



**Friends of
the Earth**

East Midlands

**EAST MIDLANDS FRIENDS OF THE EARTH RESPONSE TO NOTTINGHAM EAST
MIDLANDS AIRPORT (NEMA) MASTER PLAN CONSULTATION**

East Midlands Friends of the Earth welcomes the opportunity to respond to this consultation, and is mindful of the fact that the expansion plans outlined in the Master Plan are consistent with the recommendations set out in the “The Future of Air Transport White Paper (2003)”. We are however particularly concerned that the White Paper is inconsistent with other areas of Government policy, in particular “*Securing the Future*, the UK Sustainable Development Strategy (2005)”, which identifies climate change and energy as a priority area for immediate action, and with the commitment that the Government has made to reducing CO2 emissions by 60% by 2050.

Eminent bodies such as the Sustainable Development Commission,¹ The Royal Commission on Environmental Pollution² and the Environmental Audit Committee³ have criticised the White Paper for giving insufficient weight to key aspects of sustainability such as environmental and social impact. We agree that the White Paper is inherently flawed by failing to meet sustainable development principles – more to the point: it fails to match the promise made for the White Paper, of putting the aviation sector on course for sustainability.

We are also concerned that the Master Plan may seriously undermine/conflict with other policies within the East Midlands Regional Plan (RSS8)⁴, and policies that are being developed for review within the Regional Plan. In particular we are concerned that airport expansion will conflict with policies within the Regional Plan which commit the region to:

- Reducing the need to travel
- Limiting climate changing emissions
- Moving towards a low carbon economy

1 www.sd-commission.org.uk/news/download_pdf.php?attach_id=N8YBKPR-3L3RF5H-0NO4FT2-RRJCE1K

2 <http://www.rcep.org.uk/aviation.htm>

3 On the climate change impact, the Environment Audit Committee reports can be found at:

<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmenvaud/233/23303.htm>

<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmenvaud/623/62303.htm>

<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmenvaud/1063/106303.htm>

4 Policy 55 of the Regional Spatial Strategy for the East Midlands (RSS8), March 2005 states that provision should be made ‘for the further operational expansion of NEMA within its boundaries subject to rigorous assessment of the full range of impacts’. Paragraph 4.4.34 indicates that this should include ‘consideration of noise, air quality, human health, landscape, biodiversity, natural resources and cultural assets’.

- Delivering the Regional Biodiversity Habitat Management and Re-creation targets
- Delivering the Regional Freight Strategy policies 2.7 (sustainable distribution), 2.8 (increase in local sourcing), 6.4 (modal shift from air freight to rail and reduction of night noise from cargo flights) and 6.7 (shift from the air/road package of the logistics sector)
- Delivering the Energy Hierarchy in the Regional Energy Strategy (reducing energy demand being the first priority)

We are also of the belief that the Master Plan does not fully consider:

- Planning Policy Statement 1 (PPS1):
 - Paragraph 3 of the new PPS1 makes clear that ‘sustainable development is the core principle underpinning planning’. The paragraph goes on to use the Bruntland definition of sustainable development which emphasises inter-generational equity.
 - Paragraph 13 sets out the key principles which ensure that development plans and decisions contribute to the delivery of sustainable development. It makes clear that ‘development plans should ensure that sustainable development is pursued an integrated manner, in line with the principles for sustainable development set out in the UK strategy.’
 - Sub clause 2 of paragraph 13 is particularly important in relation to climate change. The paragraph makes clear that ‘development plans should contribute to global sustainability by addressing the causes and potential impact of climate change - through policies which reduce energy use, reducing emissions (for example, by encouraging patterns of development which reduce the need to travel by private car, or reduce the impact of moving freight), promote the development of renewable energy resources, and take Climate Change impacts into account in the location and design of development’.
 - Paragraph 5 which states that “Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by:– protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities...”

Whilst we appreciate that at this stage the Master plan is not a planning application, the above remains highly pertinent as it makes clear that accurate information should be provided on the potential impacts of the proposals and that developments should not exceed environmental limits. The information provided in the Master plan does not fulfill this requirement.

- The Strategic Environmental Assessment, which was introduced in July 2004, is an important new tool for assessing the environmental impact of major projects. It will be applicable to Regional Spatial Strategies and other plans affecting aviation.⁵ SEA allows for a systematic and holistic assessment of development options in line with national and international policy and treaty obligations on important issues such as climate change. SEA also has a crucial role to play in providing comprehensive baseline information and in understanding the range of potential environmental impacts that arise from strategic development options. SEA should require the collection of primary data on issues such as greenhouse gas emissions and should be conducted in the most participative way possible. Department for Transport Guidance on the Preparation of Airport Master Plans states that "In preparing their master plans airport operators should also consider the effect, if any, of Directive 2001/42/EC (the Strategic Environmental Directive)"

We believe that the guiding principles and priorities of the new UK Sustainable Development Strategy should be explicitly addressed in the assessment of the proposals and in any implementation. Whilst we recognize that there was no requirement to produce a Strategic Environmental Assessment (SEA) of the draft Master Plan we do not consider that the environmental assessment that is contained within the Plan adequately addresses the full range of impacts. Policy 55 of the Regional Spatial Strategy for the East Midlands (RSS8), March 2005 states that provision should be made ‘for the further operational expansion of NEMA within its

⁵ For further information, see : - <http://www.parliament.uk/documents/upload/POSTpn223.pdf>

boundaries subject to rigorous assessment of the full range of impacts'. Paragraph 4.4.34 indicates that this should include 'consideration of noise, air quality, human health, landscape, biodiversity, natural resources and cultural assets'.

We find the Master plan's desire to be a local airport for passengers but a national airport for freight to be somewhat contradictory. The reasons given to encourage passengers to use a regional airport instead of needing to travel to Heathrow or Stanstead apply equally to freight. If it is not sensible economically and environmentally, as the plan claims, for passengers to travel from the East Midlands to London, then this should apply equally to freight being transported in the reverse direction. Replacing cars travelling down the motorway to the London area with lorries travelling to NEMA strongly disbenefits the environment.

DEMAND FOR PASSENGER TRAVEL

We believe that the demand forecast for passenger travel within the Aviation White Paper is based on a predict and provide model and does not fully take into account external elements which may be significant limiting factors upon the growth of the aviation industry. We also believe that the aim to fully accommodate the growth forecast demand of 500 million passengers per annum (mppa) within the UK is inherently at odds with the principles of sustainable development. A full explanation of our reasons can be found within our briefing paper: THE MIDLANDS' AVIATION MASTERPLAN: Managing Midlands' Air Transport Sustainably for the 21st Century, which can be downloaded from:

http://www.foe.co.uk/resource/briefings/mids_masterplan_brief.pdf

With regard to specific forecast growth at NEMA we believe that there are significant factors that have not been fully taken into account. Most importantly competition from Robin Hood International Airport (which was excluded from the AWP), appears already to be having an impact upon passenger numbers at NEMA⁶. The Regional Spatial Strategy in Yorkshire and Humber gives its tacit support for a threefold expansion of air travel in Yorkshire and the Humber. Finningley (Robin Hood) airport aims to expand towards projected size of up to 15 million passengers per annum (mppa) by 2030, Leeds Bradford airport, which has government support to expand to 7mppa, is already proposing to breach that level. The regional transport funding allocations in Yorkshire and the Humber have prioritised the airport road links to Finningley – this will allow significant competition to NEMA by attracting passengers and employees from the East Midlands to Finningley

We would like to see an examination of different growth scenarios, which examine both low and medium growth potential, explored within the Master Plan, rather than purely the reliance on the high growth scenario outlined for NEMA within the AWP. The passenger projection quoted

6 ONE YEAR ON RIVAL AIRPORT HITS THE MARK - 12:00 - 27 April 2006

<http://www.thisisnottinghamshire.co.uk/displayNode.jsp?nodeId=133965&command=displayContent&sourceNode=133948&contentPK=14393145&moduleName=InternalSearch&formname=sidebarsearch>

Like most one-year-olds, Robin Hood Airport is bright, alert and eager to grab on to the next interesting thing. Tomorrow it marks its first birthday, having had 840,000 passengers pass through its doors so far. Robin Hood, near Doncaster and two miles outside Notts, was the first new UK passenger airport for almost 40 years. It courted anger in Notts by taking the name of this county's favourite son.

Having roughly hit its passenger target for year one, the airport is seeking customers from both counties to enhance its business. The aim is to move up to between 1.1 million and 1.2 million passengers by April 2007, and to see freight flights grow - the airport moved 1,000 tonnes between July and this month. In its second year Robin Hood Airport also wants to pull in more of the lucrative business trade. Job increases are another target. The airport claims to have created almost 800 so far. More will rely on related industries, such as freight handling. On the high of their first year, there is now talk among senior airport managers of routes expansion. The 43 at the moment include Bodrum in Turkey, Gran Canaria, Malta, Paris and Rhodes. Long-haul flights to Puerto Plata in the Dominican Republic, Cancun in Mexico and Orlando, Florida, are to begin next month. On Saturday the Post revealed that Nottingham East Midlands Airport last year suffered its first dip in passenger numbers for ten years. It is a trend which environmental groups have warned will become more common nationally, if individual airports are allowed to expand without much limit and compete for the same market.

About 500,000 people live within an hour's drive of both airports.

requires an annual compound growth rate of over 10% from 2005 to 2010. Against the background of increasing fuel prices and costs of air transport, and of increased competition of new services now operating from airports not included in the AWP, we are not convinced that this is a realistic assumption.

DEMAND FOR AIR FREIGHT

Shipments by air meet time requirements and obviously have an advantage over surface transport if speed of delivery is vital. Indeed, the air cargo providers inform us that they 'have to fly at night' and that their shipments are 'time critical' or are 'time-dependent'. The truth is at variance with these claims. Less than 10% of 'express' air freight is actually time critical. The vast majority of customers choosing express delivery by air do so not for the speed but the dependability and security of guaranteed integrated door-to-door delivery.⁷

We believe that approximately 90% of the goods air freighted into and out of the UK is not time sensitive, as revealed by the research undertaken by the industry itself. Customers can be "encouraged" into choosing the 'express' delivery option and given a lack of choice in this. Much of this cargo could be transported by other, less environmentally damaging, modes of transport.

We are concerned that NEMA, in attempting to establish itself as the leading UK airfreight hub, has not fully examined the significant environmental and social consequences; moreover we do not believe that the negative economic impacts upon the regional economy have been investigated.

THE ECONOMICS OF AVIATION

An increase in economic prosperity is often regarded as equivalent to an improved quality of life. The claimed economic benefits of aviation are usually cited as a leading argument in favour of allowing airports to expand to meet demand in full. However some of these claims may be exaggerated and it is rare for their accuracy to be tested after the event. It is also rare for the economic costs of aviation to be taken into account. As Whitelegg⁸ says: 'the debate about the future of aviation would be a much more open and transparent debate if economic realities were factored in and economic assertions factored out'.

Jobs

One measure of supposed economic benefit is job creation. As far as direct job creation is concerned, the rule of thumb that one full time equivalent aviation job equates to 1,000 passengers can be misleading.⁹ As a result we would state that there are no reliable figures and the assumption that jobs at NEMA are estimated to double to around 15,000 in the next 10 years is based on a very inexact science, and no sense of how much expansion would be needed to create a specific number of jobs actually exists.

Indirect and induced employment can be even more difficult to ascertain let alone predict. The employment multipliers used for airport expansion vary widely and are not always justified or given a reality check. Whitelegg has shown that the use of multipliers can lead to substantial double counting, with the same jobs being 'claimed' by widely differing industries or developments.

The types of job created and the nature of the job market in the area are also important. Aviation tends to provide low wage jobs which do not accord well with the objectives of the Regional Economic Strategy to expand high skill, high wage employment.

⁷ Survey by the International Logistics Quality Institute, reported to the International Air Cargo Association AGM, April 2004.

⁸ Prof J Whitelegg – The Economics of Aviation: a North West England Perspective, April 2003

⁹ The Birmingham Post recently drew attention to the fact that employment at BIA had fallen by about a thousand since 1994 despite a substantial increase in the number of passengers. The economic forecasts in the 1995 Master Plan have proved to be erroneous. Yet the impression persists that expanded airports and passenger numbers automatically lead to increased employment.

We have consistently asked the question as to whether jobs predicted are net or gross and no satisfactory answer has been forthcoming. We have assumed that job creation estimates used by the East Midlands Development Agency are gross, i.e. do not take into account the number of jobs displaced from the region or lost altogether. It is also questionable to describe many of the jobs as "aviation related", when many of the jobs created will be related to the road haulage part of logistics operations.

We do not believe that the environmental and social impacts of the outlined expansion can therefore be justified by the amount of job creation which would supposedly accompany it.

We recommend that NEMA reviews:

- Employment ratios for passenger traffic on the basis of the actual performance of the low cost carriers
- The impact of automation on freight employment
- Employment forecasts

Tourism

It is often claimed that aviation adds to expenditure by foreign tourists in the UK. That is undoubtedly true, but again one must look at both sides of the argument. UK tourists spend far more abroad than foreign tourists spend in the UK. Moreover, there is an imbalance in the way income to the UK from overseas visits is distributed across the regions.¹⁰

Research by Friends of the Earth¹¹ shows the significance of this issue for the Midlands. In 2004, the East and West Midlands had a combined air tourism deficit of £3.019 billion, with outward tourists taking nearly £3.892 billion out of the two regions and inward tourists bringing in only £0.873 billion. The deficit is forecast to increase to £5.875 billion by 2020, based on the growth rates assumed in the White Paper. In addition, there are significant deficits in air transport services (the purchase of air tickets and freight services), civil aerospace products, and purchase of aviation fuel and business travel. In aggregate, these effects undoubtedly cost the regional and national economies large numbers of jobs and income.¹²

Airfreight

The link between airfreight expansion and regional economic prosperity is not as close as tends

10 Ecotec report for Friends of the Earth: The economic impact of the UK aviation industry, Ecotec Research and Consulting, June 2000

11 <http://www.foe.co.uk/campaigns/transport/issues/aviation/index.html>

12

<http://www.thisisnottinghamshire.co.uk/displayNode.jsp?nodeId=133965&command=displayContent&sourceNode=133948&contentPK=14428882&moduleName=InternalSearch&formname=sidebarch>

CHEAP FLIGHTS BRING TOURIST DEFICIT

DAVID BYERS PARLIAMENTARY CORRESPONDENT

16:00 - 04 May 2006

Visitors needed to boost Notts

THE region's economy is haemorrhaging almost £1.6m every year due to a lack of incoming tourists - while we take advantage of cheap flights to spend our money abroad.

Figures revealed for the first time by culture minister James Purnell show that tourists leaving, and a lack of visitors coming in, account for a £1.58m deficit every year.

News of the East Midlands' tourism deficit was revealed in a written answer in the Commons, in response to a question by MP Edward Garnier.

Mr Purnell's figures show that the deficit between inbound and outbound tourism in the East Midlands has widened every year, with East Midlands Airport growing in size during that period.

In 2000, overseas residents spent £250,000 in the East Midlands while East Midlands residents' spending abroad came to £1.475m - a deficit of £1.225m.

But in 2001, that deficit increased to £1.388m (£265,000 spent in the East Midlands but £1.653m spent abroad), then up to £1.403m in 2002 (£285,000 compared to £1.688m), up again to £1.553m in 2003 (£301,000 compared to £1.854m) and finally rising to £1.579m in 2004 (£448,000 compared to £2.027m).

to be assumed. For example research carried out by the Campaign to Protect Rural England (East Midlands)¹³ has shown that:

- Most of the operation of logistics companies consists of road transport or warehousing rather than air transport - they are logistics operators first, air operators second.
- The global logistics operators are an economic threat to existing, East Midlands based haulage companies.
- For the majority of customers of the global logistics integrators reliability and security, rather than speed of delivery, are the key factors; meeting their business needs is therefore not dependent on air transport
- Many economic benefits will not accrue to the region or even to the UK as a whole. For example global logistics operators are not normally UK companies, so profits go back to the US or Germany while UK locations are affected by the adverse environmental consequences of their operations.

ECONOMIC DISBENEFITS

There are a number of economic costs to the East Midlands, the principal ones being:

- Traffic congestion. Some experts (e.g. Maddison¹⁴) put the annual cost of traffic congestion to the UK economy at £20 billion. The cost to UK society as a whole will be much higher. As major traffic generators, airports must bear a proportion of that cost. NEMA discharges traffic onto the already congested M1 and A453, adding to the costs in delay and journey unreliability of other local employers.
- Health expenditure. Aircraft emit a wide range of pollutants whose effect on the health of residents near airports has not been fully studied. (see below) Any economic assessment of the expansion of the airport should include proper assessment of possible future costs to the National Health Service and employers.
- Wider environmental costs. The economic implications of climate change are potentially huge, though much will depend on the timescales used in the analysis. Again, an economic analysis must include this item, even if exact quantification proves impossible.
- Aviation is heavily subsidised by the Exchequer. Sewill¹⁵ has used the Treasury's own figures which show that the annual subsidy from the taxpayer to aviation is £9.2 billion. Clearly net economic benefits which fall short of this are highly questionable, and even if they exceed this figure they may be outweighed by environmental and other costs.

Only by looking at the full costs and benefits of aviation can one properly judge the economic claims made for the aviation sector's contribution to the East Midlands and the wider UK. We recommend that proposals for the expansion of NEMA should be subject to an independent economic audit, not one commissioned by the proponents of the scheme. Such an audit must clearly identify the uncertainties inherent in the estimation of economic benefits, and must give as much attention and weight to the economic costs as to the benefits. Only if this type of audit is carried out will the general public have the confidence that the economic implications of aviation have been fully and fairly assessed.

ENVIRONMENTAL IMPLICATIONS

Aviation is one of the truly global industries which does not meet the external costs it places upon society and the planet. UK Greenhouse gas emissions from aviation rose by almost 90% between 1990 and 2003.¹⁶ Research for Friends of the Earth by the Tyndall Centre for Climate

13 See www.cpre-eastmidland.org.uk

14 Maddison, D (et al), eds – The True Costs of Road Transport, Earthscan, 1996.

15 Sewill, B, 2003. The Hidden Cost of Flying. Aviation Environment Federation.

<http://www.airportwatch.org.uk/publications/Hidden%20Cost%20Final.pdf>. *Fly Now – Grieve Later* deals with climate change and the use of 'economic instruments' and is available from the Aviation Environment Federation website: http://www.aef.org.uk/publications/detail.php?art_id=152

16 From "Sustainable Development Indicators in Your Pocket", <http://www.sustainable-development.gov.uk/publications/documents/SustainabledevelopmentindicatorsFINAL12005.pdf>

Change Research, shows that unless the Government takes action to reduce the growth in aviation emissions the industry's emissions will wipe out all the savings those other sectors of the economy could make. The research shows that UK reduction targets will be almost impossible to meet if aviation emissions continue to grow at the rates analysed by the Tyndall Centre.

Tyndall, the UK's leading independent climate change research body, concludes that if aviation growth continues, it could take up the entire emissions budget for all sectors of the EU economy by 2040 and all sectors of the UK economy by 2037, if we are to keep within safe limits. This would mean that schools, hospitals, commerce, houses and industry would not be able to release any emissions if the UK and the EU are to stay within environmental limits.¹⁷ This could have severe repercussions for the East Midlands regional economy should such a move be required¹⁸.

We are particularly concerned that no calculations appear to have been made for the current climate change impact of Air Transport Movements (ATMs) from NEMA, and the growth in these emissions that would occur with airport expansion. No particular body appears to have assumed responsibility for monitoring/calculating these emissions, although the airport has addressed the issue of cutting emissions from its other operations (e.g. heating and lighting of buildings). We believe it is imperative to assess the scale of CO2 emissions from aviation, particularly in light of the fact that other regions are now adopting regional carbon reduction targets as an integral part of their regional plans (Yorkshire and Humber, South East of England). Should the East Midlands wish to follow suit in a bid to deliver the 60% CO2 reductions required by 2050, it is essential that carbon emissions are calculated cross-sectorally, including those from transport, and aviation in particular.

In a bid to assess the current carbon footprint of the airport we have requested figures for kerosene usage at NEMA. This information has not been forthcoming and we have used a rough estimate and simple calculation to try and ascertain what these emissions might be¹⁹. One simple way to get an approximate estimate of CO2 emissions is to start from the figures given by the Department for Transport that all aircraft from UK airports emitted 9.8 million tonnes (Mt) of carbon in 2005(1).²⁰ That is equivalent to 36 Mt of CO2.²¹ Total Air Transport Movements (ATMs) in the UK were 1,786,000. NEMA accounted for 3.1% of these ATMs²² (with a figure of approx 57,000 ATMs). 3.1% of 36Mt is **1,116,000 tonnes of CO2 emitted by ATM's at NEMA annually**. By comparison in the city of Nottingham 299,000 tonnes of CO2 were emitted from road transport in 2003.²³

It is possible to calculate rising emissions associated with the proposed growth at the airport, as evidenced by the research presented by the Tyndall Centre, and we would recommend that this research be undertaken immediately to establish the true environmental, social and economic impacts of climate changing emissions associated with predicted growth at NEMA. Similarly we

17 The research looked at growth trends in the aviation industry and calculated that emissions from the sector would rise rapidly between now and 2050, assuming these trends continued. It also took account of the way in which air transport markets mature and assumed that significant improvements in fuel efficiencies would be achieved. A summary of the Tyndall report is available at:-

http://www.foe.co.uk/resource/reports/aviation_tyndall_summary.pdf

The full report is available at:-

http://www.foe.co.uk/resource/reports/aviation_tyndall_research.pdf

18 Estimates vary that damage caused by UK aviation costs range from £3 to £25 billion a year however Treasury calculations take no account of the possibility of climate catastrophe events nor socially contingent costs of climate change

19 Caveat: these are very rough calculations but not having been presented with any exact figures that we can utilise to calculate more precise emissions we felt it was important at least to open the topic up for debate.

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http://www.publications.parliament.uk/pa/cm200506/cmhansrd/cm051208/text/51208w06.htm#51208w06.html_sbhd0

21 The translation from 9.8MT carbon to 36MT CO2 is an application of the 44/12 formula generally used based on atomic mass.

22 ATMs from East Midlands and UK in total is:

http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/page/dft_transstats_609928.pdf

23 <http://www.defra.gov.uk/environment/statistics/globalatmos/regionalrpt/laregionalco2rpt20051021.xls>

would wish to see an assessment of carbon emissions from rising associated road traffic levels that would accompany any expansion at NEMA.

Apart from the global impacts of aviation, airports can have severe environmental impacts on the areas which surround them. Typical effects include:

- Noise – often severe enough to disrupt daily lives, have adverse impacts on the local tourism economy, damage children’s education and (where night flying occurs) cause serious sleep disturbance (see Health section below).
- Air Pollution – shown by a number of studies to damage people’s health, particularly that of children (see health).²⁴
- Pollution of watercourses and underground water sources.
- Noise and pollution from additional traffic.
- Delivery of biodiversity targets – air safeguarding zones, established around all civil airports, can lead to restrictions on wildlife habitat creation and enhancement across large areas of the region. The combined effect of having many civil and military airports may be to prejudice the delivery of regional biodiversity habitat management and re-creation targets.
- Deterioration of important wildlife habitats through pollution and climate change – e.g. moorland erosion and degradation caused partly by aerial pollution poses a significant threat to the extensive blanket bogs of the Peak District, which are of international and national importance for their biodiversity.
- Loss of landscape and settlement character, rurality and tranquillity.
- Impact on the historic environment including historic landscapes, listed buildings and archaeological sites and their setting.
- Loss of green belt, productive agricultural land and other open land from airport and associated development.
- Conflicts with other regional policies designed to protect the natural environment e.g.:
 - Delivering the Regional Biodiversity Action Plan – through compromising the potential to deliver UKBAP and LBAP priority wetland habitat restoration in the Trent Valley through an increased need for safeguarding from bird strike.
- Increased risk of flooding from increased run-off of water from hard surfacing.

Habitats in the Region are highly fragmented and it is accepted in RSS8 and other Regional policy documents that the biodiversity resource of the East Midlands is the most degraded of any region in England. The geographical isolation of diverse habitats and their small scale both contribute to an increasingly fragile resource that will not be robust to the impacts of climate change, as fauna and flora will be unable to disperse between sites to seek replacement habitats for those lost. The Master plan should seek to address these impacts through identifying the need to contribute to habitat restoration and the delivery of BAP targets.

Recommendations with regard to the local environmental impacts -

- The impacts upon habitats around the airport should be fully investigated and assessed within the Master Plan (e.g. NOx impacts). At present it appears to be the responsibility of consultees to produce this evidence, and this is unsatisfactory.
- A quantified risk assessment technique should be established to accurately assess safeguarding land to reduce the risk of bird strike. At present there does not appear to be an established formula to assess this risk and therefore commenting on the scale and nature of safeguarded land proves difficult for consultees

²⁴ Since December 1997 each local authority in the UK has been carrying out a review and assessment of air quality in its area. Any place where national air quality objectives are unlikely to be achieved must be declared an Air Quality Management Area (AQMA). This has important implications for communities close to airport sites - e.g. Kegworth, near NEMA, has been declared an AQMA because of high Nitrogen Dioxide levels which will have to be closely monitored as airport operations expand. Further info on AQMA’s in the UK from: - <http://www.airquality.co.uk/archive/laqm/laqm.php>

- There is a need to assess the impact on the historic environment – there are a number of indirect impacts that can be identified. These include:
 1. the effect of air pollution on buildings;
 2. the impact of noise and vibration on historic sites and buildings;
 3. the impact on the setting of designated historic assets, which can include considerations such as tranquillity and;
 4. the impact on landscape character.

Airport expansion as proposed would not protect and enhance the natural environment but would in fact have far-reaching and long-ranging detrimental impacts, through significantly increased emissions of greenhouse gases and other pollutants, through increased levels of noise and vibration on fauna and through compromising priority habitat restoration initiatives. The proposals will also degrade the quality and character of the countryside and be significantly detrimental to the quality of life of local communities.

It is important to note that bio diverse habitats are increasingly important to our ability to absorb pollution and cope with the climate change damage exacerbated by aviation's operations and growth, and thus any adverse impacts upon local habitats must be fully examined and assessed within the Master Plan.

IMPACTS ON HEALTH

There are particular medical risks to persons living adjacent to busy airports and for persons living beneath flight paths. These risks are compounded by additional factors such as the large volume of road traffic going to and from the airport and additional air pollution arising from movements of aircraft on the ground, engine testing and refuelling. The two main risks to health arise from air pollution and noise.

Air Pollution

The Committee on the Medical Effects of Air Pollutants reports that "air pollution kills up to 24,000 people each year in Britain".²⁵ Aircraft engines emit a wide variety of pollutants including carbon, benzene, sulphur dioxide, ozone, nitric oxide, nitrogen dioxide, nitrous oxide etc. Some of these substances, e.g. benzene, are carcinogenic. Particle size is measured in 'microns', one micron being 1000th of a millimetre. They are normally referred to as Particulate Matter, with PM10s being up to 10 microns, and PM2.5s being up to 2.5 microns.

Research has demonstrated that the smaller particles are the most dangerous, and particles of 1 micron or less are particularly so. The commonly used measuring techniques such as for PM10s are based on weight and are not good indicators of the number of very small particles in the air. Ultra fine particles can cause very severe damage to the lungs by virtue of their small size and not just their chemical composition. They can pass deep into the lungs, where they cause inflammation and potentially permanent damage. The British Medical Journal has reported on research which proves a direct link between ultra fine particles and disease of the lungs, heart and other blood vessels.²⁶ Air pollution thickens the blood and boosts inflammation, which may help to explain why it is associated with increased risk of heart attacks, strokes and worsening respiratory problems. Particularly at risk are children, the elderly, and persons suffering from any form of cardiopulmonary disease.

As shown above, there is a lack of monitoring of those ultra fine particulates which pose the greatest threat to human health. Until widespread monitoring is undertaken, and studies are carried out to examine the extent of health impacts upon local communities, it will be impossible to adequately address this issue. Sufficient aviation-related health impact assessment research has not been undertaken and therefore there is no precise understanding of the health consequences of aviation.

25 Day, M (1998): City dwellers dying for a breath of fresh air. *New Scientist*, **157**, 16.

26 Occupational Environ Med 2005; 65: 164-71 British Medical Journal

Noise

Noise is particularly damaging to community health from night flying, resulting in sleep deprivation, heightened awareness during sleep and heightened risk of cardiovascular and pulmonary conditions. A fuller examination of the impacts of noise on communities can be found in our briefing THE MIDLANDS' AVIATION MASTERPLAN: Managing Midlands' Air Transport Sustainably for the 21st Century, which can be downloaded from:

http://www.foe.co.uk/resource/briefings/mids_masterplan_brief.pdf

The UK's Leq standard of noise measurement is not internationally recognised, is unresponsive to the number of noise events, and does not give special weighting to night and other sensitive times of day. The use of Community Annoyance Thresholds to assess noise effects is out of date and "annoyance" is an inappropriate term to describe a phenomenon with the associated health risks of aviation noise.

The human experience of aircraft noise is inevitably subjective. It cannot be understood and measured simply by the scientific technique of calculating average sound energy contours. Social surveys should be more extensively used to assess subjective responses to noise within an affected population. These should relate real disturbance to actual noise measurements to enable a better understanding of the noise level required to cause disturbance, and to relate it to theoretical values generated by contour lines.

We are particularly concerned with the projected night time freight ATMs. The NEMA projection requires an annual compound growth rate in night flights of 14% from 2005 actual figures. We are not convinced that this is a realistic planning scenario and recommend that NEMA reviews this projection.

As proposed in the Plan, Chapter 4 aircraft as a criterion for management of the scheduled fleet at NEMA is inadequate: this allows the night time takeoffs of the noisiest aircraft. Delaying Chapter 4 compliance until 2012 allows the current fleet to continue until the aircraft are 30 years old. Unscheduled operations are uncontrolled. Valid criteria should be based on the actual noise levels generated by an aircraft type e.g. the QC bands, and should apply to all aircraft movements.

NEMA must be brought up to the standards of noise protection of the best UK airports. This means banning noisier aircraft and strictly controlling night flights through the use of noise quotas and caps on the number of flights. The guidance given in the AWP - "*stringent controls on night noise*" – should be translated into stringent regulations and curbs on night time flights to and from the airport. This would be achieved by designation of the airport under the 1982 Civil Aviation Act. This would bring the airport in line with Heathrow, Gatwick and Stansted, giving ministers the power to cap night flight numbers.

SURFACE TRANSPORT

Access to Nottingham East Midlands Airport has been looked at by multi-modal studies for the M1, A453 and West Midlands to East Midlands. Very substantial widening and other changes to the M1 and other strategic roads would be needed to cater for 15mppa. Public transport access is poor at present.

The Government has expressed little interest in the issue of surface access within the White Paper, leaving it to be resolved by operators locally. However, this could be a huge problem at NEMA, leading to congestion, overcrowding and delay on existing transport routes, not to mention the severe local and wider environmental impact of the extra traffic and the road improvements which may be required. It is not clear whether the operator is expected to pay for such improvements, or whether they would be subsidised by the public purse. If the latter is the answer, a shortage of funds for transport infrastructure means that many necessary schemes may not happen. The cost of transport projects often escalates sharply from the initial estimate to

the final bill, exacerbating the problem²⁷.

Even the most ambitious road improvements currently on offer in the vicinity of NEMA will cater for no more than modest growth in the use of the existing runway. The proposals for road expansion recommended by multi-modal studies for the M1 and A453 are said to be sufficient for a throughput of up to 8 mppa. It is claimed that, above that, more road capacity would be needed.²⁸ The Midlands consultation document²⁹ glossed over the demands that would be placed on surface access to the airport. The massive number of vehicle movements which would be associated with airport expansion calls into question the practicability of the current growth proposals.

The demands for road capacity for a maximum use single runway airport can only be met by implementation of the maximum levels of road building recommended by the various multi-modal studies. To avoid unacceptable levels of road building, a very different approach to the provision and financing of public transport services to the airport would need to be taken.³⁰

The prospect of significantly increasing the public transport share seems remote unless, as it should, the airport operator assumes financial responsibility for a major and costly programme of bus and rail improvements. We consider it unlikely, as do Midland Main Line, that significant numbers of airport users will use East Midlands Parkway.

The application of public transport targets to Midlands' airports is very uneven. Only Birmingham currently has a demanding target. It looks unlikely that this will be met, and there is little effective sanction on the airport if it is not met. The targets set for public transport use within the NEMA Master Plan are weak. In pursuing ambitious growth, it is essential that the airport properly addresses the issue of sustainable transport to access the airport, for both staff and passengers. We are particularly concerned that the definition of sustainable transport modes within the Plan are merely defined as any vehicle which is not single occupancy, this is clearly an inadequate definition of sustainable transport. While we appreciate the difficulties for staff on shifts of using public transport, car sharing should only be seen as a step on the road to sustainable transport. For passengers, who in the past have arrived in family groups, expansion of low-cost flights is likely to lead to a reduction in the number of travellers per car, unless the airport puts greater stress on the use of non-car modes.

In the interests of sustainable transport, NEMA should see a much higher proportion of passengers and employees travelling by public transport, but this will be very difficult to achieve without proper investment. And even where higher public transport percentages can be achieved, there is still likely to be a substantial increase in the volume of road traffic if the airport expands significantly.

COMMUNITY INVOLVEMENT

Whilst there appears to have been an improvement in communications between local residents groups and the airport, (with the local community campaign group, DEMAND, having been included in membership of the Independent Consultative Committee (ICC)), we are still of the

27 The new project appraisal rules, building in "optimism bias" or cost overruns, further expose the high costs of road building. For example, the cost of widening the M1 through the East Midlands, estimated at £700 million in the multi modal study Final Report (December 2001), has risen dramatically to £1.9 billion upon entry into the Targeted Programme of Improvements (April 2004). This is a 271% cost escalation. Paying for better transport: costing the 'Way to Go' manifesto – http://www.foe.co.uk/resource/reports/paying_for_better_transport.pdf

28 East Midlands Regional Planning Guidance Public Examination, 2003.

29 The Future Development of Air Transport in the United Kingdom: Midlands – Department for Transport, July 2002.

30 The Midlands consultation document admits to the need to carry out all the widening proposed in the M1MMS to cater for the unrestrained growth single runway base case, i.e. up to 15 mppa. It also states that, in addition to M1 capacity increases, the A453 from the airport to junction 24 would need to be increased to dual 3 lanes and the A42 westwards would need widening. Models give values from a pessimistic 4% of passengers on buses, trains or trams up to an optimistic 13.5% for a high usage two runway airport.

belief that local people continue to have little faith in the transparency of operations and access to information that the airport affords them. There also appears to be a belief that the views of the ICC are consistently ignored by the airport.

In an effort to accurately assess the sustainability of the growth proposals outlined in the Plan a number of key questions have been posed both by residents groups and the environment sector. Many of these questions remain unanswered and should be fully addressed by the Plan.

Further information required from NEMA includes:

- Annual kerosene usage at NEMA
- The amount of money made from car parking at NEMA annually
- An assessment of the full implications of CO2 emissions that will be generated by proposed growth (both in relation to ATMs and increased road usage)
- Number and proportion of Chapter 4 aircraft (day and night)
- Number and proportions of aircraft movements in QC Bands (day and night)
- Information on how NEMA can provide measured noise contours on a continuing basis
- Clarification of the potential increase in the late evening arrivals peak
- An assessment of the economic impact of additional outbound and inbound tourism.
- An analyses of night cargo by type of cargo
- An analyses showing proportions of UK import, UK export and transit cargo

CONCLUSIONS

There are some welcome aspects of the draft plan which include:

- a commitment to keep development within the existing airport boundary;
- no immediate plans for a second runway;
- initiatives to improve public transport and recruit staff from inner city areas;
- increased contribution to the community fund.

We strongly believe there must be rigorous limits on the environmental impacts of the growth outlined within the Master Plan. At present we believe that this plan does not provide any such environmental limits and does not reflect the strategy outlined within *Securing the Future*, the UK Sustainable Development Strategy (2005). We believe it is imperative that the Master Plan addresses this issue if we are to secure sustainable development for the future of the East Midlands region.

Callie Lister
East Midlands Friends of the Earth
May 2006

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