



Studies proposed by BAA Stansted to consider the
Environmental Effects of further growth of Stansted
(within its existing single runway capacity)

Scoping Opinion

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Introduction

This is a formal opinion as to the information that Stansted Airport Ltd needs to include in the Environmental Statement it will prepare to accompany the anticipated planning application for the development it describes in its Scoping Report published in July 2004.

The information needed is set out in tabular form. This should be read in the context of the outline of the studies included in BAA Stansted's Scoping Report.

ISSUE	OPINION
GENERAL	
Baseline for effects studies	<ul style="list-style-type: none"> The EA must identify the effect of the development ie going from 25 mppa to 35 mppa. The "Do nothing" scenario in this case is to retain limit of 25 mppa and 241,000 ATMs.
Spatial extent of studies	<ul style="list-style-type: none"> The study area should not be limited to particular local authority areas and should enable the full extent of significant effects to be established.
Airport Masterplan – needed to accompany 35 mppa application	<p>A master plan for Stansted is essential, and it must be submitted in advance of the 35 mppa planning application. The scope of the proposed studies therefore needs to be broadened The 35 mppa planning application must be considered in the wider context of the impacts expansion to two runways would have, if permitted by the Secretary of State following a public inquiry, and longer term growth in the London-Stansted-Cambridge Peterborough (LSCP) corridor.</p> <p>Airport growth will have significant impacts on the area's infrastructure, particularly transport. The long lead times required for infrastructure improvements means that they need to be planned for well in advance of need, and the possible implications of future need may change the nature and phasing of shorter term infrastructure projects undertaken to address full use of one runway.</p> <p>It is also important to consider how growth at Stansted will influence and be influenced by the step change in development proposed for the LSCP Growth Area. This entails integrating the studies outlined in the current Scoping Report with the requirements of the Guidance on Master Plans as well as regional and sub-regional plans for the LSCP corridor. Master Plan guidance looks to a date of 2030 to provide a framework for airport growth, while for the regional spatial strategy, 2021 is the key date for assessing the infrastructure needs and urbanisation effects arising from Stansted development. The Scoping Report anticipates about</p>

	<p>35 mppa by 2012.</p> <p>Forecasts of aircraft movement growth, passenger profile and traffic mix to 2030 are required to enable predictions of future wider impacts of airport growth.</p> <p>Core areas that need to be addressed in terms of the impacts of future development at Stansted at both 2021 and 2030 based on the assumption of two runways in operation are: air transport movements cargo and passenger forecasts; infrastructure proposals; safeguarding and land/ property take; surface access; impact on people and the natural environment; and proposals to minimise and mitigate impacts. Likely milestones and trigger points need to be identified.</p> <p>Modelling should build on studies already carried out through the regional planning process. Work carried out for SERAS and the Airports White Paper should be reviewed and revised in the light of subsequent developments at Stansted and changes in the aviation industry.</p>
<p>Providing a complete picture of the impacts of airport expansion on the environment. Concentration on gathering information that can be immediately interpreted empirically. Understanding of the social importance of the environment. Assessment of why the environment matters.</p>	<ul style="list-style-type: none"> • The Quality of Life Assessment as developed jointly by the Environment Agency, English Nature, English Heritage and the Countryside Agency or similar methodology is commended. Details can be found on the Countryside Agency website.
<p>Principal case – the Scoping Report refers to proposals for about 35 mppa</p>	<ul style="list-style-type: none"> • The EA must be based on specific assumptions about traffic data, which must be explicitly stated.
<p>Will the studies cover mitigation as well as assessment of the impact?</p>	<ul style="list-style-type: none"> • EA needs to predict impacts, evaluate the significance of impacts, consider mitigating measures and their effectiveness and identify methods of monitoring residual impacts and mitigating measures.
<p>AIR NOISE</p>	
<p>Principal case assumptions</p>	<ul style="list-style-type: none"> • These need to state explicitly the breakdown of ATMs by category matrix, for example: <ul style="list-style-type: none"> – ATMs by No Frills Carriers – Scheduled – Long haul/ short haul – ATMs using each NPR – Runway 23/05 split – QC count category (for arrivals and

	<p>departures separately)</p> <ul style="list-style-type: none"> • Sensitivity testing needs to be carried to assess the consequences of changing the assumptions in terms of environmental effects, for example the effect of climate change on the pattern of runway use or aircraft fleet composition.
Air Noise Contours	<ul style="list-style-type: none"> • 50 and 54 dB(A) Leq 16 hour daytime contours need to be calculated and the estimated populations within them, to enable consideration against WHO benchmarks. • 44 and 47 dB(A) Leq 16 hour daytime contours should also be calculated to indicate where air noise would exceed ambient noise levels in rural tranquil areas around Stansted. • Confidence limits of LAeq contours must be stated
Helicopter/ GA traffic	<ul style="list-style-type: none"> • The implications of the development for air noise should include an assessment of the contribution from helicopter and General Aviation movements.
Consideration of effect on the public realm as well as homes, schools and hospitals.	<ul style="list-style-type: none"> • The impact on the public realm including local parks, markets, places of worship, sports pitches, strategic public green space, and village halls should be included in the EA. • Monitoring should be undertaken at a number of sites in and around the Hatfield Forest, and at other open space in the surrounding area. • Impacts should be understood as part of the Quality of Life Assessment.
Appropriate metric Reporting formats	<ul style="list-style-type: none"> • Lden should be calculated as well as Leq. 50 to 75 dB Lden contours required. • Night noise contours required. • LMax at specific points under NPRs and glide paths required, to identify number of flights over 70dB. • Reports of increases in flight movements on different NPRs and arrivals tracks should be in the format used in the Australian discussion paper 'Expanding ways to describe and assess aircraft noise' (ISBN 0 642 42262 1) in particular the 'average daily movements' as shown in Chapter 2. • The contours for an average 'all easterly day (05)' and an 'all westerly day (23)' should also be calculated as this gives a much better picture of how noise is experienced by residents.
GROUND NOISE	
Inclusion of landside road and rail traffic in assessments	<ul style="list-style-type: none"> • Ground noise contours must be prepared for on airport activity, increased surface access movements, and for a combination of both sources.

AIR QUALITY	
Carbon gas emissions	<ul style="list-style-type: none"> • An assessment of the impact of both the development and the resulting increase in air transport movements on the UK contribution to global warming through production of CO₂ and other emissions must be estimated through production of CO₂ by the best current methods. • Study should include CO₂ emissions from aircraft, vehicular traffic, energy use on airport, energy use in airport related activities off site, energy use in rail access, water supply, sewage disposal, energy use in construction, manufacturing of materials and transport of materials to site.
Emissions inventory	<ul style="list-style-type: none"> • All emissions for which there are UK air quality objectives should be considered. • Assessments of the effects of various sources of carbon monoxide and sulphur dioxide concentrations should be properly demonstrated.
Air quality and biodiversity	<ul style="list-style-type: none"> • Links to biodiversity need to be made comprehensively • Assessment should include air quality impacts on lichen and mosses • Assessments need to include emissions and deposition of eutrophication chemicals
Air quality modelling	<ul style="list-style-type: none"> • Year to year variability of meteorological conditions including wind direction should be considered. • NO₂ contours for 30 and 40 micrograms per m³ annual means, 200 micrograms per m³ hourly means • NO_x contour for 30 micrograms per m³ annual mean should be modelled. • Contribution of the development and in particular increased air transport movements to increasing UK total NO₂ emissions should be estimated. • Roadside estimations of lead, sulphur dioxide and carbon monoxide should be calculated. • PM₁₀ estimations should include PM_{2.5} • Continuous real time monitoring should be used to validate modelled outputs. This should include continuous monitoring to the SW and NE of the runway to supplement diffusion tube monitoring in these locations. Data from ad hoc monitoring should also be considered for this purpose. • An odour study should be conducted. • The effects of the proposed development need to be modelled on a yearly basis so that emissions from airport sources can be considered in combination with Government annual predictions

	<p>of background levels for future years taking into account annual changes in the national road vehicle fleet and other sources. For example, contours should be produced for 2012 when 35 mppa may be expected to be reached in the principal case, but also for 2011, 2013 etc to reflect sensitivity to alternative outcomes.</p>
AIR SPACE	
	<ul style="list-style-type: none"> • Impact of increased traffic from Stansted should be considered in the context of planned increases at other airports both in the UK and Europe. • Any change to stacking arrangements, noise preferential routes and any other relevant airspace management measures as a result of increased air transport movements at Heathrow Gatwick and Luton Airport as well as Stansted should be indicated.
PUBLIC SAFETY AND RISK	
	<ul style="list-style-type: none"> • Incidence of vortices and associated vortex strikes will need to be assessed.
PUBLIC HEALTH	
General	<ul style="list-style-type: none"> • Objectives for a comprehensive Health impact assessment (HIA) should be based on standard HIA methodology as advised by Essex Strategic Health Authority and Uttlesford PCT. • HIA activities should include profiling local communities including identifying vulnerable communities, groups and individuals; seeking the views of stakeholders on potential impacts; a literature search for evidence of likely health impacts; ranking and prioritising health impacts; and identifying and recommending potential mitigation measures. • Current impact on residents, particularly in relation to noise, should be established, including impacts on the elderly in residential accommodation, and children in schools. These should use measured, rather than modelled, baseline data. • The HIA must consider the impact of noise on sleep. • A technical steering group including Essex SHA should be established to oversee the activities of the HIA. This should include appropriate technical experts from the NHS and others with relevant expertise.
NATURE CONSERVATION	
General	<ul style="list-style-type: none"> • Assessment needs to take into account nitrogen emissions from road vehicles and have regard to the level recommended by European Commission

	<p>on Long Range Atmospheric Pollution, and assess the risk of causing dieback of ancient woodland plants and trees from nitrate pollution.</p> <ul style="list-style-type: none"> • Assessments should be based on nitrogen emissions monitoring. • Predictions of the effects on woodlands and landscape trees are required.
<p>Levels and impacts of emissions on ecosystems in Hatfield Forest</p>	<p>Study to include:</p> <ul style="list-style-type: none"> – Effect that current emission levels of NOX, SOX, PM10s and chemicals with the potential to cause eutrophication, or affect frost hardiness, are having on Hatfield Forest. – Assessment of cores from Hatfield Forest lake to establish emission trends – Predictions of future changes in emission levels in Hatfield Forest – Assessment of the changing noise and light patterns on the habitats, behavioural and physiological trends of animal species found in Hatfield Forest, focusing on birds, fish and bats. – Survey of lichens and bryophytes along a north south transect through Hatfield Forest in coppice and wood pasture areas. – Detailed tree health surveys of selected tree species within Hatfield Forest to include leaf chemistry and pathology to provide potential indicators of change including die back and other effects on ancient trees as a result of burning and eutrophication by NOX and SOX <p>The EA should include an assessment of the potential for changes to the management of the forest to address or compensate for impacts on the forest. It should consider, for example:</p> <ul style="list-style-type: none"> - Examination of any proposed new planting to the north and north east of the existing Forest, to provide a buffer to those emissions that remain at lower altitudes. - Assessment of which trees would be best planted sacrificially for use within these buffer areas as a means to scavenge the NOX and SOX and exactly where the optimum location for these buffer sites would be in terms of distance from emission sources - Sites for relocation of the main car park, to reduce traffic within the Forest and thus local emissions. - Sites to allow changes to grazing regime in the Forest to reduce nutrient input.

<p>Impact on SSSIs and other ancient woodlands</p>	<ul style="list-style-type: none"> • Similar evaluations to those of impacts on Hatfield Forest should be carried out on Elsenham Woods SSSI and other ancient woodlands such as Birchanger Wood, Little Newland Wood, Priors Wood, Priory Wood, Seven Acre Wood and Turners Spring, in consultation with English Nature.
<p>SURFACE ACCESS</p>	
<p>General</p>	<ul style="list-style-type: none"> • The EA should be guided by a technical steering group with representation from the relevant highways and transportation authorities, Highways Agency, Strategic Rail Authority and East Hertfordshire and Uttlesford District Councils. • The studies need to take account of the development planned in the sub region beyond the airport. (See general comments above). • The assessment needs to consider impacts on local road and public transport network as well as the strategic network. This should include local impacts such as the effects of rail movements at level crossings. • Surface access studies should address the issue of rail capacity between London and Stansted; the potential to enhance rail access to the airport from East Anglia and the Midlands; and the potential of improvements at key stations to maximise the use of public transport by air passengers and employees, including walking and cycling to reach local stations. • Studies should consider the full potential of bus and coach services for local movements to and from the airport, and the need for coach priority on the strategic network to facilitate increased use of this mode. • In addition to considering the need for surface access improvements, particularly public transport improvements, the implications of different surface access strategies to maximise use of public transport should be considered. This should include an exploration of provision of strategic park and ride facilities such as at M11 J7 and Braintree/ Chelmsford, limiting on site car parking, and limiting off site parking in the vicinity. • The studies should include the potential to improve facilities for freight distribution. • The studies should consider the potential for the pattern of surface access movements to vary by time of day, day of the week and by season.
<p>LANDSCAPE AND VISUAL IMPACTS</p>	

Light pollution	<ul style="list-style-type: none"> • Effects need to be included in EA. The study should include an assessment of alternative ways of minimising spillage and reflection effects and identify the best available technology where the cost is proportionate to the benefit
EMPLOYMENT AND HOUSING EFFECTS	
Skills requirements	<ul style="list-style-type: none"> • Assessment should include labour requirements by skill categories.
Labour costs	<ul style="list-style-type: none"> • Assessment should include an appraisal of the effects on wage levels locally and the consequent impact on local employers. The extent of displacement likely should be considered.
Housing market effects	<ul style="list-style-type: none"> • The EA should include an appraisal of the effect of the development on the local housing market
ECONOMIC EFFECTS	
General	<ul style="list-style-type: none"> • Assessment should identify negative as well as positive effects. • The sub regional economy's degree of dependence on aviation should be assessed, and any change as a result of the proposed development. • The EA should include calculation of the opportunity costs of aviation development in relation to alternative economic activities foregone or displaced.
Tourism	<p>Assessment should include:</p> <ul style="list-style-type: none"> – Balance of inbound and outbound tourists to/from the UK and the East of England. – Economic impact of increased passengers on regional/ national economy. – Fit of project with EEDA's Regional Tourism Strategy – The impact of the development on international trade and business tourism – The impact of the development on the airport as a key cluster ie synergy and linkages with other industries and tourist destinations in the region – Displacement effects on other airports in the region
WATER MANAGEMENT	
Water quality	<ul style="list-style-type: none"> • Likely impacts of the proposals on water quality in surface water bodies and ground water, in particular aquifers used as a major primary source of water supply, should be assessed.

Water resources	<ul style="list-style-type: none"> EA needs to consider if sufficient water resources are available locally for airport and other developments, and if not how it will be provided. Mitigation should include consideration of how to reduce demand and the potential to install water recovery systems.
Sewage and drainage	<ul style="list-style-type: none"> Impact on sewage disposal and drainage infrastructure, and additional provision required, should be assessed
WASTE MANAGEMENT	
Waste audit	<ul style="list-style-type: none"> Waste quantities from all sources and suitable methods of treatment/ disposal, should be assessed. The waste hierarchy should be examined.
Waste minimisation	<ul style="list-style-type: none"> Scope for waste minimisation and potential to re use and capture recyclable materials should be assessed.
ENERGY MANAGEMENT	
Link to air quality	<ul style="list-style-type: none"> Air quality studies need to take into account emissions from energy sources.
Energy audit	<ul style="list-style-type: none"> Energy audit of airport development needed. Business As Usual and best practice approaches to energy management need to be compared. An assessment of the energy consumption implications of the increase in air transport movements resulting from the development.
CONSTRUCTION	
	As per 25 mppa assessment

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