

CAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

Title of Airspace Change Proposal:	Manston Airport FASI ('LTMA Cluster')		
Change Sponsor:	RiverOak Strategic Partners (Osprey CSL)		
ACP Project Ref Number:	ACP-2018-75		
Case study commencement date:	05/09/2022	Case study report as at:	30/09/2022

Account Manager: [REDACTED]	[Grey]	Airspace Regulator (Engagement & Consultation): [REDACTED]	[Yellow]	IFP: [REDACTED]	[Orange]	OGC: N/A	[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?		<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 Sponsor produced the Initial Options Appraisal (IOA) which sets out the detailed methodology of the discounting of long-list of options and in addition the Sponsor produced Initial Options Appraisal Table Issue 3 which details the impact assessment for long-list of viable options against the baseline (do-minimum option) option for each procedure.	<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	The detailed description of the longlist of options is provided under the Design Principle Evaluation (DPE) document and a basic description for each procedure is provided in the IOA. The sponsor explained the discounting mechanism in the IOA in detail and adopted a consistent approach in the DPE and the IOA. The sponsor has included a Do-Nothing scenario that represents no air traffic at the airport, and therefore no associated environmental impact. The sponsor has also included a Do Minimum scenario that represents air traffic operating at the airport without any approved procedures or airspace. The sponsor has provided a qualitative description of the likely environmental impacts of the Do-Minimum and the design options in the IOA.	<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 used the criteria against which the appraisal options must be assessed for a Level 1 airspace change which are set out in CAP 1616 Table E2. The Sponsor also included the safety assessment criteria in the IOA and IOA Table Issue 3 that looks into a detailed criteria analysis for the proposed options.	<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 boxes/cells in order to explain the reason of the rejection of an option in the IOA Table Issue 3 and highlighted these in red.	   
1.1.5	Has the change sponsor indicated their preferred option(s) as a result of the IOA (Phase I - Initial)? [E12]	Yes, the preferred option for each procedure is depicted by the sponsor in the IOA Section 9 where the outcome of the IOA is explained and shortlist of options taken forward are shown in a table.	   
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)?	<p>The sponsor provided a separate section in the IOA that identifies the evidence for their method for the Full Options Appraisal (FOA). It is stated in the IOA that each of the procedure designs will be considered in combination with other procedures to assess the procedure combinations that deliver the operational requirement at Manston Airport. In addition to this, the sponsor also stated that the IOA will be developed into a quantitative assessment to cover the costs and benefits of each option in terms of greenhouse gasses, noise, fuel burn etc. using the quantitative estimates from the DfT's appraisal guidance for health impacts associated with noise, and for the other impacts where this is possible.</p> <p>The sponsor has drawn up the list for the metrics that will be used for quantitative noise analysis at Stage 3. They also confirmed that fuel/CO2 modelling analysis will be conducted by using the most recent appropriate version of Eurocontrol's Base of Aircraft Data (BADA). The IOA indicated that the modelling will be based on the information provided for the DCO process but the sponsor will update to reflect any changes since the DCO analysis was conducted. Last but not least, the sponsor also confirmed that a cost-benefit analysis will be performed which will consist of all the quantitative analysis that will be carried in Stage 3.</p> <p>The FOA at Stage 3 will present comparisons between the Do-Nothing, the Do-Minimum and the design options developed.</p>	   

1.1.7	Does the plan for evidence gathering cover all reasonable impacts of the change? [E12]	Yes, the sponsor provided the information with regards to the impacts which will be quantified and monetised in the Full Options Appraisal.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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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	N/A	N/A
	- Operation		X	N/A	N/A
	- Deployment		X	N/A	N/A
	- Other(s)		X	N/A	N/A
2.1.3	Commercial Airlines/General Aviation	Not applicable	Qualitative	Quantified	Monetised
	- Training		X	N/A	N/A
	- Economic impact from increased effective capacity		X	N/A	N/A
	- Fuel burn		X	N/A	N/A
	- Other(s)		X	N/A	N/A
2.1.4	General Aviation	Not applicable	Qualitative	Quantified	Monetised
	- Access		X	N/A	N/A
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	N/A	N/A		
2.1.7	Other (provide details)	Not applicable	Qualitative	Quantified	Monetised		
			X	N/A	N/A		
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? Yes, the sponsor identified all potential costs and benefits on the potential stakeholders that are likely to be affected and used the full list of impacts set out in CAP 1616 Appendix E Table E2.			<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	N/A
3.1.4	Distance travelled			
3.1.5	Operational complexities for users of airspace		X	N/A
3.1.6	Flight time savings / Delays		X	N/A
3.1.7	Other impacts	X		

Comments:

The IOA provided the aircraft movements forecast for both the opening year and next 18 years as presented with the below table. According to the information included in the IOA, there will be a gradual increase in aircraft movements between Year 2 and Year 20. It is also stated in the IOA that the forecast assumes that total aircraft traffic will grow from approximately 33 ATMs for a typical busy day in Year 2 to 79 ATMs per typical busy 24-hour day in Year 20. It is also stated in the IOA that there will be an average of approximately 16 non-ATMs per 24-hour day in all years including GA and training flights.

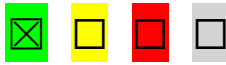
Forecast Aircraft Movements							
	Air Transport Movements	Non-ATM Movements	Total		Air Transport Movements	Non-ATM Movements	Total
Year 1	0	0	0	Year 11	19030	5840	24870
Year 2	5252	5840	11092	Year 12	19733	5840	25573
Year 3	10736	5840	16576	Year 13	20464	5840	26304
Year 4	14724	5840	20564	Year 14	21224	5840	27064
Year 5	15000	5840	20840	Year 15	22015	5840	27855
Year 6	16846	5840	22686	Year 16	22837	5840	28677
Year 7	17626	5840	23466	Year 17	23693	5840	29533
Year 8	17938	5840	23778	Year 18	24582	5840	30422
Year 9	18146	5840	23986	Year 19	25507	5840	31347
Year 10	18354	5840	24194	Year 20	26469	5840	32309

The IOA also provides information in terms of fuel burn assessment. The Do-Minimum option represents an increase in fuel burn over the Do-Nothing option which has zero aircraft movements. In terms of proposed options, the sponsor provided the detail of the impact predicted for each option in IOA Table Issue 3 which covers the qualitative discussion for the type of aircraft movement and area flown over with track miles flown.

<p>3.2</p> 	<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] <p>The sponsor has provided a 20-year traffic forecast, indicating that the forecast assumes that total traffic will grow from approximately 33 Air Transport Movements (ATMs) for a typical busy day in Year 2 to 79 ATMs per typical busy 24-hour day in Year 20, with an average of 16 non-ATMs per 24-hour day for all years. There will also be an average of 7 aircraft movements during the night (23:00 – 07:00) by Year 20.</p> <ul style="list-style-type: none"> Has the sponsor explained the methodology adopted to reach its input and analysis results? [B11 and E11] <p>Yes, the sponsor has used the same traffic forecast as in the DCO application. The sponsor indicated in the IOA that Year 20 is considered to be the likely worst-case year in terms of noise. The forecast assumed total aircraft traffic will grow from approximately 33 ATMs for a typical busy day in Year 2 to 79 ATMs per typical busy day with fewer daily movements during less busy periods. There will be an average of 16 non-ATMs per 24-hour day for all years and an average of 7 aircraft movements during the night (23:00 – 07:00) by Year 20. The sponsor also explained some further modelling assumptions in the last paragraph of Section 3.5 Aircraft Movements.</p>	       
<p>3.3</p>	<p>Has the sponsor developed an assessment of the following environmental aspects?</p> <p>The sponsor has provided a high-level qualitative description of the environmental impacts of the change options within the IOA and assessed them against the Do-Minimum.</p> <ul style="list-style-type: none"> <u>Noise</u>: The sponsor states that the noise impacts from the Do-Minimum and design options will be similar to those assessed in the DCO for areas close to the airport but there will be greater variation further out. <u>Air Quality</u>: The sponsor states that the DCO assessment concluded no significant impacts on air quality and that the Do-Minimum and design options would perform similarly. <u>Emissions</u>: The sponsor states that certain design options enabling CCO will perform better as compared to the Do-Minimum, however, increased track miles from published procedures can contribute to greater emissions. <u>Tranquillity</u>: The sponsor states that some routes that avoid overflight of sensitive areas will perform better than the Do-Minimum, however others may have an impact. <u>Biodiversity</u>: The sponsor states that the DCO assessment concluded no significant impacts on biodiversity and that the Do-Minimum and design options would perform similarly. <p>It is expected that all the design options will perform worse than the Do-Nothing as traffic is newly introduced at the airport. However, it is unclear if the Do-Minimum can support the same number of aircraft movements as in the traffic forecast and therefore what exactly the environmental performance of the design options would be when compared to the Do-Minimum over the entire appraisal period; this is expected to be addressed in the Full Options Appraisal at Stage 3.</p>	   

		Not applicable	Qualitative	Quantified	Monetised
3.3.1	Noise		X	N/A	N/A
3.3.2	Operational diagrams	X			
3.3.3	Overflight	X			
3.3.4	CO2 emissions		X	N/A	N/A
3.3.5	Local air quality		X	N/A	N/A
3.3.6	Tranquillity		X	N/A	N/A
3.3.7	Biodiversity		X	N/A	N/A
3.4	What is the monetised impact (i.e., Net Present Value (NPV)) of 3.3? (Provide comments) N/A				

4. Economic Indicators of the ACP		Status
4.1	What are the qualitative / strategic impacts described in the ACP? The strategic impact would be on the capacity and resilience of the airport. As outlined in the IOA, the Do-Minimum option is an effective way of managing airspace by which Manston Airport would not meet the airspace modernisation priorities, including the coordination with other airspace users as part of the FASI-S programme. It is underlined that in poor weather conditions there is a higher likelihood of aircraft having to carry out multiple approaches or divert to other airports with suitable approach aids. In order to overcome this particular issue, the Sponsor proposes to introduce new procedures coordinated with NATS and other FASI-S sponsors which in turn would improve airspace efficiency and enable reduced tracked mileage.	
4.2	What is the overall monetised and non-monetised (quantified) impact of the proposed airspace change? N/A	
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	
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	

4.4	<p>Have the sponsors provided reasonable justification for the proportionality of analysis above? Yes, the sponsor provided the minimum criteria for the first phase of the options appraisal process and confirmed that a more detailed quantified and monetised analysis will be conducted for the second phase which is the Full Options Appraisal.</p>	
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5. Other aspects

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

6.1	<p>The Sponsor provided the IOA which outlines the methodology adopted in the first iterative approach of the options appraisal process. The Sponsor managed to articulate in detail the method they used for environmental impact assessment including noise, greenhouse gas, biodiversity, tranquillity and air quality. Baseline definitions are provided for clarity purposes and for transparency and the reason of using Do-Minimum option against the proposed options is clearly explained in the IOA. So, the CAA concluded that this unique approach adopted for this ACP is in line with CAP 1616 process. The Sponsor has stated in the IOA that they have only conducted the qualitative analysis for impact assessment at this stage and they will provide a detailed quantitative and monetised cost and benefits analysis at the Full Options Appraisal stage. As all the options proposed were analysed qualitatively against the Do-Minimum option in the IOA Table Issue 3 and have explained clearly how the sponsor narrowed down the longlist of options to shortlist of options, the CAA concluded that the sponsor completed the minimum criteria for the initial options appraisal process.</p>
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Outstanding issues

Serial	Issue	Action required
1	N/A	-
2		

CAA Initial Options Appraisal Completed by	Name	Signature	Date
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Airspace Regulator (Economist)	[REDACTED]	[REDACTED]	30/09/2022
Airspace Regulator (Environmental)	[REDACTED]	[REDACTED]	30/09/2022