

# Airport jobs: false hopes, cruel hoax



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In 2003, on behalf of a number of environmental groups, he persuaded the government to rerun their computer forecasts on the assumption that by 2030 air travel would be paying the same rate of tax as car travel. The dramatic results of this exercise were set out in *The Hidden Cost of Flying* (AEF, 2003), in which he also calculated the value of the tax concessions for aviation at £9 billion a year, a figure that has gained wide acceptance.

In *Fly now, grieve later* (AEF, 2005) he summarised the concerns about the impact of air travel on climate change, and explored the political and practical problems in making airlines pay sensible rates of tax.

Colleagues from other environmental groups have encouraged him to write this booklet, and he would like to thank all those who have contributed much helpful information.

AEF gratefully acknowledges the contributions of WWF-UK, HACAN Clearskies, and Stop Bristol Airport Expansion towards the costs of printing and distributing this publication.

**Published by**

Aviation Environment Federation  
Broken Wharf House  
2 Broken Wharf  
London  
EC4V 3DT  
© March 2009

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## EXECUTIVE SUMMARY

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1. With the current recession, when thousands are losing their jobs, any promise of more jobs is welcome. Airports and airlines for their own commercial reasons tend, however, to exaggerate the number of jobs that will be created by airport expansion.
2. Claims that airports create 'indirect', 'induced' and 'catalytic' jobs are based on dubious statistical concepts.
3. Between 1998 and 2004, despite a 30% rise in air passengers, the total employment attributed to airports and airlines actually went down.
4. Master Plans produced by each airport are inconsistent, and their employment forecasts are little better than guesses – designed to influence local councillors and planners.
5. The Airport Operators Association has forecast that by 2030 an increase of 104 % in the number of passengers passing through UK airports will produce a 21% increase in jobs at airports.
6. UK residents took 41.5 million more return flights for leisure in 2005 than foreigners came here for leisure. The aviation tourism deficit is costing the UK about 900,000 jobs as a result of people spending their money abroad instead of here.
7. Aviation – direct employment at airports and by airlines – provides under 200,000 jobs in the UK. Thus at present air travel is costing the UK roughly a net 700,000 jobs.
8. That is not a moral judgement that people ought to spend their holidays in Britain, merely a statistical fact that flying abroad creates jobs elsewhere, not in this country.
9. As a result of the Government's plans for the growth in aviation, the situation is due to get worse. By 2030 the UK tourism deficit in terms of return trips by air passengers is forecast to double, to 88.5 million.
10. The growth in air travel is likely to lead to a net loss of a further 860,000 UK jobs by 2030. This loss of jobs will affect every part of the UK.

## INTRODUCTION

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Like 'sex', the word 'jobs' makes an excellent tabloid headline: short, sharp and emotive. It stirs deep folk memories of the poor law and the workhouse, and of the mass unemployment of the 1920's and 1930's. Being without a job, with a prospect of hardship, anxiety and loss of self-respect, is still the dread of almost every family of working age. With the current recession, when thousands are losing their jobs, and millions fear that they may do so, any promise of more jobs is welcome.

Thus the suggestion that a new or expanded airport will create more jobs is a sure way to attract support from the public and a fair wind from the planners. Naturally airport companies and airlines make the most of this. Yet because they have a commercial interest in magnifying the number of new jobs, their figures need careful examination. False hopes can prove a cruel hoax.

## TOTAL EMPLOYMENT IN AVIATION

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There are no official statistics showing the number of people employed in the aviation industry. Undeterred by the lack of hard facts, the Air Transport White Paper (2003) supported the Government's plans for airport expansion with the claim: "The aviation industry itself makes an important contribution to our economy. It directly supports around 200,000 jobs, and indirectly up to three times as many." These figures were based on a report commissioned and paid for by the aviation industry from a consultancy firm, Oxford Economic Forecasting (OEF).<sup>1</sup>

The definition of aviation used by OEF included airline and airport operations, passengers and freight services, aircraft maintenance, air traffic control, and on-site retail and catering, but excluded aircraft manufacture.

Since there are no official statistics, OEF stated that they 'put together these statistics from a number of sources.' Their conclusion was that in 1998 the aviation industry in the UK generated around 180,000 jobs (full-time equivalents).

The Department for Transport (DfT) produced a Progress Report in December 2006, and made a similar claim. 'The aviation industry makes a significant contribution to employment and investment in the UK economy. It is itself a substantial employer, providing around 200,000 jobs directly and [somewhat more cautiously] many more indirectly.'

This statement was based on a further report by OEF produced in October 2006.<sup>2</sup> Using figures supplied by the Airport Operators Association, OEF found that the aviation industry directly employed 186,000 people in 2004.<sup>3</sup> That is the latest figure which is available.

## EMPLOYMENT CATEGORIES

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Discussion about employment in aviation is usually carried out in terms of different categories. The exact definitions vary from one study to another but are broadly as follows:

*Direct on-airport:* All jobs within the airport boundary, including hotels, catering and retail.

*Direct off-airport:* Employees outside the airport working directly for airport and airline companies; for example, airline offices where these are located outside the airport.

*Indirect:* Jobs in firms which supply goods and services to the aviation industry. OEF quote jobs in the energy sector generated because of airline purchases of aircraft fuel; in the aerospace industry because of airline purchases of aircraft equipment; construction workers at airports; and

the workers required to manufacture the goods sold in airport retail outlets.<sup>4</sup>

*Induced:* Jobs created when aviation employees (direct and indirect) spend their income. For example, when an airline pilot buys a loaf of bread he is helping to create employment for bakers.

*Travel agents:* OEF (but not other studies) also added employment in travel agents on the grounds that travel agents mainly sell holidays by air.

*Catalytic:* Jobs in firms attracted to the area as a result of the transport links created by the airport. Since these firms will normally be relocating from other parts of the UK, there is little effect on total national employment.

The two OEF studies gave the figures for each category (excluding catalytic) in 1998 and 2004 as follows:

	1998	2004
<b>Direct airport jobs</b>	180,000	186,000
<b>Indirect jobs</b>	200,000	167,000
<b>Induced jobs</b>	94,000	88,000
<b>Travel agents</b>	75,000	82,000
<b>Total</b>	549,000	523,000

The significant thing about this table is that it shows that in six years when the number of passengers passing through UK airports rose by 30%, the number of direct jobs at airports only went up 3%. Moreover during these years, **the total level of employment attributed to aviation actually went down.**

In every document produced by the aviation industry, or by the Department for Transport on their behalf, these categories of employment are trotted out as if they are indisputable truths. They

are used to back up claims that airport expansion creates many jobs 'in the wider area.' Yet each of the concepts is distinctly dubious.

## Mini-hoax?

**The figures for 1998 above appeared to be the basis for the White Paper statement "The aviation industry ... directly supports around 200,000 jobs, and indirectly up to three times as many". At first sight that sentence seems to suggest that the number employed indirectly is *three* times the number employed directly. But the table above shows that the number employed indirectly, including induced and travel agents, is actually *twice* the number employed directly.**

**The phrase would be true if it is construed as meaning that the total number employed, directly *and* indirectly, is three times the number employed directly. Let us hope that the civil servants who drafted the White Paper were deficient in their grammar, not in their mathematical honesty.**

**Direct employment** includes a substantial number of jobs in airport shops. Airport shops do not provide much extra employment; they mainly take business away from the High Street. Indeed buying goods at an airport is basically illogical: it is cumbersome to carry shopping on and off an aircraft. The only reason why most people shop is that, due to possible delays in reaching the airport, and long check-in times, many people arrive several hours before their flight and are corralled with little else to do; and because of the lure of duty and tax free goods - an unjustified

subsidy for aviation. It could be argued that jobs in airport shops should be included in the statistics of retail employment, not under aviation.

**Indirect employment** has a certain validity as a statistical concept but has the fatal flaw that it means double-counting people employed in other industries. For example, it is stated that it includes jobs in producing aircraft fuel: thus it may include some workers on the North Sea oil rigs. Since these people are also included in the statistics of workers in the oil industry, there is obvious double-counting.

The inclusion of construction workers is incorrect: Government guidance says that they should be classified under 'construction', and not be included in the industry for which they may be undertaking a project.<sup>5</sup>

If every other industry used the same technique the number of people employed in British industry would far exceed the total population.

The definition of indirect employment also leads to some rather far-fetched results. It is said to include the workers who produce the goods sold in airport shops: thus it includes, for example, the Scottish distillery workers who produce the whisky sold in airport duty-free shops.

**Travel agents** do depend largely on selling holidays by air. But with the increasing trend to buy flights and book hotels on the internet, travel agent employment is likely to decline. Again there is double counting: travel agents are also included in the statistics of employment in the tourist industry.

**Induced employment** could be a valid concept if applied to public works designed to relieve serious unemployment. John Maynard Keynes in 1936 used the concept of the multiplier to explain how providing extra employment could trickle down through the economy. Yet as he acknowledged, this theory was mainly applicable

to a situation of mass unemployment. "It is obvious that the employment of a given number of men on public works will ... have a much larger effect on aggregate employment at a time when there is severe unemployment, than it will have later on when full employment is approached."<sup>6</sup>

Moreover, many of the induced jobs are not created in the local area: the baker who bakes the pilot's loaf may be local but the man on the oil rig certainly is not. To the extent that a sizeable proportion of expenditure by every family these days is on goods produced abroad, the induced jobs will not even be created in the UK.

According to OEF and other airport studies, induced employment includes jobs due to purchases by both direct and indirect airport employees, again leading to some far-fetched results. Thus it includes not only the bakers who provide the bread for the airline pilots but also the bakers who provide bread for the oil rig workers and the distillery workers. When the man on the oil rig takes a holiday in Cornwall, the hotel staff (or at least a proportion of them) are counted as part of aviation employment. When the distillery worker buys some kippers for his family supper, some of the fishermen who caught the herrings are counted as being employed in aviation!

There is no reason why the process should not go on indefinitely. Why not also take into account that when the fishermen spends some of their income on cabbages that creates jobs for farmers, and when the farmers buy newspapers that helps to create jobs for journalists, and when the journalists fly abroad that creates jobs in aviation, and so on ad infinitum.

## FORECASTS OF FUTURE EMPLOYMENT

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The DfT forecast that the number of passengers passing through UK airports will increase from 228 million in 2005 to 450 million in 2030.<sup>7</sup> There

are, however, no official forecasts of what this might mean in terms of employment.

Perhaps that is not surprising. The future of aviation is almost impossible to predict. Even the passenger figures are subject to huge uncertainties.<sup>8</sup> They depend on the assumptions that:

- after the current recession, growth returns to its previous trend;
- the price of oil remains below \$78 per barrel in real terms until 2030;
- there is no increase in tax on air travel to raise revenue;
- any tax imposed for climate change reasons (or the cost of emissions trading permits) will be exceptionally low;
- the growth in aviation is not affected by the recent decision to aim for an 80% cut in CO<sub>2</sub> emissions by 2050.

Taking the next step, to translate the number of passengers into the number of employees is fraught with further uncertainty.

For many years there was a rough rule of thumb that every million passengers per annum require a thousand airport and airline (direct) employees. That rule roughly held good for the level of employment at the time of the Air Transport White Paper. In 2003 there were roughly 200 million passengers and 200,000 employees.

It would be rash, however, to predict that every *extra* million passengers will require an *extra* thousand employees. In 2005 the Airport Operators Association commissioned York Aviation to study future employment trends.<sup>9</sup> Their conclusion was that direct airport employment would increase from 185,900 in 2004 to 225,200 in 2030 assuming full expansion of all airports as in the Air Transport White Paper. A forecast increase of 237 million passengers (104 %) in the number of passengers was only expected to produce a 39,300 (21%) increase in

## Treasury hoaxed

**Explaining why he had dropped his proposal to replace air passenger duty by a tax per plane, the Chancellor in his Pre-Budget Report in November 2008 stated that: ‘*The Government recognises the contribution that the aviation industry makes to the UK economy: providing around 200,000 jobs directly in the industry, employing up to 500,000 people in the supply chain,*’** A footnote explained that this statement was based on the 2006 OEF report.

**When it was pointed out to the Treasury that the OEF report showed that the number of jobs ‘in the supply train’ (i.e. indirect jobs) was 167,000 not ‘up to 500,000’, their only reply was to put the blame onto the Department for Transport for supplying the information.**

jobs. The ratio of extra jobs to extra passengers is only 166, far below 1,000.

Even that may be over optimistic. It has not happened in the past. As previously noted, a 30% rise in UK passenger numbers only produced a 3% rise in employment. The same is true abroad. At Frankfurt airport, flight movements increased 78% between 1978 and 1996, yet employment only rose by 0.6% over the same period.<sup>10</sup>

Promises by airports and airlines that expansion will mean more jobs may not be borne out in the real world. There are a number of changes which will tend to reduce the number of people employed at airports. The low cost airlines have shown how it is possible to make drastic cuts in



staff, with fewer staff at the airport, fewer staff on board and a higher proportion of aircraft seats filled. Although the figures may not be exactly comparable, Ryanair handles over 10,000 passengers for each member of staff whereas British Airways handle under 800.<sup>11</sup> If competition forces the traditional airlines to adopt the low cost model there will be a fall in airport employment.

What is not so generally realised is that there is a parallel move to 'low cost airports' with

### **NEW RUNWAYS 'VITAL FOR JOBS'**

by Vincent Moss, Political Editor

*Sunday Mirror*, 11 January 2009

*Airline bosses have warned that 500,000 new jobs would be lost unless the Government backs a major expansion of Britain's airports...*

tickets bought on the internet; check-in done electronically, and baggage handling increasingly automated, so that the same number of airport staff can handle far more passengers. Heathrow Terminal 5 was designed as a self-service terminal - with as many as nine out of ten passengers having no need to contact members of staff until they reach boarding gates.

The future may see a move to an even more simplified type of airport. Baggage will be checked-in at the car park, passengers will go straight to the gate room with the security checks carried out just before boarding. That is the Ryanair model, and it is the reason why they complain that at Stansted BAA are planning to build a 'Taj Mahal' terminal.

## **ARE MORE JOBS A GOOD THING?**

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Since 'jobs' is such an emotive headline, it seems almost like sacrilege to ask if more jobs in aviation actually benefit the nation. In a recession, more jobs in almost any industry, even jobs digging useless holes in the ground, are welcome.

In more normal times, however, when there is reasonably full employment, if the public have a fixed amount of money to spend, then more jobs in aviation will mean fewer jobs in other industries. This was the point made in a study by Berkeley Hanover Consulting.<sup>12</sup> It has also been acknowledged (sotto voce) by OEF.<sup>13</sup> So more pilots and more air hostesses, more baggage handlers and more air traffic controllers would mean fewer doctors, fewer nurses, fewer teachers, fewer waste collectors, fewer shop assistants, fewer people behind the bar in the pub. That is fine, and good economics, if it reflects real consumer preferences about how they wish to spend their money. And if the prices of the various services reflect their true cost, without any subsidy.

Economic growth, or real wealth per head, is created by increasing efficiency. This means reducing the number of jobs for a given output, not increasing them. More jobs in aviation will only add to economic growth if they replace less productive jobs elsewhere. But many jobs in aviation, such as baggage handling or aircraft cleaning, are relatively unskilled. And they are all subsidised.

Aviation pays no fuel tax and no VAT. It benefits from duty-free sales at airports and from artificially low landing fees. Although it pays air passenger duty this is comparatively low compared to the fuel tax and VAT reliefs. The net tax subsidy received by air travel as compared to car travel is around £9 billion a year.<sup>14</sup>

**This means that, on average, the tax subsidy per (direct) job in the aviation industry is £50,000 a year; or £1,000 a week; or £25 an hour.**

Any industry could promise to provide more jobs if it received that level of subsidy.

Once upon a time jobs in aviation seemed romantic: brave pilots; seductive air hostesses; far-flung destinations; all the buzz of being at the forefront of technological innovation. Now we have learned how polluting the industry is, however, employment in aviation seems less glamorous. In 2005 UK aviation produced 37.9 million tons of CO<sub>2</sub>, forecast to rise to 59.9 million tons in 2030 even after taking into account more efficient aircraft.<sup>15</sup> On average at present each aviation worker is responsible for over 200 tons of CO<sub>2</sub> per year, or the equivalent of around 400 tons if radiative forcing is taken into account.

Each job in aviation is thus about twenty times more damaging to the climate than the average job in the rest of industry (energy supply, business and transport).<sup>16</sup>

## MORE LOCAL JOBS?

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It is now time to switch from the national to the local picture. Again there are no official statistics for the number of people employed at each airport. The Airport Operators Association and OEF have produced the following table, albeit by now somewhat out-of-date.<sup>17</sup>

### Employment in the Aviation Industry, 2004

Airport	Passengers (Million)	Direct employment
Aberdeen	2.64	2,716
Belfast City	2.13	807
Birmingham	8.86	9,071
Bristol	4.65	4,747
Cardiff	1.89	1,932
East Midlands	4.38	4,512
Edinburgh	8.02	2,300
Gatwick	31.47	23,761
Glasgow	8.58	5,442
Heathrow	67.34	68,427
Luton	7.54	7,756
Manchester	21.25	18,000
Newcastle	4.72	4,855
Stansted	20.91	10,592
Other Airports	20.63	21,116
<b>Total</b>	<b>214.98</b>	<b>185,900</b>

Funny thing is that some of the figures in this table appear to be too high. One might think that the Airport Operators Association would know how many people are employed at each airport, but not so. The Bristol Airport Master Plan compiled by Bristol Airport shows that the number directly employed in 2005 as 2,284, not 4,747. The Birmingham Master Plan shows the total, including some indirect employment, as 7,500 in 2006, not 9,071.

On other occasions airports exaggerate the number of jobs they provide. For example, the East Midlands Airport employee survey claimed 7,089 employees in 2004, compared to the figure of 4,512 shown in the above table. The explanation is thought to lie in the inclusion of non-airport companies located in the airport business park.

Whenever a new airport is proposed, or when plans are announced for the expansion of an existing airport, the airport company invariably claims that it will create more jobs for the local area. These forecasts tend to be optimistic and should be treated with caution.

When Manchester Airport announced in 1991 that it wanted to build a second runway, the Chairman of the Airport company claimed that this would create 50,000 new jobs.<sup>18</sup> A subsequent report, presented by the Airport to the public inquiry, revised the figure to 18,000 new jobs. This figure included indirect and induced employment, and employment in firms which would be attracted to the Manchester area. It also included jobs created by inward tourism - without taking account of outward tourism. The media continued to use the 50,000 figure, and indeed it was repeated by the airport chief executive in 1997 after planning permission was granted.<sup>19</sup>

In the real world, the runway was built, and opened in 2001. The total number of jobs at the airport in 2006 was 4,000 more than ten years previously. Even adding indirect and induced employment at the usually quoted ratios, the

increase would be around 6,400. It is obvious that the figure of 50,000 extra jobs was a flight of fancy.

The Air Transport White Paper encouraged the growth of most airports in the UK. It also indicated that each airport should produce a master plan. The Department for Transport has, however, now admitted that Master Plans tend to be over optimistic about future passenger numbers. They explain that their forecasts for total UK passenger numbers are lower than the sum total of all the master plans because each airport tends to be over optimistic.<sup>20</sup>

Master Plans do not last forever. Luton Airport published their draft master plan in October 2005, and withdrew it in July 2007, cancelling the previously planned new runway.

## Master Plan psychology

**Master plans are produced by the airport owners, and are an expression of their hopes for the future. If they were called 'What We Would Like To Happen In Order To Maximise Our Profits' they would be treated with appropriate scepticism. In normal parlance they would be called 'airport plans'. But the addition of the word 'master' implies that all else must be subservient to them. And the fact that they are usually written in capital letters, like God, subtly implies that they are omnipotent and omniscient. Local planning authorities bow. When the Master Plans also contain forecasts of more jobs, the planners genuflect.**

**Indeed the Government has made master plan genuflection compulsory by amending the planning system so that regional plans and local plans have to take 'Master Plans' into account.**

Forecasting the future number of passengers, and the future number of jobs, at each airport is largely guesswork. Individual circumstances, the balance of scheduled versus charter flights, the importance of low cost airlines and the scope for creating jobs well away from the region (e.g. British Airways engine maintenance in Cardiff and software support in Bangalore, India) all make these numbers unreliable.

The ratio of 1,000 extra jobs per 1 million extra passengers is sometimes too low, sometimes much too high. At Exeter in 2005 there were 1,359 jobs per million passengers, predicted to fall to 1,029 in 2030. At Bristol the ratio was 439 jobs per million passengers, predicted to rise (yes, rise) to 454 by 2030; at Edinburgh the ratio is forecast to rise from 376 at present to 391 in 2030. All three airports look to be in the running for awards for inefficiency!

At Luton some councillors were quoting the 1,000 jobs per million passengers until it was

Announcing the go-ahead for the third runway at Heathrow, Transport Secretary Geoffrey Hoon said: *"Heathrow airport supports over 100,000 British jobs. A third runway is forecast to create up to 8,000 new on-site jobs by 2030 and will provide further employment benefits to the surrounding area."* (January 2009)

pointed out to them that the growth in jobs at the airport in the ten years to 2006, based on the local council's annual employment survey, had been around 100 jobs per million passengers.

The explanation for variations in employment forecasts may be that the forecasts are tailored to what will best impress the public and the planners. For example, the Heathrow

2005 Interim Master Plan<sup>21</sup> recorded 68,400 direct on-airport jobs, a ratio of 1,021 jobs per million passengers. However, the Terminal 5 Inspector had concluded that the maximum the area could support was 61,500 jobs. So the Master Plan predicted that, even if by 2015 passenger numbers grew by 40%, the number of jobs would fall by 10%. Very convenient!

The fear that increasing efficiency will lead to a loss of jobs is a potent weapon in the hands of airport proponents. When existing jobs are at risk, all the airport workers must inevitably vote for expansion. The Government consultation document *Adding Capacity at Heathrow Airport* suggested that by 2030, with the airport operating as at present the number employed at the airport would have fallen to 52,400 but that - if a new runway and new terminal were to be built - the number would be 60,400.

Fear of a loss of jobs through new technology is not a good reason to promote otherwise unjustified expansion. If it were, we would now have a large number of people employed as charcoal-burners, fletchers, wheelwrights, ostlers and postillions.

There appears to be a tendency for airport owners to pitch their guesses high in areas where they reckon that extra jobs would be welcome to the local population and to the local councils; and to pitch their guesses low where extra jobs would be less popular. At Gatwick, which has for fifty years had a high level of employment, extra jobs are seen as causing problems for local firms. There is strong opposition to the in-migration of labour which creates a demand for additional housing in an area where the protection of the countryside has a high priority. Surprise, surprise, the Gatwick Interim Master Plan (October 2006) showed no extra jobs being created between 1997 and 2015 despite a forecast increase in passengers from 25 to 40 million.<sup>22</sup>

The Gatwick Master Plan contains details of a possible additional runway designed to double the size of the airport, making it larger than

Heathrow today. Yet it contains none of the usual hyperbole about the extra employment that would be created. BAA know only too well that local councillors would be appalled at the prospect of building still more houses, more offices and more factories in the Surrey and Sussex countryside.

Every Master Plan, except Gatwick's, contains high flown rhetoric about the number of jobs created in the wider community, by indirect, induced or catalytic employment. The Aberdeen Master Plan claims that 2,800 jobs at the airport support 9,000 other jobs across Scotland. Birmingham claims that 'Taking account of additional indirect and induced impacts, in 2006, it is estimated that the Airport supported around 10,490 full time equivalent jobs in the West Midlands Region.' Heathrow, with 70,000 employees, 'supports over 100,000 further jobs right across the UK.'

As we have seen, the concepts of indirect and induced employment are distinctly dubious at national level; they become even more dubious at a local level.

### Local indirect employment

To recap, indirect employment is defined as jobs in firms which supply services to the airport. Clearly there will be some local firms connected to the airport, for example local hotels or off-airport car parking. Airport construction workers may be local but temporary. Many indirect jobs will, however, be in other parts of the UK, or abroad, although in respectable job statistics these are not included. Aircraft fuel will provide jobs in the North Sea or in Saudi Arabia; and purchases of aircraft equipment may come from Airbus in Toulouse or from Boeing in Seattle. Airport shops are not noted for selling local produce.

In the SERAS studies conducted for the Department for Transport in the run-up to the 2003 White Paper, consultants Halcrow listed various previous studies which had worked out indirect employment ratios, that is the number of

local indirect jobs for each direct airport job. The figures varied between 0.2 for Newcastle and 0.45 for Stansted. The average was 0.3.<sup>23</sup> But all these studies had been commissioned by aviation lobbying organisations.

*It is true that investment creates employment. But jobs are used to justify anything and everything. If recession strikes, the political value of any scheme which boosts them will rise. Projects which in more prosperous times might have been rejected by planners or ministers will suddenly find favour. Anyone who stands in their way - however daft the schemes may be - will be walloped as an antisocial Luddite.*

*But the big question is asked very rarely in the press: how reliable are these promises? Whenever a new defence contract or superstore or road or airport is announced, newspapers and broadcasters repeat the employment figures without questioning them. They rarely return to the story to discover whether the claims were true.*

George Monbiot, *The Guardian*, 1 April 2008

### Local induced employment

We have seen already that induced employment is a concept which leads to some far-fetched results. That is even more so on a local level. When the airline pilot buys his bread there is a fair chance that the baker to whom he gives employment will be situated in the local area. But practically everything else he buys in the

supermarket will have come from all over the UK, indeed all over the world. When he buys a banana he will be providing induced aviation employment in the West Indies.

In 1995 the Treasury suggested a figure of 0.2 for the regional induced employment ratio.<sup>24</sup> The Halcrow study for SERAS found a range of values, varying from 0.2 at Birmingham Airport to 0.5 at Stansted, the variation being due to the use of different definitions. The average was 0.3 although this calculation was not included in the final version of the SERAS consultation paper as even the DfT admitted that the number was difficult to calculate accurately.

## DO AIRPORTS ATTRACT FIRMS TO THE AREA?

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Airport companies love to talk about catalytic employment. It is a long, arcane and erudite word - and therefore must be true. It means that airports act as a catalyst (as in a chemical reaction) and attract firms to the vicinity. Catalytic employment is a beggar-my-neighbour concept. Any firms attracted to the area will have come from some other area, which will thus lose jobs. It is also somewhat old-fashioned: electronic communications and teleconferencing mean that air travel is less vital for business operations.

A key academic study of this subject, although applying mainly to road transport, was carried out for the Department for Transport by Professor Ronald W. McQuaid and colleagues at the Transport Research Institute at Napier University, Edinburgh.<sup>25</sup> They found that:

*"There is a wide body of knowledge stretching back to the 19th Century outlining the theoretical transport-related drivers of business location, . . . This initial review indicates that transport is a factor in business location decisions*

*but is neither the only, nor the most important factor. There are cases where the linkages between transport investment in isolation and industrial location appear to be weak, or indirect.*

*"The evidence suggests that transport is a necessary, but not sufficient condition in determining business location. Other factors such as a skilled and/or cost of workforce, the quality of the local environment and cost of premises have been shown to be equally, if not more important when considered in isolation. Research has also shown that climate, business environment and government assistance may be magnets for business location . . . transportation costs are typically found to be only a very small proportion of firms' total costs - usually less than 5%. As such, any improvements to the transport infrastructure is likely to yield small cost savings and gains to firms."*

The South West Regional Development Agency commissioned the consultants EKOS to undertake an economic assessment of South West Regional Airports. Their report, published in December 2007, found that "The relationship between high growth sectors in the region and air travel appears to be weak. Air travel may not necessarily be a prerequisite for economic growth"

A 1998 survey of Economic Development Officers in local authorities concluded that the availability of workforce skills and suitable development sites were of equal or greater importance than transport in terms of attracting inward investment.<sup>26</sup>

Aviation proponents quote a number of business surveys which put good communications, or proximity to an airport, as an important reason for their choice of location. One of the most often quoted is the 'European Cities Monitor' conducted annually by the commercial real estate agents Cushman & Wakefield.<sup>27</sup> For example, the DfT in their consultation on the expansion of Heathrow stated: A survey of 500 of

*Nearly ten times as many UK businesses support the idea of a fast rail link from London to the North than support expanding Heathrow.*

*Only 4% of British businesses polled believe they will benefit from expanding Heathrow. 95% said it would make little or no difference. In contrast, 23% of businesses believe they will be helped by a new high-speed rail line to the North, as proposed by David Cameron.*

Woodnewton Associates. 5 December 2008.  
[www.woodnewtonassociates.co.uk](http://www.woodnewtonassociates.co.uk)

*Europe's top companies found that 52% of companies considered transport links a vital factor in deciding where to locate their business; and 58% identified good access to markets, customer or clients as essential. A footnote shows this to be a quote from a BAA document: 'The Economic Benefit of Heathrow' which in turn quoted the European Cities Monitor.*

This was based on a survey of 500 senior executives across Europe. 53 % (52 % in 2007) did indeed include 'transport links with other cities and internationally among the factors they considered essential in choosing a location. But it was only fourth in the list of important factors, and closer examination shows that 'links with other cities' included trains and motorways!

Looking at UK companies only, a Cushman and Wakefield survey of 200 executives (presumably part of the same survey) asked what factors were most important in deciding their choice of location. 'Transport links internationally' was only mentioned by 30 % (22% in 2007).<sup>28</sup> Seven other factors were considered more important. This survey is not quoted by the aviation proponents.

OMIS is a leading independent consultancy specialising in business location and corporate relocation, which has for over a decade conducted surveys of CEOs and senior executives of major companies located in the biggest cities across the country. The latest survey of over 5,000 business leaders was carried out between August and November 2005 and the results released in March 2006. It showed little correlation between major cities' air services and their attractiveness to business. Manchester, Glasgow and Leeds were all put higher than London. The previous survey, in 2003, put Leeds (with only a small airport) as the most attractive location for business.<sup>29</sup>

The major Japanese investments in the UK, in car assembly plants at Sunderland, Swindon and Derby, and in electronic and electrical consumer goods in South Wales, prove that the quality of airport facilities/air links are not the most important consideration in relation to inward investment decisions. None of these locations (with the possible exception of Swindon) is anywhere near an airport which offers services to Japan.

The aviation industry, and indeed the Air Transport White Paper, make a great play with the importance of inward investment. The point has been answered by Professor John Whitelegg:

*Data for the UK as a whole show that the amounts of money invested by UK companies abroad is higher than that invested by overseas businesses in the UK. If there is a link between the enhanced accessibility provided by international air services (as the aviation industry claim) then it works to the disadvantage of the UK and supports a net outflow of resources. Put very simply potential jobs in the UK are sacrificed for the benefits of investing abroad. Whilst we would not wish to claim that this job loss and net outflow of funds should be "laid at the door" of aviation we also wish to question the logic of the opposite assertion from the industry itself. Inward*

*investment cannot be claimed as a benefit of airports or aviation. If it is claimed then equal weight has to be given to the debit side of the balance sheet.*

*The balance sheet shows a substantial net deficit ... approximately £38 billion each year.<sup>30</sup>*

*This net deficit has a direct equivalence in job losses. If we accept that the cost of creating a job in the UK is approximately £23,000 (National Audit Office, 1999) then this outflow represents a job loss of 1.65 million each year for 5 years.... This job loss is facilitated by the development of air services and the aviation industry.<sup>31</sup>*

## BOGUS SURVEYS

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The Department for Transport, in their 2006 Progress Report on the Air Transport White Paper, stated that: 'According to the latest research by Oxford Economic Forecasting, access to air services is an important factor for 25 per cent of companies across the whole economy in influencing where they locate their operations within the UK. Access to these services also affects the decisions by 10 per cent of companies as to whether to invest in the UK at all.'

According to the OEF report, "Questionnaires were sent out by OEF to around 6,000 companies and 165 replies were received."<sup>32</sup> Any respectable polling organisation would regard this 2.75% rate of response as exceptionally low and wide open to bias. The poor response means that where OEF and DfT refer to 10% of companies, they are relying on the forms returned - a mere 10% of 165. 16 companies out of 6,000.

The letter sent out to the 6,000 firms explained that: "Oxford Economic Forecasting is conducting this survey on behalf of the CBI, the Department for Transport, a consortium of airlines and airports, and VisitBritain in order to assess the contribution of air services to the UK economy and the competitiveness of UK

business. The results of the survey will be presented to the Government to inform the 2006 Progress Report on its White Paper on airports policy." With that powerful introduction it is extremely significant that 5,835 companies did not bother to reply. The conclusion could well be the opposite to that drawn by OEF and the DfT – that over 97% of companies do not consider that air services are sufficiently important to spend ten minutes filling in a questionnaire.

Another bogus survey was contained in a report by York Aviation commissioned by the City of London Corporation in 2008. Based on a survey of London businesses the report argued that air travel is important to the City. But in fact only 44 firms responded, accounting for 38,000 business journeys a year. That is, about 0.1 per cent of Heathrow business journeys.

At Prestwick, SQW Consulting recently produced a study<sup>33</sup> for the South Ayrshire Council and Scottish Enterprise that claimed that 66% of companies used the airport for business trips. Over 1,000 questionnaires had been posted and the survey was sent by email to all members of the Chamber of Commerce. Only 174 replies were received. But, of course, they were the ones most likely to return the questionnaire. If it were to be assumed that all the firms who did not bother to respond were not interested in the airport, then the proportion of firms who used the airport was well under 10%.

## THE TWO WAY ROAD

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In 1999 the Government Special Advisory Committee on Trunk Road Assessment (SACTRA) reported that: "There is no guarantee that transport improvements will benefit the local or regional economy at only one end of the route - roads operate in two directions, and in some circumstances the benefits will accrue to other, competing, regions."<sup>34</sup>



Sally Cairns of the University of Oxford Environmental Change Institute has commented: "It seems plausible that the two-way road argument could also prove to be relevant for an expansion of UK air capacity."<sup>35</sup> Thus a local firm may be happily supplying goods to a local area but when a local airport is developed it may become possible to supply the area more cheaply by air from somewhere where they can be mass produced.

The argument for airport expansion is, however, usually made in terms of improving communications for businessmen. But that is also a two-way road. The expansion of UK airports with an increased range of destinations is likely to facilitate UK businessmen travelling abroad to set up factories or call centres in countries such as China and India, thus leading to a loss of UK jobs.

It is easy for the managers of, let us say, a biscuit-making business in Furthershire, to believe that the opening of a new airport or the expansion of an existing airport will enable them more easily to travel the world extolling the virtues of Furthershire Biscuits. And make it easier for buyers from abroad to travel to Furthershire, sample the delights of its climate and cuisine, and place large orders for Furthershire Biscuits. The local councillors who all their lives have eaten little but Furthershire Biscuits are, of course, delighted to grant any necessary planning permissions.

What is less easy to envisage, but in the real world just as likely, is that the airport will enable marketing executives from biscuit making companies in France, Germany, Italy or wherever, to fly in, size up the market, and run the old established Furthershire Biscuits Ltd out of business. Like roads, flights go in both directions.

Where an airport only serves a small town it is unlikely to be able to support a wide range of routes. Doncaster Council thought that the creation of the new Robin Hood Airport would

bring prosperity and jobs to Doncaster. But in fact it offers scheduled services to 16 destinations, only two of which are daily (to Belfast and Dublin). Eight are to obvious tourist resorts (such as Tenerife) which are unlikely to be used for business purposes. Four of the routes are to Poland, and it is not difficult to guess that these are mainly catering for migrant workers, the exact opposite of the intention of creating jobs for local residents.

Thus it is possible to have a long runway, and to give the local airport a grand name, but still have few flights which are any use to business people. Another example is Manston aerodrome, now re-named Kent International Airport, which apart from charter flights only has a service to Majorca which departs every Friday during the summer, a service to Jersey every Saturday in the summer, and a service to Gran Canaria which departs every Tuesday but only in August. But hope springs eternal. The Manston Master Plan, published in October 2008 predicts a throughput of 6 million passengers a year by 2033 (sic) with employment rising to 7,500.

## THE TOURISM EMPLOYMENT DEFICIT

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The fact that so many more Brits fly abroad for their holidays than foreigners come here, means a huge loss of jobs in this country. Every part of the country is adversely affected. The UK currently runs a tourism deficit of £19 billion a year.<sup>36</sup> That includes tourists arriving or departing by train or ferry: the tourism deficit due to aviation is around £17 billion a year.

The average pay of people employed in the UK tourist industry is £19,000 a year.<sup>37</sup> It can thus be deduced that the **aviation tourism deficit is equivalent to a loss of roughly 900,000 jobs in the UK.**

A practical businessman might argue that creating a new job involves not only paying the worker concerned but also a roughly similar sum in overheads, such as premises and equipment. Yet providing the premises and the equipment can also be translated into extra jobs, so we come back to the loss of approximately 900,000 jobs. That is on the assumption – a statistical concept, not a likely situation – that if people did not fly abroad, they would spend the same amount taking holidays in the UK.

To repeat, this is a statistical exercise, not a moral judgement. It is not necessary to say that people 'ought' to take holidays in this country. Nor would it be correct to say that environmentalists are kill-joys who want no-one to have a holiday in the sun. But if the jobs created by aviation are to be counted, then the jobs lost by aviation must also be included.

If, to use a different example, people want to eat more bananas and fewer English apples, there is nothing wrong in that. It merely means a slight change in the exchange rate so the UK has to sell more widgets or financial derivatives in order to pay for the extra bananas. In terms of jobs it is merely a statistical issue of how many jobs are lost in the apple orchards here and how many are created in the banana plantations abroad. The banana merchants, unlike the aviation lobbyists, do not try to argue that buying more bananas creates more jobs in the UK.

Two 'moral' issues do arise. One is in relation to the impact of the ever increasing number of tourist flights on climate change. The other is that the number of Brits going abroad, and the trend towards short breaks abroad, is largely caused by the large fiscal subsidy given to aviation by the exemption from fuel duty and VAT (only partially balanced by the air passenger duty). But these issues are not relevant to a discussion of jobs.

The official forecast of the number of tourists coming in and going out, now and in future years, is given in the official air passenger forecasts published in January 2009.<sup>38</sup> Data from the key

table is reproduced on the following page. It is assumed that new runways will be built at Heathrow and at Stansted, but 'constrained' means that airport growth is limited to the proposals in the Air Transport White Paper. These figures show the number of passengers passing through airports, so it is necessary to divide by two to get the number of return trips.

A number of points emerge from this table:

- The right hand column shows that in 2005 there were 83 million more UK leisure flights than foreign leisure flights. Thus Brits had 41.5 million more holidays abroad than foreigners came here for pleasure.
- As a result of the Government's plans for the growth in aviation, the situation is due to get worse. In 2015 the UK tourism deficit in terms of numbers of return air passengers is forecast to be 60 million, and by 2030 it will have grown to 88.5 million. (These figures are significantly worse than forecast in November 2007).
- At Heathrow, leisure passengers at present outnumber business passengers by 30 million to 19 million. By 2030, with another runway, the number of business passengers is forecast to rise to 40 million but the number of leisure passengers is forecast to rise to 59 million, with outward bound British tourists outnumbering incoming tourists almost three to one.
- Gatwick maintains its reputation as a bucket-and-spade airport, with six times as many leisure passengers as business passengers. Brits going abroad outnumber foreign tourists coming in by four to one.
- Stansted is also mainly leisure, not business. At present the Stansted tourism deficit in terms of the number of return air passengers is 3 million. Building a second runway would increase the forecast deficit to 8.5 million return passengers. Stansted expansion would, on the same basis of calculation as above, cause the loss of 120,000 UK jobs as a result of people spending their money abroad instead of in the UK<sup>39</sup>: far, far more than any growth in aviation jobs at an enlarged airport.

CONSTRAINED TERMINAL PASSENGERS BY JOURNEY PURPOSE AND YEAR						
2005	Heathrow		Gatwick		Stansted	
UK Business	12	24%	3	11%	3	14%
UK Leisure	19	40%	20	68%	11	55%
Foreign Business	7	15%	1	4%	1	7%
Foreign Leisure	11	22%	5	17%	5	25%
International- International Transfer	18		3		1	
Total	66		33		10	
2015	Heathrow		Gatwick		Stansted	
UK Business	15	26%	4	11%	5	14%
UK Leisure	24	43%	22	66%	19	55%
Foreign Business	8	14%	2	5%	2	7%
Foreign Leisure	10	17%	6	18%	8	25%
International- International Transfer	21		3		2	
Total	78		37		36	
2030	Heathrow		Gatwick		Stansted	
UK Business	26	26%	4	11%	7	13%
UK Leisure	44	44%	26	68%	30	56%
Foreign Business	14	15%	2	4%	3	6%
Foreign Leisure	15	15%	7	17%	13	25%
International- International Transfer	34		2		3	
Total	133		40		56	

## DOUBLING THE EMPLOYMENT DEFICIT

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The Government's policy of encouraging the doubling of air travel by 2030, will double the aviation tourism deficit, and could mean the loss of a further 900,000 UK jobs in leisure and recreation.

Against this would need to be set any increase in aviation employment. As mentioned earlier, the Airport Operators Association commissioned a study by York Aviation which found that doubling the number of passengers by 2030 could be achieved with a 39,000 increase in direct airport employment.

**Thus the Government policy is likely to lead to a net loss of a further 860,000 UK jobs by 2030, as a result of people spending their money abroad rather than in this country. That is an average loss of 3,500 jobs per month - every month - year in and year out.**

Air travel may be a great benefit to the UK in that it enables the British public to travel the world, and to enjoy the sun. Or it may be a great disaster in that it is causing ever increasing climate change damage. But what it does not do is to provide more jobs in this country.

More jobs in Alicante, Antigua and Athens; more jobs in Bangkok, Cancun and Corfu; more jobs in Faro, Ibiza, Larnaca and Orlando; more jobs in Palma, Phuket, and Prague. But fewer jobs in Britain.

### HOAX BY THE AVIATION LOBBY

The aviation lobby group Flying Matters put out a press release on 3 December 2008, clearly designed to influence the decision on Heathrow expansion.

It was headed: "**Stopping new runways would cost half a million new jobs**". The text stated that: "*International visitors to the UK from around the world are set to more than double from 32 million last year to 82 million by 2030... The forecast growth in international visitors ... is expected to generate an additional half a million jobs by 2030.*"

These figures appear exaggerated, partly because they include visits by train and ferry. The Department for Transport official forecast (as shown in the table on page 19) is that international business and leisure visits by air will increase from 24 million in 2005 to 44.5 million in 2030.

More important, to count incoming tourists without counting outgoing tourists must be statistical rubbish. The correct procedure should be to look at the net tourist deficit.

By admitting the connection between air travel, tourism and jobs the aviation industry has vindicated the approach taken in this study.

## ANNEX: THE REGIONAL IMPACT

The seminal work on the cost of regional tourism deficits was done by Friends of the Earth, and published in August 2005.<sup>40</sup> Their conclusions are shown in column A of the table below.

### NET LOSS OF JOBS DUE TO TOURISM DEFICIT

Region	Tourism deficit 2005 (£ million)	Tourism jobs lost 2005	Jobs at airports 2004	Net loss of jobs, rounded
	A	B	C	D
North East	- 761	40,000	4,100	36,000
North West	- 2,212	116,000	21,800	94,000
York/Humber	- 1,610	85,000	2,100	83,000
East Midlands	- 1,339	70,000	6,500	64,000
West Midlands	- 1,680	88,000	7,200	81,000
East of England	- 1,913	101,000	20,000	81,000
London and South East	- 2,335	124,000	96,800	27,000
South West	- 1,240	65,000	6,800	58,000
Wales	- 756	40,000	1,800	38,000
Scotland	- 1,291	68,000	12,400	56,000
N. Ireland	- 114	6,000	5,300	1,000
<b>TOTAL</b>	<b>- 15,251</b>	<b>803,000</b>	<b>184,800</b>	<b>620,000</b>

On the same basis that the average pay in the UK tourist industry is £19,000, column B shows the number of tourism jobs which are at present lost to each region as a result of air travel.

The column C shows the direct employment at UK airports in each region, as reported by the Airport Operators Association.<sup>41</sup> Indirect, induced and catalytic employment are excluded: if they were to be included for airports, they would also need to be included for the UK tourist industry (and the UK tourist industry, if it had a lobby anything like as powerful as the aviation industry, would be busy totting up the number of indirect and induced jobs it provides).

Column D (B minus C) shows the net loss of jobs which is suffered at present by each region as a result of aviation. The totals are lower than the figures given on previous pages as this table applies to earlier years.

For every region the aviation tourism deficit causes a substantial net loss of jobs. Far more jobs are created in the hotels, cafes, golf courses etc in Spain, Italy, Greece, Florida etc - and thus lost here - than are provided by UK airports and airlines.

If the Government were to succeed in its aim of more than doubling air traffic by 2030, the situation would get worse. As shown earlier, the aviation tourism deficit would double. Assuming the increase in air travel were to be spread equally over all regions, the number of jobs lost in each region would double.

Column E in the table overleaf shows the extra leisure and recreation jobs that would be lost as a result of the doubling of air travel by 2030. Since doubling means adding the same again, column E is the same as column B above.

It is then necessary to estimate the extra airport jobs that would be created in each region by a doubling of air traffic. If it is assumed that the 21% increase in direct airport employment, as suggested by the Airport Operators Association, occurs proportionately in each region, it is simple

to derive column F as 21% of the figures in column C.

Thus we reach column G, a rough estimate of the net loss of jobs in each region that can be expected as a result of the policy of doubling the amount of air travel.

#### **FUTURE NET LOSS OF JOBS DUE TO INCREASED TOURISM DEFICIT**

<b>Region</b>	<b>Extra tourism jobs lost to region by 2030</b>	<b>Extra direct airport jobs created by 2030</b>	<b>Net loss of jobs by 2030, rounded</b>
	E	F	G
<b>North East</b>	40,000	860	39,000
<b>North West</b>	116,000	4,580	111,000
<b>York/Humber</b>	85,000	440	85,000
<b>East Midlands</b>	70,000	1,370	69,000
<b>West Midlands</b>	88,000	1,510	86,000
<b>East of England</b>	101,000	4,200	97,000
<b>London and South East</b>	124,000	20,330	104,000
<b>South West</b>	65,000	1,430	64,000
<b>Wales</b>	40,000	380	40,000
<b>Scotland</b>	68,000	2,600	65,000
<b>N. Ireland</b>	6,000	1,110	5,000

# NOTES

<sup>1</sup> *The Contribution of the Aviation Industry to the UK Economy*. Oxford Economic Forecasting, November 1999. For an analysis of how far the DfT relied on this report see *Alexander's Ragtime Band*. AirportWatch, 2007

<sup>2</sup> *The Economic Contribution of the Aviation Industry in the UK*. Oxford Economic Forecasting, 2006  
[www.aoa.org.uk/publications/OEF\\_Report.pdf](http://www.aoa.org.uk/publications/OEF_Report.pdf)

<sup>3</sup> The AOA figures were based on a report by York Aviation on the Economic and Social Impact of Airports, September 2005.  
[www.aoa.org.uk/publications/Economic\\_Impact\\_Report.doc](http://www.aoa.org.uk/publications/Economic_Impact_Report.doc)

<sup>4</sup> As note 1.

<sup>5</sup> EGRUP guidance [www.webtag.org.uk/archive/msapart1/11.htm](http://www.webtag.org.uk/archive/msapart1/11.htm)

<sup>6</sup> *The General Theory of Employment, Interest and Money*. John Maynard Keynes, 1936

<sup>7</sup> *UK Air Passenger Demand and CO2 Forecasts*. DfT, January 2009. The figure of 450 million is after taking into account the higher rates of air passenger duty announced in November 2008.  
[www.dft.gov.uk/pgr/aviation/atf/co2forecasts09/co2forecasts09.pdf](http://www.dft.gov.uk/pgr/aviation/atf/co2forecasts09/co2forecasts09.pdf)

<sup>8</sup> *Fallible Forecasts*. AirportWatch, 2008

<sup>9</sup> *Economic and Social Impact of Airports*. September 2005.  
[www.aoa.org.uk/publications/Economic\\_Impact\\_Report.doc](http://www.aoa.org.uk/publications/Economic_Impact_Report.doc)

<sup>10</sup> Birmingham Friends of the Earth

<sup>11</sup> Derived from figures given in their annual reports

<sup>12</sup> *The Impacts of Future Aviation Growth in the UK*. Berkeley Hanover Consulting, 2000

<sup>13</sup> As note 1.

<sup>14</sup> *The Hidden Cost of Flying*. Sewill, 2003. The Treasury have accepted that the absence of fuel tax and VAT amount to £10 billion a year. Response to Emissions Cost Assessment Consultation.  
[www.dft.gov.uk/pgr/aviation/environmentalissues/aviationemissionscostassess/costassesssresponconsul.pdf](http://www.dft.gov.uk/pgr/aviation/environmentalissues/aviationemissionscostassess/costassesssresponconsul.pdf)

<sup>15</sup> As note 7.

<sup>16</sup>  
[www.defra.gov.uk/environment/statistics/globalatmos/gagccukem.htm](http://www.defra.gov.uk/environment/statistics/globalatmos/gagccukem.htm)

<sup>17</sup> As note 2.

<sup>18</sup> [www.gmpete.com/upload/library/met\\_south.pdf](http://www.gmpete.com/upload/library/met_south.pdf)

<sup>19</sup> Press report 16 January 1997

<sup>20</sup> As note 7. See page 55.

<sup>21</sup>  
[www.baa.com/assets/B2CPortal/Static%20Files/LHRInterimMasterPlan.pdf](http://www.baa.com/assets/B2CPortal/Static%20Files/LHRInterimMasterPlan.pdf)

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[www.gatwickairport.com/assets/B2CPortal/Static%20Files/lgw\\_interim\\_masterplan.pdf](http://www.gatwickairport.com/assets/B2CPortal/Static%20Files/lgw_interim_masterplan.pdf)

<sup>23</sup> *South East and East of England Regional Air Services Study: Stage Two Appraisals Findings Report: Airport Employment Forecasting*. DTLR, 2002

<sup>24</sup> *Framework for the Evaluation of Regeneration Projects and Programmes*. HM Treasury, 1995

<sup>25</sup> *The Importance of Transport in Business Location Decisions*. 2004  
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<sup>26</sup> *Transport Links and the Economy*. Automobile Association and Confederation of British Industry, 1998

<sup>27</sup> *European Cities Monitor*. Cushman and Wakefield, 2008.  
[www.cushwake.com/cwglobal/jsp/kcRegisterLogin.jsp?documentURL=/cwglobal/docviewer/2008\\_European\\_Cities\\_Monitor.pdf?id=c20100017p&repositoryKey=CoreRepository&itemDesc=document&cid=c17500010p&crep=Core&cdesc=BinaryPubContent&Country=GLOBAL&Language=EN](http://www.cushwake.com/cwglobal/jsp/kcRegisterLogin.jsp?documentURL=/cwglobal/docviewer/2008_European_Cities_Monitor.pdf?id=c20100017p&repositoryKey=CoreRepository&itemDesc=document&cid=c17500010p&crep=Core&cdesc=BinaryPubContent&Country=GLOBAL&Language=EN)

<sup>28</sup> UK Cities Monitor 2008 (see note 27)

<sup>29</sup> OMIS, 2006. Britain's Best Cities 2005-2006.

<sup>30</sup> United Nations Conference on Trade and Development (UNCTAD), World Investment 2002, Transnational Corporations and Export Competitiveness. September 2002.

<sup>31</sup> *The Economics of Aviation: a North West England perspective*. John Whitelegg, April 2003

<sup>32</sup> As note 1.

<sup>33</sup> [www.sqw.co.uk/file\\_download/129](http://www.sqw.co.uk/file_download/129)

<sup>34</sup> Stationery Office.

<sup>35</sup> Predict and Decide. 2006

<sup>36</sup>

[www.tourismalliance.com/attach.pl/204/240/TA%20Aviation%20Duty%20Submission.pdf](http://www.tourismalliance.com/attach.pl/204/240/TA%20Aviation%20Duty%20Submission.pdf)

<sup>37</sup> Gross pay of employees in hotels, restaurants, recreational, cultural and sporting. ONS. 2008

<sup>38</sup> UK Air Passenger Demand and CO2 Forecasts. Page 134. DfT. January 2009.

[www.dft.gov.uk/pgr/aviation/atf/co2forecasts09/co2forecasts09.pdf](http://www.dft.gov.uk/pgr/aviation/atf/co2forecasts09/co2forecasts09.pdf)

<sup>39</sup> 5.5 million divided by 41.5 million multiplied by 900,000.

<sup>40</sup> *Why airport expansion is bad for regional economies*. Friends of the Earth, 2005  
[www.foe.co.uk/resource/briefings/regional\\_tourism\\_deficit.pdf](http://www.foe.co.uk/resource/briefings/regional_tourism_deficit.pdf)

<sup>41</sup> As note 9.