

The Mayor of London's response to the Airports Commission consultation on shortlisted options

## Operational Risk

### Supplementary Note 15

February 2015

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#### Key findings

- Each of the Commission's three shortlisted schemes provide reasonable measures to mitigate most operational risks through improved infrastructure provision and do not add to, or increase the level of risk beyond the current position. However Heathrow's current operational resilience is already much weaker than its European competitors.
- Increases in traffic generated by the schemes could result in less airspace resilience unless investment and development is prioritised in airspace modifications commensurate with capacity demands from the options.
- The appraisal framework called for additional mitigations to address operational risks to be assessed for cost and achievability. This work has not yet been completed.

#### Key recommendations for further work

- The mitigations to develop airspace beyond the London Airspace Management Programme (LAMP) should be identified and the respective delivery time, costs and funding estimated.
- A mitigation for the operational visibility limitations (CAT I operations only) of the Heathrow extended northern runway option (ENR) should be identified and assessed or the Operational Efficiency of this scheme will need to be re-assessed.

## A: Key observations

### 1. Each of the Commission's three shortlisted schemes provide reasonable measures to mitigate most operational risks

- 1.1. The information from the promoter's submissions has been used to assess risk against the categories outlined in the Appraisal Framework and applicable entries in the National Risk Register. The Commission have attempted to measure the likelihood of known issues and risks being increased or mitigated by the option.
- 1.2. The analysis is based on experience of the sites and the information provided by the promoters. For example National Air Traffic Services (NATS) consider 3 risks, low visibility, strong winds and airport closure; NATS use their experience of existing London airspace and knowledge of new technology to demonstrate that these risks can be mitigated. For the ground infrastructure risks such as reduced fuel supplies, loss of power and extreme weather events have been assessed; the first two are mitigated by existing infrastructure whilst extreme weather events are mitigated by a combination of infrastructure design and efficient operational procedures. The Commission recognises that more investigative work is required on some areas such as the flood risk mitigations at both Heathrow and Gatwick.
- 1.3. The provision of an additional runway will initially increase the resilience of the airport as the available spare runway capacity will increase. However at Heathrow particularly, it is forecast that the additional runway capacity will be used up in the short to medium term and the level of runway resilience will return to the position Heathrow faces today; with one important change – an extra 280,000 flights. Hence runway resilience is one risk that is not mitigated for the long term. However Heathrow's current operational resilience is already lower than European competitors as can be seen in the level of delay and disruption which is frequently experienced.

### 2. Airspace resilience could be reduced if adequate investment and development is not prioritised and factored into the cost of airport expansion

- 2.1. NATS have identified that, despite the existing London Airspace Management Programme (LAMP), the ability of the airspace to accommodate the additional traffic without reducing the resilience will require a co-ordinated approach from all stakeholders, and a commitment to additional funding and development work. There appears to be no strategy for ensuring this.
- 2.2. NATS identify that increasing aircraft movements at an airport increases the requirements for airborne holding or diversions when operational disruption occurs, such as runway or airport closures. The resilience of the airspace and the remaining airports will be reduced due to the increase in total aircraft movements.

2.3. It is recommended that the mitigation measures to develop the airspace beyond LAMP are identified and the respective delivery time, costs and funding estimated.

### 3. The Commission has not identified the additional costs and achievability of mitigations as required by their appraisal framework

3.1. The Commission's appraisal framework called for additional mitigations to be assessed in relation to cost and achievability; from the reports presented as part of this consultation we have not found any evidence that this has been done. Examples of additional mitigations identified are:

- Further development of the airspace to accommodate the increase in flights associated with an additional runway.
- Flooding – All three shortlisted schemes are identified as having the potential to detrimentally affect the prevalence of flooding with all schemes resulting in major changes to the fluvial environment. The Commission identifies that further work is required on the long term mitigations as the design progresses but they have not expanded on the achievability of the mitigations or the cost. Without such mitigations in place there could be a major increase in flood risk elsewhere.
- Low Visibility (Fog) – The Heathrow ENR scheme may not be able to operate as efficiently as the other two in low visibility. Elsewhere in the consultation, the CAA identify an operational restriction for the extended runway when landing from the East in that only Category I (CAT I) landings will be possible. Both of these items will impact resilience whilst the latter will also impact the ability of the scheme to deliver the stated noise respite. No additional mitigations have been identified yet no reduction in the capability or resilience of the scheme has been assessed.

## B: Does the Commission’s assessment constitute a robust approach?

To be robust, the option appraisal must entail a complete assessment. It must also be consistent across all the options, with the Commission’s previous analysis, with best practice in the appraisal of large infrastructure projects – including principles of HM Treasury Green Book – as well being aligned with the Commission’s own Appraisal Framework. The table below sets out a summary of the extent to which the Commission’s assessment meets these requirements.

Table 1: Does the Airports Commission’s assessment constitute a robust approach

Criteria	Met?	Comments/examples
<b>Approach to Assessment</b>		
Aligned with Airports Commission Appraisal Framework?	No	The costs and achievability of the additional mitigations identified have not been assessed.
Consistent approach to assessment: <ul style="list-style-type: none"> <li>• Between options?</li> <li>• With previously considered options?</li> <li>• With best practice/Green Book?</li> </ul>	Yes	There appears to be a consistent approach between options and it is aligned with previous options.  At this early stage there is no specific best practice or industry guidance.
Assessment complete (evidence gaps addressed, suitable geographic/temporal scope)?	No	No evaluation of the cost or achievability of the additional mitigations identified.
<b>Assumptions</b>		
When multiple scenario or assumption sets used, has the most appropriate been identified – or worst case scenario tested?	n/a	
<b>Analysis: impacts and conclusions</b>		
Risks fully stated and impact reflected in conclusions?	No	There is no evidence that the mitigations identified, both those put forward by the proposer’s and the additional mitigations identified by the Commission have been explored sufficiently to determine their effectiveness to address the risk.
Understanding of net/cumulative impacts?	n/a	