

The Airports Commission Interim Report: Key Issues

January 2014

1. Overview

- 1.1. The Airports Commission has been tasked by the Government with identifying and recommending options for maintaining the UK's status as a global aviation hub. Its Interim report, published in December 2013, is the first indication of how it will engage with the challenge. The issue is of vital importance for London and the UK.
- 1.2. In their Interim report, the Commission has shortlisted three options, two options at Heathrow and one at Gatwick. Each option comprises a single new runway. They have also set aside more time to develop and assess an option for a new hub airport on the Isle of Grain.
- 1.3. The Interim report and the recently published appraisal criteria places more weight on accommodating short term commercial interests, than a strategic vision for aviation which is able to secure the UK's long term economic prosperity. The Commission identify a significant capacity gap in 2050, but do not address this. They focus instead on runway capacity options to 2030. This does not provide the UK with a long term plan. Their approach also places inadequate weight on public health and quality of life, including air quality impacts, which are not considered in any detail.
- 1.4. The Interim report makes a number of sound observations, many building on the Mayor's responses over the last year to the five Commission Discussion Papers (available at <http://www.newairportforlondon.com>). However, some of the conclusions are inconsistent and incorrect, and in a number of instances the findings of the technical work it has commissioned have been diluted.
- 1.5. This document examines the approach taken by the Airports Commission's Interim report, considering each key issue in turn. For each, we start by setting out the Mayor's view, and then the evidence presented by the Commission in their Interim report. The conclusions the Commission have drawn and their implications are then discussed. The appendix collates the relevant extracts from the Interim report, by issue.
- 1.6. Overall, the Commission's work is rigorous. This is to be welcomed. However, if the Commission are to reach a sound conclusion, they must continue to work with external stakeholders, including the Mayor of London, who have a key role to play in ensuring that the development and assessment of those options on the table is

consistent and robust and capable of delivery.

2. The importance of a hub airport

The Mayor's view

- 2.1. Only a new hub airport can secure the global connectivity – on longhaul routes in particular – that London and the UK needs.

The evidence in the Interim report

- 2.2. The report observes the attractiveness of the hub to airlines and passengers alike – and its additional benefits to the wider economy, particularly from serving longhaul routes. It recognises that all destinations are not of equal economic value: for example it cites that each flight from Heathrow to China on average carries more than £1 million in goods exports. The report also flags the risk that airlines could readily locate elsewhere if they are unable to operate an effective hub in the UK.
- 2.3. The Commission's connectivity analysis concludes that a dispersed capacity option only fares slightly worse than a concentrated (hub) option in terms of the number of destinations served. It reports the findings of the Mayor's own connectivity analysis, which identified that a hub airport would support a much wider range of destinations, longhaul in particular, than dispersed capacity. The Commission might have usefully assigned a greater value to different types of destination in their analysis.

The Commission's conclusion

- 2.4. The Commission is non-committal as to whether hub capacity is an essential requirement, in spite of the thrust of their own evidence. They recognise the value of the hub, but also overplay the role of Gatwick today and in the future (and underplay its inherent weaknesses in competing with the hub).

What this means

- 2.5. By placing insufficient value on the benefits of the hub, the Commission can justify looking at the capacity gap across London airport system as a whole. In this, they are mistaken – it is a hub capacity shortfall that is already in evidence and that will have by far the most severe consequences if not addressed.

3. The future shape of the aviation industry

The Mayor's view

- 3.1. Hub airports will continue to underpin global aviation and longhaul travel in particular. Current trends point to the emergence of a smaller number of globally competitive hubs, with sub-standard hubs unable to compete. The growth of low-cost carriers (still largely focused on flying shorthaul) and major Gulf carriers do not fundamentally alter this pattern – indeed, the latter are helping drive the trend).

The evidence in the Interim report

- 3.2. The report puts forward a number of potential scenarios in terms of the relative

importance of hub and non-hub airports. They suggest that non-hub Gatwick airport, could support growth in both point-to-point and transfer traffic, which to date, it has been unable to do. The Commission do however recognise that hub airports can fulfil both roles, and that at Amsterdam and Paris CDG for example, low-cost carriers serve the hub airport.

The Commission's conclusion

- 3.3. Having focused on the scenarios in some detail, the Commission do not decisively accept any one.

What this means

- 3.4. Only development of a single 4-runway hub airport can effectively respond to all potential outcomes. If we choose to provide dispersed capacity, we would leave the UK without an effective hub. Our connectivity will be eroded, with valuable traffic – and routes – migrating to foreign hub airports.

4. The hub and the connectivity of the UK regions

The Mayor's view

- 4.1. Connectivity to the hub from UK domestic locations is essential in securing access to global markets and economic opportunities for the UK regions. The hub needs to have sufficient spare capacity if airlines are not to make trade offs between domestic and longhaul routes, which we see happening at Heathrow today.

The evidence in the Interim report

- 4.2. The report leaves one in no doubt that domestic flights to the hub are essential for the economy of the UK regions, that the steady erosion in domestic access to Heathrow is already harming regional connectivity and that without new capacity this will only become worse.
- 4.3. At the same time, the report points to the “transformational” impact of low cost airlines and Gulf carriers for UK regional connectivity – even though in the data they present, this is almost wholly attributable to holiday routes to North Africa and a handful of routes linking five UK cities with the three Gulf hubs.

The Commission's conclusion

- 4.4. The Commission draws no overall conclusions about regional connectivity beyond the observations made, nor do they set out the implications in terms of the future provision of airport capacity.

What this means

- 4.5. Having identified the serious national impacts of the hub airport capacity constraints today, the Commission does not follow the logic through and so fails to draw the conclusion that new hub capacity is the only solution to this worsening connectivity gap.

- 4.6. Based on the Commission's figures, a 3-runway Heathrow would effectively be full by 2030. In such a scenario, domestic destinations would continue to be traded off against lucrative longhaul routes and the decline in UK regional connectivity would continue unabated. Only a new four-runway hub can address this.

5. Capacity: the crisis today

The Mayor's view

- 5.1. There is a capacity crisis today, specifically at Heathrow. The UK's airport that most resembles a hub is full. This is harming both reliability and connectivity and is already undermining the UK's economic competitiveness.

The evidence in the Interim report

- 5.2. The Commission cite evidence for the severe impact that capacity constraints at Heathrow are having today on its reliability and connectivity. With regard to the latter, the report highlights the trade offs being made and that some routes are already being reduced or eliminated in favour of higher frequencies on other routes. This is leaving Heathrow and the UK with worsening access to global markets compared to its rivals.

The Commission's conclusion

- 5.3. The Commission conclude that "the UK does not face an immediate capacity crisis". Developments at Gatwick, BA's purchase of bmi and its slots, and opportunities arising from the growth of the low-cost sector and the Gulf carriers are all used to justify this claim.

What this means

- 5.4. There is considerable evidence that there is a serious capacity problem today, primarily at Heathrow, the importance of which the Commission appears to ignore. This paves the way for them to propose not only a wholly inadequate capacity intervention for 2030 which ignores the importance of the hub, but moreover that is incompatible with forecast growth to 2050 and beyond.

6. Capacity: the gap in 2030

The Mayor's view

- 6.1. Given the importance of a hub, the capacity gap that exists today, and the scale of forecast growth, there is a clear forecast need for a 4-runway hub airport in 2030.

The evidence in the Interim report

- 6.2. The Interim report recognises that Heathrow is already full and that excess demand will be concentrated on Heathrow. However, the Commission' capacity analysis is aggregated at London system-wide basis. System-wide, they forecast demand to be 11% over capacity in 2030. At Heathrow, the figure is concealed, but will be far greater.
- 6.3. The Commission forecasts that by 2030, a 3-runway Heathrow would also be full,

operating at up to 90% capacity: this level of runway utilisation would continue to have severe impacts on the airport’s resilience and its ability to operate as an attractive hub. By contrast, rival European hubs such as Paris CDG, Amsterdam and Frankfurt all follow international guidance, with runway utilisation of 70–75%.

The Commission’s conclusion

- 6.4. The Commission cite the system-wide capacity gap to conclude that one additional runway will be required by 2030, with a second “likely to be needed” by 2050.

What this means

- 6.5. This does not address the issue that a 3-runway Heathrow hub would be full shortly after opening. This would have profound consequences for its effective operation. The only credible solution for addressing the capacity challenge in 2030 is a new hub airport with a greater capacity than they envisage. The Mayor has demonstrated that such levels of capacity can be fully compatible with our legally binding climate change commitments.

7. Exposure to aircraft noise

The Mayor’s view

- 7.1. Aviation noise is a fundamental issue. Technological and operational progress will not sufficiently address its impacts. A 3-runway Heathrow cannot avoid very significant exposure to noise for hundreds of thousands of Londoners. Aviation noise has been proven to have severe public health impacts. Such levels of exposure are a wholly unacceptable basis for expansion.

The evidence in the Interim report

- 7.2. The report observes the trend of decreasing average noise per aircraft movement – though their data also shows that the rate of technological progress with regards to aircraft noise has all but petered out over the last decade.
- 7.3. The report acknowledges that Gatwick expansion, by leaving Heathrow in place, cannot match the potential of a new hub to reduce overall noise impacts.

The Commission’s conclusion

- 7.4. The Commission estimate that a three-runway Heathrow would expose 357,000 or 386,000 people (depending on option) to noise at 55dB L_{den} in 2030. This compares to 766,000 people exposed by Heathrow today and 600,000 people according to Heathrow Airport’s own submission.

What this means

- 7.5. Important questions are raised as to the assumptions the Commission have used. Nonetheless, it is clear that even these estimates would still leave Heathrow, by some margin, as the worst airport in Europe for population exposed to noise. Even if such a level of technological and operational improvement were achievable, there would be a valuable opportunity – not considered by the Commission – for the

benefits of these improvements to be ‘banked’. One response to such an improvement in noise could be to choose not to expand the airport, and substantially reduce the severe public health impacts on communities around Heathrow.

- 7.6. Both shortlisted Heathrow options would dramatically erode the noise respite periods from which residents currently benefit. The Commission downplays these impacts. The northwest option would leave the majority of affected residents with just 4½ hours respite per day (as opposed to 9 hours currently). Extending the northern runway to run it in mixed mode all the time would entirely eliminate any respite under its arrival and departure paths.

8. Airport surface access

The Mayor’s view

- 8.1. Surface access is a fundamental aspect to airport expansion. Whether a new or existing site, sufficient provision as part of an attractive and sustainable surface access offering must be planned for and costed. Airport expansion must not place undue strain on existing and planned surface access infrastructure to the detriment of current and future non-airport traffic.

The evidence in the Interim report

- 8.2. The report rightly recognises that surface access is integral to the airport proposition – though it underplays the importance of improving on the public transport mode share achieved by existing airports.
- 8.3. The report also suggests that airport surface access improvements should be considered ahead of the needs of and regardless of the impact on non-airport users.

The Commission’s conclusion

- 8.4. For a new runway at Gatwick, the Commission proposes limited interventions (around £1bn capital spend). It expects the additional pressure on transport links to be substantively mitigated by already committed improvements.
- 8.5. For a new runway at Heathrow, the Commission also propose limited interventions (£2-3bn capital spend). They assume many necessary infrastructure improvements will be provided, independent of expansion, but that they will have the capacity to accommodate the airports growth.

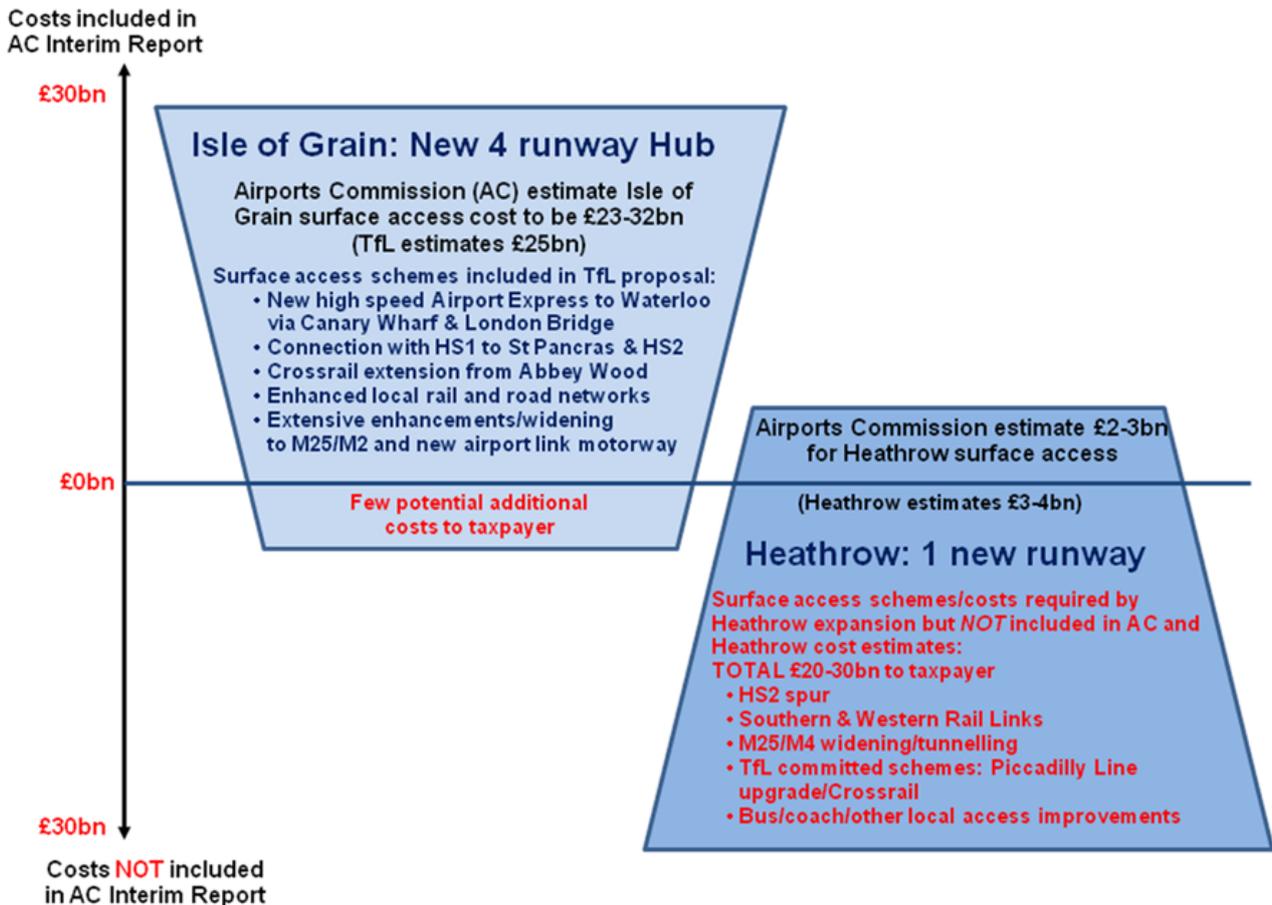
What this means

- 8.6. Firstly, the Commission need to be absolutely clear that planning for a scenario which significantly worsens conditions for non-airport users of the surface transport network cannot be justified.
- 8.7. At both Heathrow and Gatwick, the Commission have underestimated the surface access requirements. In the case of Gatwick, they seem not to appreciate the severity of the existing capacity constraints on the Brighton Main Line, which is at capacity

today, and for which Network Rail have not been able to identify a simple solution (short of a new tunnelled route to central London).

- 8.8. Indeed, the Commission’s own technical option sift reports (prepared by Leigh Fisher) say that Gatwick-London rail capacity will only "just about cater for total rail demand" and "only if pricing and other mechanisms are applied" to spread airport and non-airport demand – i.e. potentially pricing off commuters at certain times of day.
- 8.9. In the case of Heathrow, the Commission does not acknowledge the possibility that the airport might be responsible for placing undue pressure on existing transport networks. They instead anticipate these problems being addressed through non-airport related investment. The Commission must also remember that some of the planned transport schemes that they mention (such as Crossrail) have not been designed with the capacity to support an expanded Heathrow.

Figure 1: Schematic illustrating the Airport’s Commission’s approach to surface access costs



- 8.10. The Mayor is keen to work alongside the Commission to ensure a robust and meaningful comparison across options, as their work progresses. It is essential that the assessment of surface access demand for all options takes into account the substantial background growth due to take place across London and the South East.

9. Airspace

The Mayor's view

- 9.1. Work commissioned by the Mayor from National Air Traffic Services (NATS) has confirmed that each of the options the Mayor submitted to the Commission would not restrict operation – in airspace terms – of other London airports.

The evidence in the Interim report

- 9.2. The report's table of airspace impacts indicates that a Stansted hub option would impact Luton and City while a Grain option would require closing City airport.
- 9.3. However, buried in a footnote, the report recognises that it is impossible to determine the precise impacts without advanced modelling. Furthermore, it acknowledges that redesigning the airspace system, together with technology advances, could enable interactions between airports to be designed out.

The Commission's conclusion

- 9.4. The Commission ignores the important details in the footnote but instead, use their broad interpretation of the airspace findings to limit the scale of benefit of an Isle of Grain hub and to substantively rule out a Stansted hub entirely.

What this means

- 9.5. Activities following on from the current London Airspace Management Programme (LAMP) in the next decade are likely to entail a substantial recast of the airspace over London and the southeast – and this would fit with the timescales for new airport capacity. In assessing their options based on the current airspace architecture, the Commission would seem to underestimate this opportunity. This approach has likely biased their work in favour of existing airport locations.

10. A new hub in the Thames Estuary - impacts

The Mayor's view

- 10.1. The Isle of Grain hub is uniquely equipped to deliver very significant benefits for the economy both at local, regional and national level, as well for public health. The relocation of Heathrow, far from being detrimental or impossible to deliver, is feasible and offers an attractive opportunity for West London. More generally, though there are undoubtedly challenges, the work undertaken to date confirms none to be insurmountable.

The evidence in the Interim report

- 10.2. The Interim report recognises some of the unique benefits of the Isle of Grain, including the low noise exposure, regeneration potential and operational flexibility – and that *“the scale of benefits associated with such a proposal is potentially greater than for any of the other options.”* However, the report plays down many of these economic benefits, mostly on the basis of insufficient time for proper analysis and quantification.

- 10.3. In comparison to the shortlisted options, the Interim report describes the surface access infrastructure required for an Estuary option as “daunting”. Based on their assessment of a potential surface access network, the Commission have calculated a smaller catchment area for the Estuary than Heathrow. This is however, in no small part because an HS1-HS2 link has not been assumed for an Estuary option. For Heathrow, a (less certain) spur to HS2 has been assumed. It is worth noting that an HS1-HS2 link has been earmarked for Phase 1 of the HS2 project, while an HS2 spur to Heathrow is not envisaged before Phase 2.
- 10.4. In comparison to the shortlisted options, the report describes the surface access infrastructure required for the Estuary as “daunting”. A smaller catchment area for the Estuary than Heathrow is calculated – though this is in no small part because an HS1-HS2 link has not been assumed – whereas a (less certain) HS2 spur to Heathrow has been.
- 10.5. Also raised are the issues that that closure of Heathrow would entail – both in terms of the associated cost and risks associated with redevelopment, as well the local economic impact. However, the Commission’s own technical paper (produced by Leigh Fisher) recognises that the airport was but one factor in facilitating businesses to locate in the M4 corridor and that there would be plenty of time to arrange employment transitions if the airport ‘relocated’.
- 10.6. The Interim report states that the risks and delivery challenges of a new airport are higher than incremental expansion. Yet it seemingly ignores the costs and complexities of building around an operational airport.

The Commission’s conclusion

- 10.7. Despite the advantages of a new Estuary hub, the, Commission cite the various potential challenges and need for further analysis as reasons to refrain from shortlisting the Isle of Grain at this stage.
- 10.8. In concluding, the Commission states that the Estuary option’s noise benefits “are bound to seem attractive” while the socio-economic benefits are deemed an “alluring prospect.”

What this means

- 10.9. The recognition of the potentially superior benefits of an Isle of Grain option is welcome.
- 10.10. In terms of habitats, the Commission has, by ruling out all hub options except Heathrow (with its noise impacts) and the Estuary, laid the foundations for answering the alternatives test; the public health benefits of closing Heathrow would seem to meet the public interest test; while high level work to date suggests that the compensatory habitat, though challenging, can be provided.
- 10.11. With regard to surface access intervention, when Heathrow and Gatwick are

compared on a similar basis, there is no discernible difference in scale of intervention. Contrary to the Commission's findings, work undertaken for TfL indicates that the catchment of an Isle of Grain would be similar to that of Heathrow.

- 10.12. There are a number of advantages to redeveloping the Heathrow site. The concerns raised are largely unfounded.
- 10.13. Though some obvious challenges are raised, none are insurmountable nor should they preclude unlocking the significant long term benefits of an Estuary hub.
- 10.14. On January 16th, the Commission published a document setting out their process for developing and assessing an Isle of Grain option, and the criteria against which it and the shortlisted options will be assessed. It is essential that this is done on a fair and consistent basis. The Mayor looks forward to working with the Commission to ensure they have the detail they require to reach their final judgement.

11. Costs

The Mayor's view

- 11.1. The Mayor's work has demonstrated that the cost of a new hub airport at the Isle of Grain and the necessary rail and road links to serve the airport, is comparable to the cost of expanding Heathrow to a four runway airport.

The evidence in the Interim report

- 11.2. The Commission has derived its own base cost estimates (airport and access components) from the submissions they received in July. They have then applied broadly consistent allowances for risk and optimism bias across all the options.
- 11.3. However, of the shortlisted schemes, the base cost of Heathrow's northwest runway option has been reduced by around 50% (£8bn) (from the promoter's own estimate made in July). The cost of the Heathrow Hub option reduced by around 25% (£2.5bn) and the cost of a second runway at Gatwick is broadly unchanged. The base cost for the Commission's Isle of Grain option, which has capacity for one-sixth fewer passengers per annum than the Mayor's Isle of Grain proposition, has been reduced by around one-fifth, or £10bn.
- 11.4. The Commission continues to treat the surface access requirements for each option inconsistently. In part, this is because calculations about surface access capacity to Heathrow and Gatwick take limited account of background demand. £2-3bn is identified as the appropriate surface access infrastructure base cost for both the two shortlisted Heathrow runway options, as well as a four runway Heathrow option (which was not shortlisted). £1-2bn is identified for surface access improvements for an expanded Gatwick Airport.
- 11.5. In contrast, up to £35bn is identified as the base cost for the surface access infrastructure for the Isle of Grain option. This infrastructure will generate brand new

journey opportunities and accommodate non-airport population and employment growth, which the report acknowledges.

The Commission's conclusion

- 11.6. The Commission report that an Isle of Grain airport is around four times more expensive than a new runway at Heathrow, and seven times more expensive than a second runway at Gatwick. On this basis, they conclude that a new hub airport will require an increase in airline charges equivalent to 3.5 times that allowed within Heathrow's current charging regime.
- 11.7. The Commission acknowledge that all options would require some form of Government funding.

What this means

- 11.8. An Isle of Grain airport is potentially unaffordable, and appears far more expensive than the shortlisted options, if the Commission's approach is followed.
- 11.9. The Mayor does not agree with the Commission's approach to costs, which is inconsistent and biased towards the development of new runways at Heathrow and Gatwick. A like-for-like comparison of the airport and surface access costs is essential.
- 11.10. Recognition that all options will require Government funding is welcome.

12. Short and medium term options

The Mayor's view

- 12.1. Short and medium term measures are not a solution to the capacity challenge. There are a number of useful proposals, notably surface access improvements to Stansted that could improve the immediate situation. However, several measures would have very severe impacts; these include permitting more landings at Heathrow in the restricted 05:00-05:59 period when the vast majority of people are asleep and potentially the introduction of mixed mode in the medium term, ending all respite.

The evidence in the Interim report

- 12.2. The Commission groups the measures into three themes: 1) more effective operation of UK airports and airspace, 2) promoting use of under-utilised capacity and 3) medium term options which only make sense as part of a long term scenario for adding capacity.

The Commission's conclusion

- 12.3. The Commission would like to see a whole series of measures introduced at Heathrow, including Tactical management of arrivals throughout the day 'TEAM', Early morning smoothing, the ending of westerly preference, and potentially mixed mode operations.
- 12.4. The Commission also support the establishment of an Independent Aviation Noise

Authority, and the exploration of a number of surface access initiatives at Heathrow, Gatwick and Stansted.

- 12.5. The Commission also asserts that the benefits of the measures are “contingent upon the delivery of the entire package,” thanks to “complex interdependencies” and that “attempts to pick and choose...will substantially reduce the overall benefits.”

What this means

- 12.6. The Commission’s proposed noise regulator falls short of what the Mayor and others have been calling for, without any effective enforcement power. The risk is that could become little more than a fig leaf for expansion at Heathrow.
- 12.7. Investment in Stansted rail access is welcome, not least in also supporting regeneration along the corridor. Investment in access to Gatwick largely looks towards minor enhancements, while ignoring the fundamental lack of capacity on the Brighton Main Line. For Heathrow, it is difficult to justify substantial investment in surface access as contributing to “making best use of existing capacity”, when the airport has no spare aviation capacity to make use of.
- 12.8. There are some sensible proposals for improving operational efficiency such as Airport Collaborative Decision Making. But many threaten to worsen the noise exposure for Londoners (some of which were trialled, with limited discernible benefit). Not all options have the same impacts and it is difficult to see why they should be so intertwined as the Commission assert.

Appendix: Evidence from the report (*Summary* and detail)

A. The importance of a hub airport

The hub and its transfer flows are key to route viability

“Long-haul routes, whose higher cost base requires a greater concentration of demand, are focused heavily on the London airport system, and particularly at Heathrow.” [3.11]

“If capacity constraints at (Heathrow) airport are not alleviated...transfer passengers drop from 22.6 million in 2011 to less than 4 million in 2050, and the number of destinations served from the airport fall by roughly 20% over the same period.” [3.93]

All routes are not equally valuable

“An increase in short-haul leisure services to destinations such as Ibiza or Crete may have no noticeable impact on trade or FDI, whereas other destinations will be likely to increase trade by a much larger extent. For example...on average each flight from Heathrow to a BRIC country carries more than £400,000 in goods exports, with flights to China averaging more than £1 million.” [3.110]

The hub is uniquely attractive to airlines

“The attractiveness of Heathrow to airlines is in part driven by its high yields compared to other London airports. In 2012, airlines operating out of Heathrow earned approximately 21 US cents per passenger mile on average. In contrast, the average yield at Stansted was approximately 15 cents per passenger mile and at Gatwick just under 10 cents.” [3.18]

Airlines are mobile – though London remains a large OD market

“On the one hand, airlines are truly global in nature and many of them may have a high degree of flexibility when it comes to locating their bases. This point may be especially relevant for Europe, where distances between major airports are not as great as on other continents and, as a result, competition for international-to international transfer passengers may be higher. On the other hand, London as a global city provides airlines based there with access to currently the biggest OD market in the world.” [4.87]

Connectivity of hub and non-hub options similar – if destinations given equal value

“London airport system is likely to deliver slightly better connectivity outcomes under a concentrated model, in terms of the number of destinations served. However, the difference is not as marked in London as it would be for many cities globally as London has the biggest origin and destination market in the world, theoretically big enough to sustain two independent hub airports.” [4.82]

London Airport System destinations

2030 CO2 traded destinations: Dispersed 211 vs Concentrated 217

2050 CO2 traded destinations: Dispersed 248 vs Concentrated 249”

[Table 4.6]

B. The future shape of the aviation industry

Any capacity solution must fit with all future scenarios

“The Commission does not believe there is a binary choice between providing additional hub capacity or additional point-to-point capacity. Instead, the optimal approach is to continue to invest in an airport system that caters for a range of airline business models.” [4.75]

“Given the lack of consensus around the way the sector will develop, it will be important for the Commission’s final recommendation to be one whose economic and commercial case is robust in a range of different future scenarios.” [4.90]

Low-cost carriers are not at all allergic to large hub airports

“Low-cost carriers also no longer operate only to secondary airports; they account for a substantial proportion of traffic at both Schiphol and Charles de Gaulle, and even at Heathrow and Frankfurt some low-cost services operate.” [2.35]

C. The hub and the connectivity of the UK Regions

Domestic hub connections are of economically vital – and being eroded

“Domestic connections at Heathrow and other London airports are of economic significance for both London and the regions. The regions benefit both from access to the capital’s economy and from the long-haul connectivity they can access via Heathrow. London benefits from the contribution that those regional passengers make to enhance the business case for its long-haul routes.” [4.69]

“In terms of overall connectivity, whereas London’s connectivity is on a clear upwards trend since the effects of the recession, the weakening in links to Heathrow has contributed to a continuing decline in (UK) connectivity as measured using the IMF weightings.” [3.87]

“By 2040, unless capacity is expanded...the number of domestic destinations served daily from Heathrow will have fallen further to only four.” [3.85]

There have been some improvements in UK regional connectivity

“The impact of the low-cost airlines and Gulf carriers on UK regional connectivity to destinations outside Western Europe has been transformational.” [3.33 and Figure 3.9]

D. Capacity: the crisis today

There is a severe capacity gap at Heathrow today impacting resilience and connectivity

“(Heathrow operates at) almost 98% capacity... This rate of capacity utilisation is well above the point at which high levels of reliability can be maintained and delays avoided.” [3.54]

“If, having implemented the package of short-term measures, no further action was taken to deal with capacity constraints in the London airport system...these costs would have a present value of approximately £1.8 billion over the period from 2021 to 2080.” [3.64]

“With Heathrow effectively full, airlines (have been) concentrating on the thickest routes. This has led to service frequencies gradually increasing but the total number of destinations served each week remaining broadly constant over time.” [3.17]

“Although Heathrow remains the world’s busiest international airport, its total route network is less extensive than those of all the other main European hubs, and its long-haul route network smaller than all except for Madrid... Heathrow has a strong route network into India compared to other European hubs, but has fewer connections than some other European hubs to Brazil, mainland China and Russia. The same broad pattern is seen in relation to the second group of emerging market countries.” [3.71-3.74]

“Capacity constraints at Heathrow are preventing London achieving the level of connectivity in these markets that might be expected given the comparative strength of its OD market. Options for airport expansion in the UK will need to facilitate new connections to economically important destinations while maintaining the UK’s strong position in serving European and North American markets... Given the dominant role of the London airports system, these constraints have meant that overall UK connectivity has also declined in relation to its peers. Using the IATA weighting, Germany now outperforms the UK in terms of total connectivity.” [3.80-3.81]

Between 2002 and 2012, BA increased the overall capacity of its route network...by 14%, whereas Lufthansa increased its network by 50%, KLM by 37% and Air France by 29%.” [3.82]

There are severe challenges but the UK does not face an immediate crisis

“The impacts are already being felt in terms of delay and unreliability, and there is some evidence of an impact on fares. It is also becoming clear that capacity constraints could mean expansion of new connections to economically important places are traded off against the UK’s current strong position serving Europe and North America. Nonetheless, the UK does not face an immediate capacity crisis.” [3.123-3.124]

E. Capacity: the gap in 2030

The future capacity gap is assessed – but only on a system-wide basis

“Projected years when London and South East airports become full, in the ...capacity constrained forecast: Heathrow 2010, Gatwick 2020, City 2024, Luton 2030, Stansted 2041.” [Figure 4.4]

“Excess demand in the London airport system is forecast to be concentrated particularly on

Heathrow, which remains full across all the demand scenarios considered... (As) the UK's aviation market is evolving... new options for meeting passenger needs and effectively addressing the forecast gap...may develop. [4.23]

However the difference between the (carbon capped and traded) forecasts is relatively modest, with unconstrained passenger numbers only 18% higher than in the carbon capped scenario and ATMs roughly 16% higher. [4.27]

"The analysis shows that there is a clear case for at least one net additional runway by 2030 across a range of scenarios... There would...likely...be a demand case for a second additional runway in operation by 2050 or, in some scenarios, slightly earlier." [4.92-4.93]

Capacity headroom is essential to ensure the hub is optimised and resilient

"Not all airports are equally suited to hosting an aviation hub. Typically an airline or alliance will want to concentrate its flights into 'waves' of arrivals and departures, with a short interval to transfer arriving passengers and luggage onto connecting flights. To facilitate this, the airport must have sufficient runway, apron, and terminal capacity to enable this type of scheduling." [Box 2b]

"100% utilisation of the theoretical maximum runway capacity across the whole of the London airport system is unlikely to be either desirable or feasible... It would entirely remove any scope to manage periods of severe weather or other incidents, and would be likely to increase the levels of unreliability and delay" [4.25-4.26]

A 3-runway Heathrow would be operating at up to 90% capacity in 2030

"The Commission's forecasts indicate that a new runway at Heathrow would be very well-used, with the expanded airport operating at around 80-90% of capacity by 2030." [6.88]

F. Exposure to aircraft noise

Average noise per aircraft movement has decreased – but trend has slowed

"A continuous rise of air traffic movements at the airport has been accompanied with a steady fall of numbers of people who live within the 57LAeq contour, the standard UK metric for assessing aviation noise impacts... Although this trend has slowed significantly over the last decade, further reductions in noise impacts can be expected over the coming years." [3.24 & Figure 3.67]

Heathrow remains by far the worst option for noise exposure

"Summary of various key data from stage 5 analysis: 55dB L_{den} 2030 local

LHR NW 380,900

Heathrow Hub 357,100

LGW 2 runway 22,200

Estuary 5,600

LHR 4 runway 382,000”

[Interim report Appendix 2: Table 6.1]

Overall noise impacts of Gatwick option are greater than a new hub

“The proposal (for expansion at Gatwick Airport) does not offer the same potential to reduce overall noise impacts as a new hub airport” [6.80]

G. Airport surface access

Surface access is integral to the airport proposition

“If passengers do not want to travel to an airport because of the quality of its surface transport, airlines will be less likely to schedule flights to or from it. Poor surface transport can send the message that an airport is ‘second best’ or ‘not the city’s main airport’.” [5.87]

One should prioritise transport investment for airport users over non-airport users

[With regard to short term measures:] “Congestion on (road and rail) infrastructure...can force difficult decisions between the interests of airport users and other travellers... There is a strong case for attaching a greater strategic priority to transport investments which improve surface access to our airports.” [5.88]

Significant impacts on non-airport users could in certain circumstances be justified

[A criteria for surface access proposals deemed to be medium term:] “Significant impacts on commuters and other users of surface transport networks that cannot be justified on the basis of current or short to medium term forecast.” [5.128]

Surface access infrastructure require for Gatwick is limited

“Expansion...would place additional pressure on transport links, although that will be mitigated to some degree by improvements already committed.” [6.77]

Surface access infrastructure require for Heathrow is limited

“Given the extensive existing and planned transport connections to the airport, additional surface access requirements are limited.” [6.94]

Some key Heathrow surface access schemes will not be costed as part of expansion

“A high speed rail spur from the main HS2 line to the airport is not included in the cost estimate, but the Commission will consider the case for this as part of its review of surface access options.” [6.94]

“Background increases in traffic over the period to 2030 will already push the heavily congested local motorway network beyond capacity and therefore action will need to be taken with or without expansion at the airport. For this reason, more significant motorway enhancement costs are not included in the Commission’s cost estimate.” [6.95]

H. Airspace

Operational assessment based on existing airspace architecture is of limited value

“Given the complicated multidimensional nature of airspace management, it is not possible to say what the precise impacts of an airport proposal will be - in the absence of Fast Time Simulation modelling... Redesigning the London airspace system and incorporation of new technology may also offer opportunities to ‘design out’ some of these interactions and further increase the potential of the system, thus the above table represents the impact on the system’s current architecture.” [Footnote 131, Table 6.1]

I. A new hub in the Thames Estuary - impacts

There are very significant benefits of an Estuary option

“The proposals from the London Mayor and others to build a four runway airport on the Isle of Grain... were likely to represent the most viable of the options for development in the Estuary.” [6.24]

“It would deliver the most significant reduction in overall noise impacts of any of the options considered other than an island airport.” [6.27]

“It could make a significant contribution to local regeneration. The (nearby) local authority areas...experience...higher levels (of deprivation) than at the vast majority of sites considered by the Commission. A new airport could be a substantial generator of economic activity in the region and provide significant new employment opportunities – around 100,000 jobs at the airport alone in the 2030s, plus additional related wider employment.” [6.27]

“The closure of Heathrow could offer a very substantial site for redevelopment, with on some estimates scope to provide homes by 2050 for around 150,000 people.” [6.27]

“It would provide a significant increase in hub airport capacity which would likely be subject to fewer operational limitations than Heathrow. In particular, its very low noise impacts would offer the opportunity to operate 24 hours a day, increasing its flexibility.” [6.27]

“The scale of benefits associated with such a proposal is potentially greater than for any of the other options.” [6.44]

There is scepticism as to whether the key benefits are actually attractive or attainable (emphasis added)

“The prospect of a new hub airport that fundamentally alters the current relationship between airport operations and local noise impacts is bound to seem attractive, particularly for the many thousands affected by noise around Heathrow.” [6.41]

“Supporting the shift of London’s economic centre of gravity eastwards to allow for further

expected population growth, combined with a major redevelopment opportunity of the Heathrow site, is an alluring prospect.” [6.41]

J. Costs

There would be a role of Government funding regardless of the option chosen

“Any significant expansion in airport capacity would likely be beyond the capability of the private sector to achieve alone. All the options considered therefore would be expected to require some level of public support, be that Government guarantees for finance or the construction of associated public transport infrastructure to reduce the risk sufficiently to encourage private investment.” [Box 6c]