



**Summary Air Quality
Proof of Evidence of
Prof. Duncan Laxen**

**On behalf of Imperial
Hotels**

**Torrington Place to
Tavistock Place Traffic
Order DPI/X5210/17/8**

September 2017



**Experts in air quality
management & assessment**

Document Control

Client	Imperial London Hotels Limited	Principal Contact	John Russell (of SCP Traffic and Transport Consultants)
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Proof Prepared By:	Prof. Duncan Laxen
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1 Introduction

- 1.1 My name is Duncan Laxen. I am a Visiting Professor in Air Quality Management and Assessment at the University of the West of England, Bristol. I have over 40 years' experience in environmental sciences, most of them in the field of air pollution. I am Managing Director of Air Quality Consultants Ltd ("AQC").
- 1.2 I have been a member of various Government expert groups. I am a Fellow of the Institute of Air Quality Management, the professional body for air quality practitioners. I have been closely involved with the development of air quality management and assessment in the UK. This includes a close involvement with the preparation of technical guidance to support the local air quality management responsibilities of local authorities, on behalf of Defra, and guidance on air quality assessments for the planning regime for practitioners.
- 1.3 I have worked on air quality projects in London for the last 30 years. I have given expert evidence on air quality at numerous Public Inquiries and DCO Hearings over the last 25 years.
- 1.4 In July 2017 I was commissioned by Imperial London Hotels Limited (ILHL) to review the air quality evidence produced by the London Borough of Camden (LBC) in connection with The Camden (Torrington Place to Tavistock Place) (Prescribed Routes, Waiting and Loading Restrictions and Loading Places) Traffic Order [2017] (the "Order").

2 Scope of Evidence

- 2.1 In my proof of evidence, I:
- discuss the air quality in the study area and why it is an important consideration;
 - discuss the relevance of an air quality assessment and why it is important;
 - discuss the significance of the air quality monitoring relied upon by LBC;
 - discuss the claims made by LBC and why the conclusions drawn are not proven; and
 - discuss air quality in the context of a modification of the proposed Order.

3 Relevance of Air Quality in the Study Area

- 3.1 The study area is within an Air Quality Management Area (AQMA) declared by LBC. For the purposes of this evidence, I will be focusing on NO₂. Existing air quality conditions within the Borough are very poor. The annual mean and short-term NO₂ objectives are both already exceeded, which is of relevance to public health within the study area.

- 3.2 LBC has already acknowledged that *“the Scheme is located within an area of central London which suffers from poor air quality”*, and should therefore be taking appropriate action to ensure that the proposed Order does not cause any significant adverse air quality impacts.

4 Importance of an Air Quality Assessment

- 4.1 No air quality assessment of the proposed Order has been provided by LBC. An air quality assessment is normally carried out for a scheme of this kind, especially for a scheme within an AQMA. I would have expected to see an assessment that covered not only the air quality along the Corridor but also across the whole study area. Since much of the road traffic has been re-routed with the introduction of the Trial, the emissions from the road traffic will have changed the air quality conditions throughout the study area. Where road traffic has increased in the study area, it is expected that air quality conditions will have worsened. AQC prepared just such a detailed air quality assessment for the Baker Street Two Way Project in the City of Westminster, which is not dissimilar in terms of the area affected.
- 4.2 In the absence of an air quality assessment then there is no evidence that the scheme will give rise to overall adverse or beneficial air quality effects or have no significant effects at all. Nevertheless, despite the absence of an air quality assessment prior to implementation of the Trial, LBC has made a number of statements in its SoC (ID2) that the Trial has led to an overall improvement in air quality in the area. Without a proper air quality assessment, based on sound traffic data, it is not possible to make such claims. Part of this assessment would need to use information on the change in traffic (in terms of vehicle-kilometres) across the whole area. The issue of traffic data, or lack of such data, to inform such an assessment, is dealt with in the evidence of John Russell on behalf of ILHL.
- 4.3 LBC’s claim that air quality has improved as a result of the introduction of the Trial is based on a narrow assessment of the changes in the scheme Corridor, where it is known that traffic flows have reduced, with no proper consideration of the effects across the wider area including where traffic flows have changed by virtue of the traffic displacement.

5 Significance of Monitoring

- 5.1 LBC’s claim that air quality has improved with the Trial is based entirely on monitoring. It is stated that the results *“indicate significant improvements in air quality following implementation of the Trial, of between 9% and 20.”*
- 5.2 The monitors located by LBC at Tavistock Place and Gordon Square on the Trial Corridor were both low-cost sensors, which are, in my professional opinion, insufficiently reliable for the purpose. The World Meteorological Organization (WMO) has set out the limitations of such equipment,

which is not routinely used in the UK. I set out other limitations of the monitoring in my proof; in particular it is important to have control sites unaffected by the Trial to show the effect of changing emissions and the effects of meteorology.

- 5.3 Overall, I do not believe that LBC can say whether there has been an improvement in air quality in the study area as a whole as a result of the Trial, based on the monitoring it has carried out.

6 Conclusions of Trial

- 6.1 LBC has made a number of assertions in its SoC (ID2) that I do not believe to be justified. For instance, LBC claims that there has been a reduction in vehicle emissions. This can only be ascertained via a detailed air quality assessment, which has not been undertaken.
- 6.2 LBC claims the Trial layout has significantly improved air quality along the Corridor. While improvements are likely to have occurred, the monitoring used is not sufficiently reliable to say how much this improvement has been.
- 6.3 LBC recognises that displaced motorised traffic may be adding to pollution levels, but the extent to which this is the case has not been established and the importance of this has not been addressed. Without an air quality assessment or detailed (and reliable) monitoring, the increase in pollution levels elsewhere attributable to the Trial is unknown. It is therefore impossible to say whether the Trial has led to an overall improvement in air quality or not.
- 6.4 I examine LBC's claims that the Trial can be considered to meet Camden's objectives in its Clean Air Action Plan (CAAP), and show that this is not supported by any substantive evidence.
- 6.5 LBC claims in the concluding paragraph of its SoC (paragraph 9.6) that "*More efficient use of the limited carriageway space will not only deliver environmental and personal health benefits but will also mean less traffic on the road.*". Since there is no evidence for an improvement in air quality across the study area, there is no evidence for an improvement in public health across the study area.
- 6.6 LBC claims that the Trial represents the best overall option. Since there are no air quality assessments for any of the options, and unreliable and insufficiently detailed monitoring has been carried out for the Trial, there is no clear evidence that the Trial is the best option in terms of air quality.

7 Possible Modification to the Proposed Scheme

- 7.1 ILHL contends that the scheme, if to be adopted, should be modified, so as to reverse the vehicular traffic flow to be westbound through the Corridor. LBC acknowledges in its SoC (ID2)

that if the direction was reversed then this could still achieve its aim of “reducing motor traffic along the corridor”.

7.2 I am not in a position to say whether the eastbound scheme has improved air quality throughout the study area, and likewise, I cannot say anything about how a westbound scheme would affect air quality. How air quality conditions will be affected can only be determined via an air quality assessment based on modelling, and my understanding is that the traffic data for such an exercise has yet to be provided, if available, by LBC.

8 Summary and Conclusion

8.1 In summary I have shown that:

- the claims by LBC that there have been air quality improvements brought about by the Trial are not proven, as an air quality assessment has not been undertaken;
- the monitoring results relied upon by LBC as evidence of an improvement in air quality are not adequate for the purpose, for a number of reasons:
 - the monitors used are not reliable;
 - the before and after monitoring results cannot be compared, as they have not been annualised or related to control sites;
 - the monitoring does not cover those roads that have experienced an increase in traffic; and
- as a result of the limitations of the monitoring carried out, there is no evidence of an improvement in air quality, health or well-being attributable to the Trial.

8.2 On the basis of the evidence I have set out, I conclude that it is not demonstrated on any evidence that the Order, if confirmed, would improve air quality in the study area or in the borough, or contribute to any of the purposes of s.87(1) of the Environment Act 1975.