

A Rapid Health Impact Assessment of Birmingham International Airport's Proposed Runway Extension

PEER REVIEW

INTRODUCTION

1. The purpose of this paper is to provide a peer review of a rapid health impact assessment (HIA) of Birmingham International Airport's proposed runway extension and to comment on the methodology and appropriateness of the techniques used in the HIA, the quality of the analysis and the presentation of the report. Particular attention has been given to the extent to which the conclusions and recommendations of the HIA are supported by the evidence presented.
2. The peer reviewer is a public health specialist with considerable experience of health impact assessment and declares no competing interests.

THE HIA REPORT

3. The rapid HIA was conducted by IMPACT, the International Impact Assessment Consortium, at the University of Liverpool. It was carried out over a period of six months, from June to November 2007, prior to the submission of Birmingham International Airport Limited's planning application for a runway extension.
4. The report of the HIA describes the scope of the assessment and its limitations; methods and procedures; the data, information and evidence used; an assessment of the potential impacts of the proposal; and conclusions and recommendations.

PRESENTATION

Structure

5. The structure of the report is logical and clear, with each section being organised in a way which is easy to follow.
6. One example is the chapter on "Health Impacts", which has a particularly good structure, setting out the findings of the analysis and information from a range of sources (other impact assessments; literature and key informants; and stakeholders), and commenting on potential differential impacts. This is done for each of the health determinants chosen for close examination:
 - Transport
 - Employment and the economy
 - Social capital
 - Air quality
 - Noise
 - Climate change
 - Other

7. At first glance it seems inconsistent that in the following chapter (“Impact Analysis”), the health determinants are dealt with in a different order but, on further reading, the reason becomes clear and is logical. The order in the “Health Impacts” chapter (which, incidentally, might better be headed “Evidence of potential health impacts”) lends itself to a narrative and scene setting approach, whilst in the “Impact Analysis” section, the health determinants are listed in order of priority as perceived by stakeholders and others. This is a very minor point but it may be helpful to mention it in the report to explain the apparent discrepancy

Writing style

8. The report is written in an appropriate style and its “readability” is good. There are, however, very many acronyms. In keeping with convention, most are explained the first time they are used but it would nevertheless be helpful to have a glossary.
9. In addition, there are a number of moderately complex technical terms and concepts which may not be familiar to or readily understood by lay readers. For example, Leq noise contours, LDEN contours and cost benefit analysis. One solution to this might be to include short explanations of technical terms as footnotes or to include them in the glossary or other appendix.

Tables, graphs, diagrams and maps

10. Generally, good use is made of the tables and graphs to illustrate or support the text and the diagrams and maps, where uses, are clear and helpful. Where the presentation of some tables could perhaps be improved, detailed comments - including a few typos and minor suggestions for improving the clarity of the writing in places - are listed separately.

CONTENT

Methodology

11. The methods and procedures used for the HIA are entirely appropriate, being based on a validated methodology which has been tried, tested and proved to be effective and robust in a range of settings.
12. The HIA is described as “rapid” but it was in fact undertaken over a period of months and included some primary data collection, including the collection of evidence from stakeholders and key informants. This goes some way beyond being a rapid HIA and the authors should be commended for the great deal of energy and effort which has been put into this study, and to good effect.

Involvement of stakeholders and key informants

13. One of the principles underpinning HIA is that it should use, where possible, participatory processes with stakeholders, or people likely to be affected by the project. In this case, the stakeholders were mainly people living and working in the area around Birmingham International Airport and the proposed runway extension.
14. Ensuring that participatory approaches are effective is often a challenge, not least because of the difficulties involved in engaging a representative sample of the local population and other stakeholders. In this HIA, although only 77 participants were involved in four workshops (and 19 in the consensus building workshop), the process followed by the HIA team was very thorough and they went to some lengths to engage as wide a range of stakeholders as possible.

15. The data and evidence collected from the stakeholders was also treated in an appropriate manner, being set alongside quantitative data and evidence from other sources. This allowed a balance to be struck between quantitative and qualitative data and a recognition that, whilst all has some value, data from different sources may carry different weights.
16. This is particularly important in the case of stakeholder evidence, which is almost always incomplete, having been drawn from a self-selected sample of the population not necessarily representative of the whole. Furthermore, it is generally not validated, being comprised of perceptions and beliefs as well as known facts.
17. This point is sometimes, but not always, commented on in the HIA. For example, the widespread belief amongst stakeholders that the airport is responsible for traffic congestion in the area is challenged. On the other hand, there is also a belief that those people living directly under the flight path are disproportionately affected by noise although this is not checked against the noise contours and other evidence. This does not in any way weaken the study but serves as a reminder of the difficulties and inconsistencies inherent in interpreting, weighting and validating some of the data sources.

Limitations

18. The limitations of the study are clearly understood and stated by the authors, for example where there may be uncertainty about numbers. In some cases they appear to be overcautious but it is perhaps prudent to ensure that readers are clear about the extent to which, despite the robustness of the modelling undertaken, some of the quantitative data are illustrative of the expected direction of change rather than as projections. This should not, however, detract from the considerable modelling and interpretative work which has been done on the quantitative data and which strengthens the HIA to a great extent.
19. Another limitation mentioned in the report is the need to strike a balance between “brevity and rigour” and the authors comment on the limitations imposed by shortage of time and resources.
20. It is perhaps important to note that the HIA was carried out between June and November 2007, before Birmingham International Airport Limited submitted its planning application for a runway extension, but some fifteen months after the end of consultation on the Draft Master Plan. The Master Plan itself was published in November 2007, just as the HIA was being completed.
21. This raises questions about why the HIA was commissioned and whether its findings will be able to influence the proposal in any way. Certainly some of the recommendations can be taken into account as the development proceeds but the HIA is now too late to influence the “big bones” of the proposal itself.

Minor points for consideration in the final draft

22. It is not stated who made up the HIA Steering Group, what their skills were or whether they had conflicting interests or were independent of the study’s commissioners. It may be assumed that the Steering Group was comprised of the report’s authors but this could perhaps be clarified.
23. The “Policy Analysis” chapter, whilst including a very helpful “policy map”, is rather limited in terms of interpretation and critical analysis of the policy context. This could be expanded on a little. For example, it is stated that there is only minimal synergy between the mapped policies and wider health and well being issues. The authors could take this further by highlighting the fact that the elements are there but have not been built on, and by then using this as a basis for an observation about the development of more integrated public policy. In this particular example there may be mechanisms - such as the Local Development

Framework or statutory requirements for consultation - which would enable a practical recommendation to be made.

24. In describing the methodology for impact analysis, there is some detail about the modelling undertaken for sleep disturbance, noise and children and annoyance. For ease of referral by the reader, this may be better placed in the relevant sections in the “Health Impacts” (or evidence) chapter.

Profile

25. The profile brings together a wide range of data and gives a good descriptive overview of the demographic, socio-economic and health-related features of the area most likely to be immediately affected by the proposal. It is an excellent source of reference data but, as such, could perhaps be better placed in an appendix with a brief summary in the main body of the report. It would be helpful if this summary included
- an assessment of the extent to which the choice of wards for the profile (those next to the area covered by the proposal) correspond to the noise contours;
 - a map of the entire area (both Birmingham and Solihull), with ward boundaries and the location of the airport marked; and
 - an indication of the total number of people likely to be affected by the proposal.
26. Some detailed comments about the profile and its presentation are listed separately.

Data, information, evidence and analysis

Completeness of evidence gathering

27. The HIA brings together a large amount of data, information and evidence of different types and successfully combines it to good effect. The use of a grading system (levels I to V) is helpful in weighing the evidence.
28. It is difficult to judge the extent to which the evidence drawn from other impact assessments and from the literature is complete. However, from the peer reviewer’s general (but not comprehensive) knowledge of some of the specialist areas covered, it is clear that the report has drawn on an impressive range of literature and it has almost certainly picked up the main sources. One source, the HYENA study, was published only two days before the draft HIA report was produced, suggesting that the researchers were endeavouring to ensure that their evidence base was as up to date as possible (although they did not mention some of the study’s potentially relevant findings regarding blood pressure).
29. As mentioned above (in the comments under “Content”), the way in which the evidence is presented is particularly clear.

Impact assessment

30. The assumptions underpinning the impact assessment are clearly stated and, within these, the impact assessment draws appropriately on the evidence presented.
31. As noted above under “Content”, the order in which the impacts are described follows an order of priority set taking into account the evidence base. It might be helpful to state that this is the case.
- Noise
 - Air quality

- Transport
- Social capital
- Employment and the economy
- Climate change
- Health inequalities

Minor points for consideration in the final draft – health impacts (evidence)

32. One of the limitations of the HIA mentioned in the report is the issue of drawing evidence from other impact assessments but not knowing a great deal about their quality. The fact that this is recognised, and that the evidence is graded accordingly, is important but it may also be helpful to summarise each of the other papers as part of the policy analysis or as an appendix. Information which may be informative includes scope and coverage, the commissioners and the range of findings.
33. In the modelling of sleep disturbance and of annoyance, it is assumed that populations are constant. Given the ethnic diversity of some of the surrounding areas and the stated fact that some of the black and minority ethnic groups locally tend to have relatively young populations, the authors need to ensure that their assumption is, if not correct, likely to affect the findings substantially.
34. It is important to include climate change in the evidence for various reasons, including the fact that Birmingham International Airport Limited have stated that their developments must be carried out in “an environmentally sustainable way, mitigating impacts on the environment and people, as well as considering climate change” and this might be important in framing the recommendations of the HIA. However, in assessing the evidence and impacts, the contribution of the runway extension to climate change is not quantified. This is entirely appropriate given that the airport alone will make a relatively small contribution, but it may be helpful to set the context of the much bigger whole of which the airport is a part and in which it could play a role in raising awareness of local, regional, national and international policies. This opportunity holds as true for other issues, such as transport, as it does for climate change.
35. In the section on impacts on health and emergency services, major incident planning and occupational injuries are covered in the analysis of evidence but other issues are not. These are probably be marginal but, had there been more time and resources, could have included an estimate of additional general practice or primary care consultations which might result from poorer health status and the potential need for staff training associated with that. In addition, there could have been a comment on any potential need to increase the capacity of the airport’s medical and health services as a result of an increase in passengers and staff.

Minor points for consideration in the final draft – impact analysis

36. Regarding specific impacts, those relating to noise and air quality could be expanded in that they refer back to the evidence base covering quality of life but not the possible impact of noise or poor air quality on physical and mental health. The benefits of expanding this are, however, marginal as any attempts at quantification would be based on a large number of assumptions.
37. The health inequalities section makes good and valid points but there could be a strengthening of the statement that the most vulnerable groups are not only likely to be most affected but they also have less choice and more limited capacity to change their situation, either by finding coping mechanisms or choosing to move house.
38. A summary table of the health impacts would be helpful for easy reference.

Conclusions and recommendations

39. The main conclusions drawn from the HIA are that there will be notable impacts with or without the runway extension; that the difference between the two scenarios is relatively small; that some of the negative impacts may be mitigated by wider benefits to the regional (and possibly local) economy; that there will be differential impacts with more vulnerable groups disproportionately affected; and that there may be ways of ameliorating these effects or at least making sure that the proposed development does not exacerbate them.
40. These conclusions are appropriate and consistent with the evidence and analysis of impacts. The recommendations of the HIA are also strongly supported by the evidence. However, the link could be made stronger by structuring the recommendations slightly differently under each heading so that there is a stronger statement of the approach and principles, with a brief "bullet point" summary of the key evidence, followed by the recommendations.

Minor points for consideration in the final draft

41. In the section setting out the scope of the HIA it is stated that it will include both the developmental and operational stages. This is done to some extent in that time trends are included in the evidence base, but the analysis of evidence and impacts primarily cover the operational phase from the time when the runway comes into use. There is very little on interim impacts during the construction phase although recommendations are made about this period. These recommendations are backed up by evidence which has not been presented explicitly in this HIA and this should probably be acknowledged and the reader signposted to the appropriate "good practice" guidelines and other relevant material.
42. The social responsibility of the developers, which appears in some place, for example, under social capital in the recommendations, could be strengthened throughout.

OVERALL SUMMARY OF THE PEER REVIEW

43. The HIA of Birmingham International Airport's proposed runway extension is an impressive piece of work which uses appropriate methods and procedures and draws on a wide range of relevant evidence. The limitations of the study are clearly stated and understood and, within this context, very good use is made of the material available, including the new primary data collected for the purposes of the HIA.
44. The report is presented in a clear and logical way which leads to conclusions and recommendations which are, in most case, firmly supported by the evidence base.