

Heathrow Airport Ltd

**Summary Note of Initial  
Stakeholder Workshop**

Compton 09R/L CPT Standard  
Instrument Departures Route

| 23 September 2016

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number

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**ARUP**

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## 1 Purpose of Workshop

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- 1.1 To obtain initial views from key stakeholders on:
- i) the key design principles that Heathrow should consider for the airspace change options when developing a new easterly Compton departure route (09R/L CPT) in the short term.
  - ii) the prioritisation of the identified key design principles.
- 1.2 To broaden Heathrow's general understanding of stakeholder views on 09R/L CPT.

## 2 Attendees

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Representatives from 11 key stakeholders were invited to the workshop by Heathrow Airport Ltd (HAL). The stakeholders were chosen as a representative cross-section of the local community, airlines and air traffic control either from the Heathrow Community Noise Forum or Airline Operational Efficiency Stakeholder Group both of which consider matters on airspace. In addition, there were four representatives from HAL's operations business.

At Heathrow's request the workshop was facilitated by two people from Arup, as independent facilitators.

The full list of workshop attendees is presented in Appendix A.

## 3 Workshop Programme

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The agenda for the workshop was:

- i) Welcome and introductions
- ii) Scene setting:
  - a. Overview of air traffic compliance with 09R/L Compton SID
  - b. UK environmental policy landscape for air traffic management.
- iii) Breakout sessions:
  - a. Identify key factors in the decision making process for redesign of 09R/L Compton.
  - b. Consider priorities for the identified key factors:
    - i. Community perspective;
    - ii. Airline perspective.
  - c. Review and discuss findings.
- iv) Next steps
- v) Wrap up

## 4 Background

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All aircraft departing from Heathrow use one of a number of Standard Instrument Departures (SID). Each SID has a noise preferential route (NPR) associated with it. Each NPR has a three kilometre wide swathe. Unless required for safety reasons, aircraft must remain within the NPR until they reach an altitude of 4,000ft above mean sea level (AMSL). Once above 4,000ft AMSL, aircraft may be directed off the NPR by Air Traffic Control (NATS) as required.

The 09R/L Compton (09R/L CPT) SID is currently used by approximately 16% of departing aircraft when Heathrow is on easterly departure operations, and equates to around 6% of total departures. The 09L CPT departure route is used only in exceptional circumstances, in accordance with the Government's former Cranford Agreement, which was revoked in 2010. The 09R CPT route involves a 180° turn to the west, which is extremely difficult for modern large aircraft to negotiate within the swathe of the NPR. In addition, traffic departing on this route generally has to be directed by Air Traffic Control to avoid traffic arriving from the holding stacks to the south of the airport (for example, Ockham). As a consequence 09R CPT NPR has for many years not achieved the same level of aircraft track keeping and vectoring compliance as other Heathrow NPRs.

Since 2009, the current 09R/L CPT SID has included an ongoing vectoring trial based on a standardised heading. NATS introduced a new separate tactical vectoring procedure on 27 June 2014 which resulted in a change in the distribution of air traffic on 09R CPT, concentrating it closer to the inside of the turn and more to the north.

Heathrow has previously sought to introduce a new departure procedure to address the compliance shortcomings of 09R/L CPT. A new conventional procedure was designed and submitted to CAA in March 2015 but was not accepted by DfT as the procedure was not compliant with the UK's Future Airspace Strategy. The Government endorses the adoption of Performance Based Navigation (PBN) as part of the UK's Future Airspace strategy.

In November 2014, the CAA requested an update from Heathrow as to how it intended to address the 09R/L CPT SID performance deficiencies, and remove the need for operational workarounds (i.e. the current trial). In response, Heathrow's Airspace Governance Group determined to investigate procedural design solutions for 09R/L CPT in consultation with the airport's Community Noise Forum (HCNF). A work programme was established to develop potential design options that can be implemented as a short term solution and engage with key stakeholders, with project oversight being undertaken by a sub-group of HCNF. As part of the review process for design options, the project group noted the need for a workshop to identify key design principles and their prioritisation. Arup was appointed to support and independently facilitate this workshop, held on 28 July 2016.

## 5 Scope of the Workshop

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The framework established for the workshop is described in Section 1. That is:

- i) To obtain initial views from key stakeholders on:
  - a. the key design principles that Heathrow should consider for the airspace change options when developing a new easterly Compton departure route (09R/L CPT) in the short term.
  - b. the prioritisation of the identified key design principles.
- ii) To broaden Heathrow's general understanding of stakeholder views on 09R/L CPT.

It was noted that there are wider strategic imperatives that will drive a complete redesign of Heathrow's airspace by 2024. These include Single European Skies, UK Future Airspace Strategy and the London Airspace Management Programme. In this context, the scope of this workshop was to consider 09R/L CPT in isolation, such that:

- i) the implementation of a design solution can be undertaken independently from, and in advance of, these other initiatives.
- ii) the design solution does not compromise other existing SID or standard arrival routes (STAR).

## 6 Methodology

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Workshop delegates were briefed on the purpose and scope of the workshop, including the role of Arup as independent facilitator. An overview presentation<sup>1</sup> was given to delegates setting out the operational and UK environmental policy aspects of air traffic management, including trade-offs and constraints.

A break-out session was held with all delegates to discuss what design principles they considered were most important in the decision making process for redesign of 09R/L CPT. This was supported by some suggested design principles on printed cards (including blanks) to assist discussion.

A second break-out session was then held to determine the rank order of the identified principles by priority. Delegates were divided into two groups for this purpose - Community and Airlines/Air Navigation Service Providers (ANSP) - as shown in Table 1. Representatives from Arup and HAL were on hand to support group discussions and respond to queries where needed. The delegates then reconvened and a representative of each group reported back their findings and observations to the whole group for discussion.

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<sup>1</sup> Compton 09R/L Departure Route – Workshop with stakeholders about possible airspace change. 28 July 2016

Group	Name
1 - Airlines and ANSP	Geoff Clark; Ady Dolan; Brad Taylor; Gerry O'Connell; Pete Rafano; Dave Wood, John Crook, Lizzie Cryan.
2 – Community	Murray Barter; Cllr David Hilton; Bob McLellan; Cheryl Monk; Rick Norman; Surinder Suri; Rachel Thomas, Laura Jones.

## 7 Findings of the Workshop

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The key design principles identified in the second breakout session have been collated by Arup and are presented as a table in Appendix B, and summarised as a slide in Appendices C and D.

Both breakout groups identified safety and compliance with international regulatory frameworks as the highest priorities. Both groups also identified noise aspects amongst the highest priorities.

## 8 Next Steps

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Arup concluded the workshop by explaining the next steps were as follows:

- i) HAL will circulate the 'overview presentation' to the delegates. (Completed)
- ii) Arup will produce a summary note of the workshop. (This document)
- iii) HAL will circulate the summary note to the delegates.
- iv) The findings of the workshop will be used by HAL in conjunction with Arup to pose questions that will form part of a formal consultation on the principles of airspace design for 09R/L CPT.
- v) HAL will consider the findings of the formal consultation and their implications for redesign of 09R/L CPT. This may lead to a subsequent formal consultation on redesign options for 09R/L CPT.
- vi) HAL will inform delegates how the workshop findings have been used, prior to commencement of any formal consultations for 09R/L CPT redesign.

## Appendix A

### Workshop Attendees

1. Bob McLellan, Resident of Englefield Green
2. Murray Barter, Resident of Surrey Heath
3. Cllr David Hilton, Royal Borough of Windsor and Maidenhead
4. Surinderpal Suri, London Borough of Hounslow.
5. Dave Wood, BA
6. Geoff Clarke, Virgin Atlantic Airways
7. Gerry O'Connell, International Air Transport Association (IATA)
8. Ady Dolan, NATS
9. Brad Taylor, NATS
10. John Crook, NATS
11. Cheryl Monk, Heathrow Airport Ltd
12. Rick Norman, Heathrow Airport Ltd
13. Rachel Thomas, Heathrow Airport Ltd
14. Pete Rafano, Heathrow Airport Ltd
15. Jane Dawes, Heathrow Airport Ltd
16. Lizzie Cryan, Heathrow Airport Ltd
17. David Twine, Arup (Workshop Facilitator)
18. Brendan Creavin, Arup (Workshop Facilitator).

## **Appendix B**

Compton 09R/L CPT Redesign:  
Key Design Principles and  
Priorities Identified from the  
Workshop

## B1 09R/L CPT Redesign: Identified Key Design Principles and Priorities

Rank Order (High to Low)	ANSP, Airlines and Airport	Community and Airport
1	Safety	Safety
2	<p>Introduce PBN Routes</p> <p>Comply with international regulatory frameworks</p> <p>Any solution must not affect runway throughput</p> <p>Climb gradients must not prevent any departing aircraft from achieving height requirements given local weather, temperature and max weight.</p>	Comply with international regulatory frameworks
3	<p>Be a good neighbour</p> <p>Minimise total population numbers exposed to noise</p> <p>Minimise aircraft fuel burn and CO2 emissions through operational optimisation: climb gradient, minimised route length etc.</p> <p>Minimise vectoring below 4000ft or higher</p> <p>Not change distribution of arrivals</p>	<p>Review policy: concentrate or disperse?</p> <p>Take account of noise health effects in airspace planning (Noise Policy Statement for England)</p>

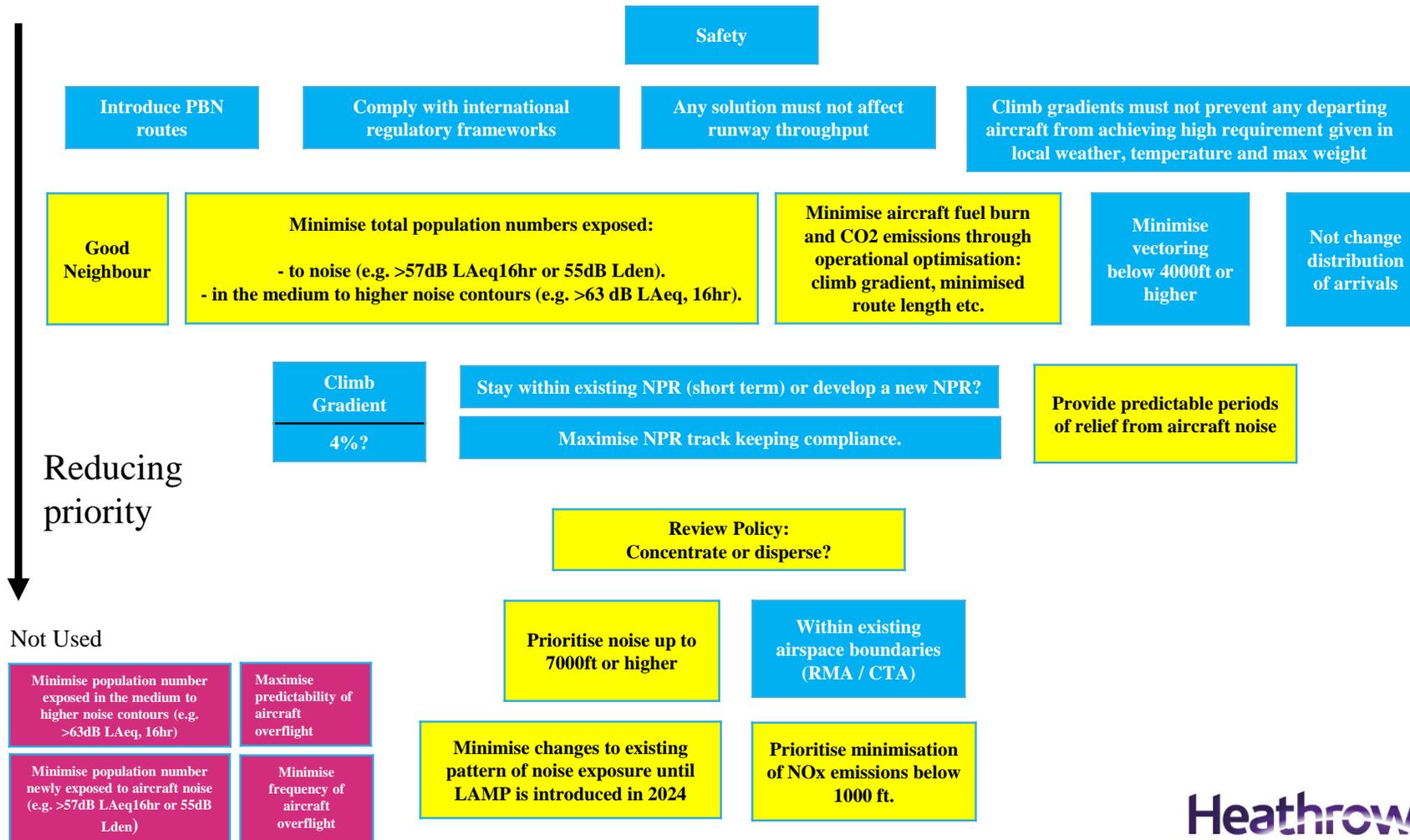
Rank Order (High to Low)	ANSP, Airlines and Airport	Community and Airport
4	<p>Climb gradient 4 percent</p> <p>Stay within existing NPR (short term) or develop a new NPR</p> <p>Maximise NPR track keeping compliance</p> <p>Provide predictable periods of relief from aircraft noise.</p>	<p>Prioritise noise up to 7000ft or higher</p>
5	<p>Review policy: concentrate or disperse?</p>	<p>Stay within existing NPR (short term) or develop a new NPR</p> <p>Climb rate: higher quicker.</p>
6	<p>Prioritise noise up to 7000ft or higher</p> <p>Remain within existing airspace boundaries (RMA/ CTA)</p>	<p>Explore PBN routes first to establish possible benefits</p> <p>Provide predictable periods of relief from aircraft noise.</p> <p>Maximise predictability of aircraft overflight</p> <p>Minimise vectoring below 4000ft or higher</p>
7	<p>Minimise changes to existing pattern of noise exposure until LAMP is introduced in 2024</p> <p>Prioritise NOx emissions below 1000ft</p>	<p>Minimise frequency of aircraft overflight</p> <p>Minimise population number newly exposed to aircraft noise (e.g. &gt;57 dB LAeq16hr or 55 dB Lden)</p>

Rank Order (High to Low)	ANSP, Airlines and Airport	Community and Airport
8	N/A	<p>Minimise population number exposed in the medium to higher noise contours (e.g. &gt;63 dB LAeq16hr)</p> <p>Minimise total population number exposed to aircraft noise (e.g. &gt;57 dB LAeq16hr or 55 dB Lden)</p>
	<p><u>Design principles not used</u></p> <p>Minimise population number exposed in the medium to higher noise contours (e.g. &gt;63 dB LAeq16hr)</p> <p>Minimise population number newly exposed to aircraft noise (e.g. &gt;57 dB LAeq16hr or 55 dB Lden)</p> <p>Maximise predictability of aircraft overflight</p> <p>Minimise frequency of aircraft overflight</p>	<p><u>Design principles “Parked”</u></p> <p>Remain within existing airspace boundaries (RMA/ CTA)</p> <p>Maximise NPR track keeping compliance Any solution must not affect runway throughput</p> <p>No change in distribution of arrivals</p> <p>Prioritise NOx emissions below 1000ft</p> <p>Minimise changes to existing pattern of noise exposure until LAMP is introduced in 2024</p> <p>Minimise aircraft fuel burn and CO<sub>2</sub> through operational optimisation: climb gradient, minimised route length etc.</p>

## Appendix C

Key Design Principles and  
Priorities Identified by ANSP,  
Airlines and Airport

# Design Principles – ANSPs, Airlines and Airport



## **Appendix D**

### **Key Design Principles and Priorities Identified by Community and Airport**

# Design Principles – Community and Airport

