

Airports Commission Recommendation for Heathrow Expansion

The Aviation Market and Economics - Key Facts

A Report by

The Richmond Heathrow Campaign

26 September 2015

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Annex: Sources: Tables 1 to 3 and 5: Airports Commission 'Assesment of Need' carbon capped scenario. Table 4 CAA and Dft.

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The Richmond Heathrow Campaign represents three amenity groups in the London Borough of Richmond upon Thames: The Richmond Society, The Kew Society and The Friends of Richmond Green which together have over 2000 members.

1. Executive Summary

The Airports Commission's brief was to identify how best to **“maintain the UK's position as Europe's most important aviation hub”**. Its Final report of 1 July 2015 concluded that a third Northwest runway should be built at Heathrow to meet this aim. It ruled out, at an earlier Interim stage, the “Do-minimum” option of more efficient use of existing runway capacity.

The Commission's economic appraisal compares the impact of expansion at Heathrow with the “Do-minimum option” to make the case for the new Northwest runway. We have used this comparison for our analysis. The Government is committed to reducing carbon emissions. The Commission has taken this into account in its appraisal, focusing its Final report on a carbon capped scenario.

The Commission assembled an impressive body of evidence. But its evidence (see Annex) does not support the conclusion that Heathrow should be expanded to meet the Government's aims for the UK, for the following reasons:

1. The Commission's figures show a substantial contraction of the UK aviation market resulting in 17 million fewer passengers a year and less business passengers, domestic passengers, flights and connectivity (see paras. 3c i to iii, v to vii & ix);
2. Heathrow's third runway would support an extra 41 million extra passengers a year. But this growth is concentrated at a single airport in the over-heated south-east, and results in a loss of 58 million passengers a year from other UK airports. This is contrary to Government policy of promoting a 'Northern Powerhouse' (para. 3c iv);
3. Over 50% of the new runway capacity is used for an extra 22 million International to International transfer passengers a year, which provide little economic value to the UK (paras. 3c vii & 2d);
4. The Commission says the investment of £17.6 billion would result in a net benefit of £1.4 billion (present value over 60 years). This is negligible in the context of the overall UK economy and within the margin for statistical error (paras. 4b, c & d for the evidence);
5. The net benefit, including downside risks, is over optimistic. It is doubtful the Commission's estimate of wider economic value has fully taken account of the substantial negative impact of a 3rd runway on the UK aviation market and regional economics. Costs for noise, air pollution and surface access are understated by at least £15 billion, which probably cannot be financed by Heathrow or the State and make the project undeliverable (paras. 4e & f).

The Commission's own evidence demonstrates that a third runway should not be built at Heathrow because of the dis-benefit to a competitive UK aviation market and the UK economy.

The Commission's figures demonstrate Heathrow is far from full in the Do-minimum option and can increase terminating passengers by at least 34 million with larger planes and loads without a new runway and restricted to the existing planning limit of 480,000 flights a year in segregated mode. We believe the best option is to make better use of London's five airports without any new runways, which in combination surpass any competition, and to invest in airport surface access to improve access and reduce air pollution.

2. The Airport Decision

- a. The Airports Commission's brief was ***to maintain the UK's position as Europe's most important aviation hub***. The Commission has commented on overseas hub airports but has not made a comprehensive comparison with the aviation markets in other countries. What is clear from the Commission's own evidence is that its recommendation to expand Heathrow with a 3rd runway is not justified in comparison with the Do-minimum option, which assumes no new runways in the UK, and that to expand Heathrow would fail the Commission's brief.
- b. The Commission did examine the Do-minimum case in its Interim Report and in our view mistakenly ruled it out prematurely leaving the final choice between a Heathrow northwest runway (NWR), an extended runway at Heathrow and a 2nd runway at Gatwick. Our comments in this report focus on the comparison of the NWR option with the Do-minimum option. All the figures used in this analysis are from the Airports Commission's published data, and mostly the Commission's Final report of 1st July 2015, unless we quote other sources such as the CAA. The attached Annex details the relevant figures and sources.
- c. The Commission's appraisal was based on five economic scenarios, each of which was examined on the assumption that CO2 emissions are dealt with by either restricting aviation growth through a carbon cap or alternatively by an emissions trading scheme, whereby 'gross' CO2 emissions from flights would not increase 'net' global CO2 emissions, since compensatory offsets from elsewhere would be purchased under the scheme. In its Final report the Commission focused its commerciality test on the 'Assessment of Need' carbon capped scenario, in which demand is primarily determined by central projections of the OBR, OECD and IMF. It is the basis of our assessment of the Commission's recommendation.

3. Impact of the Heathrow Northwest runway proposal on the UK Aviation Market

- a. Climate change. The Commission focuses on constraining aviation CO2 to the Climate Change Committee's target of 37.5 million tonnes in 2050 by capping demand through increased ticket prices. This constrains demand in both the Do-minimum option and the NWR expansion option, but as shown by the Commission's figures, more so in the NWR option and with an additional negative impact that favours Heathrow at the expense of other UK airports.
- b. Do-minimum option. The Commission estimates Heathrow's total passenger numbers will grow between 2011 and 2050 by an estimated 34% from 70 million passengers per year (mppa) to around 94 mppa. Terminating passengers (excluding international transfers) grow by 65% from 52 million to 86 million. The rest of UK aviation will grow by around 98% from 148 mppa to 292 mppa. Combined growth is 77% from 218 mppa to 386 mppa. This assumes Heathrow would still be restricted to the existing planning limit of 480,000 flights a year in segregated mode and that passenger growth is due to larger aircraft and higher loads. At other UK airports growth includes more flights but no new runways.
- c. NWR expansion option. The Commission's figures produce the following impact on the UK aviation market. It is significantly negative. We first examine the impact on the total UK market and then on Heathrow itself, and finally we comment on the hub efficiency of Heathrow airport. We emphasise that all the figures stated are those reported by the Commission except those relating to hub efficiency, which have been sourced from the CAA and DfT. Alongside each topic we give our own assessment as either negative or positive in terms of the UK aviation market or in terms of Heathrow itself.

Compared to the Do-minimum option a third Heathrow runway:-

Impact on UK

- i. Reduces growth of UK passengers from an average 1.5% to 1.4% per annum between 2011 and 2050, both of which are much less than historic annual GDP growth of 2.45% (1954 to 2014) and forecasts of future GDP growth, in part due to the carbon constraint. The Commission has not published the split in growth before and after 2026. But since growth up to 2026 is the same in the NWR expansion option as in the Do-minimum option, the NWR growth after first flight must be relatively much less than that of the Do-minimum option. NEGATIVE for the UK.
- ii. Reduces growth of total UK passengers, for example, by 17 million passengers in 2050 (from 386 million to 369 million). Similarly, the number of UK flights is reduced by 148,000 from 3,039,000 flights to 2,891,000 in 2050. NEGATIVE for the UK.
- iii. Reduces growth of UK terminating passengers (excluding international to international transfers (I to I transfers)), for example, by 39 million passengers in 2050 (from 377 million to 338 million). NEGATIVE for the UK.
- iv. Reduces growth compared to the number of flights in the Do-minimum option at most UK airports. Heathrow flights increase by 54% between 2011 and 2050. But for example by 2050, growth is reduced by 7% at Gatwick, 7% at Stansted, 35% at Luton, 45% at Birmingham, 26% at Bristol, 10% at Manchester, 22% at Glasgow, and 10% at Belfast International. Just 38% of UK runway capacity was used in 2011 and overall UK capacity is not a constraint. The carbon constraint results in Heathrow's growth being at the expense of other airports. By 2050 other UK airports lose 58 million passengers a year as a result of Heathrow expansion. NEGATIVE for the UK.
- v. Reduces growth of all the UK's economically important market segments defined by purpose of travel – for example by 2050, growth of UK resident business passengers is reduced by 2%, foreign resident business passengers by 2% and foreign resident leisure passengers by 12%. UK resident leisure passenger growth is reduced by 13%. In spite of these differences, the segment market shares, as related to total UK terminating passengers, do not change materially as a result of the 3rd runway. The absence of a shift in market shares means it is unlikely there would be a shift in economic value other than in relation to total passenger numbers. NEGATIVE for the UK.
- vi. Reduces growth of UK domestic passengers by 10%, for example by 2050, but the market share, as related to total UK terminating passengers, is not changed materially as a result of the 3rd runway. NEGATIVE for the UK.
- vii. Increases growth in UK long-haul passengers by 5%, for example by 2050. But, given the reduced growth in business passengers (see para. 3v), it not likely that there will be a material increase in the number of long-haul business passengers in the UK, as a whole as a result of the 3rd runway. The Commission has seemingly not published this data, which begs the question as to how the Commission justifies long-haul business passengers benefiting the economic case for a 3rd runway. NEUTRAL for the UK.
- viii. Reverses the decline in I to I transfers in the UK (most are at Heathrow). Without a 3rd runway, UK wide I to I transfers decrease from 20.4 million passengers in 2011 to 8.3 million in 2050. But the NWR option results in 30.5 million I to I transfers across the UK by

2050, which means the NWR option adds 22.2 million transfers compared to the Do-minimum option or the equivalent of around 54% of the 3rd runway's capacity. These provide little or no economic benefit to the UK (see para. 3d below). NEGATIVE for the UK.

- ix. Reduces UK short-haul destinations, compared to the Do-minimum option, by 3 to 238 destinations. The numbers of long-haul and domestic destinations remain unchanged, compared to the Do-minimum option; they are 130 and 29 destinations, respectively in 2050. Total destinations from the UK rise from 361 in 2011 to 400 in 2050 in the Do-minimum option and to 397 in the NWR expansion option. With no material change in the number of destinations, compared to the Do-minimum option, but a reduction in UK flights (see para. 3ii), the overall frequency of flights and hence UK connectivity is reduced. NEGATIVE for the UK.

Impact on Heathrow

- x. Increases Heathrow's total passengers between 2011 and 2050, compared to the Do-minimum option, for example by an incremental 41 mppa in 2050, i.e. from 94 million to 135 million. The incremental increase in terminating passengers is 20 mppa by 2050, i.e. from 85 million to 105 million. POSITIVE for Heathrow but NEGATIVE for the UK.
- xi. Reverses the decline in I to I transfers at Heathrow. Without a 3rd runway, Heathrow I to I transfers decrease from 18.5 million passengers in 2011 to 8.1 million in 2050. But the NWR option results in 29.9 million I to I transfers at Heathrow by 2050, which means the NWR option adds 21.8 million transfers compared to the Do-minimum option or the equivalent of around 55% of the 3rd runway's capacity. These provide little or no economic benefit to the UK (see para. 3d below). POSITIVE for Heathrow but NEGATIVE for the UK.
- xii. Increases the concentration of UK terminating passengers at Heathrow with its market share rising from 26% in 2011 to 31% in 2050. The share decreases to 23% in the Do-minimum option. POSITIVE for Heathrow but NEGATIVE for the UK.
- xiii. Reduces the market share of Heathrow's long-haul passengers from 65% to 53% of total terminating flights at Heathrow. The share of short-haul flights increases from 34% to 44%. Long-haul, when for the purpose of business or tourists from overseas, is said by the Commission to be more valuable to the economy than short-haul. NEGATIVE for both Heathrow and the UK.
- xiv. Makes no material difference to market shares by purpose of travel of Heathrow's terminating passengers, e.g. business UK resident 21%, business foreign resident 15%, leisure foreign resident 22% and leisure UK resident 39%. Business domestic rises from 0.7% to 1.6% and leisure domestic from 0.5% to 1.2%, which in aggregate amount to 3 mppa in 2050; this is just 6% of total UK domestic flights. The absence of a shift in market shares means it is unlikely there would be a shift in economic value other than in relation to total passenger numbers. NEUTRAL for Heathrow and the UK.
- xv. Increases Heathrow's short-haul destinations, compared to the Do-minimum case by 37 to 96 destinations, long-haul by 9 to 98 destinations and domestic by one to 4 destinations in 2050. Total Heathrow destinations increase from 179 in 2011 to 198 in 2050 compared to 151 in the Do-minimum option. Connectivity increases from Heathrow expansion but at the expense of other UK airports resulting in no overall UK change, as discussed in para. 3(ix) above. The increase at Heathrow is predominantly in short-haul destinations. POSITIVE for Heathrow but NEGATIVE for the UK.

- d. Heathrow hub efficiency. Heathrow's I to I transfers were 18.5 million (26% of Heathrow passengers) in 2011. The Commission estimates by 2050 a reduction to 8.1 mppa (8%) without a 3rd runway but 29.9 mppa (22%) with a 3rd runway. The increment of 21 mppa in 2050 represents around 50% of the 41 mppa capacity of the 3rd runway at that time.

The Commission seemingly has not published the number of transfers on thin destinations (i.e. under one service a day (arrival and departure)). So we have had to rely on our separate analysis of CAA and DfT data, which shows there were 44 long-haul thin destinations from Heathrow in 2011 out of a total of nearly 100 long-haul destinations. Only 7 of these thin destinations had I to I transfers and these accounted for just 446,000 transfers out of 18.5 million transfers. It is questionable whether the economic viability of any of these 7 destinations depended on the transfers (see Annex Table 4). But support of thin destinations is a main justification for the Commission recommending a hub airport such as Heathrow. Instead, 95% of Heathrow's I to I transfers support higher frequencies to already popular destinations rather than otherwise economically unviable thin destinations. In 2011 New York JFK and Newark destinations from Heathrow accounted for 17 and 9 departures a day, respectively, with an aggregate of 1.2 million I to I transfers and 2.6 terminating passengers in the year. Average aircraft loads were just 216 and 170 passengers, respectively, compared to an A380's capacity of over 500 passengers.

There is value in added frequency but it is unlikely to be of much economic benefit on the more popular leisure destinations and there are surely diminishing returns with more semi-full flights to New York, for example.

I to I transfers are exempt from air passenger duty; they use capacity that otherwise could be used by UK terminating passengers and for new destinations; they support business travel between overseas countries in competition with the UK; they contribute the equivalent of over 20% of Heathrow's noise and use the UK's valuable CO2 ceiling. Heathrow's transfers are of value to the airlines but of questionable value to the UK. Hence the Commission's recommendation of Heathrow on the merits of its hub status is very doubtful. NEGATIVE for the UK.

4. Impact of the Heathrow Northwest runway proposal on the UK Economy

- a. The aviation market is a major factor in determining the impact of a 3rd runway at Heathrow on the UK economy. The Commission has approached an economic valuation at a local level using the government's standard "webtag" approach but modified to include some wider benefits. In addition, it has produced a valuation based on the wider UK benefits using an econometric model promoted by PWC called an S-CGE model. The estimates are summarised in present value terms over 60 years from start of first flight in 2026 and in 2014 money terms. The results commented on here are for the carbon capped assessment of need scenario.
- b. Webtag valuation. The Commission's webtag model estimates the incremental benefit of a 3rd runway compared to the Do-minimum case. The consumer surplus estimate is £33.6 billion (60 year present value) based on benefits to passengers such as cheaper flights. Some benefits reduce the airline and airport profits resulting in a producer deficit of £25.8 billion. There is an increase in government revenue of £1.9 billion. Passengers and airlines benefit from a reduction in delays valued at £3.0 billion. The local net benefits are therefore £12.7 billion. To this are added the wider economic benefits of £7.7 billion, which include exports, imports and agglomeration. The resultant total benefits are £20.4 billion.

Offsetting the total benefits of £20.4 billion are the monetised environmental costs: noise £1.5 billion, air quality £0.8 billion and carbon emissions £0.7 billion, or £3.0 billion in total. The present value of the scheme costs, including contingencies, is £12.7 billion resulting in a net benefit of £4.7 billion before surface access costs. The incremental carbon costs are relatively small because the Commission says the Do-minimum and the 3rd runway options both assume the carbon is reduced to 37.5 million tonnes and therefore there is little incremental impact. The incremental surface access costs assumed are £3.3 billion resulting in an overall net incremental benefit from a 3rd runway of £1.4 billion.

- c. There are a number of non-monetised benefits and costs: - surface access and local economy are said to be positive; quality of life - neutral; and community, place and water and flood risk - negative.
- d. The net benefit of £1.4 billion of present value over 60 years we regard as small in relation to the investment of £17.6 billion. It is within the margin for statistical error; insufficient to absorb the downside risks; and it is a tiny fraction of the UK GDP.
- e. The Commission does provide some risk analysis of some of the component parts. We raise the following questions on the webtag results:
 - i. Consumer Surplus: £33.6 billion benefit.
 - The Commission has given weight to the importance of I to I transfers supporting new long-haul destination with potentially rich business opportunities. However, we question whether I to I transfers support thin destinations and we also question their role in adding frequency to already popular routes serving the leisure market and the diminishing returns on high frequency routes, as explained in para. 3(d) above. The webtag model attributes £6.2 billion of benefit to I to I transfer passengers but why webtag assumes their benefit should benefit the UK is unclear; they appear to be excluded explicitly from the S-CGE valuation because they are said by PWC to add no value to the UK.
 - While economically valuable market segments, such as business, increase at Heathrow as a result of a 3rd runway they remain little changed across the UK as a whole. The long-haul passenger numbers increase at Heathrow and marginally across the UK as a whole. The Commission seemingly has not published figures for long-haul business passengers to support its claim that this segment adds value.
 - It is unclear that the webtag model has extended to the wider economy in a way that reflects the negative impact on both the reduction in total UK terminating passenger by 39 million a year (see para. 3 iii) and the allocation across the UK, whereby Heathrow benefits at the expense of the rest of the UK which loses 58 million passengers a year (see para. 3iv) and we assume a commensurate loss of jobs and economic activity.
 - These three points and others raised in our examination of the aviation market discussed above are potentially significantly negative, and we question whether they have been fully reflected in the webtag appraisal.

- ii. Delay reduction: £3 billion benefit. A 3rd runway at Heathrow is forecast by the Commission to fill up rapidly. But the Commission has not made it clear why the delays caused by existing capacity constraints do not re-appear and in magnified form given the larger airport, and why this would not negate the benefit from any reduction in the delay.
- iii. Noise: £1.5 billion cost.
 We question whether the noise cost is not substantially under-estimated by the Commission.
- It appears that the Commission has not applied the current London-wide flight path re-design and the claimed benefits therefrom to the Do-minimum option. Thus the incremental noise cost of £1.5 billion could be substantially understated.
 - It is unclear as to whether the cost Heathrow says it is willing to pay for mitigation (double glazing, etc.) is fully included.
 - Furthermore, the Commission has applied a cost of annoyance, sleep disturbance, etc. caused by noise to the number of people affected by expansion. The Commission estimates a wide range of outcomes (i.e. zero to £15.5 billion), depending on the unit cost, flightpath design and number of people affected. The chosen estimate is at the lower end of this range and there is a risk it substantially underestimates the noise cost.
 - The £1.5 billion cost works out at a unit cost per person affected of around £150 per year, which seems low, especially when there could be over 300,000 people newly affected by noise - the cost is the amount a person is willing to pay to avoid the noise.
 - The £1.5 billion cost appears to be based on around 500,000 people being affected by expansion. But at the World Health Organisation noise guideline levels of 50 decibels averaged over 16 hours, the population affected could reach 1,500,000 people.
- iv. Air Quality £0.8 billion cost. The surface access cost, estimated by the Commission to be an un-discounted £5 billion, is estimated by TfL to be around £20 billion if adequate road and rail capacity is to be provided. Without the additional investment, road congestion is likely to be much higher with a knock-on effect on air quality, which already is in excess of legal limits. It seems very unlikely the government would fund the £20 billion, although Heathrow will argue it is mainly for background demand unrelated to the airport. If the additional £15 billion for surface access were spent over the same period as the £5 billion, then the present value cost would be around £13 billion compared to the Commission's estimate of £3 billion. Clearly, a £10 billion difference turns the net benefit of £1.4 billion substantially negative. The point is that the Commission seems to have substantially underestimated road congestion and the quantity of pollutants, thus making it even harder to comply with air quality standards. A 3rd runway could be undeliverable either because of the excessive pollution or because the cost of mitigation cannot be financed either privately by the airport or by the State.
- f. The PWC S-CGE model This experimental model raises many questions as to its validity and doubts are raised by a peer review for the Commission. These questions and doubts need to be addressed before a decision is made. The model regards aviation as enabling other economic activities across the UK and seeks to assess the value of these additional activities resulting

from Heathrow expansion. The model is based on the Commission's 'demand reduction' carbon capped numbers, which are the result of reducing demand by a percentage reduction rather than an increase in ticket prices used by the webtag model. The incremental benefit of a third runway is estimated by the S-CGE model as £129.9 billion for the Assessment of Need carbon capped scenario. The carbon traded value is £147.2 billion.

Given the UK incremental loss of 39 million terminating passengers a year in the NWR expansion option, as discussed above in section 3(iii), we question the incremental increase of 6.3 million passengers input into the S-CGE model. The Commission calculates the 6.3 million passengers by first calculating the level of demand in the NWR expansion option constrained so as to achieve no more than the Climate Change Committee's planning assumption of 37.5 million tonnes of carbon in 2050. It then uses the same underlying demand in the Do-minimum case. However, this substantially reduces the Do-minimum demand and resulting carbon to 33.6 million tonnes. In so doing the increment is turned from a substantial loss into the positive 6.3 million passengers. It is inconceivable that the industry would be able to operate in the Do-minimum case by producing just 33.6 million tonnes of carbon by 2050. We have considerable concerns with this approach and would expect there to be a substantial loss rather than the Commission's estimate of £129.9 billion benefit in the carbon capped Assessment of Need scenario.

- g. Capital investment unjustified. The overall spend of £17.6 billion on the 3rd runway scheme plus £20 billion on surface access has not been demonstrated to be of value in terms of the aviation market or the UK economy. The impact on the aviation market and probably in turn the national and regional economics is significantly negative based on the Airports Commission's data.
- h. The Alternative. The investment in other airports needed to realise their existing runway capacity is likely to be small in comparison with the £17.6 billion at Heathrow. Furthermore, Heathrow is far from full in the Do-minimum option and can increase terminating passengers by at least 34 million with larger planes and loads without a new runway and restricted to the existing planning limit of 480,000 flights a year in segregated mode. We believe better use of all five London airports and indeed those across the UK, together with investment in better surface access, should be considered instead of an additional third runway at Heathrow.

End

Annex is attached

TABLE 1 PASSENGERS by Purpose (million per year)						
Assessment of Need Carbon Capped Scenario						
Base Case 2011						
<i>Source: AC Strategic Fit table</i>						
	5.6	calc		5.6		
	Heathrow	Rest of UK		Total UK		
Business UK resident	9.1	18%	9.7	7%	18.8	10%
Business foreign resident	7.5	15%	6.9	5%	14.4	7%
Leisure foreign resident	12.6	24%	22.7	16%	35.3	18%
Leisure UK resident	20.3	39%	81.0	56%	101.3	51%
Business Domestic	1.2	2%	13.1	9%	14.3	7%
Leisure Domestic	0.9	2%	12.4	9%	13.3	7%
Terminating passengers	51.6	100%	145.8	100%	197.4	100%
International (I tol) transfers	18.5	26%	1.9	1%	20.4	9%
Total passengers 5.4	70.1		147.7		217.8	
Do-minimum no expansion (DM) Option 2050						
<i>Source: AC Strategic Fit table</i>						
	5.6	calc		5.6		
	Heathrow	Rest of UK		Total UK		
Business UK resident	18.1	21%	21.9	8%	40.0	11%
Business foreign resident	13.0	15%	16.0	5%	29.0	8%
Leisure foreign resident	18.9	22%	39.6	14%	58.5	16%
Leisure UK resident	34.5	40%	164.0	56%	198.5	53%
Business Domestic	0.6	1%	25.7	9%	26.3	7%
Leisure Domestic	0.5	1%	24.5	8%	25.0	7%
Terminating passengers	85.6	100%	291.7	100%	377.3	100%
International (I tol) transfers	8.1	9%	0.2	0%	8.3	2%
Total passengers 5.4	93.5		292.2		385.7	
Heathrow Northwest runway expansion option (NWR) 2050						
<i>Source: AC Strategic Fit table</i>						
	6.16	calc		6.16		
	Heathrow	Rest of UK		Total UK		
Business UK resident	22.2	21%	17.1	7%	39.3	12%
Business foreign resident	16.0	15%	12.3	5%	28.3	8%
Leisure foreign resident	22.7	22%	28.9	12%	51.6	15%
Leisure UK resident	41.3	39%	131.5	56%	172.8	51%
Business Domestic	1.7	2%	22.4	10%	24.1	7%
Leisure Domestic	1.3	1%	21.0	9%	22.3	7%
Terminating passengers	105.2	100%	233.2	100%	338.4	100%
International (I tol) transfers	29.9	32%	0.6	0%	30.5	8%
Total passengers 6.10	135.0		233.8		368.8	
Increment NWR-DM 2050						
	calc	calc	calc	Total UK		
	Heathrow	Rest of UK		Total UK		
Business UK resident	4.1	-4.8		-0.7		
Business foreign resident	3.0	-3.7		-0.7		
Leisure foreign resident	3.8	-10.7		-6.9		
Leisure UK resident	6.8	-32.5		-25.7		
Business Domestic	1.1	-3.3		-2.2		
Leisure Domestic	0.8	-3.5		-2.7		
Terminating passengers	19.6	-58.5		-38.9		
International (I tol) transfers	21.8	0.4		22.2		
Total passengers 6.10	41.5	-58.1		-16.9		

Note: there are rounding differences
Prepared by P Willan Richmond Heathrow campaign 21 September 2015 (File: Heathrow/Demand)

TABLE 2 PASSENGERS by Type (million per year)						
Assessment of Need Carbon Capped Scenario						
Base Case 2011						
<i>Source: AC Strategic Fit table</i>						
	5.4	calc		5.4		
	Heathrow	Rest of UK		Total UK		
Long-haul	37.8	54%	16.5	11%	54.3	25%
Short-haul	30.2	43%	105.7	72%	135.9	62%
Domestic	2.1	3%	25.5	17%	27.6	13%
Total passengers	70.1	100%	147.7	100%	217.8	100%
Do-minimum no expansion (DM) 2050						
<i>Source: AC Strategic Fit table</i>						
	5.4	calc		5.4		
	Heathrow	Rest of UK		Total UK		
Long-haul	61.0	65%	35.1	12%	96.1	25%
Short-haul	31.4	34%	206.9	71%	238.3	62%
Domestic	1.1	1%	50.2	17%	51.3	13%
Total passengers	93.5	100%	292.2	100%	385.7	100%
Heathrow Northwest runway expansion option (NWR) 2050						
<i>Source: AC Strategic Fit table</i>						
	6.10	calc		6.10		
	Heathrow	Rest of UK		Total UK		
Long-haul	72.1	53%	29.3	13%	101.4	27%
Short-haul	60.0	44%	161.0	69%	221.0	60%
Domestic	2.9	2%	43.5	19%	46.4	13%
Total passengers	135.0	100%	233.8	100%	368.8	100%
Increment NWR-DM 2050						
	Heathrow	Rest of UK		Total UK		
Long-haul	11.1	-5.8		5.3		
Short-haul	28.6	-45.9		-17.3		
Domestic	1.8	-6.7		-4.9		
Total passengers	41.5	-58.4		-16.9		

TABLE 4 Heathrow Long-haul Thin destinations with Transfers						
2011						
		Passengers	Transfer	Frequency	Aircraft	
					Passengers	Transfer
		000 per yr	000 per yr	%	per day*	Loads
USA	Raleigh	111	48	43%	1.9	157
Argentina	Buenos Aires	155	91	59%	1.9	220
USA	Phoenix	179	104	58%	1.7	288
India	Chennai	115	67	58%	1.4	220
India	Hyderabad	96	76	79%	1.4	184
Uganda	Entebbe	71	47	67%	1.4	137
Pakistan	Islamabad	136	13	10%	1.1	333
		863	446			

* Arrival and departure
Source CAA Passenger survey reports and DfT

ANNEX

Report by Richmond Heathrow Campaign Examining The Airports
Commission's Recommendation for Heathrow Northwest Runway
Expansion

TABLE 3 FLIGHTS (Air traffic movements) ('000 per year)					
Assessment of Need Carbon Capped Scenario					
Base Case 2011					
<i>Source: AC Strategic Fit table</i>					
	5.14	5.14	6.40		
	Base	DM	NWR	NWR-DM	
	Case	No expansion	Expansion	Increment	
	2011	2050	2050	2050	
Heathrow	480	471	740	269	57%
Gatwick	247	280	260	-20	-7%
Stansted	143	210	195	-15	-7%
Luton	79	117	76	-41	-35%
London City	57	120	120	0	0%
Total London	1006	1198	1391	193	16%
Manchester	161	279	250	-29	-10%
Birmingham	86	206	113	-93	-45%
Glasgow	67	86	67	-19	-22%
Edinburgh	96	165	169	4	2%
Bristol	54	94	70	-24	-26%
Newcastle	45	66	59	-7	-11%
Belfast Intl	43	72	65	-7	-10%
Liverpool	45	54	48	-6	-11%
East Midlands	50	96	77	-19	-20%
Total Regional listed	647	1118	918	-200	-18%
Regional Other modelled	333	723	582	-141	-20%
Total Regions	980	1841	1500	-341	-19%
UK Total flights	1986	3039	2891	-148	-5%

TABLE 5 DESTINATIONS (All Destinations)				
Assessment of Need Carbon Capped Scenario				
Base Case 2011				
<i>Source: AC Strategic Fit table</i>				
	5.12	5.12	6.34	Increment
	Actual	Expansion	Expansion	NWR-DM
	2011	2050	2050	2050
Heathrow	5.12	5.12	6.34	calc
Domestic	7	3	4	1
Short-haul	80	59	96	37
Long-haul	92	89	98	9
Total destinations	179	151	198	47
London	2011	2050	2050	2050
Domestic	5.12	5.12	6.34	calc
Short-haul	10	10	10	0
Long-haul	215	222	226	4
Total destinations	107	129	130	1
UK	2011	2050	2050	2050
Domestic	5.12	5.12	6.34	calc
Short-haul	28	29	29	0
Long-haul	226	241	238	-3
Total destinations	107	130	130	0
Total destinations	361	400	397	-3