

## Long and short to medium term proposals

### **The Mayor of London's review of submissions**

September 2013

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#### **1. Purpose of the paper**

- 1.1. In August 2013, the Airports Commission published all of the responses it had received to its call for outline submissions of potential long term options for additional airport capacity. The Commission also published a list identifying potential short to medium term initiatives.
- 1.2. In response to the Commission's call for comments by 27 September 2013, this paper seeks to set out:
  - a number of important issues associated with the more credible long-term submissions (with detailed comments in Appendix A);
  - the Mayor's views on the key short to medium term options which have been identified by the Commission.

#### **2. Long-term options: issues the Commission must address**

##### **A. There is no common set of assumptions across the submissions**

- 2.1. The proposals published by the Commission defy meaningful direct comparison due to the widely differing assumptions made, metrics used and detail given. Table 1 shows a brief review of what the Mayor considers to be the most credible submissions.
  - It is clear for instance, that some promoters have made extremely optimistic assumptions regarding both the cost and provision of surface access infrastructure required.
  - Some have examined the impacts of a proposal, noise for instance, with new runways fully utilised. Others have explored the impacts with new runways less than half utilised.

## **B. Dispersed expansion will not only be unable to meet our connectivity needs, but it would also have significant cumulative impacts**

- 2.2. The dispersed capacity model simply cannot offer the connectivity the UK needs, that a single hub airport can. The access to global cities, particularly longhaul emerging market destinations, is lacking; this was the conclusion of recent work TfL commissioned examining the connectivity that different capacity scenarios would likely generate<sup>1</sup>.
- 2.3. The dispersed capacity model also specifically fails to support the connectivity aspirations of the UK regions. More than ten domestic airports have lost their direct connection to Heathrow over the last twenty years, and with that the access to the global route network it offers. These regions do not see access to a secondary London airport as an acceptable substitute. Only a new hub airport for London, with the capacity to support a wide range of direct flights to the UK regions, can fulfil their connectivity needs.
- 2.4. In several key regards, the cumulative effects of dispersed capacity are worse than a single new hub to the east of London:
  - Across London and the South East, the impacts of aviation noise will be much worse in scenarios where Heathrow, already the worst for noise exposure in Europe, remains open. A two runway Gatwick plus a two runway Heathrow could in total expose over 800,000 people to noise (55db L<sub>den</sub>). By contrast, a four runway new hub airport on the Isle of Grain, together with a single runway Gatwick would expose just over 40,000 people to noise (55db L<sub>den</sub>).
  - Surface access network costs would be much greater if major surface access improvements and brand new links were required to several airport locations.
- 2.5. While some point to the changing industry landscape in favour of low-cost airlines, this picture does not hold for longhaul traffic, which remains dominated by mainline carriers operating out of hubs.
- 2.6. As Gatwick and others have said, a degree of uncertainty is inevitable. One of the benefits of a new, unconstrained, hub airport is that it does not preclude growth in low-cost carriers, as demonstrated at Paris CDG, Amsterdam, and Madrid today. Low-cost carriers avoid Heathrow today precisely because it is congested and constrained – with limited slot availability, long turnaround times and a significant risk of delays cascading through their network and undermining the high aircraft utilisation strategy that is the basis of their business model.
- 2.7. But if we were to proceed with dispersed expansion – and the decline of the hubs of which Gatwick foretells does not come to pass – then the UK will have ruled itself out of the connectivity top table.

### **C. Heathrow cannot be the future hub airport we need – and its expansion may require financial support from Government**

- 2.8. Heathrow cannot escape the curse of its location. Their claims for lower noise do not hold up to scrutiny.
- Their assessment is based on a less-than-half-utilised third runway, optimistic assumptions around technological and operating improvements – and yet around 600,000 people would still be exposed to excess aviation noise.
  - One runway out of three would have to operate in mixed-mode. Heathrow estimate that a majority of residents under the flightpath will have just 4½ hours respite every day – half the current respite. For many that will mean facing over 13 hours of constant aircraft noise.
- 2.9. Their assumption that a third runway at Heathrow is sufficient to meet our needs presupposes the current very high levels (99%) of runway utilisation. This would leave the airport prone to worsening delays and disruption, with a direct cost to UK business.
- 2.10. Applying a more robust 75% runway utilisation, a three-runway Heathrow would be full by 2030, just a few years after opening. This would mean planning for a 4<sup>th</sup> runway would need to start before the 3<sup>rd</sup> runway had opened. It is not credible to claim that a 3-runway Heathrow could meet the forecast long term capacity need.
- 2.11. For a third runway, Heathrow have put forward a cost estimate of £12-15bn (excluding surface access); this compares to an opening phase cost (with 4 runways) of £25.7bn for the Isle of Grain, £29bn for Outer Estuary and £28.2bn for Stansted. Moreover, Heathrow make clear in their submission<sup>2</sup> of the need for Government funding – estimated at £4-6bn – as well as Government guarantees. Thus claims that expansion of Heathrow would not require recourse to the taxpayer are untrue.

### **D. Surface access requirements are consistently underplayed, and almost all proposals will require substantial financial support from Government**

- 2.12. Most proposals underplay the additional surface access infrastructure required and the impacts of the additional passenger and staff demand in question.
- 2.13. Widespread congestion is already experienced in many road and rail corridors serving Heathrow, Gatwick and Stansted. Combined with the level of background (non-airport) growth that is forecast to occur across the South East in the future means that as a general rule, extra rail and road capacity and enhanced public transport connectivity is essential if airport expansion, wherever it happens, can attract the passengers and staff necessary to support a viable airport, sustainably.

## Heathrow

- 2.14. Heathrow have assumed no highway costs associated with new runways. This is based on no net increase in airport-related road traffic. Regarding rail, Heathrow have only assumed the costs of a new rail link to the Southwest trains network ('Southern rail access'), with a large number of other schemes deemed to be committed and funded. These are both open to challenge.
- 2.15. For access to central London, Heathrow rely heavily on two existing schemes: Crossrail and the Piccadilly line Upgrade. Yet both schemes are designed to address existing capacity challenges, associated with background (non-airport) growth.
- The Great Western mainline (GWML) – to be used by Crossrail to link Heathrow with Paddington – is forecast by Network Rail to suffer a capacity gap in 2031 of 5,800 people (one-way) in the peak hour<sup>3</sup>. An option has been identified that resolves the capacity gap, which would see Crossrail completely replace the Heathrow Express. But this is based on a 2-runway Heathrow and does not allow for the additional demand from a 3<sup>rd</sup> runway.
  - Analysis by TfL<sup>4</sup> suggests that following the Tube Upgrades, crowding on the Piccadilly line in 2031 is reduced but not eliminated, given background growth alone. Several sections on the line between Heathrow and Central London witness significant crowding - above 3 standing passengers per m<sup>2</sup>. The additional demand from a third runway would exacerbate crowding.
- 2.16. Given these constraints, it is difficult to see how the public transport demand to Central London in particular can be met without significant rail investment – comparable to other hub locations, a new line to serve central London would alone cost at least £10bn.
- 2.17. We estimate a third runway would place around 6,000 additional trips on both the rail and road networks during each peak hour period on London's transport network (0800-0900, 1700-1800), in each direction (either travelling to the airport, or travelling from the airport). Without the rail investment, airport passengers and West London commuters alike would have to suffer delayed, overcrowded trains on a regular basis.
- 2.18. In this context, the assumption made by Heathrow that there will be no increase in road traffic as a result of a new runway looks highly unrealistic. Moreover, to accommodate growth in park and fly passengers, kiss and fly trips, and taxi trips, Heathrow assume that the number of employee vehicle trips reduces by almost a third. It is difficult to see how this will occur with the number of employees at the airport growing significantly.
- 2.19. The scale of demand would mean heavily congested sections of the M4 and M25 having to be forced to accommodate significant additional traffic, potentially equivalent to the total capacity offered by two additional motorway lanes in each direction in certain sections. This could present very significant engineering challenges for the

elevated sections of the A4/M4 corridor into central London. There could be knock-on effects on local roads and other major corridors into Heathrow such as the M40 and M3. A cost of £8-12bn would not be unreasonable given the likely scale of infrastructure works required. Without intervention, the road congestion in West London would become intolerable, with a very detrimental effect on journey times.

- 2.20. The net result is that the total public investment in surface access infrastructure required to support an expanded Heathrow could easily exceed £20bn.

### **Gatwick**

- 2.21. Gatwick have assumed that a second runway would result in a doubling of passengers. It would also result in a significant increase in staff trips. No significant rail improvements are proposed to accommodate this increase.
- 2.22. This is made more complicated by the tension that already exists on the Brighton mainline (BML) between airport services and the needs of wider non-airport traffic. The resulting overcrowding even prompted the Chairman of Gatwick Airport to say the Gatwick Express ‘at times veers towards Third World conditions’<sup>5</sup>.
- 2.23. Network Rail have identified a number of improvements to alleviate forecast growth (which does not assume Gatwick’s expansion) in the BML corridor. Nonetheless, these do not fully resolve the challenge and Network Rail admit that they have ‘been unable to identify workable options to resolve the remaining capacity gap in a cost effective way’<sup>6</sup>.
- 2.24. It is in this context that Gatwick propose an additional runway which we estimate could increase rail demand to and from Central London by around 5,000 trips, per direction, during peak rail periods. The claim that Gatwick would not therefore need any further additional rail capacity to support the passenger and staff growth associated with a second runway<sup>7</sup> is simply not credible.
- 2.25. The DfT national transport model shows that the M23 and M25 (between junctions 7 and 15) will be consistently over capacity by 2040. A new runway at Gatwick would then exacerbate the challenge by adding around 5,000 trips per peak hour onto the road network. Gatwick have assumed that these issues would need to be resolved irrespective of the airport – but it is not at all clear that Gatwick are justified in absolving themselves of the cost in this way.

### **Stansted**

- 2.26. MAG/Stansted do not identify any specific funding of surface access infrastructure in their submission.
- 2.27. A transformative public transport offering which improves access and journey times to key catchment locations in inner and outer London is needed if the airport is to expand and successfully capture key passenger markets. Network Rail have also identified capacity constraints on the West Anglia mainline (WAML) which currently

limit the scope for meeting Stansted demand.

- 2.28. These issues could partly be addressed by the proposed WAML four-tracking scheme, which could increase capacity to Stansted and reduce journey times by up to 10 minutes. It is not currently proposed to take the £1bn scheme forward.
- 2.29. If Stansted were to become a 4+ runway hub airport, they rightly recognise that its connectivity and capacity needs would likely necessitate a brand new high speed line to Central London, as well as substantial upgrades to the M11 and M25.

**Wider benefits of investment in surface access infrastructure**

- 2.30. Some proposals comprise and cost new infrastructure which will generate brand new connections, and additional benefits – for example the new road and rail connections supporting a new hub airport in the Thames Estuary. Other proposals comprise and cost new infrastructure which will merely replicate current connections, for instance the tunnelling and diversion of the M25 in the event of new runways at Heathrow extending across the motorway.

Location (proposal submitted by)	Proposal	Additional Capacity created (mppa)		Costs £bn (all costs are assumed to be real)				Noise Exposure			
		New capacity	Net of closures	Airport (runways, terminals, land, supporting infrastructure)	Surface Access			55Lden	57Leq	Assumptions	
				Costs Quoted (£ Billions)	Cost Quoted (£ Billions)	Elements costed as part of the proposals	Elements assumed in place, but funded elsewhere				
<b>4-RUNWAY HUB CAPACITY PROPOSALS</b>											
Isle of Grain (Mayor of London)	4 Runway hub	180	98 [minus Heathrow]	42.5	25.8	• High-speed links from central London, Crossrail extension, road improvements	• Lower Thames Crossing	31,500	-	In 2050 180 mppa airport size	
Outer Estuary (Mayor of London)	4 Runway hub	180	98 [minus Heathrow]	45.8	38.4	• High-speed links from central London, Road improvements	• Lower Thames Crossing	0	-	In 2050 180 mppa airport size	
Stansted (Mayor of London)	4 Runway hub [and maintain existing runway]	180	98 [minus Heathrow]	45.0	22.8	• High-speed links from central London, Crossrail 2 extension, road improvements	• Lower Thames Crossing	37,800	-	In 2050 180 mppa airport size	
Luton (Weston Williamson)	4 runway hub	150 [TfL estimate]	105 [minus Stansted]	25 [risk not specified]	0.6	• Light rail link to ECML and WCML	• Thameslink providing direct links to central London	50,000	-	-	
Isle of Grain (Foster+Patners)	4 runway hub	110	28 [minus Heathrow]	20	4	• Connection to HS1 and Crossrail and road connections to the airport	• Lower Thames crossing	31,000	-	In 2050 150 mppa airport size	
Stansted (M.A.G)	4 runway hub	95-115 [45mppa existing R]	13-33 [minus Heathrow]	8.5-9.5	6.25 (not in cost as 'subject to cost-sharing negotiation')	• High-speed link to London terminal, other road and rail enhancements	• 4-tracking of West Anglia mainline, Crossrail 1/2 link, improved access to M11	-	14,000	122 mppa airport size (no year stated)	
<b>3-RUNWAY HEATHROW CAPACITY PROPOSALS</b>											
Heathrow (Heathrow Airport Ltd)	3rd runway North	38	38	12.5	1.8	• Southern Rail access scheme • Other road and rail infrastructure works only to accommodate enlarged airport footprint	• Crossrail • Western rail access • Piccadilly line Upgrade • HS2 spur	689,490	218,700	-10% current	In 2030 100 mppa airport size
	3rd runway Northwest	45	45	14.8	2.1			651,185	206,550	-15% current	
	3rd runway Southwest	45	45	13.9	3.7			612,880	194,400	-20% current	
<b>NON-HUB CAPACITY PROPOSALS</b>											
Stansted (M.A.G)	2 <sup>nd</sup> runway Northwest	25-35	25-35	2.5-3.5	-	-	• 4 tracking of West Anglia mainline, Crossrail 1/2 link improved access to M11	-	7,000	76 mppa use airport (no year provided)	
	2 <sup>nd</sup> runway East	35-45	35-45	3.5-4	-	-		-	5,000-7,000	76 mppa use airport (no year provided)	
Gatwick (Gatwick Airport Ltd)	2 <sup>nd</sup> runway south (dependent segregated mode)	15-21 [45mppa existing R]	15-21	5-9 [risk not specified]	Includes the costs of changes to surface access infrastructure and a reasonable share of costs toward off site surface access improvements	• Investment in Gatwick railway station	• Thameslink and proposed Brighton mainline improvements • Enhancements to the M25 and M23	20,000 (TfL estimate)	10,200	2030	54dB Lden is used and 54dB LAeq
	2 <sup>nd</sup> runway south (independent segregated mode)	30-37 [45mppa existing R]	30-37	5-9 [risk not specified]				35,000 (TfL estimate)	20,100	2038	
	2 <sup>nd</sup> runway south (independent mixed mode)	35-42 [45mppa existing R]	35-42	5-9 [risk not specified]				40,000 (TfL estimate)	27,000	2042	
Birmingham (Birmingham Airport Ltd)	2 <sup>nd</sup> runway East	35	35	6.99	0.24	• Reopening of Whitacre link for access to Derby and the East	• HS2 with airport station, light rail extension from city	-	47,122	In 2062 71.7 mppa airport size	
<b>DISPERSED NON-HUB CAPACITY COMPARISON — COMPOSITE OF PROPOSALS</b>											
Dispersed expansion 2 <sup>nd</sup> runway at Gatwick 2 <sup>nd</sup> runway at Stansted	2-2-2	90	90	13	-	• As per Gatwick and Stansted 2 <sup>nd</sup> runway proposals above	• See Gatwick and Stansted above	700,000 (TfL estimate)		Independent mixed mode south runway at Gatwick and East runway at Stansted	
Dispersed expansion 3 <sup>rd</sup> runway at Heathrow 2 <sup>nd</sup> runway at Gatwick 2 <sup>nd</sup> runway at Stansted	3-2-2	180	180	29.9	2.1	• As per Gatwick, Stansted's 2 <sup>nd</sup> runways and Heathrow's 3 <sup>rd</sup> runway proposals.	• See Gatwick, Stansted and Heathrow above	1,000,000 (TfL estimate)		Independent mixed mode south runway at Gatwick, East runway at Stansted and northwest runway at Heathrow	

### **3. Short to medium term options**

- 3.1. The Commission has put forward a number of short to medium term options. When considering these, it is important that the Commission bear in mind:
- None of the short to medium term proposals presented offer a ‘silver bullet’ solution to the current aviation capacity crisis
  - Any short to medium term solution which does not match the Commission’s long term ambitions should be discounted with immediate effect
  - The Mayor will not support any short to medium term option which breaches or leads to the breach of the current cap on ATMs at Heathrow
  - Any decisions must be made based on accurate information and realistic timescales and in line with EU and other international treaty obligations
- 3.2. Following a review of the proposals the Mayor is supportive of exploring the following options further:
- Options which seek to reduce or limit the impact of night flights
  - Options which seek to mitigate or reduce the environmental impacts from aviation – including establishment of an independent noise regulator
  - Easing economic regulation and/or fifth freedom restrictions at Gatwick and Stansted to give them greater scope to develop and to attract airlines
- 3.3. The Mayor opposes the following options:
- Mixed mode at Heathrow due to the elimination of respite
  - Introducing the measures assessed during the recent Operational Freedoms trial at Heathrow
  - Promoting the use of RAF Northolt to accommodate some of Heathrow’s spillover traffic
- 3.4. The timeframe for delivery of options is key; the significant planning approvals required by some medium term options identified mean they might be better considered as long term options.
- 3.5. The options that the Commission supports in the interim report must pave the way toward the Commission’s long term solution and be deliverable within the requisite timeframe.



**Appendix A: Detailed comments upon long term option submissions**

<b>HEATHROW</b>		<b>submitted by Heathrow Airport Limited</b>
<b>Noise: A third runway will not reduce the number of people affected by noise</b>		
<p>“More flights, less noise” – Heathrow claim that noise could reduce with a third runway – supported by runway alternation maintaining respite periods.</p>	<p>The noise assessment is based on a less-than-half-utilised third runway in 2030.</p> <p>In any case, <u>exposing 600,000 people to excess noise</u> (55db L<sub>den</sub>)<sup>8</sup> – would still be by some margin the worst in Europe and more than London’s main rivals – Frankfurt, Paris CDG, Amsterdam, Madrid and Munich – combined.</p>	<p>The noise assessment of third runway options is based on just 90,000 additional annual air traffic movements (ATMs). The impacts of a third runway operating at capacity (never mind a 4-runway airport) are underplayed.</p>
	<p>‘One runway will have to operate in mixed mode at any one time’<sup>9</sup>. <u>For the majority of affected residents, that will mean just 4½ hours of respite a day</u><sup>10</sup> – half the respite offered to local communities today. For many that will mean facing over 13 hours of constant aircraft noise.</p>	<p>A ‘best case’ scenario would have an even distribution of respite – this would mean slashing the current respite period from around 9 hours to 6 hours per day. A majority of those under the flightpaths would be exposed to a constant stream of planes for up to 12 hours a day.</p> <p>But according to Heathrow, the centre runway cannot be used in mixed mode without compromising runway throughput. This means placing a greater burden on those living under the flightpaths of the outer runways. The result is a similar respite period to today (9 hours) for those under the central runway flightpaths – but just 4½ hours respite for those under the other flightpaths.</p>
	<p>‘Optimised approach and departure routes’: this means shifting a greater noise burden onto a smaller number of people.</p>	
	<p>They overestimate the noise reduction from airlines switching their fleets towards much quieter aircraft as well as displaced thresholds and steeper approaches.</p>	<p>For example, it is assumed that 90% of ‘A320 family’ movements (half of all movements) will be new quieter A320neos. Yet airlines are still ordering classic A320s – such as IAG in August who placed a firm order for 30 classic A320s and 32 A320neos for delivery 2015-2020.</p> <p>Displaced thresholds and steeper thresholds are not an option for larger aircraft – and operational complexities effectively rule out interweaving aircraft on different procedures.</p>
	<p>The potential for more generous (and state-funded) noise insulation schemes is identified. This does not, however, address the basic problem of the number of people exposed.</p>	
<b>Resilience: A lack of spare runway capacity hits airport operations and costs the UK economy</b>		
<p>Maximum capacity figures assume full use of three runways – i.e. maintaining around 99% runway utilisation that is seen today<sup>11</sup>.</p>	<p>99% runway utilisation means that when disruption occurs, Heathrow struggles to cope. These regular delays and disruption are costly for the UK economy, undermine London’s and the UK’s appeal as a place to do business, and erode the attractiveness – and so the competitiveness – of the airport.</p> <p>All Heathrow’s major European rivals operate at 70-75% runway utilisation – in line with industry guidelines – and do not suffer as Heathrow does.</p> <p>It is inconceivable that new airport capacity be provided with a view to replicating one of the</p>	<p>British Airways in 2010: “<i>Heathrow has no spare runway capacity...as a result, we are vulnerable to short-term operational disruption and there is little we can do to mitigate this.</i>”<sup>12</sup></p> <p>Heathrow airport in February 2012 following heavy snowfall: “<i>If we had the same conditions again we would probably take the same pre-emptive action and cancel 30 per cent of our flights. Given that we are running at more than 99 per cent capacity it is the only way to get slack in the system.</i>”<sup>13</sup></p> <p>When 4,000 flights were cancelled over a week in December 2010, it was</p>

	<p>most damaging features of Heathrow’s operations today.</p>	<p>estimated that the UK economy lost £1.2bn a day<sup>14</sup>.</p> <p>The delays that are a daily feature of Heathrow operations are also a serious problem – aircraft can typically spend 30-40 minutes in stacks awaiting a landing slot.</p>
<p><b>Demand build-up: A third runway would be full on opening – a fourth runway would be required to meet our long term capacity need</b></p>		
<p>It is asserted that three runways are sufficient to meet demand up to 2040.</p>	<p>Applying a 75% runway utilisation, a three runway Heathrow would be full by 2030 – just a few years after opening. The timeframes would require a fourth runway be approved before the 3<sup>rd</sup> runway opened – as such it is only logical to treat them as (distinct phases of) the same project.</p> <p>Even under Heathrow’s own proposals, the 3 runways would be full by 2040 – and there would be a 25% shortfall in capacity by 2050.</p>	<p>Heathrow have assumed a new runway could be operational by 2025.</p> <p>The underlying demand figures are based on the DfT forecasts which err on the cautious compared to other industry forecasts (see Mayor’s response to Discussion Paper 01).</p>
<p><b>Surface access: The proposed surface access network will not have the capacity to support demand</b></p>		
<p>Their provision of new surface access infrastructure – beyond what has already been committed to tackle existing challenges – is relatively small in scale.</p> <p>They have set out an objective of no airport-related road traffic growth between 2013 and 2020 – and as such have assumed limited highway expenditure beyond that required to accommodate the new airport footprint.</p>	<p>Heathrow underestimates the extent of the surface access challenge:</p> <ul style="list-style-type: none"> <li>• They ‘bank’ schemes which should only proceed if Heathrow expands – notably the HS2 spur to Heathrow</li> <li>• They rely heavily on long-standing schemes – notably Crossrail and the Piccadilly line Upgrade – to meet the needs of an expanded Heathrow but at the expense of capacity for the non-airport traffic growth these schemes were designed to address. As such, Heathrow have not identified sufficient rail capacity to meet demand.</li> <li>• Their challenging road traffic objectives are not tenable given the identified lack of rail capacity; their proposals are likely to result in severe congestion on key road corridors.</li> </ul>	<p>The Great Western mainline (GWML) – to be used by Crossrail to link Heathrow with Paddington – is identified as suffering a capacity gap in 2031 of 5,800 people in the peak hour<sup>15</sup>. An option has been identified by Network Rail that resolves the capacity gap, which would see Crossrail completely replace the Heathrow Express. But this is based on a 2-runway Heathrow and does not allow for the additional demand from a 3<sup>rd</sup> runway.</p> <p>Analysis by TfL<sup>16</sup> suggests that following the Tube Upgrades, crowding on the Piccadilly line in 2031 is reduced but not eliminated, not least given background growth. Several sections on the line between Heathrow and central London witness crowding above 3 standing passengers per m<sup>2</sup>. This is based on a 2-runway Heathrow and does not allow for the additional demand from a 3<sup>rd</sup> runway.</p> <p>As corridors facing capacity constraints (based on a 2-runway Heathrow), a significant increase in Heathrow demand would seriously undermine the ability of both schemes to fulfil their wider public objectives. Only a new fast rail link would likely be able to meet the access needs of an expanded airport.</p> <p>In this context, their assumptions around no increase in road traffic look unrealistic. The heavily congested M4 and M25 would be forced to accommodate significant additional traffic, potentially equivalent to the total capacity offered by two additional motorway lanes in each direction.</p> <p>To accommodate growth in park and fly passengers, kiss and fly trips, and taxi trips, Heathrow assume that the number of employee vehicle trips reduces by almost a third. It is difficult to see how this will occur with the number of employees at the airport growing significantly.</p>

<b>Future of Heathrow: Relocating Heathrow means new jobs and opportunities – not the end of the West London economy</b>		
<p>They assert that reducing the scale of Heathrow would “result in the biggest mass redundancy in British history”<sup>17</sup>.</p> <p>They draw comparison with the closure of Shotton Steel in 1985 and MG Rover in Longbridge in 2005 and the peak of the pit closures in 1984.</p>	<p>Large scale mass redundancies have a huge impact on small economies with a high dependency on industries that are structurally declining especially when the shock happens rapidly with no time for planning an effective mitigation response. <u>None of these characteristics apply</u> to the relocation of Heathrow airport to an expanded site:</p> <ul style="list-style-type: none"> <li>• The timescales for planning are nearly 20 years, an exceptionally long timescale for workers, businesses and residents to prepare.</li> <li>• With 1.5 million people the West London economy is already larger than Birmingham’s and has a diverse range of economic strengths stretching far outside aviation services. This scale and diversity can only be expected to increase over the next 20 years in line with London’s projected growth. <u>London added more than 40,000 jobs each year during the growth decade to 2008.</u></li> <li>• <u>By the time a new hub airport is open more than one third of Heathrow’s current staff will have retired.</u> Heathrow’s staff already have high turnover rates: one third of catering and retail staff have been in their jobs for less than a year. Moreover, many other airport staff are very mobile and will easily adapt to a relocated hub.</li> </ul> <p>In the medium term, the redevelopment of the well connected Heathrow site as a new London Borough would accommodate at least 184,000 new residents who would support 43,000 new jobs locally as well as offering more than 5,000 construction jobs immediately.</p>	<p>As a very dynamic and resilient economy London has absorbed far greater changes in the past. As London moved from being a manufacturing-based economy to being more service-oriented some 825,000 manufacturing jobs were lost over 30 years – about ten times direct employment at Heathrow – while at the same time adding 25,000 new business service jobs each year.</p> <p>Many staff could be expected to move to towns near the new airport or to commute using the excellent public transport provision. As probably some of the most geographically mobile workers in the UK it is difficult to see how, for example, the 19,900 air cabin crew at Heathrow would find it problematic operating from another airport. Many are probably already moving between different airports in the UK and many airport already staff commute comparatively long distances. In 2008 nearly one quarter of Heathrow’s direct workforce (more than 16,130 people) travelled to work from the “Rest of the UK”. For example, 840 staff (more than 1%) travelled from Brighton – a 67 mile road journey or nearly 2 hours by public transport. An Isle of Grain airport is just 54 miles from Heathrow by road.</p> <p>Even in a highly unlikely scenario that Heathrow closes and nothing happens on the prime West London site for 20 years, detailed labour modelling shows that the unemployment rate would peak at just 3.6% compared to the current 3.2% (2012).</p>

**GATWICK** submitted by Gatwick Airport Limited

**Noise: Dispersed expansion leaves more people directly affected by aircraft noise**

<p>Gatwick claim that dispersed expansion is preferable to the ‘concentration’ of noise impacts in a single hub location.</p>	<p>Not all hub locations have equal noise impacts. There would be a benefit in concentrating aircraft movements in a location not in proximity to substantial residential areas – and so with lower noise impacts.</p> <p>Combined, we calculate a <u>2-runway Gatwick and 2-runway Heathrow could expose over 800,000 people to noise</u> (55db L<sub>den</sub>). By contrast, a 4-runway new hub on the Isle of Grain together with a 1-runway Gatwick would expose just over 40,000 people to noise (55db L<sub>den</sub>).</p>	
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**Transfer traffic: Many longhaul routes – particularly to cities in emerging economies – are simply not viable without hub transfer traffic**

<p>They play down the importance of transfer traffic and emphasise that London is primarily an origin/destination (O&amp;D) market.</p>	<p>They are right to recognise the strong O&amp;D market in London. But it is the combination of a strong O&amp;D flows – including high yield business traffic – with significant transfer volumes – that enables a London hub to serve many more routes and frequencies than would otherwise be possible.</p> <p>According to the CAA<sup>18</sup>, 21% of passengers across all the London airports are transferring. For Heathrow, as the only hub airport, this figure is 34%. But the variation across routes is</p>	<p>Gatwick’s loss of its shortlived Beijing, Seoul and Hong Kong routes – and the collapse of the longhaul business class-only airlines Silverjet, eos and Maxjet operating out of Stansted and Luton – highlight the struggle to sustain longhaul routes outside a hub, without the transfer feed.</p> <p>Flights from Gatwick to Vietnam started in 2011 – after a decade of Vietnam Airlines seeking slots at Heathrow – and these are now the only flights to the</p>
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	<p>substantial – for example, some 39 routes have more than 50% transfer traffic<sup>19</sup>; it is clear that many of these routes – to cities like Phoenix and Hyderabad – would not survive without the transfer traffic. <u>Links to secondary cities in emerging markets would be particularly affected by any loss of transfer traffic. Gatwick accept that they would be unable to support many such destinations, for example in China<sup>20</sup>.</u></p> <p>That is why – contrary to Gatwick’s recent assertions<sup>21</sup> - the alliances have said they would not switch to Gatwick, even with a second runway. <u>CAA survey data indicates that connecting passengers account for at least 10% of passengers for 75 of the 93 airlines at Heathrow<sup>22</sup>.</u></p>	<p>Far East remaining at Gatwick. What distinguishes these flights from the aforementioned lost routes is that they do not face competition from parallel direct services from Heathrow.</p>
<p><b>Future uncertainty: Only a new, unconstrained hub airport is flexible enough to respond to different future industry scenarios</b></p>		
<p>They highlight the degree of uncertainty in forecasting the future shape of the industry – and the need for an infrastructure solution that can be flexible to a range of future outcomes.</p>	<p>We agree. A large, unconstrained efficient hub airport is able to respond to evolving demand - including increased low-cost airline traffic.</p> <p>By contrast, dispersed expansion – with no airport having more than 2-runways – would leave the UK marginalised and UK connectivity weakened in an industry landscape where a smaller number of globally competitive superhubs would come to dominate longhaul traffic.</p>	<p>Following expansion of Madrid Barajas – Spain’s only hub airport and base for Iberia – the airport successfully attracted Ryanair and easyJet, both of whom retain a significant presence. easyJet is the second largest airline at Paris CDG (behind Air France) and third largest at Amsterdam (behind KLM and its low cost subsidiary, Transavia).</p> <p>Low-cost carriers avoid Heathrow today precisely because it is congested and constrained – with limited slot availability (unless prepared to pay substantial sums), long turnaround times and a significant risk of delays cascading through their network and undermining the high aircraft utilisation strategy that is the basis of their business model.</p> <p>For more information, see Mayor’s response to Discussion Paper 04 – Chapter 3.</p>
<p><b>Surface access: The proposed surface access network will not have the capacity to support demand</b></p>		
<p>Gatwick propose funding minimal surface access improvements, saying that schemes already envisaged to meet background growth would also facilitate airport expansion.</p>	<p>They cite long-standing rail schemes such as the Thameslink Programme to meet the needs of an expanded Gatwick but at the expense of capacity for the non-airport traffic growth these schemes were designed to address.</p> <p>Network Rail have identified a number of improvements to alleviate forecast growth (which does not assume Gatwick’s expansion) in the Brighton mainline (BML) corridor. Nonetheless, these do not fully resolve the challenge and <u>Network Rail admit that they have ‘been unable to identify workable options to resolve the remaining capacity gap in a cost effective way’<sup>23</sup>.</u></p> <p>If Network Rail are struggling to address demand on the BML with a single-runway Gatwick, Gatwick’s claim that they ‘would not therefore need any further additional rail capacity to support Gatwick’s growth with a second runway’<sup>24</sup> is not credible.</p> <p>For road, they have identified several incremental capacity improvements that they say are necessitated by background demand before a second runway were built. Saying there is a wider public need for a particular transport scheme does not make them a reality. Plans for expansion at Gatwick will need to take account of the road improvements required above what is currently committed.</p>	<p>Today, there is already substantial tension on the Brighton mainline (BML) between the requirement for airport services and the needs of wider non-airport traffic. The resulting overcrowding even prompted the Chairman of Gatwick Airport to say the Gatwick Express ‘at times veers towards Third World conditions’<sup>25</sup>.</p> <p>It is in this context that Gatwick propose an additional runway which we estimate could increase rail demand to and from Central London by 5,000 per peak hour in each direction.</p> <p>With no easy solution identified, it is likely that a new high speed line will be required to meet rail demand between the airport and central London.</p> <p>The DfT national transport model shows that the M23 and M25 (between junctions 7 and 15) will be consistently over capacity by 2040. A new runway at Gatwick would then exacerbate the challenge by adding around 5,000 trips per peak hour onto the road network. Gatwick have assumed that these issues would need to be resolved irrespective of the airport – but it is not at all clear that Gatwick are justified in absolving themselves of these costs.</p>

**STANSTED** submitted by M.A.G

**Surface access: Improving capacity and connectivity will be key – and must be costed accordingly**

<p>M.A.G identify incremental improvements to the West Anglia mainline (WAML) and road network to support maximum use of the existing infrastructure. They state that a second runway would necessitate some road widening and a possible Crossrail connection.</p> <p>M.A.G grasp that a hub airport would require ‘significant enhancements to rail and road access’ potentially including a new high speed rail line. They have suggested a cost of £6.25bn but have not incorporated this into their total figures for the airport.</p>	<p>They recognise the surface access challenge in developing Stansted:</p> <ul style="list-style-type: none"> <li>ensuring sufficient rail and road capacity for any expansion;</li> <li>improving connectivity to maximise the passenger catchment.</li> </ul> <p>The surface access is such a key component of the airport proposition that it is essential that it be realistically costed – and those costs incorporated - for comparing the different options.</p>	<p>To reach maximum capacity (from one runway), a second airport rail access tunnel and 4-tracking of the WAML would be required to ensure sufficient capacity.</p> <p>For a two-runway Stansted, the WAML is likely to be inadequate to allow the airport to fully tap into the potential London catchment, particularly in competition with better connected London airports. Crossrail 2 could provide that connectivity, improving the airport’s access to the centre, south and west of London.</p> <p>M.A.G suggest an extension of Crossrail 1 to serve Stansted, but this would face very severe engineering and operational challenges for limited benefit (not least given the interchange to Crossrail which would already be provided at Liverpool Street).</p> <p>A 4-runway Stansted hub will require very substantial rail and road enhancements including a new high speed line. The £6.25bn figure suggested would seem to be on the low side, particularly if, as is likely, the new rail line entails sub-surface sections in central London (including stations).</p>
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**ISLE OF GRAIN** submitted by Foster+Partners

**Surface access: Fast, direct links to multiple locations are key – but new rail capacity is required**

<p>Fosters outline a detailed rail proposition to serve central London and beyond via several routes, including HSI and Crossrail.</p> <p>The bulk of the costs they have assumed are for the short link to HSI and Gravesend from the airport.</p>	<p>The Fosters proposal rightly recognises the importance of fast, direct rail services to multiple points in London and beyond.</p> <p>They do not, however, identify sufficient capacity to support these aspirations; in particular, their proposals for HSI exceed its existing capacity (not including existing/proposed non-airport services).</p> <p>As such they significantly underestimate the costs of surface access provision. A new high speed rail line could ensure sufficient rail capacity – while maximising connectivity – to meet the access needs of the hub airport.</p>	<p>They assume 14tph on sections of HSI (4tph to St. Pancras, 4tph to Liverpool Street, 4tph to West London, 2tph to HS2) – this is more than the entire capacity of HSI (13tph)<sup>26</sup> – and would displace Kent domestic and international high speed services.</p> <p>Similarly, there does not exist the capacity to accommodate the 4tph Waterloo via Bromley services.</p> <p>Their proposals also entail some substantial engineering challenges, including at Stratford and Old Oak Common, which have not been costed.</p>
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**LUTON** submitted by WestonWilliamson

**Noise: A expansion of Luton entails very significant noise impacts**

<p>WW say that ‘less than 50,000 people exposed to noise exceeding 55 dB (L<sub>den</sub>)’.</p>	<p>Luton’s location is in close to several urban areas and as a result, a 4 runway hub airport could not avoid very severe noise impacts. Preliminary work undertaken for TfL suggests that a <u>Luton hub would expose around 300,000 people to noise exceeding 55db L<sub>den</sub></u>.</p>	<p>Luton Airport is in close proximity to Hitchin, Stevenage, Welwyn Garden City, Hatfield, St. Albans, Hemel Hempstead, Leighton Buzzard, Dunstable as well as Luton itself. For a single runway airport, it has been possible to set flightpaths that – as much as possible - weave in between these major</p>
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		settlements. But a 4-runway hub, requires considerable separation between approaches and reduces flexibility in their routing, making severe noise impacts inevitable.
<b>Future of Heathrow: If Heathrow remains as today, it will not be possible to establish a London hub airport elsewhere</b>		
WW envisage that Heathrow would remain open and operate as a point-to-point airport.	Heathrow, albeit imperfect, benefits from incumbency and the global connectivity and brand that comes with being the existing hub. The airlines have made clear that they will not leave unless forced to do so. Without any restrictions, Heathrow will undermine any attempts to establish a new hub airport in London and the southeast, whether at Luton or elsewhere.	For more information, see Mayor's response to Discussion Paper 04 – Chapter 4.
<b>Surface access: The proposed surface access network will not have the capacity to support demand</b>		
WW focus on 'utilising existing infrastructure rather than needing extensive new infrastructure provision' which they claim would save £20bn in infrastructure investment. Their proposals include diverting the Midland Mainline (MML) through the airport – and light rail links to link up with the West Coast mainline (WCML) and East Coast mainline (ECML).	<p>They rely heavily on existing infrastructure and long-standing schemes to meet the needs of an expanded Luton but at the expense of capacity for the non-airport traffic growth these schemes were designed to address. As such, WW have not identified sufficient rail capacity to meet demand.</p> <p>WW overestimate the attractiveness of the WCML and ECML links into central London if they do not directly serve the terminals but require switching to a light rail service.</p> <p>Their assumption that the A1 and M1 could cope with the increased traffic, without new infrastructure provision, is unrealistic.</p>	There are forecast capacity gaps on the WCML, MML and ECML, which schemes such as the Thameslink Programme and HS2 will help address. But these schemes have been designed to meet growth in commuter, long-distance and freight traffic on these corridors and make no allowance for the demand generated by an airport of this scale.

<b>BIRMINGHAM</b>		<b>submitted by Birmingham Airport Limited</b>
<b>National strategy: Regional airports have a complementary role to play – alongside a London hub airport with the capacity to support flights to the UK regions</b>		
<p>Birmingham say that 'the UK has four economic macro-regions that are capable of supporting a major long-haul airport – London, Birmingham, Manchester and Scotland.'</p> <p>They add that their proposals complement other options, including the Mayor of London's proposals for a new hub airport.</p>	<p>They are right to recognise the continued role that key regional airports will play in offering direct longhaul services and this is an important pillar of a rounded national aviation strategy.</p> <p><u>The challenge for regional airports will remain to attract the breadth of routes to support the UK economy, particularly in emerging markets. The limits of regional longhaul connectivity were explored in the Evidence Base document accompanying the Mayor's response to Discussion Paper 04 (Chapter 4, Section P).</u></p> <p>There will always be routes that can never be viable outside a hub airport in the southeast. That is why <u>it is vital that the hub airport has the capacity to support a flourishing of flights to the regions</u> – so providing the whole of the UK with the unconstrained access to the global markets that will drive economic growth.</p>	

## Endnotes

- <sup>1</sup> York Aviation. Connectivity, by London airport scenario. June 2013
- <sup>2</sup> Heathrow Airport Limited – Long-term submission: 16.4, p36
- <sup>3</sup> Network Rail, London and South East Route Utilisation Strategy, July 2011
- <sup>4</sup> Transport for London, Mayor’s Transport Strategy, May 2010 (*Figures 19 and 20, p72-3*)
- <sup>5</sup> “*Gatwick Express ‘veers towards Third World conditions’*”, Evening Standard, 20 May 2013
- <sup>6</sup> Network Rail, London and South East Route Utilisation Strategy, July 2011
- <sup>7</sup> Gatwick Airport Limited – Long-term submission: 4.15, p24
- <sup>8</sup> Heathrow Airport Limited – Long-term submission: 12.11, p27 [They quote a 20% reduction on 2011 levels.]
- <sup>9</sup> Heathrow Airport Limited – Long-term submission: 3.10, p6
- <sup>10</sup> Heathrow Airport Limited – Long-term submission: 10.7, p19
- <sup>11</sup> When questioned on this issue by the Airports Commission panel (Public Evidence Session, 10 July 2013), the Chief Executive of Heathrow Airport Limited would not be pinned down on an exact runway utilisation figure but said that it should be closer to 95-99% than the 75% used by rival European hub airports.
- <sup>12</sup> 2009/10 Annual Report and Accounts, British Airways
- <sup>13</sup> “*Weather chaos: Heathrow can’t cope in snow, admits owner*”, Daily Telegraph, 5 February 2012
- <sup>14</sup> Ibid
- <sup>15</sup> Network Rail, London and South East Route Utilisation Strategy, July 2011
- <sup>16</sup> Transport for London, Mayor’s Transport Strategy, May 2010 (*Figures 19 and 20, p72-3*)
- <sup>17</sup> Heathrow Airport Limited – Long-term submission: 4.4, p7
- <sup>18</sup> Letter to Airports Commission from CAA Group Director, Regulatory Policy, 21 May 2013
- <sup>19</sup> York Aviation, extracted from CAA data, 2010
- <sup>20</sup> “*Gatwick chief eyes airline alliance move*”, Financial Times, 22 September 2013
- <sup>21</sup> Ibid
- <sup>22</sup> CAA – Long-term submission: 2.45, p13
- <sup>23</sup> Network Rail, London and South East Route Utilisation Strategy, July 2011
- <sup>24</sup> Gatwick Airport Limited – Long-term submission: 4.15, p24
- <sup>25</sup> “*Gatwick Express ‘veers towards Third World conditions’*”, Evening Standard, 20 May 2013
- <sup>26</sup> Letter to Airports Commission from HSI Limited Chief Executive Officer, 2 September 2013