

CAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

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|---|----------------------------------|---------------------------------|----------------------------|
| Title of Airspace Change Proposal: | Gatwick Route 4 SIDs | | |
| Change Sponsor: | Gatwick Airport Ltd (Osprey CSL) | | |
| ACP Project Ref Number: | ACP-2018-86 | | |
| Case study commencement date: | 17/10/2022 | Case study report as at: | 28/10/2022 |

| | | | | | | | |
|--|---------|--|----------|--|--------------|---|-------------|
| Account Manager: [Redacted] | [Grey] | Airspace Regulator (Engagement & Consultation): [Redacted] | [Yellow] | IFP: [Redacted] | [Yellow] | OGC: [Redacted] | [Dark Blue] |
| Airspace Regulator (Technical): [Redacted] | [Green] | Airspace Regulator (Environment): [Redacted] | [Purple] | Airspace Regulator (Economist): [Redacted] | [Light Blue] | ATM (Inspector ATS Ops): [Redacted] | [Red] |

Instructions

To aid the SARG project leader's efficient project management, please highlight the "status" cell for each question using one of the four colours to illustrate if it is:

Resolved - GREEN
 Not Resolved – AMBER
 Not Compliant – RED
 Not Applicable - GREY

Guidance

The broad principle of economic impact analysis is **proportionality**; is the level of analysis involved proportionate to the likely impact from that ACP. There are three broad levels of economic analysis; qualitative discussion, quantified through metrics, and monetised in £ terms. The more significant the impact, the greater should be the effort by sponsors to quantify and monetise the impact.

| 1. Background – Identifying the impact of the options (including Do Nothing (DN) / Do Minimum (DM)) | | Status | |
|---|---|---|--|
| 1.1 | Are the outcomes of the Initial Options Appraisal (IOA) (Phase I) clearly outlined in the proposal? | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |
| 1.1.1 | Has the change sponsor completed an Initial Options Appraisal? [E12] | Yes, the change sponsor has produced the Initial Options Appraisal (IOA) which the change sponsor analysed qualitatively the comprehensive list of all options. | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 1.1.2 | Does the Initial Options Appraisal include: - a comprehensive list of viable options; - a clear description of the baseline scenario; - an indication of the environmental impacts; - a high-level assessment of costs and benefit involved | Yes, the IOA Full Analysis Table includes the comprehensive list of unviable and viable options which are all detailed qualitatively. Baseline scenario descriptions for current and future along with Option 0 are all explained in the IOA in detail. A high-level qualitative analysis for noise and other required impact are available for the baseline and preferred Option 0 and for the comprehensive of all options considered in the IOA Full Analysis Table. | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 1.1.3 | Has the sponsor stated on what criteria the comprehensive list of viable options has been assessed? | Yes, the sponsor has explained the criteria for the comprehensive list of options in the IOA for all impact. | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 1.1.4 | Where options have been discounted as part of the IOA exercise, does the change sponsor clearly set out why? | Yes, the sponsor used RAG status to explain which options perform better and will be carried forward to the next stage. They also included an outcome cell in the IOA Full Analysis Table to explain their conclusion of the high-level qualitative analysis. | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 1.1.5 | Has the change sponsor indicated their preferred option(s) as a result of the IOA (Phase I - Initial)? [E12] | Yes, the change sponsor has indicated the preferred option is Option 0 which is an RNAV replication of the existing conventional LAM 6M, 6V procedure. This option is also used as a baseline option in the IOA Full Analysis as the sponsor stated in the IOA that Do Nothing, Do Minimum and Option 0 are all equivalent in terms of perceived tracks over ground. | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 1.1.6 | Does the IOA (Phase I - Initial) detail what evidence the change sponsor will collect, and how, to fill in any evidence gaps and how this will be used to develop the Options Appraisal (Phase II - Full)? | In the IOA, the change sponsor confirms that the IOA will be developed into a more quantitative assessment i.e., the costs and benefits of each option will be monetised by taking into account GHG, noise and fuel burn impacts through DfT's TAG (Transport Appraisal | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

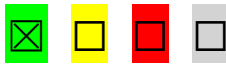
| | | | |
|-------|--|--|--|
| | | Guidance). | |
| 1.1.7 | Does the plan for evidence gathering cover all reasonable impacts of the change? [E12] | The change sponsor stated within the IOA Full Analysis Table that more work will be conducted to analyse economic impact from increased effective capacity without detailing the evidence to be collected. However, as the sponsor confirmed that more work will be done at the next stage where necessary, the CAA agreed that the plan for evidence gathering covers all reasonable impacts of the change in line with the CAP 1616 process. | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

| 2. Impacts of the proposed airspace change | | Status | | | |
|--|---|--|-------------|------------|-----------|
| 2.1 | Are there direct impacts on the following: | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | | | |
| 2.1.1 | <i>Examples of costs considered (please add costs that have been discussed, and any reasonable costs that the Airspace Regulator (Technical) feels have NOT been addressed)</i> | | | | |
| 2.1.2 | Airport/ANSPs | Not applicable | Qualitative | Quantified | Monetised |
| | - Infrastructure | | X | N/A | N/A |
| | - Operation | X | | | |
| | - Deployment | | X | N/A | N/A |
| | - Other(s) | X | | | |
| 2.1.3 | Commercial Airlines/General Aviation | Not applicable | Qualitative | Quantified | Monetised |
| | - Training | X | | | |
| | - Economic impact from increased effective capacity | X | | | |
| | - Fuel burn | | X | N/A | N/A |
| | - Other(s) | X | | | |

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|-------|--|----------------|-------------|--|-----------|
| 2.1.4 | General Aviation | Not applicable | Qualitative | Quantified | Monetised |
| | - Access | X | | | |
| 2.1.5 | Military | Not applicable | Qualitative | Quantified | Monetised |
| | | X | | | |
| 2.1.6 | Wider society, i.e., wider economic benefits, capacity resilience | Not applicable | Qualitative | Quantified | Monetised |
| | | X | | | |
| 2.1.7 | Other (provide details) | Not applicable | Qualitative | Quantified | Monetised |
| | | X | | | |
| 2.2 | Are there direct beneficial impacts on air traffic control / management systems? Provide details. | | | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |
| 2.3 | Where impacts have been monetised, what is the overall value (expressed in net present value (NPV)) of the project? | | | | |
| | N/A | | | | |
| 2.4 | Has the sponsor provided an accurate and proportionate assessment of the proposed airspace change impacts? | | | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | |

| 3. Changes in air traffic movements and projections | | | | Status |
|---|--|----------------|-------------|--|
| 3.1 | If the proposed airspace change has an impact on the following factors, have they been addressed in the proposal? | | | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| | | Not applicable | Qualitative | Quantified/ Monetised |
| 3.1.1 | Number of aircraft movements | X | | |
| 3.1.2 | Number of air passengers / cargo | X | | |
| 3.1.3 | Type of aircraft movements (i.e., fleet mix) | | X | N/A |

| | | | | | |
|-------|---|----------------|---|------------|-----------|
| 3.1.4 | Distance travelled | | X | X | |
| 3.1.5 | Operational complexities for users of airspace | | X | | |
| 3.1.6 | Flight time savings / Delays | X | | | |
| 3.1.7 | Other impacts | X | | | |
| | <p>Comments: The change sponsor stated in the IOA that the ACP is not designed to facilitate extra capacity but enable the full use of the current capacity. The sponsor also added this ACP is not expected to reduce the flow of air traffic out of the airport overall. In terms of the distance travelled, the IOA emphasizes there will be no difference between today's operation and the preferred Option 0. However, for other viable options all differences of track mileages compared to the do-minimum option and area flown over is depicted in the IOA Full Analysis Table.</p> | | | | |
| 3.2 | <ul style="list-style-type: none"> Has the sponsor used the most up-to-date, credible and clearly referenced source of data to develop the 10 years traffic forecast and considered the available guidelines (i.e., the Green Book and TAG models) in a proportionate and accurate manner? [B11 and E11] Has the sponsor explained the methodology adopted to reach its input and analysis results? [B11 and E11] | | <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> | | |
| 3.3 | Has the sponsor developed an assessment of the following environmental aspects? | | <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> | | |
| | | Not applicable | Qualitative | Quantified | Monetised |
| 3.3.1 | Noise | | X | | |
| 3.3.2 | Operational diagrams | | X | | |
| 3.3.3 | Overflight | | X | | |
| 3.3.4 | CO2 emissions | | X | | |
| 3.3.5 | Local air quality | | X | | |
| 3.3.6 | Tranquillity | | X | | |
| 3.3.7 | Biodiversity | | X | | |
| 3.4 | <p>What is the monetised impact (i.e., Net Present Value (NPV)) of 3.3? (Provide comments) N/A - all impacts qualitatively assessed.</p> | | | | |

| 4. Economic Indicators of the ACP | | Status |
|-----------------------------------|--|---|
| 4.1 | <p>What are the qualitative / strategic impacts described in the ACP?</p> <p>The purpose of this project is to submit a new application for RNAV1 PBN SID procedures for Route 4 departures at Gatwick Airport. This is because the CAA asked the court to quash the previous decision which doesn't allow the PBN for Route 4 only and as a result Route 4 RNAV SIDs assumed a temporary status.</p> | |
| 4.2 | <p>What is the overall monetised and non-monetised (quantified) impact of the proposed airspace change?</p> <p>It is expected there will be no difference in track mileage for Option 0 against today's operations but the change sponsor has quantified the difference of track mileage for the proposed options when compared with Option 0 (which is equivalent to the do-minimum option).</p> | |
| 4.3 | <p>What is the Net Present Value of the proposed options? Has the sponsor used this information to progress/discount options? Has the sponsor provided the benefits-costs ratio (BCR) of the proposed options and used it to support the choice of the preferred options? [E44]</p> <p>NPV is not calculated at Stage 2 because the sponsor preferred to carry out the minimum requirement for this stage and provided the qualitative discussion of the cost and benefits for the comprehensive list of options.</p> | |
| 4.3.1 | <p>If the preferred option does not have the highest NPV or BCR, then has the sponsor justified the reasons to progress this option? [B50 and E23]</p> <p>N/A</p> | |
| 4.4 | <p>Have the sponsors provided reasonable justification for the proportionality of analysis above?</p> <p>The sponsor has provided the minimum requirement for the IOA which is the qualitative discussion of the impacts for the comprehensive list of all options.</p> |  |

| 5. Other aspects | |
|------------------|-----|
| 5.1 | N/A |

| 6. Summary of the Initial Options Appraisal & Conclusions | |
|---|---|
| 6.1 | <p>The IOA is expected to highlight the qualitative discussion of the impacts of the proposed options when compared against the baseline (today's operations) according to the CAP 1616 process. In this ACP, the change sponsor has chosen to use Option 0 (the do-minimum option) as a baseline scenario and comprehensive list of options is compared against Option 0. In general, the sponsor stated there will be no difference between today's operation, the do-minimum and Option 0 but the IOA Full Analysis Table states there is expected to be very little difference in terms of impacts over the ground between Option 0 and the do-minimum. So, it is crucial to underline the risk that there might be difference and this may be an issue during Stage 3 when the sponsor needs to quantify and monetise the impact of the preferred option as it is also used as a</p> |

baseline. Apart from this unique issue, the sponsor successfully explained the baseline scenario, their preferred option and other considered unviable and viable options in the IOA. The sponsor confirmed that they will quantify and monetise some impacts where necessary to be able to do better comparison between the baseline, Option 2, Option 4 and Option 6 which are carried forward to Stage 3. The sponsor successfully provided the minimum requirement for Stage 2 which is the qualitative analysis of the comprehensive list of viable options. The only missing information for this Stage is the traffic forecast which can be provided at Stage 3 as it is one of the main data for sponsor to be able to carry out quantified analysis.

| Outstanding issues | | |
|--------------------|-------------------------------|---|
| Serial | Issue | Action required |
| 1 | No available traffic forecast | The IOA is missing the information for the traffic forecast (CAP 1616 Appendix B31) and the sponsor must provide the traffic forecast at Stage 3. |
| 2 | | |

| CAA Initial Options Appraisal Completed by | Name | Signature | Date |
|--|------------|------------|------------|
| Airspace Regulator (Economist) | [REDACTED] | [REDACTED] | 27/10/2022 |
| Airspace Regulator (Environment) | [REDACTED] | [REDACTED] | 27/10/2022 |