NEED AND AVIATION MARKET- HEATHROW 3RD RUNWAY
Richmond Heathrow Campaign June 2018

1. **Is there growth with a Two Runway Heathrow ?**
   a. Yes. 60% growth in terminating passengers, 2016 to 2050 from increased aircraft loads and reduced international-to-international (I-I) transfer passengers. **Heathrow is not full**.
   b. Heathrow claim 25,000 flights a year (5%) can be added while maintaining adequate resilience. **Resilience is not a barrier to growth**.

2. **Does a Two Runway Heathrow satisfy UK demand through to 2050 ?**

Table 1 UK Demand - Unconstrained and Unsatisfied Demand with Two runway Heathrow 2050

Million terminating passengers per annum (mppa) Source DfT	UK unconstrained demand				UK unsatisfied demand with Two runway Heathrow			
	Long-haul	Short-haul	Dom-estic	Total	Long-haul	Short-haul	Dom-estic	Total
Business	15.0	54.2	23.6	92.8	0.1	1.8	0.2	2.1
Leisure foreign resident	19.3	67.0		86.3	1.7	6.4		8.1
Leisure UK resident	52.5	182.9		235.4	6.6	18.9		25.5
Leisure domestic			26.8	26.8			1.0	1.0
Total terminating passengers	86.8	304.1	50.4	441.3	8.4	27.1	1.2	36.7

UK terminating passenger journeys start or end in the UK. International-to-international transfer passengers are excluded from the table because they are of little economic value to the UK. Their unconstrained demand in 2050 is estimated as 52.7 mppa with unsatisfied demand of 47.8 mppa

   a. The DfT estimates UK terminating passenger demand unconstrained by airport capacity at around 441 million passengers per annum (mppa) by 2050 and UK unsatisfied demand with a Two runway Heathrow at around 37 mppa (Table 1). For reference a single runway can handle around 43 mppa.
   b. **The economically important long-haul and domestic business demand at a UK level are effectively 100% satisfied based on a Two runway Heathrow.**
   c. It is reasonable to assume that existing spare capacity and evolving route structure at other UK airports could satisfy the short-haul gap of 27.1 mppa and long-haul gap of 8.4 mppa by 2050 (see 3 below). Of the latter the 1.7 mppa of leisure foreign resident demand is economically the most important because it includes inbound tourists but the gap is small.
   d. **A Two runway Heathrow plus existing spare capacity at other UK airports is well able to satisfy UK demand through to 2050**.

3. **Is existing UK runway capacity sufficient to satisfy unconstrained demand ?**
   Yes, there is ample spare runway capacity through to 2050 assuming a Two runway Heathrow. The DfT estimates in mppa terms: London airports (Stansted 8, Luton 7); larger regional airports (Manchester 31, Newcastle 22, Liverpool 24, Bristol 19, Glasgow 18 and Edinburgh 10) - all totalling 139 mppa. Other regional airports have spare runway capacity for 95 mppa through to 2050. The 234 mppa of UK spare runway capacity and the accompanying route structure is not all suited to the unsatisfied demand but given the geographical spread and size and nature of the airports, there surely is existing capacity and a potential route structure to serve the 37 mppa of unsatisfied demand though to 2050.

4. **What contribution does a Three Runway Heathrow make to the UK through to 2050 ?**
   a. The 43 mppa served at Heathrow by a 3rd runway are offset at the UK level by around 17 mppa cannibalised from growth at other airports. Deducting 16 mppa of International-to-International transfers, which are of little value to the UK, results in just 10 mppa additional terminating passengers at the UK level.

b. The contribution to unsatisfied demand comprises: business 1.0 mppa, leisure foreign resident 2.0 mppa, leisure UK resident 6.4 mppa and domestic leisure 0.5 mppa.
c. In terms of haul distance the contribution is 0.6 mppa long-haul, 0.6 mppa domestic and 8.8 mppa short-haul.
d. **The 10 mppa additional terminating passengers are almost entirely short-haul leisure. Business demand is satisfied in any event by a Two runway airport**. **Serving just 10 mppa additional mostly short-haul leisure terminating passengers is poor return on an expensive expansion of capacity for 43 mppa.**
e. The Commission on Climate Change estimated a cap of 389 mppa by 2050, which is less than the 409 mppa and 435 mppa forecast UK demand by the DfT, respectively in the Two and Three runway cases. The Government is relying on speculative carbon abatement and carbon trading to bridge the gap. The Airports Commission showed how failure of the carbon test would negatively impact non-Heathrow airports rather than Heathrow.

5. **Does Heathrow's 3rd runway enhance the UK as an Aviation Hub ?**
   a. **The impact of a 3rd runway on the UK aviation market is substantially negative .**
   b. Regional Airports lose around 17 mppa of growth to Heathrow. Manchester loses 5 mppa and Birmingham 2 mppa and smaller regional airport lose 10 mppa.
   c. **Aviation markets and economics of UK regions and nations are negatively impacted (Table 2)**:

Table 2 UK Passengers - Impact of 3rd runway. 2050		**Source DfT**
By purpose: mppa	Heathrow 3rd runway	Rest of UK
Business long-haul	0.3	-0.3
Business short-haul	6.4	-5.5
Business domestic	0.4	-0.3
Leisure foreign resident	6.9	-4.9
Leisure UK resident	13.0	-6.6
Leisure domestic	0.4	0.1
Total UK terminating passengers	27.4	-17.5
By haul distance: mppa		
Long-haul	3.4	-2.8
Short-haul	23.2	-14.6
Domestic	0.8	-0.2
Total UK terminating passengers	27.4	-17.5

   d. Heathrow's UK market share with a 3rd runway grows from 21% to 27% by 2050 and its London market share from 44% to 47%. **Concentration at Heathrow reduces competition**.
   e. Connectivity.
      i. In the Two runway case, the UK is forecast to have 223 daily and 171 thin destinations in 2050. A 3rd runway results in a loss of three short-haul destinations, a gain of two long-haul destinations and no change in domestic destinations, i.e. a net loss of one destination. The increase of 23 daily destinations is offset by a loss of 24 thin destinations. There is an increase of one destination to newly industrialised countries (NIC) and no change to least developed countries (LDC), both of which are intended beneficiaries of a 3rd runway but apparently this is not the case.
      ii. In the Two runway case, Heathrow is forecast to have 133 daily destinations and 69 thin destinations in 2050. A 3rd runway results in an additional 40 short-haul, three long-haul and two domestic destinations, i.e. a net gain of 45 destinations. The increase of 49 daily destinations is offset by the loss of four thin destinations. There is the addition of one NIC and one LDC.

iii. As a result of the 3rd runway, London's five airports add 24 daily destinations but lose 25 thin destinations. London, ex Heathrow, loses 7 daily destinations and gains two thin destinations. Gatwick loses 12 destinations, regional airports lose two and Scotland loses four destinations.
iv. In the Two runway case at the UK level in 2050 the number of flights is forecast by the DfT to be 2.9 million and in the Three runway case 3.0 million. The 3rd runway adds only 112,000 flights (4%) to UK flights. Heathrow adds 260,000 flights to its 480,000 flights permitted with two runways, which means other UK airports lose 148,000 flights. On the unchanged number of destinations, excluding Heathrow, this results in reduced average frequency of flights.
v. Heathrow increases its frequency by 25%, ensuring it remains a high frequency airport. The business passenger demand is not increased by a 3rd runway (as shown earlier); so other things being equal, frequency does not contribute to business demand and frequency is of little benefit to leisure passengers on already popular routes.
vi. Heathrow is the world's most expensive major airport. The cost of expansion and of surface access is likely to have a significant impact on demand and connectivity, because of the difficulty of introducing new cost effective routes competitively.
vii. **In summary, the increase in daily destinations at Heathrow is of limited benefit to connectivity. The additions are mostly short-haul and there are only 3 long-haul destinations added by 2050. The evidence suggests increasing Heathrow's frequency to already popular destinations is of marginal value to business or leisure passengers. Offsetting any benefits at Heathrow, is the fact that there is no increase in destinations at UK level and a loss of frequency at non-Heathrow airports. Also, Heathrow is likely to remain a high cost airport making it difficult competitively to introduce new destinations and increase frequency. Overall the connectivity impact is deemed negative.**

6. What is the contribution of International-to-international transfer passengers ?

a. I-I transfer passengers at a UK level were 24 mppa in 2016 and they are forecast to decrease to 5 mppa in the Two runway case by 2050. This frees up capacity for 16 mppa terminating passengers but in the Three runway case, I-I transfers return to 21 million passengers by 2050. Most I-I transfers arise at Heathrow.
b. I-I transfer passengers do not originate or terminate in the UK. Domestic interliner transfers originate or terminate in the UK (e.g. Manchester to New York via Heathrow); these interliners are excluded from discussion here on I-I transfers.
c. I-I transfers take up 37% of the 43 mppa of additional capacity of a 3rd runway. At a UK level they take up 94% of additional UK long-haul capacity by 2050 (9.2 mppa out of 9.8 mppa). At Heathrow they take up 73% of additional long-haul capacity by 2050 (9.3 mppa out of 12.7 mppa). It cannot be said they support additional long-haul business passengers because there are no such additional passengers. I-I transfers also use short-haul capacity.
d. I-I transfers do not support otherwise unviable routes. I-I transfers use only 8 out of 36 thin long-haul routes at Heathrow or in passenger terms 300,000 out of 24 million transfers. I-I transfers mostly use popular routes.
e. I-I transfers are of little benefit to the UK economy and make inefficient use of runways - they do not leave the airport. Aero charges are discounted and they are exempt from Air Passenger Duty.
f. 80% of UK terminating passengers are successfully served by airports with few I-I transfers.
g. People prefer direct routes and the hub concept is becoming redundant as aircraft fly ever longer distances. Transfers are inherently polluting with an additional landing and take-off.
h. **In summary, I-I transfers are not of economic benefit to the UK and their use of Heathrow's capacity is inefficient. I-I transfers decrease in the Two runway case but are maintained in a Three runway case and incrementally they have negative impact as a result.**

Contact details:
Peter Willan BSc Eng(Hons), MBA, ARSM, FCMA, FEI, HonRCM
Chair, Richmond Heathrow Campaign
Email: willan829@btinternet.com
www.richmondheathrowcampaign.org