

# The Mayor of London's response to the *House of Commons Environmental Audit Committee* inquiry into the Airports Commission Final Report

September 2015

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## Key findings

There is insufficient information for the Government to make a reasonable and proper decision on airport expansion. Further work is needed to address the gaps in the Airports Commission's ('the Commission's') evidence base and the weaknesses of its analysis, particularly of a number of key assumptions.

Nonetheless, from the evidence presented, it is clear that there are very serious concerns as to the likely environmental and public health impacts of the proposals for a third runway at Heathrow, which also have important legal and financial ramifications. On this basis, it is inconceivable that the proposals be taken forward.

### Surface access

- The Commission has substantially underestimated the potential increase in highway demand arising from Heathrow expansion by tens of thousands of daily airport related vehicle trips. This leads to a significant under-estimate of the environmental impact of the proposed airport expansion.
- The Commission concludes that by 2030 the highway and rail links that serve Heathrow will be congested, despite adopting several uncommitted road and rail schemes in its appraisal<sup>1</sup>.
- The Commission sets very challenging public transport mode share objectives. It views the capacity constraints that exist on the network as driven by background growth and so states that the requisite further infrastructure will need to be provided by Government irrespective of airport expansion. This is a flawed approach with serious implications for both highway and rail networks – and knock-on impacts for air quality.

### Air quality

- In addition to the substantial under-estimate of road traffic demand, several aspects of the air quality assessment methodology also work in the direction of under-estimating the air quality impacts of the proposals.

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<sup>1</sup> Airports Commission Final Report: Surface Access Dynamic Modelling Report Heathrow Airport Northwest Runway, July 2015, paragraphs 6.7.2 – 6.7.6

- The Commission adopts a 'bare minimum' approach to meeting air quality objectives, which is inadequate, is not in conformity with legitimate public health concerns, does not meet its own appraisal objectives to improve air quality (Final Report paragraph 9.92) and is open to legal challenge.
- Mitigation should have the minimum aim of delivering air quality no worse than the situation without the expansion, or explicitly to meet the Limit Value for NO<sub>2</sub>, rather than just seeking to mitigate to the 'next least worst' (and higher concentration) road link within the London zone.
- The Commission has failed to demonstrate that a three-runway Heathrow, even with mitigation, will not have the worst NO<sub>2</sub> concentration in Greater London, so risking the compliance of the entire zone and EU fines on the UK.
- The adequacy and deliverability of mitigating measures is not convincing. They are poorly-specified and quantified, are not committed to in any meaningful form and require actions from third parties which have not been verified. Higher impacts and ambition would require greater mitigation, which might have to be transformational; for example, requiring significant new public transport capacity.
- Any Government decision needs to be fully cognisant of the UK's response to the Supreme Court ruling, and the soon-to-be-published revised NO<sub>2</sub> Action Plan. For the medium term this is simply not possible, given the timeline for approval of the Plan by the EU. Because of timescales, we understand that the Government's Action Plan cannot reasonably take the implications of Heathrow expansion fully into account, yet it will effectively re-set the baseline against which those impacts will be judged. It is critical that the impacts of any expansion plan are properly assessed against this revised baseline.

## Noise

- The results presented by the Commission suggest that the number of people exposed would actually fall; this stretches credulity and goes against DfT guidance by comparing the situation against today, rather than the Do-Minimum. The approach taken relies heavily on technological and operational improvements and radical recasting of flightpaths. There would be significant practical challenges in implementing these.
- When the Commission says the changes to flightpaths “could enable the noise impacts to be dispersed more widely” (Final Report page 26), what this means is several communities being regularly overflowed for the first time. The Commission's data suggests that, even in the scenario which seeks to minimise those newly overflowed, over 150,000 people will be newly exposed to aircraft noise at 55dB<sub>Lden</sub>. The noise modelling undertaken for TfL, using the same noise modelling consultants but less speculative assumptions more in line with current practice, found a 33 per cent increase in those exposed at 55dB<sub>Lden</sub> versus today; that's a million people in total. Any increase is

contrary to the Government's Aviation Policy Framework, which states: "The Government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise"<sup>2</sup>.

- The Commission's promise of more predictable respite relies entirely on the airport not being capacity constrained and so avoiding the tactical measures that are used today when delays build up, causing the temporary suspension of runway alternation. However, as the Commission's findings show, a three-runway Heathrow will be capacity constrained, so this benefit is illusory. In fact, for the majority of those overflowed, respite will be for just a quarter of the traffic day; half of what is offered to local communities today.
- The Commission's calculation for monetised sleep disturbance shows that a full night ban offers more than five times as much benefit compared to the partial ban proposed. This is because, in spite of the alleged ban, there will, under the third runway proposals, be around 33 per cent more flights in the 23:00-07:00 night period defined by European and national noise guidelines.

#### Biodiversity

- Detailed work needs to be undertaken to clarify the impact a third runway at Heathrow will have on the South West London Waterbodies (SWLW) Special Protection Area (SPA) and Ramsar site.
- The Commission's conclusion that, because Heathrow Airport Limited (HAL) already effectively manage bird strike, this will continue to be the case is premature without a detailed assessment of the impact the expansion has on wildlife.
- As the Commission notes, an Appropriate Assessment (under the Conservation of Habitats and Species Regulations 2010) will be required to identify impacts on biodiversity.

#### Carbon emissions

- Whilst at a general level the carbon assessments performed as part of the Commission's work appear robust, there is a lack of clarity about the inputs and assumptions made that form the basis for the different scenarios, and the related carbon forecasts are not apparent. These scenarios and forecasts underpin the majority of the assessment and a greater visibility of the assumptions used would have added to their credibility.
- The monetisation of carbon emissions is underestimated because of the assumption that the overall level of emissions from air travel remains constant in both the baseline and the 'Do-Something' case. This is unlikely to be consistent with the Committee on Climate Change (CCC) methodology.

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<sup>2</sup> Aviation Policy Framework (Cm 8584), Secretary of State for Transport, March 2013, paragraph 3.12

## **1. Introduction**

- 1.1. This document provides the Mayor of London's response to the Environmental Audit Committee inquiry into the final report of the Airports Commission ('the Commission').
- 1.2. In July 2015, following a 2½-year process, the Commission published its Final Report and recommended a third runway at Heathrow together with a package of conditions integrally linked to the new runway's approval. However, there is a considerable weight of evidence that a three-runway Heathrow does not meet the needs of London or the UK, nor does it even meet the commercial needs of the airlines and investors essential to its success. At the heart of the failure of a three-runway Heathrow are two fundamental issues: aviation capacity and public health. This response focuses on the impact of the recommendations on the environment, including public health.
- 1.3. This response firstly considers the issues identified with the surface access forecasts for the airport, as there are fundamental flaws in the Commission's approach which greatly influence the environmental assessment, particularly for air quality. The response then covers the four key environmental topics of air quality, noise, biodiversity and climate change. It concludes with a summary which draws out the answers to the four specific questions asked by the Environmental Audit Committee from the more detailed body of evidence presented in this response.
- 1.4. Paragraph and page numbers referenced in this response refer to the Airports Commission's Final Report, published in July 2015. References to any other documents are included as footnotes.

## **2. Surface Access**

### **2.1. An assessment of the proposed Heathrow expansion at full utilisation (beyond 2030) has not been undertaken.**

The Commission has not assessed the impact of a three runway Heathrow Airport at full utilisation. The Commission's analysis predicts full utilisation to be 148 million passengers per annum (mppa)<sup>3</sup>. However, it has only assessed a scenario of partial utilisation at 125.2mppa, even though it forecasts that the airport will be close to capacity again soon after opening a third runway.

An appraisal of full airport utilisation is essential to understanding the full environmental impact of airport expansion and the surface access enhancements that are required to accommodate airport demand in a sustainable way in the long term. This assessment should also look beyond the opening year of 2030 to the expanded airport operating at full capacity. As this has not taken place, the Commission has fundamentally underestimated the environmental impact of the airport.

### **2.2. The assumptions used by the Commission to forecast surface access demand result in the impact of a third runway being substantially underestimated.**

The Do-Minimum assumptions used result in inflated passenger numbers, whilst those used for the Do-Something scenario result in a significant underestimation of passenger numbers. The combined effect of this minimises the incremental difference in highway demand between the 2030 Do-Minimum and Do-Something scenarios, masking the impact of Heathrow expansion. This will have major implications for the assessment of noise and air quality described later in this response.

In particular, the Commission adopts the following assumptions in their 2030 Do-Minimum scenario that are likely to lead to the over-estimation of vehicle demand to and from the airport<sup>4</sup>:

- Utilisation of two existing runways: 87.5mppa (when current utilisation is 73mppa)
- Proportion of inter-lining (transfer) passengers: 22.6 per cent (when the current figure is 36.7 per cent)

But for the Commission's 2030 Do Something scenario (Carbon-Traded Global Growth), conservative assumptions are adopted that are likely to lead to a considerable underestimation of the highway demand and therefore environmental

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<sup>3</sup> Airports Commission Final Report: Business Case and Sustainability Assessment, July 2015, Table 2.2

<sup>4</sup> Airports Commission Final Report: Surface Access: Dynamic Modelling Report Heathrow Airport Northwest Runway, July 2015, Table 2.2

impact:

- The Commission estimates the full capacity of a three-runway Heathrow is 148mppa, but has only assumed 125.2mppa in 2030, despite the fact the airport would seek to reach this level of utilisation as soon as possible.
- The Commission has assumed considerable staffing efficiencies occur in the future, enabling a reduction in the number of staff relative to the size of the airport. Although this might be feasible, further evidence that this would occur is required. Assuming such staff efficiencies greatly reduces highway demand and therefore the impact on air quality.
- The assumption used for employees reporting each day (57 per cent) requires further scrutiny as this assumption greatly affects the level of employee travel demand, and is low compared to other airports and previously published data. The survey and analysis from which it is derived has not been fully referenced by the Commission<sup>5</sup>.

Optimistic assumptions have been used by the Commission in many cases and there is a serious risk that highway demand generated by a third runway will be much higher than the current estimates.

### **2.3. Unrealistic mode shift from car to public transport is assumed due to the inclusion of several uncommitted public transport schemes.**

The Commission adopts a shift from a current public transport mode share of 39-40 per cent to 53-54 per cent for both passengers and staff. This is a considerable shift given the large numbers of additional passengers and staff that airport expansion could bring. As shown in section 2.5 below, this will require trips by public transport to and from the airport to increase from 90,000 a day to 202,000 a day.

To justify this shift, the Commission has included the implementation of several unfunded or partly funded public transport schemes by 2030 including Western Rail Access to Heathrow, Crossrail 2 (regional option), the Piccadilly Line Upgrade and the Bakerloo Line Extension to Hayes<sup>6</sup>. However, these schemes have not been designed with airport expansion in mind and so as a package cannot be relied upon to provide sufficient capacity for passenger and employee access the airport. As part of its proposal, the Commission also includes Southern Rail Access to Heathrow and an increased frequency of Crossrail services to the airport (an additional 2 trains per hour). The Commission now accepts that these schemes will not provide sufficient spare capacity to accommodate increased airport demand post expansion. It assumes

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<sup>5</sup> Airports Commission Consultation Report: Surface Access: Heathrow Airport Northwest Runway, November 2014, Table I

<sup>6</sup> Airports Commission Final Report: Surface Access: Dynamic Modelling Report Heathrow Airport Northwest Runway, July 2015, Appendix B

that the lack of capacity is a result of background growth; it therefore places responsibility for further infrastructure on the Government. It is, however, clear that significantly higher levels and quality of rail capacity and connectivity will be required in the longer term for an expanded Heathrow to facilitate mode shift from car to public transport.

**2.4. Providing sufficient highway capacity for the airport relies on unfunded or complex road schemes.**

As with the public transport schemes, the Commission relies on the Government funding and delivering conversion of Junctions 3 to 12 of the M4 to a smart motorway with all-lane running, and some local road improvements around Heathrow. Several other schemes are required as part of the proposed expansion of the airport with a third runway (page 158, Table 8.2):

- Realignment of the M25 and access roads between Junctions 14A and 15
- Realignment of the access to Terminal 5 from M25 Junctions 13/14
- A new tunnel between the Southern Perimeter Road and the Central Terminal Area
- M4 Junctions 2 to 4B widening and Junctions 4A and 4B enhancements
- Diversion of the A4 between Colnbrook and the Emirates roundabout
- Some limited local road alterations

The complexity of some of these schemes, particularly putting the M25 into a tunnel and widening parts of the M4, brings into question their deliverability given the likely disruption during construction, and their affordability given the engineering complexities. The cost of these interventions may have been significantly underestimated.

**2.5. Even if one accepts the Commission’s assumptions on airport demand and mode shift, the impact of the third runway on the highway and public transport networks is very substantial.**

The following table sets out an estimate of the uplift in daily demand for car and public transport trips that will occur with expansion taking the assumptions that the Commission has shared which includes a much higher public transport mode share in 2030 than today (the Commission have not published all assumptions and demand forecasts). The table does not include highway trips from freight and from business expansion around the airport, both of which would increase substantially with a third runway. The highway impacts are therefore understated.

Heathrow Trips (Passengers and Employees)	Heathrow Today (per day)	Heathrow 2030 No Expansion (per day)	Heathrow 2030 With expansion (per day)
Highway demand	137,000	143,000	183,000
Public Transport demand	90,000	154,000	202,000

On the highway network, a 28% increase in demand is forecast (40,000 additional trips) compared to the 2030 Do-Minimum for a network that the Commission states will be at capacity despite the new infrastructure proposed. The scale of additional demand to be accommodated on the public transport network by 2030 with expansion and the higher mode share of trips by public transport is an additional 112,000 trips compared to today (+124%), or 48,000 trips compared to the Do Minimum. The public transport provision proposed by the Commission is not sufficient to accommodate this.

**2.6. The increase in freight traffic generated by expansion has not been properly included in analysis.**

Freight traffic was originally excluded from the Commission’s surface access analysis published for consultation in 2014. TfL and others gave feedback that it should be included.

For the Final Report, the Commission conducted a high-level forecast of the potential increase in freight demand for peak and inter-peak hours. A simple linear projection according to airport passenger numbers has been applied to a base year demand. It is also not clear how daily freight demand has been derived from the peak hour estimates and carried over to the environmental impact assessment.

**2.7. Traffic generated by the expansion of airport related activity around Heathrow has not been included in the analysis.**

The Commission has not forecast the increase in highway demand generated by the increase in business activity and housing around the airport that would be generated by the expansion. The increase in highway traffic likely to be generated by additional employment and housing has therefore not been included in the environmental impact assessment.

The Commission states that 125 million passengers will use an expanded Heathrow per year in 2030. Compared with the 73 million today, that’s an extra 52 million. New jobs will be created as businesses around the airport expand to meet new demand. Expansion will also create further catalytic jobs (office, distribution, etc.) and the need for housing located close to the airport.

This is a key aspect of the economic benefits of the proposals, but it is clear that

future levels of airport related activity in the Heathrow area will add a significant number of additional vehicle trips to local and strategic roads. This has not been considered by the Commission.

**2.8. The latest ‘background’ growth demand data has not been applied to analysis.**

The Greater London Authority (GLA) has recently published substantially higher employment forecasts for London. These would not have been available to the Commission at the time the Final Report was published, but should now be considered to ensure travel demand is accurately captured.

This will lead to higher levels of background travel demand than currently forecast.

**2.9. All of these factors lead to the Commission substantially under-estimating the demand for surface access arising from the proposals.**

This raises fundamental questions about the adequacy and deliverability of the surface access arrangements assumed by the Commission, and means that the air quality impact assessment starts off from a position of significantly under-estimating road traffic volumes. Whilst this additional demand would be spread across the road network radiating from Heathrow, it would certainly imply higher flows on key air quality sensitive links.

**Further work required**

- The 2030 Do-Minimum and Do-Something scenarios should be revised to represent realistic demand forecasts in line with recommendations made above, including an assessment of full airport utilisation.
- Analysis should be amended to include the latest, higher employment growth estimates recently published by the GLA.
- The assumed mode shift from car to public transport should be validated by further analysis.
- The cost and deliverability of the highway and public transport interventions to support an expanded Heathrow needs to be investigated in much more detail and designed to accommodate the proposed expansion in the long-term.
- The impact of freight should be assessed in greater depth, particularly in terms of its impact on local roads. This should be incorporated into the environmental impact assessment.
- The traffic generated by the growth of airport related activity around Heathrow as a result of expansion should be incorporated into the environmental impact assessment.

### **3. Air quality**

#### **3.1. The additional road traffic demand from the recommended proposal is significantly under-estimated.**

TfL estimates that the incremental road traffic demand from the recommended proposal could be of the order of tens of thousands of additional vehicle movements per day. By any measure this is a very significant degree of under-estimation and it is of course over and above that already taken into account in the Commission's air quality assessment, which takes only a 'bare minimum' approach to mitigation.

The additional demand at sensitive locations, such as the Bath Road which, according to Defra, currently has the second-worst air quality in Greater London, would certainly be a major additional impediment to achieving air quality limit values at any point in the future. This would lead to increased NO<sub>2</sub> concentrations over and above that projected to be achieved (with mitigation) by the Commission under the recommended proposal. This would result in a much more demanding level of mitigation than envisaged by the Commission. It is crucial that realistic demand figures and the proposed revised alignment of Bath Road are tested via modelling for air quality impacts, with assured mitigation, ahead of any decision, rather than simply assuming that the problem will either go away or become a *fait accompli* (only to be discovered) when the new capacity comes into operation.

This level of additional demand would either need to be accommodated in practical terms, for example through further enhancements to the transport network (which is acknowledged by the Commission to be operating at over-capacity) or, there would be significant additional air quality impacts on the local highway network on a much wider scale and over more hours. The effects would require comprehensive mitigation which has not been identified by the Commission and which undermine the economic viability and feasibility of the project.

#### **3.2. The Commission adopts a 'bare minimum' approach to meeting air quality objectives, which is inadequate, and does not meet its own appraisal objectives.**

Air quality is universally acknowledged as a key public health issue both at national and EU level and this is why it is the subject of legally binding limit values designed to minimise the threat to public health over the shortest possible timescale. The UK is currently projected to be in long-term breach of the limit value for Nitrogen Dioxide (NO<sub>2</sub>) until post-2030 (although this expectation may change over the short term in the shape of the Government's response to the recent Supreme Court judgment in *Client Earth*). The Greater London zone, in which Heathrow largely falls, is projected to be the last in the country to comply. The focus of local and national policy is on how compliance with these limits can be brought forward to the earliest possible date. From first principles, therefore, any expansion of Heathrow would militate heavily against these imperatives and would require substantial mitigation even to get

back to a position of 'standing still' (i.e. the Do-Minimum situation) – let alone actually working to improve air quality. The Commission does not address these requirements.

The Commission's treatment of air quality is complacent and, in some places, ambiguous. This casts doubt on the veracity of its understanding and the soundness of its assessment. In particular, whilst acknowledging that this is an 'all or nothing' test of deliverability for an expanded Heathrow (see, for example, paragraph 9.52), the Commission fails to demonstrate that it will not, in fact, be a significant issue, and that the adverse effects will be satisfactorily dealt with.

The Commission sees air quality as an obstacle that it seeks only to mitigate to the bare minimum required – that is no better than the otherwise expected worst concentration within the zone. This is expected, on the basis of most recent forecasts available to the Commission, to be Marylebone Road. This approach is open to legal challenge for the following reasons. Firstly, the Guidance relied on by the Commission (a Highways England Interim Advice Note, IANI 75) itself does not provide a definitive legal basis for establishing compliance with air quality objectives. Secondly, the Commission then fails to adhere to the principles of the Guidance, which require that in the event of a scheme making air quality worse when it is already above the limit values (as is the case for Heathrow), that mitigation measures must be identified to reduce air quality concentrations so they either meet (1) the limit values or (2) the same air quality levels without the scheme in place (i.e. the Do-Minimum case), whichever is the higher. In this case, where latest-available projections suggest zonal non-compliance for London, the latter is the appropriate minimum target for mitigation. Thirdly, none of the additional tests set out in the Guidance have been undertaken, including disclosure of whether there is an overall increase, decrease, or no change in NO<sub>2</sub> concentrations.

The Commission has done none of these and, in so doing, has accepted a widespread worsening of air quality (with no offsetting positive impacts), gives itself no room for manoeuvre and, notably, fails to address its own appraisal objective 'to improve air quality' (see paragraph 9.92). Furthermore, the benchmark comparison against Marylebone Road is now already out of date, as TfL's Ultra Low Emission Zone scheme (now a committed scheme) will have the effect of significantly lowering emissions here from 2020. At that point, in the absence of further change, the A4 Bath Road would likely be the 'worst link' in the Greater London zone.

Given the importance of this issue, greater ambition and more certainty is required. To be in conformity with wider air quality policy the Commission should at least have demonstrated a proposed package that would ensure no overall worsening/increase in NO<sub>2</sub> concentrations across the affected study area, from the 'Do-Minimum' rather than solely the 'next worst road link' approach actually adopted.

A logical corollary of the 'next worst link' approach adopted by the Commission

would be that air quality could get worse across the Greater London zone provided that it did not get any worse than Marylebone Road. This is clearly nonsense in public health terms, and is against the principles required by the EU Directive that require Governments and other responsible authorities to work towards achieving compliance with limit values at the earliest possible date.

Such assurance should also have been given for all stages of the construction and operation of the expansion – at the start of operations, when background concentrations would be at their highest, and at several incremental stages of operation, when emissions arising from the expanded airport would be at their highest. The extent of the information given, as well as the level of assurance about progress towards meeting limit values, is therefore inadequate.

The Commission seems ambivalent or oblivious to the fact that, as demonstrated by its assessment, Heathrow currently is, and will continue to be, a significant source of air quality problems that are inhibiting compliance with air quality objectives in the Greater London zone. The fact (even if correct) that there may be other significant sources which are possibly worse is an entirely unconvincing excuse in scientific or legal terms and is most unlikely to persuade the European Commission, a UK judge or the European Court of Justice.

### **3.3. The adequacy and deliverability of mitigating measures is not convincing.**

Even on the basis of the Commission's estimated scale of air quality impact, which has been significantly under-estimated, and its limited ambition to reduce this, the adequacy and the deliverability of the mitigating measures as set out is not convincing. They are poorly-specified and quantified, are not committed to in any meaningful form, and presuppose actions from third parties which have not been verified. We therefore doubt that, even in its minimal form, it is credibly deliverable, and observe that it ties any decision on Heathrow expansion to a range of imponderables that may - or may not - be considered to happen, depending on the agenda of the commentator.

Mitigation is seen as a limitless 'catch all' that can solve whatever air quality problems arise. Undoubtedly it can if it is extensive or draconian enough – but that is not the point. Higher impacts and/or higher levels of ambition would require correspondingly greater mitigation, which may have to be of such a scale as to be 'transformational' - for example requiring significant new public transport capacity at additional cost and/or being such as to inhibit the realisation of the very economic benefits sought by the proposals, for example a powerfully discouraging road user charging scheme which would require a wide ranging expansion of public transport provision in its own right. All of this suggests that the costs of the third runway have been substantially under-estimated, and that the business case is consequently flawed. Standing back, which sensible business would proceed with a project the ultimate use and cost of which would be dependent on such uncertainties, or be willing to assume that all

such matters will be resolved satisfactorily? Yet this is exactly the basis upon which the Commission has assumed that the scheme proceeds.

The Commission's reluctance to consider or assess mitigations of this scale is telling. This is a reflection of its complacent stance on this issue, and it does not have due regard to the actual infeasibility and/or extremely high cost of mitigation that would be required to provide a more acceptable level of assurance on air quality. For any decision to be properly grounded, these requirements must be fully addressed and their efficacy conclusively demonstrated. Statements like "air quality impacts should be addressed wherever possible" are further evidence of the Commission's half-hearted approach to this issue and its incomplete understanding of its importance.

The Mayor's position is therefore that the proposals should properly have included a committed, fully-costed and deliverable package of mitigation that assures, as a minimum, no overall deterioration in air quality in the affected area, maintains this state from that point onwards, works towards achievement of limit values at the earliest possible opportunity, and does not significantly damage the 'business case' and economic benefits sought by the expansion. In the absence of such a costed package, no sensible investment decision can be made.

**3.4. Any Government decision on the proposals need to be fully cognisant of, and aligned with, the UK's response to the Supreme Court ruling, and the soon-to-be-published (for consultation) revised NO<sub>2</sub> Action Plan. It is not possible to see how this can be achieved over the short or medium term.**

The positioning of the Government's decision on the Commission's recommendations given the parallel requirement to respond to the Supreme Court, via a NO<sub>2</sub> Action Plan, is of crucial importance, as this will effectively reset the baseline against which the air quality impacts should be judged, probably bringing forward the expected date of compliance within the London 'zone' (this is an explicit requirement of the Supreme Court ruling). This could fundamentally affect the applicable target for air quality mitigation, depending on any change to the future projected compliance status of the Greater London zone.

The timeline of the adoption of the Action Plan is also likely to be lengthy – this being subject to consultation, possible legal challenge and formal adoption by the European Union. This means that the final shape and details of future air quality compliance will not be definitively known for maybe two years or more.

The Commission's own response to these issues was that it 'considers that expansion at Heathrow should be capable of being incorporated into that plan without delaying compliance...'. At best, this is a massive hostage to fortune. At worst, it is a reflection of gross complacency and 'throwing the problem over the fence' (see paragraphs 14.112 – 14.114). In the Mayor's view, this could not possibly be achieved when the Commission's assessment makes no attempt to show how either the do minimum or limit values could be met because the mitigation package

provided does not aim in any way to meet limit values – a fundamental requirement of the Action Plan. A very major new source of air pollution in an area which is non-compliant and which must become compliant within demanding timescales is a problem which cannot be dismissed so easily as the Commission appears to do.

Bearing in mind that an expanded Heathrow will almost certainly not be considered in the Action Plan, there are several possible outcomes. If the anticipated date of compliance in the Greater London zone is ahead of a new runway coming into operation, then by definition the air quality impacts of the expansion cannot be allowed to reverse that position. Such an outcome would require a comprehensive reassessment of the air quality impacts so as to not prejudice compliance with limit values at the earliest date projected by the Action Plan. The requirements would, by definition, be very demanding indeed. It would not be possible to extrapolate from the current assessment as the context and assumptions would have fundamentally changed. The level of assurance required would also be much more stringent, as the UK's compliance status would be dependent on the outcome. Furthermore, this level of assurance would need to be given at all stages of the construction and operational development of the new runway.

Should the expected date of compliance set out in the Action Plan correspond with the early stages of the bringing into use of the new capacity, then the incremental impacts of expansion would assume critical importance, as they would be acting in the opposite direction to all other factors affecting air quality at this time. Yet again, a completely revised assessment and very high levels of mitigation and assurance are called for.

Whatever the actual revised projected date of compliance, if it is the Government's view that the Heathrow proposals must simply 'fall into line' with the trajectory to compliance set out in the Action Plan, the requirement for mitigation and assurance, would be greater, possibly very much greater, than that assumed by the Commission. In all cases, the requirement must be for a completely revised assessment with very high levels of mitigation and assurance. This would imply difficult practical issues connected with the provision of surface access and significant additional costs, which have not been fully accounted for in the proposals and which should not properly fall on the public purse.

Whilst it cannot at this stage be known for certain, it is very likely that the Government's Action Plan will significantly 'raise the bar' for the assessment and mitigation of air quality impacts. It surely will have to if it is to have any chance of being accepted by the European Commission and not leading to further proceedings in the domestic or European courts. An expanded Heathrow will therefore need to comply with more stringent air quality requirements, to a tighter timescale, with a more stringent level of assurance, and at greater cost, than foreseen by the Commission. All this is on top, of course, of the generic under-estimation of the scale of impacts that TfL believe has taken place in the Commission's assessment.

TfL have previously responded<sup>7</sup> to the Commission's final consultation raising a number of concerns in relation to the technical methodology employed when undertaking the air quality modelling which concluded that the air quality impacts and necessary levels of mitigation had been underestimated.

It should therefore be recognised from the outset that a decision to expand Heathrow Airport based on the information to hand is not technically feasible and will potentially draw the Action Plan into disrepute. It is therefore inconceivable that the Government could be in a position to have sufficient information to make a reasonable and proper determination on the basis of air quality impacts at this point.

### Further work required

- Revision and updating of the partial approach to traffic demand estimation provided by the Commission to date is required, and a re-working of the air quality impacts assessment on this basis is also required (for further comment, see Surface Access section).
- The Government should produce a 'road map' detailing how impacts constrained to the 'do minimum' case would be achieved, and how the proposals work towards compliance with air quality limit values at the earliest possible date.
- Mitigation should be presented with the (at least minimum) aim of delivering air quality representative of the situation without the expansion, in the case that the London zone is still forecast to be non-compliant in Defra's most recent assessment rather than just seeking to mitigate to the 'next least worst' (and higher concentration) road link within the London zone.
- Should the Government's NO<sub>2</sub> Action Plan project zonal compliance for Greater London by the time of opening of an expanded Heathrow, then the Government should provide a robust and costed assessment that demonstrates that limit values will not be infringed at any stage.
- The Government's decision on the proposals must consider the parallel requirement to respond to the Supreme Court's order by an NO<sub>2</sub> Action Plan. Sufficient information needs to be available for the Government to make a proper determination on the basis of air quality impacts. This is unlikely to be possible for up to two years.

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<sup>7</sup> <https://tfl.gov.uk/cdn/static/cms/documents/ac-supplementary-consultation-air-quality-response.pdf>

## **4. Noise**

### **4.1. The assessment presented does not follow UK guidelines by not comparing against the Do Minimum scenario.**

The Commission's Final Report indicates that for air noise, a three-runway Heathrow will affect fewer people than Heathrow does today (see, for example, Figure 9.5). This is a comparison between the future Do-Something and today's conditions. However, this is contrary to the DfT's Transport Appraisal Guidance (TAG) methodologies for noise assessments, which require a comparison between the Do-Something and Do-Minimum for the same future year. The Commission wrongly dismisses this as "not a comparison required by the noise appraisal module"<sup>8</sup>.

It should also be noted that the noise data and the underpinning assumptions that have been published by the Commission are incomplete and limit the potential for proper scrutiny.

### **4.2. Claims that a third runway delivers less noise stretch credulity. Modelling undertaken with assumptions closer to today's operation suggest a million people would be exposed to significant noise by a three-runway Heathrow.**

The results presented by Heathrow Airport Limited and the Commission show reduced noise exposure by making a series of assumptions about technological change, operational enhancements and a radical recasting of flightpaths.

Future technological improvements to aircraft are cited as considerably reducing aircraft noise. The Commission predicts that new and improved aircraft would make up approximately 67 per cent of aircraft at Heathrow by 2050. In reality, the 30-40 year life span of civilian aircraft – and the fact that Airbus has an order book for current generation aircraft equivalent to double the current in-service fleet – means that any notable technology driven improvement in aircraft noise is unlikely to be realised at Heathrow for a number of decades.

The operational improvements – such as steeper descents and delaying deployment of the landing gear – are also not straightforward, to a great extent dependent on individual airlines – and indeed individual pilots – for their implementation. Moreover, they have their drawbacks – for example, steeper descents are dependent on good weather conditions, result in greater fuel burn (i.e. both financially and carbon inefficient) and limit the use of low drag techniques which were introduced to reduce noise.

The Commission's noise impact assessment also relies heavily on the radical recasting of flightpaths. However, the claim that this "could enable the noise impacts

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<sup>8</sup> Airports Commission Consultation Report: Noise: Local Assessment, November 2014, page 206

to be dispersed more widely” glosses over the fact that it will mean several communities become regularly overflowed for the first time. The Commission data suggests that – even in the scenario which seeks to minimise those newly overflowed – over 150,000 people will be newly exposed to aircraft noise at 55dB<sub>Lden</sub><sup>9</sup>.

The noise modelling undertaken for TfL – using the same noise modelling consultants, but more credible assumptions closer to today’s operation – found a 33 per cent increase in those exposed at 55dB<sub>Lden</sub> versus today – that’s a million people in total.

Moreover, it should also be noted that, even with the resources Heathrow Airport Limited has invested in seeking to reduce the number of people captured in the noise contours, a three runway Heathrow would still remain the worst airport in Europe for aircraft noise, exposing several hundred thousand people at 55dB<sub>Lden</sub>, more than its five main European rivals – Paris CDG, Frankfurt, Amsterdam, Madrid and Munich – combined.

**4.3. The Commission’s default assumption is that any improvements in the noise environment that can be secured should be used to enable more flights rather than used to improve local residents’ quality of life.**

There would be significant practical challenges in implementing new flightpaths and the technological and operational improvements discussed. Were they to be delivered, the detailed noise data tables published by the Commission indicate that, compared to its Do minimum scenario, a third runway would result in up to 100,000 additional people exposed to noise. The Commission seems to take for granted that such improvements as are technically possible should be used to enable more flights rather than to improve Londoners’ quality of life.

**4.4. The Commission’s calculation for monetised sleep disturbance shows that a full night ban offers more than five times as much benefit in 2030 compared to the partial ban proposed. This is because, in spite of the alleged ban, there will, under the third runway proposals, be around 33 per cent more flights in the 23:00-07:00 night period.**

Under European and national environmental noise guidelines, ‘night’ is defined as the period between 23:00 and 07:00. The World Health Organisation states that an eight-hour period is required by the majority of people to have sufficient sleep for health reasons and this is the eight-hour period when the majority of the population sleep. However, the Commission’s proposed night ban covers only what the Commission refers to as the ‘core night’ (23:30-06:00). The benefit of banning flights in this 6½ hour part of the night will be substantially less than the benefit of a full night ban. The

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<sup>9</sup> Derived from Airports Commission Consultation Report: Noise: Local Assessment, November 2014, pages 107, 156 and 183

Commission's Final Report indicates that the monetised health benefit of a full night ban would be five times greater than that of the proposed core night ban in 2030, and eight times greater in 2040 (Table 14.1). The proposed core night ban would in fact do little to address the sleep disturbance impacts at Heathrow.

The Commission discusses how the additional capacity provided by a third runway in the high demand 'shoulder hours' (23:00–23:30 and 06:00–07:00) would allow flights in the core night to be accommodated at these times. The 16 flights on average currently arriving before 06:00 will instead be shifted to after 06:00. But even with the proposed restriction before 06:00, with a third runway there will be around 33 per cent more flights in the 23:00–07:00 full night period than there are today. This is simply a result of the greater total throughput from three runways and the lack of any restrictions after 06:00. There is evidence that in fact people are more likely to be sleep disturbed in the shoulder hours because they are in lighter sleep stages, either getting to sleep or nearing waking up. So in fact this shift from core night to shoulder hours could create a worsening of sleep disturbance that is not accounted for in the Commission's analysis. Furthermore, the night ban will result in a very intensive period of arrivals between 06:00 and 07:00, with many of the arrivals being larger long haul aircraft, contributing to severe disturbance for those trying to sleep under the arrival flight path.

In summary, the proposed night ban would do little to reduce the overall health impact of sleep disturbance at Heathrow and the proposals, by facilitating additional flights in the shoulder hours, could make it worse.

It should also be noted that the partial ban also has important commercial implications and that airport and airlines alike have pushed back strongly on this condition. According to the Commission data, the 16 flights on average affected currently enable arrivals from key long haul routes including 50 per cent or more of the seat capacity arriving from Hong Kong, Singapore, Kuala Lumpur, Riyadh and Nairobi. These timings are no accident – and delaying these flights reduces their attractiveness, particularly to business travellers, as well as creating timing issues at the other end of the route. Removing these flights risks harming long haul connectivity.

**4.5. For the majority of those overflown, respite will be for just a quarter of the traffic day – half of what is offered to local communities today.**

The Commission's Final Report states that "A third runway should allow periods of predictable respite to be more reliably maintained" (paragraph 14.36). But this promise of more predictable respite relies entirely on the airport not being capacity constrained and therefore avoiding the tactical measures – which infringe upon runway alternation – that are used today when delays build up. However, as the Commission's own findings were that a three runway Heathrow will effectively be full shortly after opening, it will be operating at the margins of capacity – so respite will

be compromised in the same way as it is today.

The Commission does admit that on average the scheduled respite will fall from a half to a third of the traffic day; but even this conceals the fact that, for the majority of those overflown, they will receive respite from overflying aircraft for just a quarter of the traffic day – half of what is offered to local communities today.

The Commission – and indeed the promoters – also cite recasting flightpaths as part of offering respite, albeit only to those living further way from the airport: “it is also possible to alternate flight paths so that planes using the same runway follow different routes” (paragraph 14.40). This type of respite – independent of runway alternation – means redistributing the noise more widely. But as has been explained above, if it can be delivered, the Commission estimates this would mean over 150,000 people overflown for the first time. Many will not deem this to be a benefit.

It should also be noted that the Commission has also failed to consider the impact of aircraft taking off or landing simultaneously in the same direction. This could result in considerably higher maximum noise levels than are experienced today, for example where a location is exposed to two different aircraft travelling westbound in parallel over west London on their approach to Heathrow. The likelihood of this increases as the airport nears capacity, as the Commission’s forecast suggest will be the case following expansion.

**4.6. The proposal for a noise envelope is of little use without stipulating how stringent that noise envelope should be or what penalties would apply.**

The Commission suggests imposing a ‘noise envelope’. Whilst this approach may be attractive in appearing to give some certainty to the local population, there are several issues with this. There is the problem of fixing and enforcing a limit. For example, should the limit be a contour (at what level, what period, average, annual, seasonal) a population affected or a set of noise levels? A noise envelope has been adopted at Stansted, but in practice this limit has been increased in steps over the years, much to the frustration of local residents. In fact, the Civil Aviation Authority (CAA) has previously stated: ‘Stansted therefore provides an example of how growth has been achieved using static noise management limits, at the expense of significant local community support’<sup>10</sup>.

The proposal for a noise envelope is of little use without stipulating how stringent that noise envelope should be or what penalties would apply.

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<sup>10</sup> CAP 1129: Noise envelopes, Civil Aviation Authority, December 2013, page 42

- 4.7. **The independent aviation noise authority proposed is one whose primary role will be to advise other public bodies – without any real decision-making or enforcement powers.**

The Commission recommends that the proposed noise authority has a formal role in monitoring and quality assuring all processes and functions which have an impact on aircraft noise, advising Government and the CAA on such issues. But without any real decision-making or enforcement powers, it is difficult to see how it can make a useful contribution or help restore public confidence in the regulatory framework governing aviation.

- 4.8. **The £1bn put forward by Heathrow Airport Limited and endorsed by the Commission would help provide noise insulation to barely a third of households affected.**

The Commission's Final Report welcomes the £1bn that it says Heathrow Airport Limited has committed to community compensation, of which £700m is for noise insulation. The Commission adds that this would benefit 160,000 households.

The modelling undertaken for TfL indicates that around 500,000 households would fall into the 55dB  $L_{den}$  contour of a three-runway Heathrow. This means barely a third of these households worst affected would benefit from support towards noise insulation.

- 4.9. **The token £50 million that the Commission estimates would be raised every year by a Heathrow noise levy works out as support for insulating a mere 11,500 homes.**

A noise levy should, according to the Commission be set at around 50p per passenger at Heathrow (paragraph 14.58), taking into account considerations of affordability. But the £50m per annum the Commission estimates would be raised by such a noise levy would support the insulation of a mere 11,500 homes.

- 4.10. **The Commission's proposals do not strike an appropriate balance between the economic benefits and the adverse impacts of a third runway at Heathrow.**

The Commission is charged with striking a balance between the economic and other benefits of the runway options with its disbenefits, including noise. The Commission has previously estimated the total cost of the noise impact of the third runway at Heathrow at up to £25bn over 60 years. Mitigation may offset a little of this, but it would remain a very considerable and unacceptable future health burden to add to London residents.

To put the impact of the Heathrow third runway option into perspective, the Commission's Noise Baseline Report includes population exposure estimates for 13 UK airports in 2013 – according to the Commission's own lower noise figures for Heathrow, the increase due to a third runway is 10 per cent of the total national noise exposure for all 13 airports.

The Government's Aviation Policy Framework gives guidance on aviation noise and states the Government's overall objective is "to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise." The Noise Policy Statement for England discusses the requirement to avoid significant adverse impacts on health and quality of life resulting from noise. When one considers the noise impact of a three-runway Heathrow with that of a future Do Minimum scenario, the third runway proposal at Heathrow would seem counter to Government policy on noise. Any decision by the Government to support the Commission's recommendation would need to demonstrate that this was not so. This is even more problematic when the noise figures from TfL's modelling using more credible assumptions are considered.

In recommending Heathrow, the Commission has both understated its noise impact and relied on mitigation and compensation that cannot deliver the noise reductions it assumes.

#### Further work required

- Do-Something forecasts need to be compared to the Do-Minimum future year situation, rather than being compared to today's noise situation. Currently the comparison presents the impact of a third runway at Heathrow in an unreasonably optimistic light, which is inconsistent with the DfT's Transport Appraisal Guidelines.
- The Commission must be more transparent about the assumptions it has used with regard to technical and operational improvements and the recasting of flightpaths – including detail of the distribution of noise – and the feasibility and likelihood of each.

## **5. Biodiversity**

- 5.1. **The scale of impact Heathrow expansion will have on the South West London Waterbodies (SWLW) Special Protection Area (SPA) and Ramsar site needs to be assessed further.**

The Commission concluded there will be an indirect impact on the SWLW SPA and Ramsar site (paragraph 13.68). The Commission also concluded that an Appropriate Assessment (under the Conservation of Habitats and Species Regulations 2010) is likely to be required (paragraph 9.102).

It is clear that detailed work has not yet been undertaken to reach a definitive conclusion as to the impacts on the integrity of the SPA. It must be confirmed that the appropriate tests set down in the EC Directive will be properly applied if the integrity of the SPA is affected.

- 5.2. **The western threshold of the new runway will be in closer proximity to the Queen Mother reservoir.**

Although this is not part of the SPA it does provide functional habitat for the SWLW SPA and Ramsar site, and the evidence base does conclude that “controlling bird species potentially hazardous to aviation operations could potentially have an adverse effect on non-target species and biodiversity”.

It is premature for the Commission to conclude that as HAL has effectively managed bird strike to date it will continue to do so without further assessment. The consultants Jacobs noted in their work for the Commission that at the Kingsmead Gravel Pits and Wraysbury II North and South lakes increased levels of bird scaring could have “a likely significant effect on the SPA”<sup>11</sup> and that an Appropriate Assessment would be required. This conclusion has been watered down by the Commission who state an Appropriate Assessment is “possible”. Quite plainly the correct legal approach is that if the direct or indirect effects of a project might possibly have a significant effect on the SPA (i.e. such effects cannot be definitively excluded on the basis of objective scientific information) then there is no option but to subject the project to an Appropriate Assessment. It is therefore extraordinary that the Commission appears to contemplate that such an Assessment might not be required and is perhaps symptomatic of the Commission’s complacent approach to environmental constraints.

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<sup>11</sup> Airports Commission Consultation Report: Biodiversity: Assessment, November 2014, Section 2.2.4

### Further work required

- Further studies are required to assess the scale of potential impacts on biodiversity, with appropriate mitigation identified, and the need for Appropriate Assessment to be confirmed on a sound legal basis.

## **6. Carbon emissions**

- 6.1. **The different assumptions used are not readily apparent and the forecasts are sometimes insufficiently disaggregated to enable full analysis. The assumptions underpin the findings so this a key issue.**

Greater visibility of the assumptions would improve the credibility of the Commission's report. For example, it is not clear that the definitions for UK aviation emissions used in the carbon-capped forecasts are the same as those set by the CCC. Another example where greater clarity would be beneficial is that carbon emissions from airside ground movements, which typically generate the greatest amount of CO<sub>2</sub> for an airport, are grouped together with overall aircraft emissions. Whilst the broad quantum of the emissions levels seem appropriate, greater clarity would improve the credibility of the findings.

Carbon-capped and carbon-traded forecasts are not used consistently throughout the Final Report, with both presented in some cases and only one in other cases. The different methodologies produce very different forecasts in some cases, so a more consistent presentation would improve credibility by removing the doubt that only the most optimistic forecasts are being presented in each case.

- 6.2. **The monetisation of carbon emissions is underestimated because of the assumption that the overall level of emissions from air travel remains constant in both the Do-Minimum and the Do-Something case.**

The Commission's Final Report monetised three out of four assessment areas, but did not monetise the additional carbon emissions from air travel at the expanded airport. Carbon emissions from air travel represent the most significant source of carbon of the four assessment areas. The Commission did not monetise carbon emissions for air travel since the forecasts assumed that the overall level of aviation emissions (at the UK level for carbon-capped and at the international level for carbon-traded) were the same for both the Do-Minimum and Do-Something cases. This assumption seems reasonable for the carbon-capped forecast; however, this would increase the proportion of overall UK carbon emissions 'used' by the chosen option, therefore the impact on the other airports in the UK should be considered.

In the case of the carbon-traded forecast, although the overall level of carbon emissions remained constant at the international level, it did not remain constant at the UK level. The additional carbon produced over the UK carbon cap will come at a cost and, since the additional carbon differs between airport expansion options, this cost needs to be monetised in the carbon-traded forecasts. This is unlikely to be consistent with the CCC methodology.

**6.3. The Commission has not included all factors that will influence emissions that its consultants considered.**

Whilst the report considers the main sources of CO<sub>2</sub> emissions (increased airport capacity, airside ground movements and airport operations, changes due to the surface access strategy and the construction of new facilities and infrastructure), it has not considered the impact of changes to departure/arrival routes resulting from altered flight operations. This was considered by the Commission's consultants, who concluded that the additional impact of these changes would be relatively small in comparison to the other sources<sup>12</sup>. However, without their inclusion the Commission's forecasts do not present a full picture of the impact of the recommendations on CO<sub>2</sub> emissions.

**Further work required**

- Clearer assumptions, methodology and outputs are required to provide confidence that the approach to forecasting CO<sub>2</sub> emissions is robust.
- The monetisation of the CO<sub>2</sub> emissions should be re-calculated to take fully into account emissions from air travel, and to ensure compliance with the CCC methodology.

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<sup>12</sup> Airports Commission Consultation Report: Carbon: Assessment, November 2014, Section 2.1.2

## **7. Summary – response to the Committee questions**

7.1. This response concludes by using the evidence set out above to answer the four questions specifically raised by the Environmental Audit Committee call for evidence.

### **7.2. Are the indicative policies and proposed mitigations set out in the Airports Commission’s recommended option realistic and achievable?**

The evidence presented in this submission demonstrates that many of the policies and proposed mitigations set out by the Commission are far from being realistic and achievable. In particular:

- The air quality impacts are seriously under-estimated as a consequence of the under-estimation of the increases in road traffic demand, which makes the necessary mitigation far more difficult to achieve.
- Mitigation seeks only to address the ‘bare minimum’ requirements of guidance, with no room for tolerance and accepting a general worsening of air quality over a widespread area. Mitigation should go much further and should aim to achieve the ‘do minimum’ values or the applicable limit values in the shortest possible timescale, in conformity with current air quality policy and practice and pending any revised timeline for zonal compliance set out in the Government’s forthcoming NO<sub>2</sub> Action Plan.
- Mitigation of air quality impacts, in terms of the minimal approach of the Commission, is not adequately specified, assured or committed to. In particular, the efficacy of the proposed mitigation has not been demonstrated.
- The balance of our review suggests that much more comprehensive, and costly, mitigation will be required to assure conformity with appropriate air quality objectives.
- The fact that Heathrow already has effective policies regarding issues such as noise and bird strikes does not mean that these same policies will be adequate with an expanded airport.
- Even with the proposed partial night flight ban, there will be 33 per cent more flights in the night period, especially focused on the ‘shoulder’ hours (after 23:00 and before 07:00) where the impact on health resulting from lost sleep will likely be greater.
- Claims for more predictable respite from aircraft noise as a mitigation measure are misplaced. This is entirely reliant on the airport not being capacity constrained – but the Commission have set out that the airport will be nearing capacity shortly after expansion. The Final Report does, however, reveal that for the majority of those overflowed, they will receive respite from overflying aircraft for just a quarter of the traffic day – half of what is offered to local communities today.

**7.3. What are the implications of adopting or not adopting those policies and mitigations for wider Government policy?**

- The condition that operation of an expanded Heathrow, once opened, would be contingent on air quality limit values being reached, with so many imponderables and inadequate mitigation, is a massive hostage to fortune that could result in substantial economic and productivity losses if not more robustly addressed.
- It is not clear that the proposals are compatible with the requirement of the Supreme Court ruling for a UK Action Plan to accelerate the date of compliance with air quality limit values for Nitrogen Dioxide. The proposals, either unmitigated or with insufficient mitigation, will inevitably work directly against this requirement. The Government must therefore demonstrate that this will not be the case before adopting the recommendations.
- Adopting the proposals without further assurance on mitigation could potentially impose substantial costs or other obligations on third parties, as it becomes clear that mitigation is insufficient and that other measures have to be taken to achieve air quality limit values.
- Improved mitigation might require, or add to the case for, more transformative change in surface access arrangements, with possible implications at the UK scale for future road and rail networks, along with associated costs. Alternatively, it could be sufficiently draconian as to jeopardise the economic benefits sought by the proposals.
- The Government's Aviation Policy Framework gives guidance on aviation noise and states the Government's overall objective is "to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise." The Noise Policy Statement for England discusses the requirement to avoid significant adverse impacts on health and quality of life resulting for noise. When one considers the Commission's forecast lower noise impact of a three-runway Heathrow with that of a future Do Minimum scenario, the third runway proposal at Heathrow would seem counter to Government policy on noise. This is even more problematic when the noise figures from TfL's modelling using more credible assumptions are considered.

**7.4. Do realistic and achievable alternatives to those policies and mitigations exist, should the Government adopt the recommended option?**

- The evidence submitted to the Commission's process has highlighted a number of realistic and achievable locations for new airport capacity – and any Government decision must give these proper consideration. Some of the four-runway options presented deliver greater economic and connectivity benefits than a three-runway Heathrow.
- New airport capacity delivered in a location away from densely populated areas and existing congested highway corridors has the potential to

significantly reduce the environmental impacts and absolutely minimise the numbers of people exposed to severe aircraft noise and air pollution.

- Given the existence of alternatives, the third runway proposal at Heathrow is counter to government policy to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.
- Similarly, the Commission has failed to demonstrate how, even with mitigation measures, Heathrow can be expanded while at the same time be compliant with legal obligations on air quality. At a minimum, mitigation measures over and above those considered would need to be assessed in terms of their scale, cost, deliverability and impact. It is possible that the quantum of the interventions required may significantly increase costs and/or damage the economic benefits that are being sought.

**7.5. What steps should the Government should take in these areas to reach its decision in a way that is consistent with its commitments on sustainable development?**

- It is unlikely that the Government will have sufficient information, prior to the adoption of the forthcoming NO<sub>2</sub> Action Plan and a thoroughgoing revised assessment that is in conformity with this, to be in a position to make a determination on the recommendations. At the very least, therefore, the Government should delay making a decision until this has been worked through and the air quality impacts of an expanded Heathrow reassessed in the context of the Action Plan.
- Our review suggests that the Government should adopt a highly critical and questioning approach to the assumptions of the Commission around surface access and environmental impacts.
- Each section of this response sets out the further work the Mayor believes is required to allow the Government to make a fully informed decision on expansion of airport capacity. Similar points were made during the consultations but the Commission has disregarded many of these points in its Final Report.