

1. CAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

Title of Airspace Change Proposal:	Luton Airport FASI ('LTMA' Cluster)		
Change Sponsor:	Luton Airport		
ACP Project Ref Number:	ACP-2018-70		
Case study commencement date:	08/03/2022	Case study report as at:	23/03/2022

Account Manager: [Redacted]	[Grey]	Airspace Regulator (Engagement & Consultation): [Redacted]	[Yellow]	IFP: [Redacted]	[Orange]	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 shortlist of options (including Do Nothing (DN) / Do Minimum (DM))		Status	
1.1	Are the outcomes of the options' scenarios 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 produced an Options Appraisal (Phase I - Initial) which sets out how they have moved from the Statement of Need to the airspace change design options? [E12]	Yes, the Sponsor has produced the IOA which sets out how the Sponsor has moved from the Statement of Need to the comprehensive list of airspace change options which includes 22 options that are combined into 4 separate groups; easterlies, westerlies, arrivals and departures.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.2	Does the list of options include a description of the change proposal?	Yes, the list options include a summary of the changes in the IOA and detailed information is included in the Stage 2A document and is referenced in the IOA accordingly.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.3	Has the sponsor stated on what criteria the longlist of options has been assessed?	Yes, the Sponsor has developed a clear list of criteria from its design principles evaluation and applied these to the comprehensive list of options.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.4	Where options have been discounted, does the change sponsor clearly set out why?	Yes, the Sponsor included a 'Conclusion' section at the end of the IOA and explained which options from each group have been discounted by providing rationale around this. It is also important at this stage to underline that the Sponsor not only has discounted independent options but also some dependent options as well.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.5	Has the change sponsor indicated their preferred option in the Options Appraisal (Phase I - Initial)? [E8]	Yes, the Sponsor has indicated their potential preferred option for each 4 group. The Sponsor estimated the preferred options from each group according to the outcome of the Design Principle Evaluation. However, it is also stated and made clear in the explanation that the Sponsor will investigate the option further in greater detail at Stage 3 to see if it is possible to avoid any additional burdens (also mentioned in the IOA for each option) whilst still delivering environmental or economic benefit. Therefore, the Sponsor clearly stated that at this stage because they do not have reasonable detailed	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

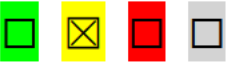
		quantitative data, they do not feel it'd be appropriate to select a preferred option and they will determine this at Stage 3.	
1.1.6	Does the Initial Options Appraisal (Phase I - Initial) detail what evidence the change sponsor will collect, and how, to fill in any evidence gaps and how this will be used to develop the Options Appraisal (Phase II - Full)?	<p>Yes, the Sponsor listed below items to indicate the type of analysis that will feed into Full Options Appraisal.</p> <ul style="list-style-type: none"> • Traffic forecast • Quantitative LAeq contours, population counts and size (km2) • WebTAG outcomes • Quantitative overflight contours including 100% easterlies and westerlies, and cumulative impacts from arrivals/departures and other airports • Detailed track length comparison • Detailed fuel burn and equivalent CO2emissions data • Further information around interdependencies with the upper network and neighbouring airports • ATC deployment / training costs • Quantitative capacity information • Quantified CAS requirements • Further information following engagement with gliding areas around airspace availability 	<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]	Yes, the plan for evidence covers all impacts of the change that CAP 1616 recommends in Appendix Table E2. In addition, the Sponsor has considered the impact on tranquillity and biodiversity which are not covered in Table E2 but required as part of the environmental assessment.	<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.				   
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	N/A	N/A
2.1.3	Deployment		X	N/A	N/A
2.1.4	Training		X	N/A	N/A
2.1.5	Day-to-day operational costs / workload / risks		X	N/A	N/A
2.1.6	Other (provide details)		X	N/A	N/A
2.1.7	Comments: The Sponsor has stated the likely costs to Airport and ANSPs and qualitatively discussed these in detail for each option. It is also stated that the scale and nature of these costs requires further exploration as part of the Stage 3 FOA.				
2.2  	Are there direct beneficial impacts on air traffic control / management systems? If so, please provide details and how they have been addressed:				   
2.2.1 <i>Examples of benefits considered</i>		Not applicable	Qualitative	Quantified	Monetised
2.2.2	Reduced work-load		X	N/A	N/A
2.2.3	Reduced complexity / risk		X	N/A	N/A
2.2.4	Other (provide details)		X	N/A	N/A
2.2.5	Comments: The Sponsor stated in the IOA that the SIDs were expected to be more easily deconflicted from routes to/from adjacent airports thereby enhancing capacity in the LTMA and reducing complexity. In addition to this, the Sponsor highlighted that as traffic increases, the extra complexity and workload for ATC and pilots would likely result in the use of flow regulations at all LTMA airports including Luton.				
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	<p>Are the direct impacts on air traffic management analysed accurately and proportionately? Yes, the Sponsor has provided the qualitative discussion of the likely cost and benefit impacts on air traffic management. For this stage, the level of the analysis and the information included for the discussion of air traffic management is accurate and proportionate taking into account the nature of this proposal.</p>	   
-----	--	---

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?				   
		Not applicable	Qualitative	Quantified	Monetised
3.1.1	Number of aircraft movements		X	N/A	N/A
3.1.2	Type of aircraft movement		X	N/A	N/A
3.1.3	Distance travelled		X	N/A	N/A
3.1.4	Area flown over / affected		X	X	N/A
3.1.5	Other impacts		X	N/A	N/A
3.1.6	<p>Comments: The Sponsor has referenced noise contours that were already available as part of the airport's routine noise mapping and these represent the situation in both 2019 and 2020. Due to COVID-19 and lower volume of flights operating at Luton Airport, 2020 resulted in smaller noise contours than in 2019. The Sponsor also stated there were unlikely to be any significant changes to the contours as a result of the SAIP AD6 ACP and therefore it is deemed that showing actual 2019 and 2020 contours would suffice for this stage.</p>				
3.2	<p>Has the forecasting of traffic done reasonably using best available guidance (e.g. DfT WebTAG, the Green Book, Academic sources...etc?)</p> <p>The Sponsor has not delivered a traffic forecast at this stage. However, the IOA modelling is said to be based on a 2028 92-day summer forecast which is representative of a 19 mppa operation, also considered to be the worst case scenario for which a planning application has been made. The forecast was generated from 2019 as the Sponsor thinks it is most representative of a post COVID-19 recovery scenario. The aircraft fleet forecast for 2028 is also representative of a 19 mppa operation and is based on the data available from 2019.</p>				   
3.3	What is the impact of the above changes (3.1) on the following factors below?				

		Not applicable	Qualitative	Quantified	Monetised
3.3.1	Noise		X	X (Baseline only and down to 57 dB LAeq,16 (day) and 48 dB LAeq,8 (night))	
3.3.2	Fuel Burn		X	X (only for 1x indicative aircraft)	N/A
3.3.3	CO2 Emissions		X	X (only for 1x indicative aircraft)	
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	X (area overflown identified)	
3.4	<p>Are the traffic forecast and the associated impacts analysed proportionately and accurately according to available guidelines (e.g. WebTAG or the Green Book?)</p> <p>The Sponsor has chosen not to deliver any traffic forecast for this stage but they provided the minimum requirement for Stage 2 Step 2B which is the qualitative discussion of the impacts. All associated impacts were analysed in a proportionate and accurate manner and the whole process followed by the Sponsor for this stage found in line with the CAP 1616 airspace change process.</p>				
3.5	<p>What is the total monetised impact of 3.3? (Provide comments)</p> <p>N/A</p>				

4. Benefits of ACP		Status
4.1	Does the ACP impact refer to the following groups and how they are impacted by the ACP?	

		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	N/A	N/A
4.1.6	Local communities		X	X (overflight contours presented for all options)	
4.1.7	Wider Public / Economy		X	X	N/A
4.1.8	<p>Comments: The IOA addresses the impact of all proposed options on GA, airlines and airports in comparison to the Do-Nothing scenario. The Sponsor explained the likely changes on access, fuel burn and economic impact from increased effective capacity and how these affect GA in detail. Fuel burn analysis also used to explain the impact on airlines. The benefit of this ACP on other airports is also highlighted for noise impact; it is said that relocating the vectored arrival swathe reduces the likelihood of cumulative impact through communities being overflown by multiple routes from neighbouring airports.</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	In terms of future traffic growth across LTMA, the Sponsor predicts the change would reduce complexity and workload for Air Traffic Controllers and pilots and hence avoid future potential delays.			
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	Savings in the track mileage and greenhouse gas emissions are expected to bring benefits for wider society.			
4.2.5	Other impacts	Increased effective capacity is expected as a result of some of the options which would result in a positive economic impact on commercial air traffic.			

4.2.6	Comments: N/A
4.3	What is the overall monetised impacts associated with 4.1 and 4.2 the above? N/A
4.4	What are the non-monetised but quantified impacts of the above? The Sponsor estimated the savings in track mileage per flight and then calculated fuel burn savings and estimated CO2 per flight both for departures and arrivals.
4.5	What are the qualitative / strategic impacts described above? The IOA emphasises that the use of PBN arrivals could improve CDA performance and provide more certainty for crews. Also, increasing the chance of CCO would reduce overflight in particular areas and enable CO2 savings. The Sponsor aims to distribute noise more equitably whilst hoping wider LTMA changes can deliver improved CCO and enable reductions in the volume of CAS.
4.6	What is the overall monetised benefits-costs ratio (BCR) of the policy? Is it more than 1? N/A
4.7	Have the sponsors provided reasonable justification for the proportionality of analysis above? Yes, the Sponsor provided reasonable justification to explain why the IOA is based on the qualitative discussion phase for this stage by and confirm that the aim is to further develop the analysis in the Full Options Appraisal. <div style="float: right; text-align: right;"> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>
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

5. Other aspects	
5.1	-

6. Summary of Assessment of Economic Impacts & Conclusions

6.1 The Sponsor has managed to deliver a comprehensive options appraisal analysis for Stage 2 Step 2B. The initial appraisal is based around a qualitative discussion and it contains all the items listed in CAP 1616 Appendix E12. So, it is concluded that the Sponsor has successfully completed the minimum requirement for the initial step plus provided the evidence of their initial forecast modelling on fuel burn and noise contours. The IOA modelling is based on 2019 operations however, the Sponsor confirmed that Stage 3 Full Options Appraisal would be based on the quantitatively assessed pre-implementation baseline for the year of implementation plus 10 years as required under CAP 1616. The Sponsor also provided the rationale why it wasn't possible for them at this stage to collect reasonable quantitative data to develop shortlist options. The Sponsor chose to discount some of the dependent and independent options at this stage as an outcome of their detailed qualitative analysis. It is important to highlight this as the Sponsor may need to revisit this stage in case one of the discounted dependent options would be deemed to be better performing at later stages when LLAOL's dependent sponsors are all into Stage 3 and it is possible for the Sponsor to analyse the cumulative impacts of the dependent options. On the other hand, the Sponsor is aiming to progress with independent options and stated the FOA would be commenced for all remaining independent options to enable LLAOL to progress with delivering early benefit in accordance with the AMS as part of a 2026 Early Deployment window.

Outstanding issues?		
Serial	Issue	Action required
1	-	-
2	-	-

CAA Initial Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)	[REDACTED]	[REDACTED]	23/03/2022