

UK aviation sustainability challenges can be overcome, finds transport think tank

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An Independent Transport Commission (ITC) report, "The sustainability of UK Aviation: Trends in the mitigation of noise and emissions", has established that concerns around noise, carbon emissions (CO₂) and local air quality that arise from aviation operations do not need to be a show-stopper for the UK's pursuit of airport capacity enhancements at either Gatwick or Heathrow.

The Government announced in December 2015 that it would be conducting further work on noise and local air quality, as well as addressing sustainability concerns that have arisen over airport expansion, before it takes a decision on airport expansion. The ITC agrees that these are areas worthy of further attention and so we commissioned a report in order to explore the trajectory of improvements in aviation sustainability and to reach an assessment on whether these will continue.

The report by the aviation sustainability experts, Peter Hind and RDC Aviation Ltd, examined a wide range of sources relating to the noise, CO₂ and pollutants that arise from British aviation operations.

The findings indicate that technological improvements will mitigate any future increases in noise, CO₂ and nitrogen oxide (NO_x) emissions arising from airport expansion. Improvements in these areas have been rapid over the past 30 years and the evidence suggests that progress is likely to continue.

- **Aircraft noise** - significant progress has been made in reducing noise, with evidence that advances will continue from a combination of technological and aircraft design improvements as well as alterations to airport operations (e.g. the use of continuous descent approaches and displaced runway thresholds).
- **Carbon emissions** - are likely to be mitigated by progress in aircraft efficiency (e.g. new technology will drive a 1.6% per year improvement in fuel efficiency) and operations. The research reveals that this is a global issue and cannot be addressed by the UK unilaterally restricting its own connectivity. They also identify that due to the use of larger aircraft, hub operations emit up to 24% fewer carbon emissions than if that same connectivity were provided through point-to-point services; however, the research notes that there is a trade-off because hub operations increase the noise burden on local residents.
- **NO_x and particulate emissions** - the contribution of these pollutants to poor air quality is caused principally by surface transport. The issue transcends the aviation industry and requires separate measures from Government that have been shown to alter land-based travel patterns (e.g. modal shift from car to rail) and reduce the NO_x and particulate emissions surrounding an airport.

*"Having reviewed these important sustainability issues in-depth, it is clear that the environmental challenges of limiting the carbon emissions, noise and local air quality impacts are not insurmountable", commented **Dr Stephen Hickey**, Chair of the ITC's aviation working group and ITC Commissioner.*

He added: *"Whether the Government pursues the proposal to expand Gatwick or Heathrow, the ITC research demonstrates that sustainability concerns should not stop the UK realising the great additional benefits that increased connectivity can provide.*

"The findings suggest that noise and local air quality impacts can be managed downwards given the right mix of operational, policy and technological development, while incremental improvements in carbon

emission output are being delivered on an annual basis. Building public confidence and trust is essential. By arming an independent regulator with powers to monitor and control sensitive issues such as noise, the Government could play its part in delivering improvements for those affected by airport operations once a decision is made."

The analysis builds upon previous ITC reports "Flying into the Future", May 2013, "The optimal size of a UK hub airport", February 2014, "Surface Connectivity: assessing the merits of the Airports", October 2014, "Delivering improved airport capacity: The cost and impact of the Airports Commission's short-listed options", March 2015, and "Time to act: the economic consequences of failing to expand airport capacity", June 2015.

The ITC research programme has consistently demonstrated that airport expansion is a critical enabler for increased employment, trade, investment and productivity. The ITC supports the need for additional runway capacity, but does not lobby for any single location.

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Media enquiries:

If you have a media query about the report or would like to set up an interview, please contact John Stevenson on john@ti-communications.co.uk or 07824 621756.

If you would like more information on the research programme or the ITC, please contact ITC Director Dr Matthew Niblett on matthew.niblett@keble.oxon.org or 07813 174582.

Notes to editor:

- **Peter Hind** is Managing Director of RDC Aviation and has over 20 years' experience in the aviation sector, including senior roles in the strategy and network planning team at BMI. RDC Aviation is one of the UK's leading aviation research consultancies and based in Nottingham. For more information, please see RDC's website: www.rdcaviation.com
- ITC Project chairman **Dr Stephen Hickey** was Director General at the Department for Transport where he had responsibility for the DVLA, DSA and VOSA. He was also Chief Executive Officer of the Civil Service College.
- The **Independent Transport Commission** is Britain's foremost independent land use and transport think tank. The ITC is a research charity committed to providing insight and analysis of the most pressing long-term strategic issues in the fields of transport and land use. Founded in 1999, it is run by a small Directorate led by Dr Matthew Niblett of the University of Oxford, with an advisory team of 14 voluntary commissioners. It is based at Cowcross Street in central London. The patrons of the ITC: Lord Adonis, Lord Freeman, Sir Patrick Brown and Sir Terry Farrell. For more information, please see the ITC website: www.theitc.org.uk
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