



## CAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

<b>Title of Airspace Change Proposal:</b>	London Southend FASI ('LTMA' Cluster)		
<b>Change Sponsor:</b>	London Southend Airport		
<b>ACP Project Ref Number:</b>	ACP-2018-90		
<b>Case study commencement date:</b>	03/10/2024	<b>Case study report as at:</b>	31/10/2024

<b>Account Manager:</b> [Redacted]	[Grey]	<b>Airspace Regulator (Engagement &amp; Consultation):</b> [Redacted]	[Yellow]	<b>IFP:</b> [Redacted]	[Orange]	<b>OGC:</b> [Redacted]	[Dark Blue]
<b>Airspace Regulator (Technical):</b> [Redacted]	[Green]	<b>Airspace Regulator (Environmental):</b> [Redacted]	[Purple]	<b>Airspace Regulator (Economist):</b> [Redacted]	[Light Blue]	<b>ATM (Inspector ATS Ops):</b> [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

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**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	<b>Are the outcomes of the Initial Options Appraisal (IOA) (Phase I) clearly outlined in the proposal?</b>	<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. <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	<p>The Stage 2B submission includes a “Viable Options for Assessments” section which lists all options by runway and direction. Stage 2A has options explained for each runway and direction but not summarised in lists.</p> <p>The Baseline has been redefined as a “Do Nothing” in both 2A and 2B. In 2B, the Do Nothing section 2.3 has a description of requirements under CAP1616. In 2A, the Do Nothing has been defined and graphically illustrated and an explanation has been provided on the Do Minimum being a refinement of the Do Nothing.</p> <p>The sponsor has included high-level qualitative information on noise, air quality, GHG impact, tranquillity and biodiversity.</p>	<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?	The sponsor has enclosed a copy of table E2 in CAP1616, by which the assessment will take place. <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?	<p>The sponsor has included Section 8.2 on “Discounting” and each option has been assessed and colour coded depending on potential over net benefit, no benefit or cost, or net cost.</p> <p>The section also includes qualitative descriptions of the sponsors methodology for each metric. The sponsor recognises that the Assessment for Noise</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>

		<p>and Air Quality is qualitative at this stage due to the use of swathes rather than definitive lines and this does not align with CAP1498 at the moment. They will therefore not rule out options at IOA based on this metric.</p> <p><b>The sponsor has not discounted options at this stage in their resubmission due to the limitations in their methodology (swathes) and will conduct detailed analysis at Stage 3 once flight paths have been finalised.</b></p>	
1.1.5	<p>Has the change sponsor indicated their preferred option(s) as a result of the IOA (Phase I - Initial)? [E12]</p>	<p>The sponsor has indicated they cannot determine a preferred option until the full appraisal assessment.</p>	
1.1.6	<p>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)?</p>	<p>The sponsor details the evidence they need to collect including (“but not limited to”) quantitative assessments on:</p> <ul style="list-style-type: none"> <li>• Noise modelling analysis in accordance with Category C standards as defined in CAP2091 (see 9.5.3 below);</li> <li>• WebTAG Assessments;</li> <li>• Overflight assessments;</li> <li>• Precise track miles calculations detailing fuel burn and CO2 emission data using the Base of Aircraft Data (BADA) model;</li> <li>• Detailed Controlled Airspace (CAS) requirement assessments;</li> <li>• More detailed analysis of interdependencies with other airports and the en-route network;</li> <li>• Monetarised commercial airline costs;</li> <li>• Monetarised airport costs;</li> <li>• HRA</li> <li>• Tranquillity and biodiversity impact quantification</li> </ul>	

		<p>On air quality, Options D05-NW-B, D23-NE-B, will be investigated further at Stage 3 as there is a small chance a different community will be overflown than the Baseline. All other options have been qualitatively described as flying over the same communities as Baseline and no AQMAs overflown at/below 1000ft ad therefore there will be no impact on local air quality.</p> <p>The sponsor could include information on how input data will be collected and what methodology will be employed at Stage 3 for more quantitative assessments.</p>	
1.1.7	Does the plan for evidence gathering cover all reasonable impacts of the change? [E12]	Yes, all reasonable impacts are covered to some extent, in a high-level, quantitative manner.	<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		
	- 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
	Benefits from GHG impacts and noise for some options. The sponsor has included an "All" category for those benefitting from AMS realisation				
2.1.7	Other (provide details)				
2.2	<b>Are there direct beneficial impacts on air traffic control / management systems? Provide details.</b>			<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
	The sponsor has highlighted that all the Options (except Baseline) will contribute to the VOR rationalisation currently ongoing in the UK as it removes reliance on ground based navigational aids with the implementation of PBN.				
2.3	<b>Where impacts have been monetised, what is the overall value (expressed in net present value (NPV)) of the project?</b>				
	N/A				
2.4	<b>Has the sponsor provided an accurate and proportionate assessment of the proposed airspace change impacts?</b>			<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
	Yes.				

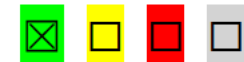
<b>3. Changes in air traffic movements and projections</b>		<b>Status</b>
3.1	<b>If the proposed airspace change has an impact on the following factors, have they been addressed in the proposal?</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>

		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			
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				
<b>Comments:</b>					
3.2	<ul style="list-style-type: none"> <li>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]</li> <li>Has the sponsor explained the methodology adopted to reach its input and analysis results? [B11 and E11]</li> </ul>			<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.3	<p><b>Has the sponsor developed an assessment of the following environmental aspects?</b></p> <p>The sponsor has assessed all environmental metrics required for Stage 2 using a qualitative methodological approach.</p> <p><u>Noise and overflight</u> – Assessed using the population density overflown by the proposed swathes.</p> <p><u>CO2 emissions</u> – Assessed using a comparison of the difference in track miles between the design options and the baseline.</p> <p><u>Local Air Quality</u> – Assessed using swathe overflight below 1,000ft considering any AQMAs and populated areas.</p> <p><u>Tranquillity</u> – Assessed using swathe overflight below 7,000ft considering any AONBs and National Parks.</p> <p><u>Biodiversity</u> – Assessed using swathe overflight below 7,000ft considering any European Sites and SSSIs.</p>			<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	<b>What is the monetised impact (i.e., Net Present Value (NPV)) of 3.3? (Provide comments)</b> N/A					

4. Economic Indicators of the ACP	
4.1	<b>What are the qualitative / strategic impacts described in the ACP?</b> Changes to flight paths as to comply with Airspace Modernisation Strategy
4.2	<b>What is the overall monetised and non-monetised (quantified) impact of the proposed airspace change?</b> N/A, not detailed at this stage.
4.3	<b>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]</b> N/A, sponsor has not finalised options yet due to methodology constraints.
4.3.1	<b>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]</b> N/A
4.4	<b>Has the sponsor provided reasonable justification for the proportionality of analysis above?</b> The sponsor has highlighted constraints with their methodology as the reason for not including more quantitative analysis at this stage.



5. Other aspects	
5.1	n/a

6. Summary of the Initial Options Appraisal & Conclusions	
6.1	Sponsor has decided not to discount any options at this stage due to methodology constraints. Sponsor has plans to do a full analysis at Stage 3 when flight path lines have been finalised.

CAA Initial Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)	[REDACTED]	[REDACTED]	30/10/2024
Airspace Regulator (Environmental)	[REDACTED]	[REDACTED]	30/10/2024