Submission to the Airports Commission

Aviation Demand Forecasting

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Stop Stansted Expansion
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STOP STANSTED EXPANSION

Submission to Airports Commission - Aviation Demand Forecasting

Our response to the six main questions listed in Chapter 6 of *'Discussion Paper 01: Aviation Demand Forecasting'* is as follows.[1]

Q1: To what extent do you consider that the DfT forecasts support or challenge the argument that additional capacity is needed?

1.1 The central case in the latest DfT forecasts is that the demand for air travel will increase by about 2% a year up to 2050. In our view, however, the Commission should focus on the 2030 demand forecasts because of the level of uncertainty in forecasting the future level of demand for air travel, associated with, for example:

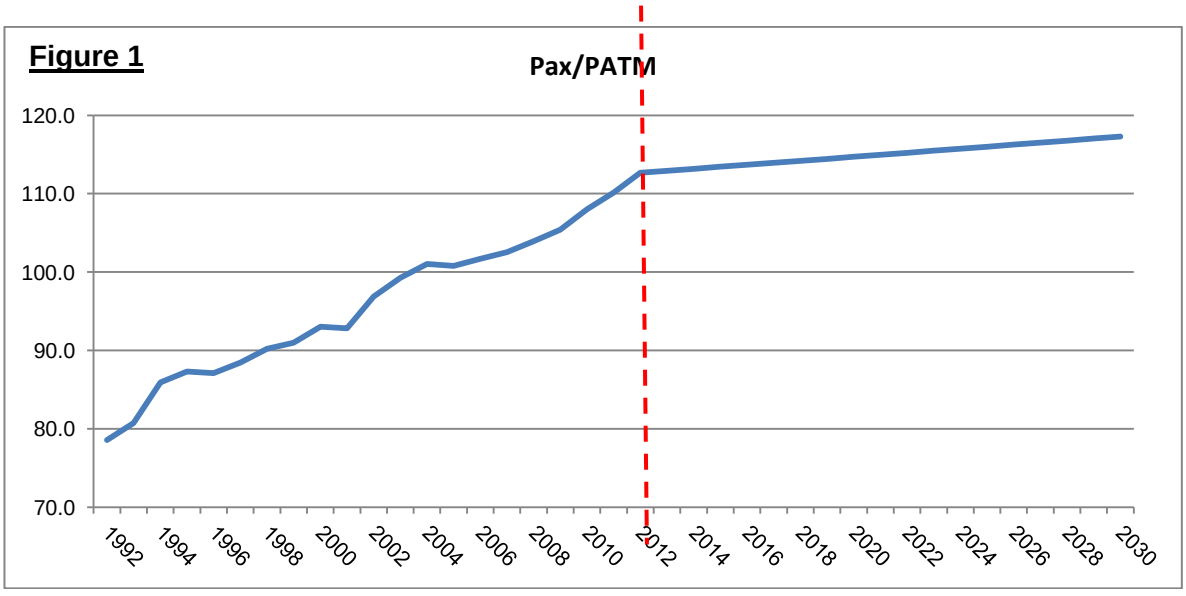
- the long term price and availability of oil;
- environmental considerations, not least the growing impact of climate change;
- the implications, including cost implications, of dealing with the threat to air passenger safety from extremist groups;

such that the demand for air travel may be as likely to fall in the period 2030-2050 as to rise.

1.2 A planning horizon of 2030 is sufficient for the purposes of formulating and implementing policy decisions in relation to airport capacity. We note that the entire London Olympics project was delivered within seven years of the decision to award London the 2012 Games and we note also that the planning horizon for local authorities is 15 years ahead. Where it is necessary to consider the period beyond 2030, e.g., for assessing the commercial viability of an airport investment project, the DfT's central demand forecast should be flat-lined from 2030 onwards, i.e. held at unconstrained demand of 319.5 million passengers per annum ('mppa').

1.3 The DfT considers that demand would be constrained to 312.6mppa in 2030[2] (97.8% of unconstrained demand) and this would require 2.67m passenger air transport movements ('PATMs')[3] which is an average of 117 passengers per PATM. **The number of passengers per PATM is a critical assumption because runway capacity is measured not by passenger numbers but by the number of ATMs, and we consider that the DfT's approach, when converting its passenger forecasts into PATMs, is far too conservative.**

Figure 1



[1] We are not responding to the second list of questions because these relate largely to technical aspects of the DfT's approach to forecasting.
[2] '*UK Aviation Forecasts*', DfT, Jan 2013, Annex E.9. Note that DfT rounds this to 315mppa in main text.
[3] *Ibid*, Annex F.1.

1.4 The average number of passengers per PATM at UK airports has increased by 2% a year over the past 20 years but the DfT predicts that it will increase by only 0.2% a year between now and 2030. The DfT has provided no evidence or explanation for this prediction, which would mark a sudden and dramatic slowdown of a trend which has been evident almost since the very beginning of civil aviation and is difficult to comprehend when:

- The main new aircraft types coming into service between now and 2030, such as the B747-8, B787, A380 and A350, are significantly larger than the aircraft they will replace;
- Higher rates of growth are predicted on long haul routes (where larger aircraft are deployed) than on short haul routes;
- By 2030, HS2 is expected to be in service and should reduce demand for domestic flights, and this is the market sector with the lowest average passenger per PATM ratio;
- Average aircraft load factors are steadily rising, assisted by ever smarter yield management systems and spurred on by higher fuel prices. Heathrow, Gatwick and Stansted all achieved record load factors last year, as follows:

	Average load factor 2011	***Average load factor 2012***	***Average passengers per PATM 2012***
Heathrow	75.2%	75.6%	149
Gatwick	73.5%	76.4%	142
Stansted	80.6%	81.0%	144

- Assuming, as the DfT predicts, that runway capacity becomes tighter, this will be an added incentive for airlines to use larger aircraft and to maximise load factors, particularly at Heathrow where, despite the oft-repeated claim that Heathrow is completely full, there were 23 million empty seats on flights to and from Heathrow last year. As a further incentive for making best use of existing capacity, consideration could usefully be given to applying Air Passenger Duty ('APD') to the empty seats.

1.5 Converting passenger forecasts to PATMs is simply a matter of applying average load factors to aircraft seating capacity. However, the DfT has not provided information on its assumed fleet mix, average aircraft size or load factors, either by route, by year or by airport. It is not therefore possible to identify exactly where the DfT is making its excessively conservative assumptions. Further explanation and justification by the DfT is required.

1.6 The peer review of the DfT's national air passenger allocation model carried out by John Bates Services[4] describes – and broadly endorses – the Department's use of Larame graphs *'... to calculate the number and size of planes on groups of routes taking into account numbers of seats available per plane and seat factors which give the number of seats occupied relative to available seats'* although he questions the need for the DfT to use so many of these [244 in total] and certain aspects of their use. Bates cites the example of the three Larame graphs relating to 'LGW Trunk International LF' which had identical parameters, but were differentiated by three levels of load factors – low (0.65), mid (0.70) and high (0.76) – and he went on to conclude: ***'Given that the load factors are an essential element in the conversion between passengers and ATMs, some support for the values should be provided: if there is significant uncertainty about some of them, then sensitivity tests should be carried out.'***

1.7 The DfT states that load factors are a 'user judgement input' and tells us that it currently uses the following ceilings for load factors:

- 80% for internal domestic flights;
- 80% for short haul flights; and
- 90% for long haul flights.[5]

[4] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/4506/review-napalm.pdf
[5] *'UK Aviation Forecasts'*, DfT, Jan 2013, para 2.31.

1.8 We very much agree with Bates that the DfT's assumed load factors should be subject to sensitivity tests. In the Gatwick examples above the DfT's use of an average load factor of 70%, a low of 65% and a high of 76% suggests that the DfT's 'user judgement input' needs to be updated. In addition, there should be sensitivity tests on the assumed aircraft size (seats) and all this information should be provided by route, by year and by airport.

1.9 In the meantime, we strongly question the DfT's assumption that 2.67m PATMs would be needed in 2030 to handle 312.6mppa. Even if the annual growth in the pax/PATM ratio between now and 2030 were only 1% – i.e. half the growth rate of the past 20 years – it would require only 2.32m PATMs to cater for demand of 312.6mppa in 2030.[6]

1.10 Turning to the question of capacity, the UK currently has enough runway capacity to handle 5.7m ATMs a year[7] and, with some investment in terminals, taxiways and aprons – but without new runways – this could be increased to about 6.7m ATMs. By way of international comparison, the UK has more commercial runways than either Germany, France, Spain or Italy. The UK has more runway capacity than Japan even though Japan – which is also an island trading nation – has twice our population and twice our GDP.[8]

1.11 Since the UK's airports, without new runways, will be capable of handling 6.7m ATMs in 2030 then, even using the DfT's excessively conservative assumption of 117 passengers per PATM, they would be able to handle about 780mppa in 2030 (after allowing for freight movements). Furthermore, with 1% annual growth in the pax/PATM ratio, their capacity would be closer to 1,000mppa by 2030. Thus, the total capacity of the UK's airports is at least twice, and probably three times, the DfT's central passenger demand forecast for 2030.

1.12 It is worth recalling that ten years ago, in the lead-up to the 2003 Air Transport White Paper, the DfT's unconstrained demand forecast for 2030 was not 319.5mppa but 500mppa and the policy response at that time was that four new runways should be built in the UK in order to meet 97% of that demand.[9] None of these runways has been built, which is just as well, because the 180mppa reduction in the demand forecast broadly equates to the capacity of four new runways.

1.13 The most recent DfT forecasts show airports in the South East still handling over 60% of UK passenger demand in 2030, even though the South East accounts for only one third of the UK population and just 12% of its land area.[10] It is the most crowded part of the UK and it has the most crowded airspace in the world. Nevertheless, airports in the South East are capable of handling 70% of unconstrained UK demand in 2030 without new runways.[11]

1.14 There is no evidence of a looming airport capacity crisis either in the UK, taken as a whole, or even in the South East, taken as a whole, as shown above. It is clear however that there is a particular capacity problem at Heathrow. We note, for example, that the DfT's most recent forecasts show Heathrow facing unconstrained demand of 109mppa in 2030 while all the other London airports – indeed, all other airports in the UK – are capable of meeting their unconstrained demand forecasts without any additional runway capacity.

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[6] In 2012, the average number of passengers per PATM was 112.7. If this increased by 1% a year it would reach 134.8 by 2030 which would mean that the DfT figure of 312.6m passengers could be handled by 2.32m PATMs.

[7] *'Meeting the UK aviation target – options for reducing emissions to 2050'*, Committee on Climate Change, Dec 2009, based on the estimates shown in Tables ES.2a and ES.2b, the former adjusted to incorporate developments since 2005 and the latter adjusted to remove capacity relating to additional runways.

[8] SSE research, the main reference sources being the Boeing Airport Directory, CIA World Factbook 2011, CAA airport statistics, NATS AIS (Aeronautical Information Service) and azworldairports.com.

[9] *'Passenger Forecasts: Additional Analysis'*, DfT, Dec 2003, p6.

[10] Statistics quoted are based on the DfT's definition of the South East which includes the East of England region.

[11] Based on 160 pax/PATM average for airports in the South East and 1.4m PATMs = 224mppa, i.e. 70.1% of the DfT's forecast for unconstrained demand of 319.5mppa in 2030.

1.15 For obvious environmental reasons, we are opposed to the development of a third Heathrow runway, just as we are opposed to any further runways at Gatwick or Stansted. Instead, we believe that the Government should use the policy tools which it has at its disposal to manage the demand for air travel. Amongst the simplest of these policy tools is APD. Higher rates of APD can be justified at a number of levels (see Annex A) and could quite reasonably and logically be used to temper the demand for air travel. In addition, differential rates of APD could be used to shift demand away from congested airports, such as Heathrow, and could be implemented on a revenue neutral basis by an equivalent reduction in the rates of APD at airports where the Government wanted to see greater utilisation.

1.16 In searching for solutions to the capacity pressures on Heathrow, we suggest that the Commission examines some of the international experience. For example, Tokyo's Haneda Airport has been averaging over 200 passengers per PATM for many years despite its focus on domestic and short haul flights (Tokyo's Narita Airport is designated for international long haul traffic). Both JAL and ANA use short haul versions of the Boeing 747, with 569 seats, on domestic routes.

1.17 We can think of no obvious commercial reason why a similar approach could not be adopted at Heathrow for busy short haul routes. On a typical day, over 2,000 passengers fly into Heathrow from Dublin, from Frankfurt and from Amsterdam, and by 2030, if the DfT's forecasts are met, these route densities will have increased to about 3,000 passengers a day in each case. On that basis, the use of much larger aircraft on Heathrow's busiest short haul routes appears to be a sensible option, although we recognise this would result in some reduction in service frequency, not to mention the increased environmental impact.

Q2: What impact do you consider capacity constraints will have on the frequency and number of destinations served by the UK?

2.1 We do not agree that there will be capacity constraints this side of 2030, as should be clear from our response to Q1 above. Our reasoning is more fully explained below.

2.2 As previously stated, the DfT's PATM forecast for 2030 is based on the excessively conservative assumption that the average number of passengers per PATM will increase by just 0.2% per annum between now and then. However, the DfT passenger forecasts are also likely to be on the high side because optimistic assumptions (as regards the future level of demand for air travel) have been made by the DfT in each of the four areas below:

(i) <u>The Level of APD</u> – The DfT assumes that aviation taxation, including rates of APD, will remain constant in real terms throughout the forecasting period. However, the OBR fiscal projections show APD revenues increasing from £2.6 billion in 2011/12 to £3.9bn in 2017/18.[12] This is clearly a substantial increase in real terms, even allowing for projected volume growth to 2017/18. The OBR projections are presumably based on HMT guidance that the rates of APD will be increased in real terms. In the longer term, the DfT has repeatedly stated that it regards aviation's exemption from fuel duty as anomalous. It is worth revisiting the clear statement of the DfT's position, as published in the Air Transport White Paper Progress Report, in December 2006, set out below:

> *"**2.7** However, despite a number of revisions, the Chicago Convention is in many ways now very out of date. This is particularly true in relation to the environment. ICAO has been considering since 1998 how best to respond to the issue of aviation emissions. While some constructive action has been agreed, overall progress has been too slow. Although the last ICAO Assembly in 2004 agreed a resolution on environmental policy, many countries still see aviation only as a very minor part of the global problem of climate change and are concerned about the potential impact on the industry of measures such as emissions trading. The Convention itself also stands as a barrier to action.*

[12] Economic & Fiscal Outlook, OBR, Dec 2012, Table 4.6.

> *While we have obtained formal recognition for our view that provisions such as fuel tax exemptions are anomalous, it has not yet been possible to reach consensus within ICAO with regard to specific economic instruments. We have, however, been working within ICAO's Committee on Aviation and Environment Protection to develop guidance on emissions trading schemes. If agreed, this would be published in 2007.*
>
> ***2.8** We will work energetically, together with our European and international partners, to press for the modernisation of the Chicago Convention and ICAO. The ICAO Assembly in 2007 should be the starting point for meaningful work to equip international civil aviation with a structure and legal framework that effectively maintains ICAO's good work on safety, security and technical co-operation while taking account of the economic and environmental realities of today's world."*

Insofar as the DfT regards the industry's fuel tax exemptions as anomalous and has committed itself to working 'energetically' for the modernisation of the Chicago Convention, it seems to us unrealistic and unduly pessimistic for the DfT to assume that there will be no progress on removing these tax exemptions between now and 2050 and that no alternative means of addressing this issue will be introduced if it would have the effect of increasing aviation's tax burden in real terms.

(ii) Oil Prices - The DfT's oil price and exchange rate assumptions to 2030 are well founded, being based on DECC and OBR input data. However, its assumption that the price of oil will remain constant between 2030 and 2050 has no evidential support and is in our view highly optimistic. There is obviously a high level of uncertainty when forecasting commodity prices so far ahead but, in the case of oil, the strategic fundamentals are clear: ever-increasing demand on the one hand and ever-increasing extraction costs and the progressive depletion of a finite resource on the other. The only real question, therefore, is not whether oil prices will increase in real terms between 2030 and 2050 but to what extent they will increase.

DECC does not publish oil price projections beyond 2030 but the US Energy Information Administration ('EIA') is an authoritative body on global energy supply, demand and prices. The EIA's latest energy price forecasts[13] show an oil price (central case) of US$163/brl in 2040, at 2011 $prices, which converts to about US$154 in 2008 $prices, i.e. 25% higher than the DfT's assumption for 2040. The EIA does not produce energy price projections beyond 2040, which is an acknowledgement of the level of uncertainty. All of this underlines the point we made earlier that the sensible approach is to look at UK aviation demand projections until 2030 only, and that it is unnecessary to go further.

(iii) Emissions costs – In arriving at its forecasts, the DfT has used the DECC central traded carbon price scenario for 2030 (£69/tonne) which is broadly in line with the recommendation from the Committee on Climate Change ('CCC') of the price needed if the Government is to meet its goal of reducing UK carbon emissions by 80% by 2050 compared to 1990 levels. However, the DfT has made no allowance for the cost of aviation's other greenhouse gas emissions. They and CO_2 together have been variously estimated to have 1.9 – 4.0 times the warming effect of aviation's CO_2 emissions on their own. In 2008, the DfT used a multiplier of 1.9 in its emissions cost assessment[14] and it has long been the Government's policy for the external costs of aviation to be internalised. Referring to aviation's impact on climate change over and above the impact of its CO_2 emissions, the CCC stated in its 2009 report:[15]

[13] '*Annual Energy Outlook: Early Release Overview',* EIA, Jan 2013, Table 1. Note that the reference oil price is the spot price for Brent crude, the same as used in the DECC projections.
[14] *'Aviation emissions cost assessment'*, DfT, 2008, p3 and Figure 1.
[15] *'Meeting the UK aviation target – options for reducing emissions to 2050'*, CCC, Dec 2009, p20.

'The precise scale of the additional impact is unclear and there are considerable scientific uncertainties still to be resolved, but it is highly likely that these non-CO_2 effects are significant. It will therefore be important that they are accounted for in future international policy frameworks and in the overall UK policy framework for emissions reduction.'

Accordingly, in making no allowance in its air passenger demand forecasts for the cost of aviation's non-CO_2 effects, even though it is highly probable that these will be internalised – and therefore reflected in the price of air fares – during the forecasting period, the DfT has taken an overly optimistic view regarding the scale of future market growth.

(iv) HS2 – There is no evidence of the DfT having considered the potential for a reduction in the demand for domestic flights when HS2 comes into service. The DfT seems only to have taken account of HS2 in relation to airport surface access costs for air passengers.

2.3 We have identified four areas where the DfT has made questionable assumptions when arriving at its passenger demand forecasts. However, our difference with the DfT on its oil price assumption is not relevant to the forecasts up to 2030 and so it is only in relation to the level of APD, non-CO_2 emissions costs and HS2 impacts where we would argue that the DfT's approach makes it likely that its 2030 demand forecast is on the high side. On the basis of the sensitivity analysis provided by the DfT in Chapter 7 of *'UK Aviation Forecasts'* (Jan 2013) and on bespoke sensitivity analysis on APD which DfT provided to SSE last year, we estimate that the central case for unconstrained air passenger demand in 2030 would be more reasonably put at about 300mppa, i.e. about 6% less than the DfT's figure.

2.4 The 6% difference between the DfT and ourselves in the forecast number of passengers for 2030 is of small magnitude but it is nevertheless sufficient to bring unconstrained demand below the level the DfT considers can be met by the UK's airports in 2030. Far more important is our difference of view with the DfT on the conversion of the passenger demand forecast into PATMs, which we explained in our response to Q1. Applying a more realistic conversion factor of 134.8 passengers per PATM[16] to a demand forecast of 300mppa results in 2.23m PATMs in 2030, which is 440,000 (16%) less than the DfT's projection.

Q3: How effectively do the DfT forecasts capture the effect on UK aviation demand of trends in international aviation?

3.1 The DfT forecasts do not seem to capture the growing tendency for long haul passengers living outside the South East to start their journeys from their local airport. An increasing number of regional airports in the UK now have direct flights to the Gulf, with Dubai in particular becoming a significant hub, enabling passengers from the regional catchment areas of Glasgow, Newcastle, Manchester and Birmingham airports to obtain connecting flights to onward destinations in the Indian sub-continent, China/SE Asia, Japan/the Far East and Australia/New Zealand.

3.2 Anecdotally, it seems that hubbing via Dubai is just as convenient – for regional business passengers and leisure passengers alike – and frequently less expensive – than hubbing via Heathrow. The only loss to the UK is therefore the potential loss of business for UK airlines operating – or who might wish to operate – comparable hub services from Heathrow, and to the operator of Heathrow airport and other firms engaged in the provision of services at Heathrow. It is however important not to conflate the interests of the UK economy with the interests of the providers of aviation services at Heathrow. If business travellers from Scotland, the North East, the North West and the Midlands can reach the destinations they want to reach, at the right price and with the right level of service, it is of little consequence to them or the UK economy whether they hub via Dubai or Heathrow, or for that matter, via

[16] See footnote 6.

Schiphol, Paris or Frankfurt. Indeed, the regional economic and employment benefits may well outweigh the opportunity cost of reduced hubbing at Heathrow.

3.3 We find it surprising that the DfT projects that the number of UK passengers transferring at hubs in the Middle East and mainland Europe will decline between now and 2030 (from 4.0m in 2010 to 3.4m in 2030[17]), especially since the DfT made this projection on the assumption of London's airports being full by 2030, with Heathrow handling only 90mppa of the unconstrained demand of 109mppa and Gatwick being unable to accommodate the overspill.[18] This suggests that the DfT's forecasting model does not adequately grasp the growing significance of overseas hub airports for UK residents – particularly those living outside the South East – who can connect via a hub airport in mainland Europe or the Middle East rather than via Heathrow or Gatwick and may do so either as a matter of choice or because of capacity constraints at the London airports.

3.4 On the wider question of 'hub-and-spoke' versus 'point-to-point' operations, we note that the world's two leading aircraft manufacturers appear to have a different view on the way the market for international long haul air travel will develop, with Boeing placing more emphasis on aircraft for the point-to-point market and Airbus mostly focusing on hub-and-spoke. It will be important for the Commission to take evidence from aircraft manufacturers and airline operators in order to gain a better understanding of their assessment as to how the market will develop, and the market intelligence that has led them to that assessment. It may well be wrong to assume that hub-and-spoke is a given premise, as the DfT seems to assume.

Q4: How could the DfT model be strengthened, for example to improve its handling of the international passenger transfer market?

4.1 As indicated above, we believe that the DfT needs to improve its understanding of passenger behaviour in relation to route choice, particularly UK long haul passengers who live outside the South East. What value is attached to flying from their local airport? Is it more or less expensive to travel via an airport in mainland Europe or the Middle East, as opposed to travelling via Heathrow or Gatwick? Is it a better service? Is it better quality? Is it more or less convenient? Overall, is it better value for money? In our view the DfT needs to commission an appropriate form of passenger opinion survey/research in order to learn the answers to these questions and thereby improve the evidence base for its forecasting model.

4.2 Another area where it seems the evidence base needs to be improved is in relation to the number of transfer passengers at London's airports. Written evidence submitted by Gatwick Airport Limited to the House of Commons Transport Committee in December 2012, based on analysis of IATA ticketing data, indicated that 93% of all the passengers handled by London's airports in 2011 were starting or terminating their journey in London.[19] Transfer passengers (who are counted twice: i.e. on arrival and departure) accounted for 13% of the total number of passengers handled. However, the CAA passenger survey, which the DfT relies upon, shows that transfer passengers accounted for 21% of all passengers handled by London's airports in 2011, and 34% of Heathrow's passengers.[20]

4.3 The role of a hub airport is a central issue in the current debate and the proportion of transfer passengers at an airport is a key indicator of its status as a hub. It is therefore important to find an explanation for the apparent discrepancy between the IATA data quoted by Gatwick Airport and the CAA data relied upon by the DfT.

[17] *'UK Aviation Forecasts'*, DfT, Jan 2013, Annex E.6.
[18] *Ibid*, Table 3.10 and Annex D.8.
[19] http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtran/writev/aviation/m68a.htm.
[20] http://www.caa.co.uk/docs/81/2011CAAPaxSurveyReport.pdf, Table 1 (excludes Southend).

4.4 On a different note, the DfT uses four main data sources to arrive at its GDP forecasts for each market/sector, three of which sources are in the public domain and one of which, the last on the list below, is not:

- OBR Economic and Fiscal Outlook – for short term (5 year) UK GDP projections;
- HMT Long Term Finance Report – for medium and long term UK GDP projections;
- IMF World Economic Outlook – for short term Foreign GDP projections, by country category (with four categories – i.e. Western Europe, OECD, NIC, LCD);
- Enerdata 'POLES' model – for medium and long term Foreign GDP projections, by country category (calibrated to the same four categories as the IMF projections).

4.5 The DfT's modelling would perhaps be stronger if the Enerdata projections were in the public domain because it would then be subject to greater scrutiny. In addition, this would enable third parties to update the demand forecasts whenever updated OBR, HMT, IMF and Enerdata projections were published, using the sensitivity analysis provided by the DfT.

4.6 We would also suggest that the DfT reviews the country categorisations that it uses to assess future GDP growth and thereby the rate of future growth in air travel between a given county and the UK. We note, for example, that Brazil, Argentina, Chile and Israel are categorized as LDCs (Less Developed Economies) alongside Bangladesh, Burkino Faso, Congo and Cambodia in the lowest of the four country categorisations, in terms of economic development. We simply suggest that the DfT should review its country categorisations.

Q5: What approach should the Commission take to forecasting the UK's share of the international aviation market and how this may change in different scenarios?

5.1 We do not see any particular value in the Commission seeking to forecast the UK's share of the international aviation market. The 2003 Air Transport White Paper made the proud claim that *'one fifth of all international air passengers in the world are on flights to or from a UK airport'* [21] but failed to point out that two thirds of these passengers were UK residents travelling on leisure trips overseas. Thus, it is by no means clear that a high market share in international air travel is necessarily in the interests of the UK economy.

Q6: How well do you consider that the DfT's aviation model replicates current patterns of demand? How could it be improved?

6.1 We find it surprising that the DfT expects international business travel to grow at a faster rate than leisure travel – an average of 2.4% annual growth between 2010 and 2030 compared to 1.9% for leisure travel. Business travel accounted for 32% of all air travel in 1995, 24% in 2000 and 20% in 2011[22] and it is not clear why, in the age of videoconferencing, the DfT expects business travel to bounce back up. The number of business flights abroad by UK residents has fallen by a fifth since 2000[23] and only one in every eight overseas flights by UK residents in 2011 was for business purposes.[24]

6.2 Looking back at its forecasts since 2000, the DfT has consistently over-estimated not only total air passenger demand but also the relative market share attributable to business travel. In its 2013 forecasts, the DfT once again predicts that business travel will grow at a faster rate than leisure travel. This is despite the fact that the reality has shown exactly the opposite for the past 20 years. It seems clear that the DfT needs to re-visit the methodology that it uses to forecast the demand for business travel.

[21] '*The Future of Air Transport'*, DfT, Dec 2003, para 2.6.
[22] *'Air traffic forecasts for the United Kingdom 2000'*, DfT, 2002, para 4.2 and *'UK Aviation Forecasts'*, DfT, Jan 2013, para 5.9.
[23] *'Travel Trends'*, Office for National Statistics, 2000 and 2011 editions, Table 3.07 air travel data.
[24] CAA Annual Passenger Survey 2011.

7. Concluding points

7.1 UK airports handled a total of 1,957,723 PATMs last year, just 5,561 (0.28%) more than in 2001 whereas the number of passengers handled increased by 22% over the same period. It is also worth noting that UK airports handled 57,369 cargo ATMs ('CATMs') last year, which was 20,630 (26%) fewer than in 2001[25]. Thus the total number of ATMs at UK airports last year was about 1% less than in 2001, despite a significant increase in passenger throughput.

7.2 As we pointed out near the start of this paper, when considering the question of runway capacity it is the demand in terms of ATMs that matters, not the demand in terms of passenger numbers. This is what makes the number of passengers per PATM such a critical assumption.

7.3 Also as pointed out near the start of this paper, the average number of passengers per PATM at UK airports has increased by 2% a year over the past 20 years. If this trend were to continue, it would exactly match the growth rate of the DfT's central forecast for air passenger demand to 2030 – indeed it would match it to 2050 – and so the number of PATMs would remain broadly constant over the entire forecast period. If this were to be the case, and it is an entirely reasonable and logical proposition, then plainly, there is no foreseeable requirement for additional runway capacity if the growth in passenger numbers is only to be about 2% a year.

7.4 The needs of the air freight market, of course, also need to be considered, but nowadays over 80% of freight goes 'belly-hold' in PATMs rather than in dedicated air freighters and the number of CATMs has long been in decline. There were 106,000 CATMs in 1990 – almost twice as many as last year – and there is no reason to expect this trend to go into reverse. Fewer CATMs would mean that more capacity was available for PATMs.

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[25] CAA Airport Statistics, Table 1 and Table 6.

Annex A

Air Passenger Duty – Ten Key Points

(Adapted from a note provided by SSE to the House of Commons Transport Select Committee in November 2012)

1. APD was introduced in 1994 by Ken Clarke, the then Chancellor of the Exchequer, not as an environmental tax but because he considered the aviation industry to be lightly taxed compared to other sectors, largely arising from its exemption from fuel duty and VAT.

2. APD was initially set at £5 for short haul economy flights, which account for three quarters of all air travel. In 1997 Ken Clarke doubled APD to £10 for short haul economy flights. In 2001 Gordon Brown halved the short haul economy rate of APD (the so-called 'Reduced Band A' rate) but put it back up to £10 in 2007. Alistair Darling raised it to £11 in 2009.

3. George Osborne increased it to £12 in 2010. There was no increase in 2011 but it was raised to £13 in April 2012. In 2011/12, 77% of passengers paid APD at the Reduced Band A rate. Thus, for the vast majority of passengers APD has increased by just £3 over 15 years.

4. APD is payable only on departure from a UK airport and so the basic Band A rate of £13 is for a round trip to an overseas destination. APD is however payable on both legs of a domestic round trip within the UK.

5. APD raised £2.6bn for public finances in 2011/12 and this is planned to rise to £3.9bn by 2017/18. APD would, however, need to rise to four times its current level to offset the value of the industry's exemption from fuel duty and VAT. If airlines paid the same level of fuel duty and VAT as road users, the cost to the aviation industry would be around £10.5bn a year.

6. Not only do airlines pay no VAT on fuel, they are exempt from VAT on everything they buy relating to the provision of air transport services. Mostly, VAT is not charged in the first place; aircraft and aviation fuel, for example, are zero rated. Where VAT is charged, it can be claimed back. In 2010/11, HMRC paid UK airlines a VAT rebate of £583m (net).

7. Whilst it is true that "passengers can end up paying £184 tax on some flights", as we are repeatedly told by the industry, this is the top rate of APD and applies only to first class and business class passengers on long haul flights to countries whose capital city is over 6,000 miles from London. Just 0.4% of all air passengers fell into this category in 2011/12.

8. Regarding the alleged negative impacts on the UK economy of the recent 'hikes' in APD, it is worth noting that overseas leisure trips by UK residents fell from 60.1m in 2008 to 49.2m in 2011 – down 10.9m (21.5%) whilst the number of foreign tourists coming to the UK fell by less than 0.3m (1.6%), from 23.8m to 23.5m. The effect of this was to reduce the UK's tourism deficit by £6.8bn and to boost spending in the domestic UK tourism industry by £5.1bn over the same period (2011 vs 2008).

9. More than half of all APD revenue is collected from Heathrow passengers and differential rates of APD could be used by the Government to shift demand away from congested airports, such as Heathrow, and could be implemented on a revenue neutral basis by an equivalent reduction in APD rates at airports where the Government wanted to see greater utilisation.

10. Finally, those in the aviation industry who are pressing the Government for APD to be reduced across the board should explain how they would propose to make up the revenue shortfall to the Exchequer.