

CAA CAP 1616 Options Appraisal Assessment (Phase III Final)

Title of airspace change proposal	Cotswold Airport (Kemble) RNAV IAPs		
Change sponsor	Kemble Air Services		
Project no.	ACP-2016-18		
Case study commencement date	20/08/2020	Case study report as at	03/09/2020

Account Manager: [Redacted]	[Grey]	Airspace Regulator (Engagement & Consultation): [Redacted]	[Yellow]	IFP: [Redacted]	[Orange]	OGC:	[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 Do Nothing (DN) /Do Minimum (DM) scenarios		Status
1.1	Are the outcomes of DN/DM scenarios clearly outlined in the proposal?	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.1	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Has the change sponsor produced an Options Appraisal (Phase III - Final) which consists of the Full appraisal with any refinements or changes made as a result of the Stage 3 formal consultation with stakeholders? [E24] </div> <div style="width: 45%;"> Yes, the change sponsor has produced the final Options Appraisal which consists of the Initial and Full options appraisals and refinements made as a result of the Stage 3 formal consultation with stakeholders. </div> </div>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

2. Direct impact on air traffic control		Status			
2.1	Are there direct cost impacts on air traffic control / management systems? If so, please provide below details of the factors considered and the level in which this has been analysed.	<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>				
		Not applicable	Qualitative	Quantified	Monetised
2.1.2	Infrastructure changes	X			
2.1.3	Deployment	X			
2.1.4	Training	X			
2.1.5	Day-to-day operational costs / workload / risks		X	N/A	N/A
2.1.6	Other (provide details)		X	X	X
2.1.7	Comments The Sponsor stated the implementation and design of the RNP approach would cost around £100K and some of the cost would be reclaimed following DfT directives. The components for design and implementation cost were listed as below. <ul style="list-style-type: none"> IAP Design 				

	<ul style="list-style-type: none"> • IAP Validation • Safety Assessment • Airspace Change and Consultation • Certification • Own ANSP Training • AIP Publication <p>The cost of ownership of the RNP approach was also expected to be relatively small in comparison to other conventional approaches which require ground navigation infrastructure. However, the sponsor stated this was yet to be estimated using data from similar aerodromes with an RNP approach once they have been approved.</p>				
2.2  	Are there direct beneficial impacts on air traffic control / management systems? If so, please provide details and how they have been addressed:	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			
2.2.1	<i>Examples of benefits considered</i>	Not applicable	Qualitative	Quantified	Monetised
2.2.2	Reduced work-load	N/A			
2.2.3	Reduced complexity / risk	N/A			
2.2.4	Other (provide details)		X	N/A	N/A
2.2.5	Comments The Sponsor stated that Option 2 might mitigate any effect on RAF Brize Norton’s capacity. Both options are stated as providing an improvement for nearby glider operations where in-scope aircraft inbound to Kemble from the west are placed onto a defined approach that avoids the normal glider operating areas. The benefits described will require validation as part of the safety assessment (safety case) acceptance process.				
2.3	Where monetised, what is the net monetised impact on air traffic control (in net present value) over the project period? N/A				
2.4	Are the direct impacts on air traffic management analysed accurately and proportionately? Impacts on air traffic control were assessed qualitatively as it is not considered proportionate to carry out a quantitative assessment for the negligible costs and benefits of the change.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			

3. Changes in air traffic movements / projections					Status
3.1	What is the impact of the ACP on the following and has it been addressed in the ACP 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	X
3.1.2	Type of aircraft movement		X	N/A	N/A
3.1.3	Distance travelled	X			
3.1.4	Area flown over / affected		X	N/A	N/A
3.1.5	Other impacts	X			
3.1.6	Comments The Sponsor stated in the Full OA that the main aim of this proposal is to increase the Airport's operational capacity by allowing in-scope aircraft to land at the airport in bad weather and/or when their own operational procedures would otherwise preclude a landing at an airport without a defined approach. As a result of such capacity increase, the Sponsor provided the expected increase in their revenues for the next ten years by providing the traffic forecast for 2020-2029. In addition to the net financial benefit to the Airport, the Sponsor also mentioned the marginal benefit to the local community with the expected increase in demand for hotel and taxi and indirect impacts such as increase in employment opportunities within the Airport or MRO.				
3.2	Has the forecasting of traffic done reasonably using best available guidance (e.g. DfT WebTAG, the Green Book, Academic sources...etc?) Yes, the Sponsor provided the 10-year forecast by using their recorded 2018 and 2019 data for in-scope arrivals and the forecast figures account for additional aircraft arrivals that were cancelled due to bad weather or operational limitations. The Sponsor's aim is for all planned arrivals from in-scope aircraft to be able to make an approach; the traffic forecast is provided with that respect, which is considered to be in line with best practice.				<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.3	What is the impact of the above changes (3.1) on the following factors?				
		Not applicable	Qualitative	Quantified	Monetised
3.3.1	Noise		X		
3.3.2	Fuel Burn		X	N/A	N/A

3.3.3	CO2 Emissions		X		
3.3.4	Operational complexities for users of airspace		X	N/A	N/A
3.3.5	Number of air passengers / cargo	X			
3.3.6	Flight time savings / Delays		X	N/A	N/A
3.3.7	Air Quality		X		
3.3.8	Tranquillity		X		
3.4	<p>Are the traffic forecast and the associate impact analysed proportionately and accurately according to available guidelines (e.g. WebTAG or the Green Book?)</p> <p>The associated impact was analysed proportionately but not accurately because the Sponsor did not consider the time impact but provided only the nominal figures for their forecast revenue, which is not entirely in line with the guidance. Also, the costs of implementation mentioned in the FOA is missing in the economic analysis chart is; the purpose of such analysis is to show all associated costs and benefits throughout the analysis. The economic analysis chart provides the given figures for net community benefit; the Sponsor did not carry out any quantified analysis for environmental impact and it is unclear how the given figures represent the impact on the community. It is concluded that it is an oversight and those figures would have accidentally placed for net community instead of net airspace users benefit. However, the methodology of the quantification for the impact on net airspace users was not explained either.</p>			<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
3.5	<p>What is the total monetised impact of 3.3? (Provide comments)</p> <p>The Sponsor provided the economic analysis of the impact of a Defined Approach against the Baseline. According to the cost benefit table available below, the analysis applies for both Option 1 and Option 2. The Sponsor has shown the same revenue for the baseline which is £0.283 million. Then the Sponsor added the number of cancelled and missed approaches on the total number of the baseline in-scope landings. With the increased number of arrivals estimated for the following three years, the revenue is expected to increase to £0.348 million. For the following years, the Sponsor also considered an initial and following shift in growth with an expected revenue increase by £0.319 million for 2023-2025 and £0.168 million for 2026-2029.</p>				

Description	Baseline		Implementation			Initial Growth			Growth with Hangar availability			
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Estimated Number of in-scope IAP Landings	191	198	251	251	251	396	396	396	487	487	487	487
Discount Factor	1	1	1	1	1	1	1	1	1	1	1	1
Net Community Benefit (£M)	0	0	0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Net Airspace Users Benefit (£M)	0	0	0	0	0	0	0	0	0	0	0	0
Net Sponsor Benefit (£M)	0.283	0.283	0.348	0.348	0.348	0.567	0.567	0.567	0.635	0.635	0.635	0.635
Value (£M)	0.283	0.283	0.348	0.448	0.448	0.767	0.767	0.767	0.935	0.935	0.935	0.935

4. Benefits of ACP					Status
4.1	Does the ACP impact refer to the following groups and how they are impacted by the ACP? This ACP is assessed as not delivering any measurable cost benefit or impact on the local communities.				
		Not applicable	Qualitative	Quantified	Monetised
4.1.1	Air Passengers	X			
4.1.2	Air Cargo Users	X			
4.1.3	General aviation users		X	N/A	N/A
4.1.4	Airlines		X	N/A	N/A
4.1.5	Airports	X			
4.1.6	Local communities		X		
4.1.7	Wider Public / Economy		X	N/A	N/A

4.1.8	<p>Comments</p> <p>The Sponsor stated in the Full OA that there are no air transport movements, passenger numbers or cargo carried as an outcome of this proposal. However, GA users are expected to benefit from the proposal as it would allow CAT to avoid capacity constrained areas and avoid consequential delay and cost but the Sponsor considered this was not quantifiable due to unknown volume for capacity increase.</p> <p>The Full OA states that the only nearby major commercial airport is Bristol Airport and that there is no airspace impact on their operations.</p> <p>In terms of wider society benefits, the Sponsor claimed the proposal would likely yield a positive NPV, which reflects a benefit of CO2 emissions reduction against the current baseline. However, this is not justified with a quantitative analysis because the sponsor considered it was not proportionate to attempt to monetise any fuel burn reductions due to the low number of in-scope aircraft movement.</p>	
4.2	How are the above groups impacted by the ACP, especially (but not exclusively) looking at the following factors: below:	
4.2.1	Improved journey time for customers of air travel	Positively
4.2.2	Increase choice of frequency and destinations from airport	N/A
4.2.3	Reduced price due to additional competition because of new capacity	N/A
4.2.4	Wider economic benefits	Positively
4.2.5	Other impacts	N/A
4.2.6	<p>Comments</p> <p>Please see the answers to Questions 3.4 and 4.1.8.</p>	
4.3	<p>What is the overall monetised impacts associated with 4.1 and 4.2 the above?</p> <p>Please see the answers to Question 3.5.</p>	
4.4	<p>What are the non-monetised but quantified impacts of the above? (Insert details of description)</p> <p>N/A</p>	
4.5	<p>What are the qualitative / strategic impacts described above?</p> <p>Please see the answers to Question 3.1.6.</p>	
4.6	<p>What is the overall monetised benefits-costs ratio (BCR) of the policy? Is it more than 1?</p> <p>N/A</p>	
4.7	<p>Have the sponsors provided reasonable justification for the proportionality of analysis above?</p>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

4.8	If the BCR is less than 1, are the quantitative and qualitative strategic impacts proportional to the costs of the ACP? N/A
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5. Other aspects	
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5.1	Nil
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6. Summary of Assessment of Economic Impacts & Conclusions	
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6.1	<p>The Sponsor provided the 10-year forecast along with the economic analysis of the impact of a defined approach against the baseline. According to this, Option 1 and Options 2 are identical in terms of the total costs and benefits of the RNP approach. The total benefit of delivering defined approaches is expected to increase the revenue by £65K in 2020 and by £352K in 2029. However, the Sponsor used the nominal figures instead of using real figures which means that the effect of inflation has been neglected. The reported discount factor, net community and sponsor benefit figures along with the total NPV figures need revising by applying the correct discount rates as outlined in CAP1616 Appendix E39.</p> <p>The Sponsor reported the figures that represent marginal benefit to the local community, which is available in Figure 2.0 of the Full Options Appraisal. The Sponsor explained that the figures account for an economic ripple felt through increased hotel use, taxi use and potentially an increase in employment opportunities within the airport or MRO. However, the evidence regarding Sponsor’s calculation of those figures is missing in the submission and the CAA is not able to validate the figures.</p>
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Outstanding issues?		
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Serial	Issue	Action required
1	Discount rates used in Figure 2.0 are not correct.	The Sponsor should revise Figure 2.0 as it needs amendment according to the issues explained in the Full OA Assessment.
2	There is insufficient explanation and evidence to justify the monetisation for Net Community Benefit reported under Figure 2.0.	The Sponsor should explain the figures reported for Net Community Benefit in detail and provide the evidence for the calculated benefit.

CAA Final Options Appraisal Assessment Completed by	Name	Signature	Date
Airspace Regulator (Technical)	[REDACTED]	[REDACTED]	11/09/2020
Airspace Regulator (Economist)	[REDACTED]	[REDACTED]	04/09/2020
Airspace Regulator (Environmentalist)	[REDACTED]	[REDACTED]	03/09/2020
ATM – Inspector ATS (Ops)	Not Required		Click or tap to enter a date.