenarios were possible, and they would not seek an airport preference for all scenarios or procedures.</p> <p>4.7 Airspace Regulation reiterated that the Stage 2B submission should include adequate evidence of stakeholder engagement, but this did not extend to responding to specific stakeholder objections of options.</p>	
5	<p>Airport-Airport Options Analysis</p> <p>5.1 Gatwick raised the issue of how neighbouring airports were expected to resolve potential conflicts between different pairs of options and highlighted that further guidance was necessary to resolve the directions offered at E5 that had not envisaged a multi-airport ACP seeking to make changes at the same time within the same airspace. Gatwick offered its initial ideas on assessing options from different airports and offered to work this up with ACOG's support. The CAA agreed to review proposals from ACOG on this matter and recognised the need to expedite additional guidance to resolve the issues introduced by E5.</p>	
6	<p>Areas of Ambiguity</p> <p>6.1 Gatwick reiterated its ambition to maximise its contribution to the airspace modernisation objectives as defined for the lower and terminal airspace. However, they expressed concern that the objectives were not defined using absolute or relative measures. Gatwick considered that without clearer indications of the intended</p>	

	<p>targets it would be far harder to consider cumulative impact analysis, or declare initial and subsequent successes. The CAA recognised the issue and agreed to ask CAA Policy staff to consider, in conjunction with DfT, when and how measurable ambitions would be communicated.</p> <p>6.2 At E11, CAP 1616, advises change sponsors to use the most up to date and credible sources of data. Gatwick highlighted the high likelihood of different airports using different data sources unless the CAA offered additional guidance to FASI-South ACP sponsors on the data sources it considered met the criteria stipulated at E11. Gatwick also recognised that some sponsors may wish to use alternative data sources. The CAA understood the issue and confirmed that sponsors were at liberty to use whichever data sets they wanted but also recognised the benefit in using common and agreed data sources.</p> <p>6.3 The CAA reported that they now had the facility to receive data via a 'Huddle' facility. In due course, Gatwick would be interested in learning more about how this data is being secured and access controlled.</p> <p>6.4 CAA confirmed that the next update to CAP 1616 would be in Oct/Nov 2019 and was primarily to convey the process for considering whether ATC/airport changes triggered consideration of a PPR of traffic and specific areas of textual change to add clarity of intent.</p>	
7	<p>Next Steps</p> <p>7.1 It was agreed that:</p> <p>7.1.1 Gatwick would:</p> <ol style="list-style-type: none"> (1) Publish the record of this discussion on the CAA Airspace Change portal. (2) Draft its methodology, including details of resolving airport-airport airspace conflicts and share this with ACOG and CAA for their initial views. (3) Provide ACOG and CAA with a list of additional questions and identify areas on which further guidance would be beneficial. <p>7.1.2 CAA would:</p> <ol style="list-style-type: none"> (1) Provide additional guidance to FASI-South ACP sponsors on the application of CAP 1616 in the context of a simultaneous multi-airport and Network airspace change, ideally before December 2019. (2) Review Gatwick's draft methodology and offer comment of value to its application in the context of FASI-South. 	<p>Gatwick</p> <p>CAA</p>

	<p>(3) Consider if additional guidance was necessary on the criteria airports/NERL should apply to option appraisal in consideration of the air navigation functions, specifically, airspace efficiency and capacity, operator requirements and the integration of operations, and issue this before Dec 2019.</p> <p>(4) Provide guidance as to whether the CAA consider the 'do minimum' option as the default position for airports involved in FASI-South from which to develop a baseline.</p> <p>(5) Provide greater clarity on the nature and extent of the technical criteria that needs to be applied at Stage 2B.</p> <p>(6) Provide clarity on the need to provide indicative noise impact at end of Stage 2B and guidance on the nature and level of detail required (in the context of FASI-South).</p> <p>(7) Advise on any specific data sets the CAA had an expectation of reviewing at the end of Stage 2A and 2B, and specify what are considered to be the best sources of this data; this information to be provided ideally before Dec 2019.</p> <p>(8) Consider how the objectives for the lower and terminal airspace could be better defined using absolute or relative measures, including how these objectives would change over the period of scrutiny (2025-35).</p> <p>(9) Share the Stage 2 Gateway Assessment Evaluation Framework with FASI-South ACP sponsors in early 2020.</p> <p>7.1.3 ACOG would share the relevant extracts of this discussion with other FASI-South ACP sponsors and coordinate the development of a methodology that could be applied similarly by most/all FASI-South ACP sponsors.</p>	<p>ACOG</p>
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Annex A

CAA Response dated 29 Jan 2020 to Questions Listed at 7.1.2

Annex A CAA Response dated 29 Jan 2020 to Questions Listed at 7.1.2

Firstly, thank you for the questions you provided following the Develop and Assess methodology meeting held on the 10th September 2019 and please accept our apology for the delay in responding to you. At this time, I thought it would be helpful if I gave you an update to the status of the responses to each of the questions you asked and where possible, provide you with comprehensive answers.

I have grouped the responses to the questions into three categories;

- Category 1 - those questions directly related and reliant on the airspace change masterplan (masterplan for short);
- Category 2 - the action regarding the methodology meeting minutes and the draft methodology within it;
- Category 3 - and those questions which are considered technical in nature and solely related to CAP1616 (Part 1).

Category 1 - Questions 1, 3 & 8

1. *Provide additional guidance to FASI-South ACP sponsors on the application of CAP 1616 in the context of a simultaneous multi-airport and Network airspace change, ideally before December 2019.*
2. *Consider if additional guidance was necessary on the criteria airports/NERL should apply to option appraisal in consideration of the air navigation functions, specifically, airspace efficiency and capacity, operator requirements and the integration of operations, and issue this before Dec 2019.*
3. *Consider how the objectives for the lower and terminal airspace could be better defined using absolute or relative measures, including how these objectives would change over the period of scrutiny (2025-35).*

Answers to the three questions above will be dealt with through the masterplan which in turn, will provide an additional framework for the regulatory team when making ACP decisions including at Gateways. ACOG are currently developing the masterplan which will be subject a regulatory process for assessing and acceptance. It is anticipated that this regulatory process will go out for engagement with FASI-South change sponsors.

The most current and relevant guidance for FASI-South change sponsors is published on the CAA website under [Airspace change proposals in the FASI S and FASI N programmes](#). It is anticipated that this guidance will be updated as the masterplan is developed and pushed out to FASI-South sponsors through ACOG.

Category 2 - Question 2

4. *Review Gatwick's draft methodology and offer comment of value to its application in the context of FASI-South.*

Comments on the draft methodology are provided where possible in the responses against the related questions below. However, as mentioned above, a complete response to the draft methodology cannot be made until such time that the masterplan has been assessed and accepted by the co-sponsors.

Category 3 - Question 4, 5, 6, 7 & 9

The following five questions are considered solely reliant on CAP1616 and therefore these responses can be considered full responses at this time.

5. *Provide guidance as to whether the CAA consider the 'do minimum' option as the default position for airports involved in FASI-South from which to develop a baseline.*

Although we recognise the requirements set upon you regarding the AMS initiatives and EU regulations such as PBN-IR (IR 2018/1048), in the context of CAP1616, there is a clear requirement to articulate the difference of impact between the current state (do-nothing baseline) and the feasible state (do-minimum baseline). This allows stakeholders to understand the effect of the 'do minimum' in relation to current circumstances (CAP1616 E21). Therefore, to put this into the context of the initial options appraisal at Step 2b, we would expect to see as a minimum, a qualitative assessment of the 'do-nothing' option, a qualitative assessment of the 'do minimum option' with a comparable justification as to why the 'do-nothing' option is not the baseline. Additionally, given that your proposal will contain qualitative assessments of both the do-nothing and do-minimum scenarios, the baseline must be considered in relation to its context, which may be changing. Consequently, as an example, you should ensure that careful consideration is given to avoid double counting of costs/benefits on the 'do-minimum' scenario (CAP1616 E22).

It is important to remember that a qualitative assessment is still an assessment. When considering noise at this stage, it does not necessarily need to be presented as dBs and can be described in other ways. For example, a qualitative assessment could describe the number, height and way aircraft will operate in certain locations to help people understand how this option may affect them. It should then go on to describe whether or not this is likely to lead to a change in behaviour. As an example, will it cause people to close windows or not use their gardens as before. i.e. will it result in an adverse impact on health and quality of life, or in other words, create an impact at or above LOAEL/51 dB – Lowest Observed Adverse Effect Level.

6. *Provide greater clarity on the nature and extent of the technical criteria that needs to be applied at Stage 2B.*

The technical criteria contained in an individual ACP should be relative to that proposal and should be considered against national and international requirements. This should include the areas identified in Appendix F that are relevant to the proposal. This should also meet the requirements of the change sponsors' SMS and its associated processes as applicable.

In the context of CAP1616, the references to Appendix F throughout the document relate to the minimum requirements of the formal submission to ensure a standardised format.

7. *Provide clarity on the need to provide indicative noise impact at end of Stage 2B and guidance on the nature and level of detail required (in the context of FASI-South).*

The minimum requirement for the first phase of the Options Appraisal (2B) would be an indicator of the likely noise impacts in case sponsors consider it would be disproportionate for them to provide quantified/ monetised analysis of noise impact (CAP1616 E12). An example of an applicable noise indicator would be to describe what evidence they will collect, and how, articulate any known evidence gaps so that the Full Options Appraisal (second phase of the options appraisal) can later address this.

8. *Advise on any specific data sets the CAA had an expectation of reviewing at the end of Stage 2A and 2B and specify what are considered to be the best sources of this data; this information to be provided ideally before Dec 2019.*

For noise related datasets, the CAA are developing noise modelling guidance to standardise and improve the quality of noise modelling used in proposals by specifying the minimum acceptable level of noise modelling required for us to carry out our duties.

This guidance may also include the format of 'machine readable' information required to enable validation, in a similar way as Defra specify for the purposes of airport noise mapping under the environmental noise directive. Currently, the CAA is running a consultation (closing on the 4 March 2020) regarding this noise modelling guidance. Further information regarding the consultation (including [CAP1875 Noise Modelling Minimum Requirements Consultation Document](#)) can be found on the [consultation page](#) of the CAA website.

The Defra guidance specifies the type of input data (e.g. runway modal splits, terrain, aircraft information, grid resolutions) that should be used and for outputs specifies "*The information is required in an appropriate format, i.e. text, tables, shapefiles or plans and in such detail as would enable the strategic noise mapping process to be reproduced*".

9. *Share the Stage 2 Gateway Assessment Evaluation Framework with FASI-South ACP sponsors in early 2020.*

Whilst we have no strict objections to sharing our Gateway review documents with airspace change sponsors, we would caution the assumed 'tick box exercise' the documents portray. The Gateway reviews are made of up a mix of internal discussions across multiple subject matter experts as well as the comments given to each question. If a sponsor were to only address the question directly within the Gateway review document without ensuring the wider picture is also included, it may still result in a sponsor failing to meet that particular requirement and being unsuccessful at that relevant Gateway.

If you have any further questions relating to the masterplan developments, please raise them through CAA Policy & Oversight - Airspace Modernisation or through ACOG. However, if you do have any further questions relating to CAP1616, please do not hesitate to contact the CAA.

Finally, as discussed in the meeting, the CAA would be appreciative if ACOG could share these responses with the rest of the FASI-South sponsors to ensure a standardised methodology for Stage 2 is applied as this guidance develops.