Hammersmith & Fulham Council Response to the Airports Commission Air Quality Addendum Consultation - May 2015

Background

In the Council's response to the Airports Commission's original consultation on potential expansion options for Heathrow Airport (submitted by e-mail on 3rd February 2015), we noted that it was clear that further work was required to assess the potential air pollution impacts of expansion.

The publication of the Commission's new consultation on its detailed air quality assessment is therefore welcomed.

As a reminder, in our original consultation response:

- We highlighted that many areas in London including Hammersmith & Fulham (H&F) continue to exceed the Government's national air quality standards, particularly for Nitrogen Dioxide (NO2). H&F is already an Air Quality Management Area for NO2 and also Particulate Matter indicating that there is a need to reduce levels of these pollutants.

- We were sceptical about Heathrow Airport's and Heathrow Hub's statements to the effect that expansion at Heathrow would have no or negligible impacts on road traffic and therefore no or negligible impacts on local air quality in H&F.

- We also flagged up that the European Court of Justice had recently ruled that the UK must comply with EU NO2 Limit Values "as soon as possible" with the possibility that the UK Government could be fined by the EU Commission for allowing exceedances of NO2 Limit Values to continue past the target dates.

- We highlighted our concerns that expansion at Heathrow – whether this is by building a new 3rd Runway or extending the existing northern runway – would have negative local air quality impacts and cause a reduction in our residents' quality of life.

The council's position in relation to Heathrow is that we are opposed to further expansion for a number of reasons, including the air quality impacts.

The Air Quality Assessment Addendum Report

We note that the Commission's new air quality assessment predicts that both of the Heathrow expansion options would:

- increase emissions of NOx and PM10 across the study area
- not affect compliance with the UK's current obligations in relation to the Gothenburg Protocol or the National Emissions Ceiling Directive

- but contribute to an exceedance of the NECD if its requirements are tightened as expected (although the UK would still exceed its obligations without Heathrow expansion going ahead)
- cause increases in NO2 concentrations, including some high incremental changes but not cause any new exceedences of the Limit Value
- cause total damage costs as high as £1.3 billion due to the increase in NOx and PM10 emissions
- increase NO2 concentrations for up to 47,063 properties and 121,377 people
- contribute to the on-going exceedences of the NO2 Limit Value at Bath Road
- delay Defra in achieving compliance with the NO2 EU Limit Value
- achieve the NO2 Limit Values if some of the proposed mitigation measures were implemented – which might be sufficient to avoid delaying compliance

Overall, the additional work carried out by the Commission does not provide any reassurance that further expansion can take place at the airport without breaching EU, national, regional and local requirements on air quality.

In our view, the Commission's work reinforces the case against a 3rd Runway or extended northern runway rather than supporting the case for expansion.

Comments on Assessment Results and Implications for Compliance with Planning and Air Quality Policies

The purpose of the new air quality assessment work is to provide further evidence for the Commission's appraisal of the three potential airport expansion options, including the 2 proposals for Heathrow. The Commission's stated objective for its Air Quality Appraisal Module is "to improve air quality consistent with EU Standards and local planning policy requirements".

It is clear that the new air quality assessment shows that both Heathrow expansion options would increase emissions of NO2 and PM10 across a large area, increase concentrations of NO2, including in H&F, and population exposure; contribute to exceedences of the EU Limit Values for NO2 and potentially delay compliance with meeting the EU Limit Values for NO2.

Therefore, the evidence presented in the new assessment shows that the Commission's own air quality objective is not met by either of the unmitigated Heathrow expansion options. The adoption of mitigation measures might be sufficient to avoid delaying compliance with the EU Limit Values for NO2, but the Commission's own assessment of mitigation measures does not provide convincing evidence that the mitigation options put forward by the scheme proposers would be as effective as they need to be to achieve this.

In terms of national policy, neither of the Heathrow expansion options comply with the National Planning Policy Framework (NPPF) in relation to their projected air quality impacts.

The NPPF states that the planning system should perform an environmental role to minimise pollution. One of the twelve core planning principles notes that planning should "contribute to…reducing pollution". Specifically in relation to air quality impacts, the NPPF states that: "Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan".

There is a clear danger that any expansion of Heathrow would have negative impacts on local air quality. Expansion will not contribute to reducing pollution and neither will it contribute towards meeting national or EU Limit Values. H&F is not a planning authority in the immediate vicinity of Heathrow, but given the projected impacts outlined in the air quality assessment, it seems very unlikely that an expanded Heathrow could be consistent with local planning policies aimed at protecting and improving local air quality or be consistent with air quality action plans of the airport's neighbouring authorities.

National Planning Practice Guidance highlights that "Concerns could arise if the development is likely to generate air quality impacts in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife)". This indicates that, as with national policy, there should be concerns about the potential air quality impacts of an expanded Heathrow in terms of compliance with Government guidance.

There is currently no National Policy Statement on Airports so the Commission has no guidance document to refer to in this respect as part of its However, we note that the National Policy Statement for National Networks relating to road and rail networks includes the following statement in relation to air quality impacts: "The Secretary of State should refuse consent where, after taking into account mitigation, the air quality impacts of the scheme will affect the ability of a non-compliant area to achieve compliance within the most recent timescales reported to the European Commission at the time of the decision".

Whilst not strictly applicable to the airport expansion considerations of the Commission, this does indicate the approach recommended for other national transport infrastructure projects. The air quality assessment forecasts detrimental air quality impacts at Heathrow for a 3rd runway or extended northern runway and shows that expansion would affect the ability of areas not complying with EU air quality standards to achieve compliance with the NO2 limit values.

Therefore, it is clear that the air quality assessment fails to show that either of the Heathrow expansion options comply with national policy or guidance. We will leave it to local authorities in the immediate vicinity of the airport to provide information on how the air quality findings would impact on compliance with local planning policy and air quality management requirements, but we would also expect that an expanded Heathrow would conflict with local as well as national policies and guidance.

Regional policy in the form of the London Plan requires developments to be at least 'air quality neutral' and to not lead to further deterioration of existing poor air quality such as areas designated as Air Quality Management Areas (note – Heathrow and the surrounding areas are designated as such). The Commission's work makes no reference to whether or not an expanded Heathrow could be air quality neutral. The air quality assessment shows that expansion will cause a negative air quality impact by increasing emissions, increasing concentrations and increasing exposure. Therefore, the proposals have not been shown to comply with the London Plan requirements.

In terms of local impacts in H&F, modelling results for the 3rd Runway expansion scenario (2030) show that the A4 link between Fulham Palace Road and Earls Court Road and the A40 link from the junction with the A406 to A219 both have annual mean NO2 concentrations within a range which could exceed the EU Limit Values. The A4 has NO2 levels ranging from 38.0 – 45.4 µg/m3 and the A40, 37.2 – 44.5 µg/m3. The contribution to these levels as a result of Heathrow expansion is an additional 0.5 – 0.6 µg/m3 on the A4 and 0.2 – 0.4 µg/m3 on the A40.

For the extended northern runway proposal, the modelling predicts an increase in NO2 concentrations of 0.4 – 0.5 µg/m3 on the A4 in the borough and 0.1 – 0.3 µg/m3 on the A40. Total NO2 concentrations are predicted to be between 37.9 – 45.3 µg/m3 on the A4 and 37.1 – 44.4 µg/m3 on the A40.

The assessment underlines our concerns that both of the expansion proposals have negative impacts in H&F and could contribute to exceedences of the EU Limit Value of 40 µg/m3 in our borough.

The implications of the recent UK Supreme Court ruling in relation to the UK's approach to achieving the EU air quality standards by the required target dates is not referenced at all in the new air quality report, but it is clearly relevant to the Commission's deliberations.

Exceedences of the NO2 limit value are predicted to continue in the future scenario year assessed for the study, which is 2030. However, in light of the Supreme Court ruling, it seems extremely doubtful that the UK Government can continue with its current policy of putting off compliance with the EU air quality standards for another 15 years. UK air quality policy is therefore about to undergo a complete review in 2015 in order to prepare and consult on a revised plan to meet the EU limit values. This development is critical to the whole assessment of air quality in the vicinity of Heathrow and has serious implications for the Commission's air quality assessment of the expansion

options. It seems inevitable that further work will be required in this area once the new national air quality plan has been adopted.

If the Government continues to allow breaches of the EU Limit Values as a result, in part, of allowing Heathrow to expand, then there is a danger that the European Court could impose fines on the UK Government for these breaches. Legislation allows any such fines to be passed down to local authorities, which raises the possibility of London Boroughs being fined for missing air quality targets due to factors outside of their control and as a result of a development that they have consistently raised objections about on air quality grounds.

All of these points outlined above in terms of what we contend is non-compliance with EU limit values, national planning policy and guidance and local air quality standards show that the Commission's new findings on air quality do not support them making a positive recommendation for either of the Heathrow expansion options.

There is also an argument that any final report to Government by the Commission must now be delayed until the Government's own position on complying with the EU limit values is clarified.

Comments on the Additional Air Quality Modelling Assessment

The focus of the local assessment is NO2, although PM10 and PM2.5 have been assessed as part of the national aspect of the assessment. The Commission states that this is because studies have shown that airports have little impact on fine particulate matter (PM10 or PM2.5) concentrations. Given that an expanded airport is predicted to add around 100 tonnes a year of PM10 and PM2.5 into the atmosphere, and that it is known that there is effectively no known safe level of particulate matter, it is considered to be a serious omission that levels of PM10 and PM2.5 were not included as part of the local air quality assessment work. The UK is required by the EU to assess and reduce population exposure to concentrations of PM2.5 by 2020. No evidence has been produced to show that Heathrow could be expanded without increasing exposure to PM10 and PM2.5 as well as NO2.

One of the key conclusions highlighted by the Commission of the new assessment work is that there are no predicted exceedences of the NO2 Limit Value at any receptor location in the 'Heathrow expansion' scenarios. However, there are issues with the way these receptors have been chosen. Only receptors near the airport have been included in the assessment. There are areas where exceedences have been predicted, but no receptors have been included at these locations. The report states that only receptors conforming to EU monitoring and modelling requirements are included in the study but we do not consider it is appropriate for a study of this type to limit consideration of sensitive receptors in this way.

Air quality impacts appear to have only been assessed for one future year – 2030 – even though the airport will not be at capacity in this year in terms of passengers or aircraft use. The worst case scenario has therefore not been considered and there is concern that the modelling does not reflect the potential air quality impacts of the airport. There could be an under-prediction of emissions and impacts on local air quality as a result.

Road emissions have been derived from Defra's Emission Factor Toolkit: EFT, version 6.0.2 issued in June 2014 rather than the later version issued in November 2014. The latest version should always be used. We also note that the assessment of emissions from the airport's ground support equipment didn't use Defra's Toolkit and instead used the Heathrow Airport 2008/09 emission inventory report, which could mean out of date figures have been used.

We are concerned about the model verification process that has been used. Reference is made to the model being verified and adjusted so that confidence can be placed in the predictions, but we could not find any adjustments. The assessment report also states that the performance of the dispersion model is regarded as good and that no adjustment of NOx concentrations is required, so it seems there are inconsistent comments with regards to the verification process. Also, it seems that only one monitoring site near Heathrow was compared with modelled data and that showed a model underestimation of 28 $\mu g/m^3$ NOx. There is justifiable concern that the model could therefore be underestimating the baseline and future scenario NO2 concentrations. A more valid exercise would be to compare a number of monitoring sites to the model outputs. In addition the results should be compared with the LAEI maps for 2009 and 2025 as a further validation exercise.

The model outputs should be shown in more detail. It is common practice to display outputs as coloured contour plots showing concentrations. Instead, we have been provided with maps which show roads in our borough as ">40 µg/m3, exceeding the objective".

We are uncertain as to what extent the optimistic assumptions about modal shift from road to rail promoted by the airport have been taken into account in the surface traffic modelling. As highlighted in our response to the original consultation earlier this year, we do not expect the currently planned rail/tube improvement schemes will provide sufficient capacity to induce more than a marginal shift away from private car use to access the airport. We also note that the extensive car parks at the airport have been excluded from the assessment, the reason given being that they only make a minor contribution to emissions and concentrations. However, emissions from 'cold starts' could be significant and should have been included. Exclusions such as this and over optimistic assumptions in the model with respect to public transport use will skew the assessment results and show a lower impact.

The new assessment notes that only roads with a substantial change in traffic characteristics have been included in the Wider Study Area. However it is not

clear how ‘substantial change’ has been defined. There does not appear to be any summary of the traffic data used in the assessment which makes it difficult to clarify this, and other queries that arise as analysis of the assessment is undertaken. This, along with more information on the traffic modelling undertaken and assumptions incorporated into the scenarios, should have be provided.

There is heavy reliance in the air quality assessment on the emissions benefits to be accrued from future vehicle technologies in reducing tail pipe emissions to help improve future air quality. The over-reliance on technology to address the air quality issues has been misplaced to date, as shown by reference to the UK 2011 Air Quality Plan submitted to Europe. This foreshadowed compliance with European legislation in the Heathrow area by 2020. These predictions were most recently updated in 2014 by Defra and now suggest that compliance will now not be achieved until post 2030. The reason for the delay in compliance is stated by Defra (Updated projections for Nitrogen Dioxide compliance, Defra 2014) as being “…largely due to the failure of the European vehicle emission standards for diesel cars to deliver the expected emission reductions of NOx". There is insufficient evidence for the Commission to be confident that future reductions in NOx and NO2 emissions from, as yet unproven, future vehicle technologies will be delivered in the real world. As for a number of other aspects to the assessment, this could result in an under-prediction of emissions and impacts on local air quality.

We have not found any significant evidence that the growth of freight generated by an enlarged Heathrow has been factored into the air quality assessment – i.e. the contribution of HDVs. There is also insufficient appraisal of the potential re-distribution of all vehicle types onto local roads. Furthermore all roads with less than 5,000 vehicles/day have been excluded from the wider study area, along with the removal of source sector contributions for motorways, trunk roads, primary A roads and aircraft from the background concentrations. It is therefore likely that predicted levels have been underestimated.

The Council would also like to expressed concern that the air quality assessment sets out potential future modes of operation for both the expanded airport scenarios which appear to envisage the adoption of mixed mode operations. In respect of the current southern runway, the proposed modes of operation indicate that residents under the main approach flight paths – which include those in H&F – could potentially be exposed to landing noise for a continuous period of around 10 hours at a time. Clearly such a proposal would result in significant adverse noise impacts for communities. These impacts do not appear to have not been modelled or identified as part of the Commission’s previous work on noise. Clearly environmental impacts such as noise and air quality are closely interlinked but where proposals to mitigate air pollution will have an impact on noise – particularly where there could be a deterioration compared to the impacts previously indicated in the original noise assessments, this should be made clear. Also, it shows that a case could be made for revising the noise assessments (and also the

business case and sustainability appraisal) because of the knock on effects that the new air quality assessment and its assumptions could have in these areas. Otherwise, the overall assessment is inconsistent.

Comments on the Assessment of Potential Mitigation Measures

The Commission has evaluated the principal mitigation measures set out by the scheme promoters to determine how they could potentially reduce emissions and improve air quality.

The main mitigation measure that the proposers of the 3rd Runway and the Extended Northern Runway are relying on to reduce the air quality impacts of road traffic is their intention to increase public transport use by passengers and airport staff travelling to/from the airport, to as much as 50%. The Commission concludes that "it is not clear whether this is deliverable". This is an issue we have already commented on in our original consultation response, as did TfL who highlighted how optimistic such an assumption about public transport use was.

There is a danger that the assumptions about public transport use allow the modelling work to optimistically suppress road traffic use, allowing air quality impacts on roads such as the A4 and A40 to be under-predicted. The assessment should have included additional scenarios to show the impacts of differing rates of public transport use. If public transport use is lower than predicted, then this could have negative impacts for air quality. This does not appear to have been picked up in the assessment.

The other surface transport related mitigation measure is the introduction of a congestion charge for people travelling to the airport, which has been put forward by Heathrow to mitigate the 3rd Runway option. This could have a significant impact on car use and overall traffic levels, although this depends on the scale of charge imposed, and the extent of the scheme. No additional analysis has been undertaken as part of the new air quality assessment, so it is unclear what role congestion charging could play in helping Heathrow expand and meet the NO2 Limit Values or even how acceptable or viable it might be. As for the public transport measure, there is a high degree of uncertainty about the effectiveness of another of the airport's key mitigation measures.

Vehicle emissions could also be reduced by improving the infrastructure for Ultra Low Emission Vehicles (ULEV) – e.g. by providing electric charging points and hydrogen fuel stations, both airside and landside. The disadvantage of this measure – put forward by both scheme proposers – at least in terms of measuring its potential benefits, is that it is not possible to forecast the uptake of ULEVs by airside operators or by visitors to the airport. Whether such a measure – particularly on the "landside" of the airport – could be implemented by the airport is uncertain. As for other measures proposed to reduce impacts of both of the potential expansion schemes, provision of infrastructure does not guarantee its use.

Improving the efficiency of operations at the airport to reduce delays etc is also put forward as a potential mitigation measure that could help reduce emissions and improve air quality. Although reducing delays is expected to deliver emissions benefits, the feasibility of improving delays significantly is highly uncertain according to the Commission. They also conclude that emissions associated with holding aircraft on the ground are low compared to the total ground source emissions at the airport and a reduction of 2.5 minutes in average hold times would only deliver a NOx emissions improvement of about 1.2%. This is not significant and there would clearly need to be much more effective measures put in place alongside this measure.

Another method of reducing ground based emissions at the airport for a 3rd Runway and Extended Northern Runway is the use of Fixed Electrical Ground Power (FEGP) and Pre Conditioned Air (PCA) to all future aircraft stands to reduce the need for Auxiliary Power Units (APU). If stringent regulations on APU run times were introduced and enforced in 2030 at all stands then APU emissions could be cut significantly. However, the Commission notes that uptake of greater FEGP use is sensitive to the cost incurred by airlines, and provision is no guarantee that it will be used in preference to APUs.

A NOx emissions charging scheme has also been put forward by the proposers of both expansion schemes as a way to encourage airlines to use the cleanest aircraft. However, as the Commission points out, such a scheme is already in operation at Heathrow and “there is no clear evidence that this measure has influenced airlines to select airframe/engine combinations with lower NOx emissions when the other economic and environmental factors are also taken into consideration”. This mitigation measure therefore does not appear to be capable of incentivising a significant improvement in aircraft NOx emissions.

The final measure put forward that would also appear to be similarly ineffective is the use of a steeper glide slope to reduce the impact of aircraft approach emissions at ground level. The Commission notes in relation to this measure that “emissions during approach make very little contribution to ground-level concentrations (as the emissions are principally at altitude)”.

The proposers for the Extended Northern Runway have also proposed measures to ensure additional emissions from heat and power generation plant are mitigated. NOx emissions for 2030 have been calculated based on predicted energy consumption, assuming an ultra-low NOx emissions rate. Mitigation for heat and power sources has therefore been included within the assessment, although no sensitivity testing has been included to determine what NOx emissions would be if ultra-low emissions are not achieved.

The Extended Northern Runway scheme proposes to incorporate ventilation systems within the M25 tunnel to reduce build-up of emissions at tunnel portals and also plans to maximise distance between the new road sections, car parks and other key emissions sources from future sensitive receptors.

The tunnel ventilation systems do not reduce the impact of emissions from the tunnel portal (as the mass emission is unchanged) but tunnel portal emissions rapidly disperse so that concentrations are reduced to background levels within a relatively short distance. There are no sensitive receptor locations within 200m of the tunnel portals so no additional ventilation is deemed necessary. In terms of the layout of the scheme, precise alignments of the new roads are not available at this stage, so the predicted impact on sensitive receptors can only be indicative.

It is clear that there are many question marks over the implementation of many, if not all, of the measures proposed by Heathrow to reduce emissions and also considerable doubt about their effectiveness. This view is reinforced by the fact that the Commission themselves have felt the need to put forward their own additional mitigation measures - not proposed by the airport.

The Commission's main proposal is the possible implementation of an Ultra-Low Emissions Zone (ULEZ) similar to the one currently being promoted by TfL for the central London area. However, although the Commission considers that such a scheme at Heathrow could potentially reduce NO2 concentrations, it is not possible to accurately predict its air quality impacts as this will depend on the nature and geographic scope of the ULEZ.

The other 2 potential measures suggested by the Commission are to support ongoing technological developments and innovations such as research into the use of alternative fuels for aircraft and to encourage airlines to shut down one engine during taxiing. However, biofuels are targeted at reducing CO2 emissions and the effects on reducing NOx emissions are less pronounced, according to the Commission. It is therefore not possible to quantify what, if any effect, the future uptake of biofuels would have on reducing NOx emissions at Heathrow. It is also not clear to what extent shutting down one engine during taxiing is used by the airlines and the DfT has already noted that "there are a number of reasons why engines cannot be shut down" and in any case, despite a study showing that NOx emissions could be reduced one of the engine manufacturers has said that NOx emissions may not benefit from this technique and has "dissuaded some operators from pursuing its use more thoroughly".

As we commented in our original consultation response, mitigation measures are required to help reduce emissions and improve air quality now (as well as other environmental impacts such as noise). The introduction of mitigation measures should not be conditional on Heathrow being expanded.

Comments on the Health Impact Costs

The omission of a comprehensive health impact assessment remains a major flaw in the evaluation of the proposals. We note the monetised mortality and hospital admissions estimates used in the economic analysis (ranging from £971.3 million to £1,299.5 million for the 2 expansions schemes), but it seems little account is taken of the overall morbidity and health damage over a life-

time, or of health effects resulting from the combined environmental impacts. Also, no full impact pathway assessment has been carried out.

No attention is given to emerging medical evidence that the long-term health impacts of lower concentrations of NO2 and PM10/PM2.5 are worse than previously thought, and so no allowance has been made for this potentially greater than estimated impact. This is another area where additional work is required.

The consultation documents suggest that a more detailed “Impact Pathway Assessment” will be produced alongside "a more detailed air quality analysis which is anticipated for any chosen scheme". In the council’s view the Commission’s appraisal process is meant to be assessing each scheme equally in order to inform a final recommendation. Any further "detailed air quality analysis" and full Impact Pathway Assessment, which could have implications for the assessment of health and other impacts should have formed part of the Commission’s work programme and consultation process prior to any final recommendations are made.

In addition, the assessment highlights that the latest scientific evidence indicates that adverse health impacts can be associated with NO2 levels far below the current EU Limit Value level. This indicates that the potentially harmful impacts of the poor air quality around Heathrow, including in H&F, could be more widespread than currently assessed. This is another area where there is significant doubt about the assessment as it has been carried out, with indications that the air quality impacts – and knock on impacts for the business case – are in fact worse than those shown by the Commission’s work.

Comments on the Consultation Process

We are very disappointed that the Commission allowed just 3 weeks for this consultation, which is far too short. This is a technical consultation which includes a cover note, the main report, an appendix document, 10 pages of maps, and databases of background data – over 280 pages in total. All of these need to be checked, a detailed response drafted and then approved through the formal council process before submission of comments. 21 days is really not adequate – at least double this period should have been provided for consultees to respond.

We are also disappointed that the Commission did not notify consultees directly about the new consultation. Given that many respondents to the original consultation would have provided e-mail addresses, it would have been straightforward to notify those interested parties who were in the Commission’s consultation database about the new consultation.

We have seen little publicity about the consultation which could affect the response rate. Also, the short timescale precludes any meetings with key

stakeholders taking place, despite air quality being a critical issue for many of those consultees who responded to the original consultation.

It is disappointing, particularly given the criticisms we made about the consultation process of the original consultation, that similar mistakes are being made again with this consultation, in our view. It seems like the short timescale is less about giving consultees adequate time to consider and respond to the report and more about allowing the Commission to quickly tie up their work programme so they report to Government as soon as possible.

Final Comments

Although we welcome the Commission's release of the new air quality assessment we are disappointed that we only have 3 weeks to assess and respond to it.

We have found some aspects of the assessment difficult to assess because there is a lack of clarity and transparency about the various assumptions and inputs used throughout. Some parts appear to be contradictory and confusing – e.g. the comments in relation to verification of the model. It would help if the components of the modelling exercise and their significance were explained more clearly. Also, in revising air quality there appears to be knock effects in other areas – e.g. noise, which have not been considered fully.

We consider that there are a range of omissions from the assessment. E.g. no other future years assessed other than 2030; no local assessment of PM10 /2.5; exclusion of potentially significant sources of pollution; no consideration of the impacts of climate change on local air quality; no proper health impact assessment. There is also an over-reliance on optimistic assumptions regarding emissions.

Most importantly, despite shortcomings in the appraisal, which we are concerned underestimates the air quality impacts, both Heathrow expansion schemes are shown to contribute to the breaching of the NO2 Limit Values, including on roads in H&F such as the A4 and A40.

Despite assessing a wide range of mitigation measures, the Commission has not been able to confidently predict that these would be sufficient to achieve the EU Limit Values. In any case, there is a lot of uncertainty about whether many of the measures could be implemented to the required level.

Air quality impacts appear to have been re-assessed in isolation from other impacts such as noise. This introduces inconsistency in the Commission's appraisal methods.

It is our view that the Commission has not shown that either of the 2 Heathrow expansion options satisfies their own stated objectives or complies with EU, national, regional or local policies on air quality. As such, neither of the Heathrow expansion proposals should be recommended to Government.