

CAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

Title of Airspace Change Proposal:	Gatwick Airport FASI		
Change Sponsor:	Gatwick Airport Ltd		
ACP Project Ref Number:	ACP-2018-60		
Case study commencement date:	01/09/2023	Case study report as at:	28/09/2023

Account Manager: [Redacted]	[Grey]	Airspace Regulator (Engagement & Consultation): [Redacted]	[Yellow]	IFP: [Redacted]	[Yellow]	OGC: [Redacted]	[Dark Blue]
Airspace Regulator (Technical): [Redacted]	[Green]	Airspace Regulator (Environmental): [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?	
1.1.1	Has the change sponsor completed an Initial Options Appraisal? [E12]	Yes, the sponsor has submitted a 85 page Initial Options Appraisal. This has been accompanied by 'Annex D', which sets out the appraisal of each individual option in a set of tables over 14 pages.
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	<p>The sponsor has provided a comprehensive list of viable options that have progressed from the Design Principle Evaluation, with a total of 66 options (9 Easterly Departures, 13 Westerly Departures, 14 Easterly PBN Arrivals, 5 Easterly RMA Arrivals, 14 Westerly PBN Arrivals, 5 Westerly RMA Arrivals and 6 baseline options). These options are summarised on page 17, though this list does not include the RMA departure options.</p> <p>The baseline has been set out in Section 3, with a detailed description of this scenario, why a 'Do Nothing' baseline has been used instead of a 'Do Minimum', and how options have been assessed against this baseline. Data for the baseline has been taken from 2019, taken from NTK systems over a 92 day period in the Summer. For Westerly Route 4, tracks were taken from a 92 day period over Summer 2022 with 2019 traffic levels applied. Additional elements in terms of the descriptions of the current-day situation, such as airport operations and local geographical features and noise impacts have also been provided.</p> <p>The sponsor has attached a set of dashboards setting out the IOA outcome for each option in Annex D. These include both a high-level assessment of the costs and benefits and an indication of the environmental impacts.</p>

		These include noise impacts, greenhouse gas emissions, air quality, tranquillity and biodiversity (partial impacts from each option). The high-level impacts included in the dashboard lack detail on the nature and scale of the impact eg. the qualitative conclusion is sometimes 'costs identified' or 'impacts identified'. It would be useful for the sponsor to include more details on specific impacts at Stage 3.	
1.1.3	Has the sponsor stated on what criteria the comprehensive list of viable options has been assessed?	Yes, the sponsor has set out the criteria used in the IOA to assess viable options progressed from the DPE in Section 3 (Initial Options Appraisal), from page 25 onwards.	<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, in Section 5 (Initial Options Appraisal: Summary and Conclusion) each option has been included in a table that shows whether it has been carried forward to Stage 3, along with a justification in the column 'Shortlisting Rationale', which clearly sets out for each option why it has or has not been advanced.	<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]	The sponsor has decided not to specify a preferred option at this stage, due to expected revisions to options as a result of potential interdependencies with other airports at Stage 3.	<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 Section 6 (Next Steps) sets out how data already collected will be used to provide a fully quantified analysis at Stage 3. Assuming the sponsor has all the relevant information required for this analysis already at this stage, then a further evidence gathering exercise is not necessarily required.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.7	Does the plan for evidence gathering cover all reasonable impacts of the change? [E12]	The plan for the Full Options Appraisal Stage 3 includes a quantified analysis noise, emissions, air quality, ATC costs and ANSP costs, alongside other qualitative	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

		impacts. There is little detail on if the sponsor intends to provide analysis on the economic impact from increased effective capacity or fuel burn on commercial airlines, or wider economic benefits, which would be useful to include at the next stage.	
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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		
	- Operation		X		
	- Deployment		X		
	- 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			
	- Other(s)		X		
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
2.1.7	Other (provide details) Qualitative assessment of the impact on GA of controlled airspace volumes.				
2.2	Are there direct beneficial impacts on air traffic control / management systems? Provide details. By introducing PBN arrival transitions, and designing routes that can be enable CCO, controller workload could be reduced.			<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? The sponsor has not monetised any impacts, as this is not required at this stage.				
2.4	Has the sponsor provided an accurate and proportionate assessment of the proposed airspace change impacts? The assessment is proportionate at this stage, as only qualitative impacts are required. The sponsor will have quantified impacts in greater detail at Stage 3.			<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	X
3.1.2	Number of air passengers / cargo	X		
3.1.3	Type of aircraft movements (i.e., fleet mix)	X		
3.1.4	Distance travelled		X	
3.1.5	Operational complexities for users of airspace		X	
3.1.6	Flight time savings / Delays		X	

3.1.7	Other impacts				
	Comments: The sponsor has committed to including changes in fleet mix in its Full Options Appraisal at Stage 3.				
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] The sponsor has provided a graph forecasting future ATMs at Gatwick up to 2047 (20 years after implementation). This is clearly sourced, based on data from the CAA and the sponsor. However, the sponsor does not actually provide the figures for each year, only relying on the graph to show future ATMs. Has the sponsor explained the methodology adopted to reach its input and analysis results? [B11 and E11] The sponsor has only given limited details on its methodology behind its traffic forecast, explaining that their expectation is that future activity is likely to resemble pre-Covid traffic levels, and so their forecast shows a return to levels seen in 2019 from 2027. <p>The methodology for the environmental assessment in the options appraisal has been explained and uses well referenced sources of data with modelling undertaken using AEDT.</p>		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
3.3	Has the sponsor developed an assessment of the following environmental aspects? The sponsor has assessed the following metrics for individual design options in their initial options appraisal: <ul style="list-style-type: none"> Noise - partial LAeq, partial Nx and option overflight contours (including day and night-time metrics) with population numbers (including newly overflowed); population experiencing an increase/decrease by 1 and 3 dB; number of noise sensitive locations experiencing Nx and overflight CO2 – extended routes up to the network point considered in terms of track miles flown as a proxy for fuel burn and emissions Local air quality – routes with potential for lateral change below 1,000 ft. identified. Tranquillity – Area of AONBs overflowed and exposed to partial N65 contours Biodiversity – Number and area of RAMSAR sites, SSSIs, SACs and SPAs overflowed below 1,640 ft. 		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Not applicable	Qualitative	Quantified	Monetised
3.3.1	Noise		X	X	
3.3.2	Operational diagrams		X		

3.3.3	Overflight		X	X	
3.3.4	CO2 emissions		X		
3.3.5	Local air quality		X		
3.3.6	Tranquillity		X	X	
3.3.7	Biodiversity		X	X	
3.4	What is the monetised impact (i.e., Net Present Value (NPV)) of 3.3? (Provide comments) N/A – The sponsor has not monetised its options at this stage.				

4. Economic Indicators of the ACP	
4.1	What are the qualitative / strategic impacts described in the ACP? Due to the significant number of options included, there is no simple set of qualitative impacts to describe for this ACP. However the overall strategic aim is to support the FASI initiative by modernising the way airspace operates around Gatwick.
4.2	What is the overall monetised and non-monetised (quantified) impact of the proposed airspace change? The sponsor has not monetised or provided an overall impact for its options at this stage.
4.3	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] N/A – The sponsor has not monetised its options at this stage.
4.3.1	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] N/A – The sponsor has not monetised its options at this stage, nor has it provided a preferred option.
4.4	Have the sponsors provided reasonable justification for the proportionality of analysis above? Yes, the qualitative analysis included in the Initial Options Appraisal is proportionate at this stage, in line with CAP1616 requirements.
	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

5. Other aspects

5.1	N/A
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6. Summary of the Initial Options Appraisal & Conclusions

6.1	Overall, the Initial Options Appraisal meets the standard required at this stage by CAP1616, however there are a few areas where the sponsor could provide some greater detail. These include further information on the scale and nature of qualitative impacts identified in the IOA dashboard, including commercial and wider economic impacts and more detail on the methodology behind the air traffic forecast.
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Post gateway requirements and/or recommendations

6.2	<p>Recommendations for Stage 3:</p> <ul style="list-style-type: none"> -Include greater detail on qualitative impacts -Include greater detail on air traffic forecast methodology -Consider including the economic impact on commercial airlines and wider society
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Decisions Pending – Post Gateway Actions Required

Issue(s)	Corrective Action(s) for Sponsor	Gateway Recommendation Reference(s)	CAP 1616 Reference(s)
NIL			
Sponsor Action(s) Taken		Requirement(s) Resolved?	
		Not Resolved <input type="checkbox"/> Resolved <input type="checkbox"/>	

CAA Initial Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)	██████████	██████████	04/10/2023

Airspace Regulator (Environmental)	[REDACTED]	[REDACTED]	04/10/2023
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