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Pollution Control Team

The Borough Air Quality Bulletin

A Local Agenda 21/Environment Group Initiative

Winter 2003

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Ealing Borough Air Quality Bulletin

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A third runway for Heathrow?

The decision not to allow a third runway for the time being at Heathrow because of air quality concerns is good news. Not only does it highlight one of the main problems surrounding the airport, but it also strengthens the cause of air quality as a material planning issue. It sends out a powerful message to planners and developers and should have a real impact on future policies.

However, subject to meeting environmental targets, Heathrow will get a third runway by 2020. The decision is a green light for further expansion of Heathrow by creating the conditions to make expansion inevitable. Already the possibility of a sixth terminal is on the cards, again dependant on a series of environmental conditions being met. It remains to be seen if the Government will honor this caveat in the future. Particularly considering that after the T5 decision, the Government promised there would be no more expansion at Heathrow.

As well as keeping within EU limits on pollution, there would have to be no increase in the area affected by aircraft noise around the airport. How Heathrow can ever meet these objectives is anyone's guess. At present it is estimated that as many as 30,000 people are exposed to unacceptably high levels of nitrogen dioxide around Heathrow. The Transport Secretary Alistair Darling also announced that his department was examining means by which to expand the use of the existing runways at Heathrow by allowing both to be used simultaneously for take off and landing. This could allow another 71,000 flights into and out of Heathrow each year taking the total to 551,000. This would break the covenant limiting the number of flights to 480,000 agreed by the Government during the decision on Terminal 5. So, not only can we expect flight numbers to grow in the coming years, but also unless something drastic is done, traffic levels on the surrounding roads will also increase, particularly the M25 and the M4.

The Government expects BAA, which owns Heathrow, to carryout a number of measures to improve air quality in the area. These include putting pressure on airlines to improve technology and to use new, cleaner aircraft engines, to start charging passengers for driving to the airport in an effort to curb car pollution and to use clean fuel in its service vehicles. These are measures local boroughs have been urging them to take for many years now.

This will be the last paper edition of the Air Quality Bulletin. Future Bulletins will be sent out via email. If you would like to receive a copy, then please contact the editor with your email address at wardr@ealing.gov.uk.

Better forecasts in the offing

A new research centre has been set up to tackle fresh concerns over air pollution and to offer better forecasts of poor air quality. The centre, the Distributed Institute for Atmospheric Composition has been set up with funding from the Natural Environment Research Council. It will be based at Leeds University and bring together research teams from six other establishments. The centre will measure the growing phenomenon of pollutants building up during heat waves and reaching levels at which they react with one another above cities, forming new compounds. Professor Mike Pilling, who will head the Institute for Atmospheric Composition, said: "We need to measure and understand the complexities of this 'chemical soup' to help predict when and why it happens, and what the implications are for human health." The institute will also examine the theory and possible processes of global warming.

Vehicle emission testing update

Ealing is continuing to test vehicle emissions as part of the London-wide roadside vehicle emission-testing programme. There have been 7 days of testing so far in the borough; in Ealing, Hanwell and Greenford. Three of these days took place during an initial month long amnesty period, designed to give drivers some awareness of the new powers available to local authorities before enforcement began. In total, 396 vehicles have been tested to see if their exhausts meet MOT emission standards. Overall, the failure rate stands at just over 10% in Ealing, which seems in line with failure rates witnessed across the rest of London. Another 4 days are planned in the next two months at further sites across the borough. Drivers of vehicles that fail the test can expect fines of £60, reduced to £30 if the vehicle is brought up to MOT standard within 14 days. It is hoped that by raising awareness in this way, emissions from badly maintained vehicles will be reduced.

Discounts on emissions checks and any subsequent rectification work are currently available at over 300 garages throughout London until **31st March 2004.** check the emission testing website for details. http://www.alg.gov.uk/smokingkills/index.htm

Ozone highs across Europe

The European Environment Agency has produced a new report that shows that along with the UK, mainland Europe also suffered high ozone levels during the Summer of 2003. The report says that ozone pollution was the worst for almost a decade in large parts of Europe last summer, particularly during the long August heat wave. The areas with the most exceedances of the 180µg/m^3 threshold were southwest Germany, Switzerland, northern and south-eastern France, Belgium, northern and central Italy and central Spain. The report adds that although emissions of those chemicals that lead to ozone production (ozone precursors) decreased gradually by about 30 % between 1990 and 2000, more reductions are needed to reduce the risk of further episodes. It also suggests that the apparent relationship with temperature may mean that, if climate change were to result in warmer summers in Europe, more frequent exceedances of the ozone threshold would be expected at the current ozone precursor emission level.

Air Quality on the Internet

Here is a selection of air quality sites on the Internet:-

Ealing Council's Pollution Control Team
www.ealing.gov.uk/services/pollution+control/

Department for Environment, Food and Rural Areas
http://www.defra.gov.uk/environment/index.htm

National Society of Clean Air and Environmental Protection http://www.nsca.org.uk

The Air Quality Management Site
http://www.air-quality-management.co.uk/

Atmospheric Research & Information Centre (at Manchester Metropolitan University)
http://www.docm.mmu.ac.uk/aric/eae/

Friends of the Earth
www.foe.co.uk

Local Agenda 21 Pollution and Public Health Project Group
www.LA21.org

OMNI - Ealing Council's interactive website.
www.seiph.umds.ac.uk/o2/ealing/index.htm

Environmental Research Group - Kings College London. London Air Quality Network.
http://www.erg.kcl.ac.uk/london/asp/home.asp

London air improving, except ozone

The Tenth report of the London Air Quality Network has been published, providing data from most of London's monitoring stations from the period of 1996 up to 2002 and provisional data for 2003. The data shows that up to 2002 London experienced improved air quality for most pollutants. However provisional measurements for 2003 demonstrate how bad the year has been for air quality.

The report shows that across London the annual mean particulate concentrations decreased by 19% since 1996, despite the fact that 2003 saw a massive increase due to a number of pollution episodes. Nitrogen oxide (NO_x) concentrations fell by 33% over the same period, although disappointingly nitrogen dioxide (NO_2) levels fell by only 6%. NO_2 is mainly a secondary pollutant caused by NO combining with oxygen in the air. To tackle it, NO_x emissions have to be reduced and this is been achieved by cleaning up vehicle emissions. Unfortunately, due to the complicated chemistry involved in the atmosphere, a reduction in NO_x doesn't equal a similar reduction in NO_2. Carbon monoxide and sulphur dioxide levels also reduced by 53% and 66% respectively. However, worryingly, Ozone concentrations have risen by 43% since 1996.

Research Latest

Cleaner fuels for reducing PM10

Researchers from Imperial College London, have been using modelling techniques to examine and rank different strategies for reducing road traffic emissions in London. They hope that such analysis will help inform decision makers about which strategy would be most cost effective in terms of achieving present and future air quality objectives, and in reducing population exposure to fine particles. They found that strategies involving alternative fuel use came out the most favourable (such as switching from diesel to LPG or CNG), followed by low emission zones. They also found that congestion charging appeared to be ineffective in reducing emissions.

Mediavilla-Sahagún & ApSimon. 2003. Urban scale integrated assessment of options to reduce PM_{10} in London towards attainment of air quality objectives. Atmospheric Environment Vol 37, Issue 33 , pp 4651-4665 Air Quality Management. November 2003. Issue number 95.

Living near roads affects health

Researchers from Boston have shown that living near busy roads might contribute to symptoms of chronic respiratory disease in adults. The researchers gathered information from Massachusetts's war veterans on their respiratory health and assessed the distance they lived from main roads from computerised maps. They found that men living within 50m of a major road were 30% more likely to report persistent wheezing compared with those living more than 400m away. The risk of experiencing chronic phlegm also went up 40%. Such risks were not found to be dependent on pre-existing doctor diagnosed chronic respiratory or heart disease.

There have been plenty of studies showing a similar relationship in children but few involving adults. Most studies that do involve adults are work related, such as those conducted on police officers, street cleaners or bus garage workers. Whilst such workers have the option of leaving work if symptoms or illness develops, exposures based on residence are not so easily avoided.

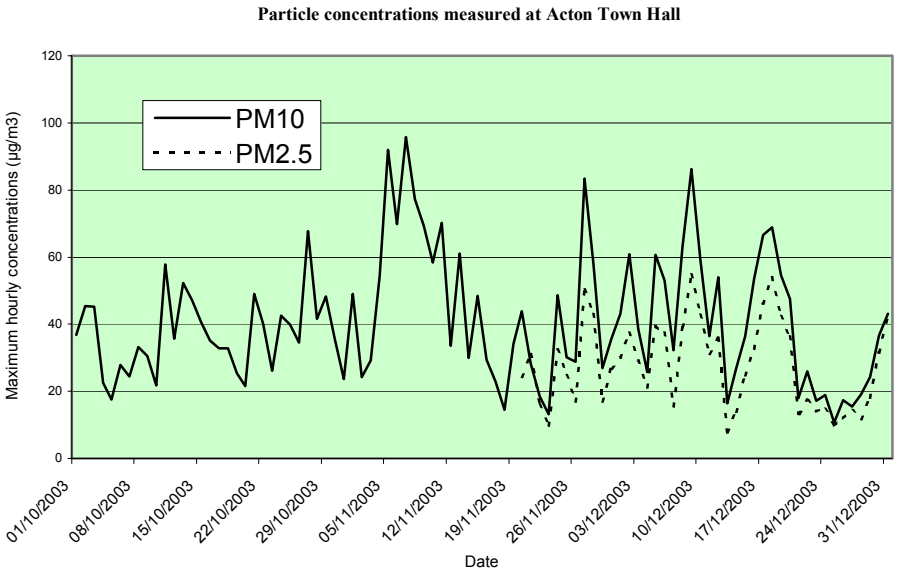
Garshick *et al*. 2003. Residence Near a Major Road and Respiratory Symptoms in U.S. Veterans. Epidemiology: Volume 14(6). pp 728-736 Air Quality Management. January 2004. Issue number 97.

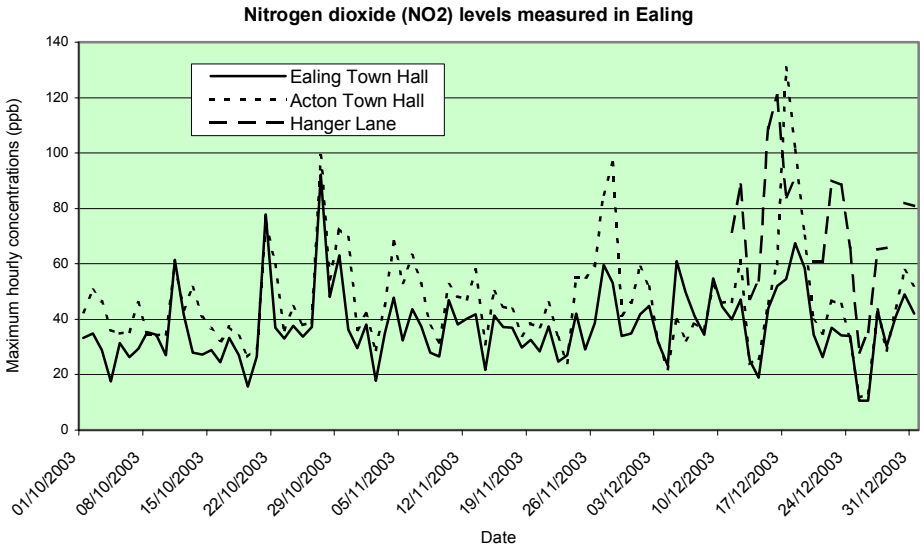
Delhi's CNG fleet reduce pollution

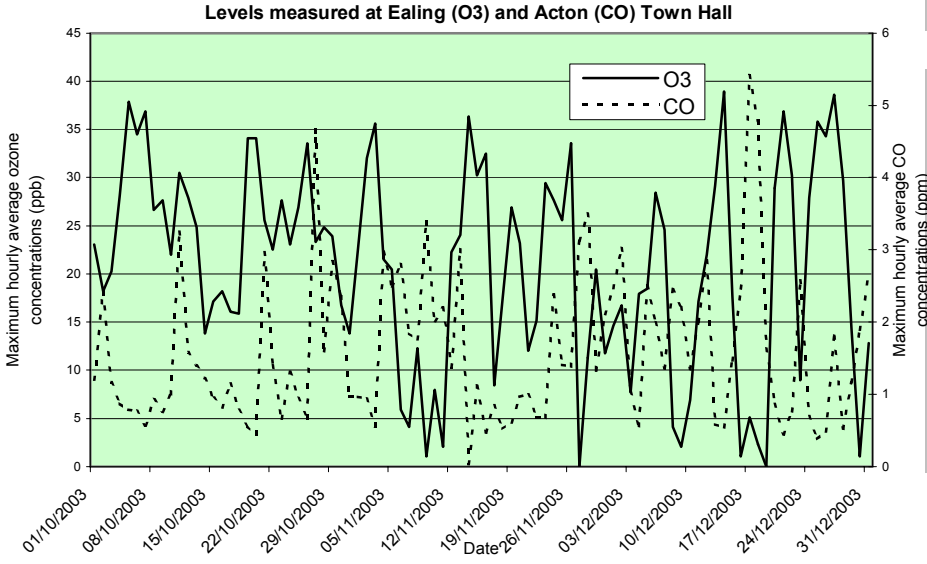
A new study from Delhi, India has demonstrated the effect of changing from diesel to Compressed Natural Gas (CNG) in the cities public transport infrastructure. Due to extremely high levels of pollutants in and around the city, a decision was made to move public transport over to using CNG instead of diesel. By April 2001 CNG was being used in nearly 2200 buses, 25,000 three wheelers, 6000 taxis and 10,000 cars, although this still left half of the vehicles still running on diesel. Comparing air quality during the years 1996-2000 (without CNG) and the year 2001 (with CNG) researchers found that concentrations of pollutants had been reduced dramatically. Suspended particulate matter fell from 4681 to 4197 $\mu g\ m^{-3}$, carbon monoxide decreased from 4681 to 4197 $\mu g\ m^{-3}$, sulphur dioxide fell from 18 to 14 $\mu g\ m^{-3}$and oxides of nitrogen went from 36 to 34 $\mu g\ m^{-3}$.

Goyal and Sidhartha. 2003. Present scenario of air quality in Delhi: a case study of CNG implementation. Atmospheric Environment Volume 37, Issue 38 pp 5423-5431

Air Pollution Results Oct to Dec 2003







Bonfire night was the cause of elevated particulate levels across London again this year. Light winds prevented the really high levels recorded in previous years, but a high-pressure system over the UK brought easterly winds and therefore further pollution from the continent, which raised levels across the whole southeast.

December saw periods of cold, still weather, leading to poor dispersion of pollution and therefore episodes of MODERATE PM_{10} and NO_2

Other pollutant levels remained LOW for the three-month period.

Daily Forecasts

A daily air pollution forecast is published every day on the Residential Service's website, as well as recent air pollution levels. You will also find details of Ealing's Air Quality Review and Assessment, the results of Ealing's public consultation on air pollution and other related topics, including back issues of the Air Quality Bulletin.

Pollution Bandings

	low	moderate	high	v.high
O_3	<50	50-89	80-179	>180
CO	<10	10-14	15-19	>20
NO_2	<150	150-299	300-399	>400
PM_{10}	<50	50-74	75-99	>100

Measured as:

Ozone	(O_3)	hourly mean
Carbon monoxide	(CO)	running 8 hour mean
Nitrogen dioxide	(NO_2)	hourly mean
Particulates	(PM_{10})	running 24 hour mean