

Air pollution: It's time

How has the UK been able to ignore current levels for so long – and what can be done?

REPORT BY JIM HARKINS, LIGHT RAIL (UK)



The air pollution issue is one of those 'elephants in the room' – a potentially huge unspoken legacy that this generation may leave for the future.

In the UK, the main Government advisory body on air pollution, the Committee on the Medical Effects of Air Pollutants (COMEAP), has indicated it believes the impact upon mortality rates to be as high as a 6% increase for every ten micrograms of fine particle pollutants – 2.5 micrometers in diameter, designated PM2.5s – for each m³ of ambient air.

'Clean' air by the highest EU standards would have no more than 5mg per m³, but the UK Government seems to have decided on a 25mg limit. Taking this into account we are looking at 60 000 unnecessary deaths each year if we all inhale those levels of pollutants at Government limits.

The main cause of everyday PM inhalation is exposure to traffic fumes, and the European Union has begun the legal process of taking Britain to court for ignoring European air pollution laws concerning the levels of PM10s (pollutants ten micrometers in diameter) in urban areas and near major roadways. If found guilty, the UK Government could face unlimited daily fines until it complies with regulations. This poses the question: how has the UK Government been allowed to 'get away with it' for so long?

The threat to public health

The immediate issue is PM10 pollution – the minute sooty particles emitted primarily by diesel engines which, when inhaled by both humans and animals, can lead to serious health problems including asthma, cardiovascular and respiratory problems and premature death.

Scientists claim PM10 pollution contributes to the

premature deaths of between 12 000 and 24 000 people a year in Britain – a higher number than the deaths attributed to alcohol consumption and far more than those linked to passive smoking. The Rogers Review of local authority priorities – put together by Peter Rogers, Chief Executive of Westminster City Council and previously of the West Midlands Travel Group – in April 2007 estimated that particulate pollution alone cost Britain £9.1-£21bn a year in knock-on health costs. That's a staggering figure.

The UK Government has had over a decade to clean up its act on PM10s, but has fallen short, seemingly breaking its own laws since 2005. Now, new laws mean the Government must also start to address nitrogen dioxide (NO₂) pollution, which again comes largely from traffic, but also from power stations and industry – yet there is no plan for this.

Recent air pollution maps shown by the Campaign for Clear Air in London indicate the UK tops the league for toxic traffic fumes in Europe, with London coming out as the most polluted capital city. Yet while full buses are obviously less damaging than single-occupant cars, even with Euro 5-compliant engines, Government (Treasury and DfT) policy is adding to the problem by its inaction.

Different standards

While passive smoking is rigorously policed in workplaces and public areas, both by local authorities and the public, car pollution is largely ignored. Allow a single cigarette to be lit in public and you're a social pariah, liable to heavy fines. Threaten the health and well-being of large numbers through PM10 or NO₂ pollution and no-one takes it seriously. So why, after widely-publicised successes with CFCs and

A familiar scene in many UK towns and cities; traffic congestion like this includes private cars, taxis and buses and creates very high levels of harmful emissions.
Ian Britton

to clean up our act

led petrol, has air pollution dropped off the agenda? Here are a few possible reasons:

- As particulate and NO₂ pollution is all but invisible, it's easy for authorities and industry to 'pretend' to be green.
- Local authorities and planners can declare air quality management areas, but are reluctant to take steps to reduce emissions. There is also little policing of rule-breakers.
- Authorities are loathe to take any action which would restrict large commercial and residential developments that could breach air pollution laws.
- Environmental and transport watchdog groups have failed to hold Government to account – such organisations prioritise global climate change, but the downside is that local particulate air pollution has been largely ignored.
- Industry lobbies have resisted government action on fuel and engine quality, saying it threatens jobs; this is especially true in these times of economic hardship.

Studies from Lancaster University show particulate levels in the ambient air around many schools in the city are over twice the World Health Organisation's maximum recommended levels, which has led the UK to constant infringements of EU air quality regulations.

EU environment commissioner, Stavros Dimas, recently wrote in a letter to Ed Davey, the Liberal Democrat foreign affairs spokesman: "There are PM10 excesses in London along more than 200km of roads." He also revealed that legal proceedings were being prepared. "The commission services are now preparing the launch of infringement proceedings against the UK. In view of the serious consequences of high concentrations of PM10, the commission expects the UK to ensure a speedy reduction."

Britain had been given six years by Europe to reduce its PM10 levels after air legislation was introduced in 1999. This passed into British law in 2005 but documents obtained by the Campaign for Clean Air in London (CCAL) show limits have been widely breached since then and that more than 20 UK cities and conurbations broke the pollution rules in 2006. These are expected to be the basis of the EU's legal case against Britain. The case could take two years to come to court, and could prove embarrassing in the run up to the Olympic Games in 2012.

Exacerbating the problem

A directive, which came into force in June 2008, demands levels of NO₂ air pollution be reduced on some busy streets by more than a third by the end of this year. Unlike PM10 pollution, which mostly affects people living close to traffic corridors, NO₂ is much more widespread; nearly half of all emissions come from road vehicles, with 25% coming from power stations. Thus the only feasible way Britain can meet its new NO₂ target is by tackling traffic congestion with schemes such as low emission zones, which bar the most polluting vehicles from entering areas, or congestion charging schemes like the one operating in London.

The Government plans to hold a three-month consultation and then apply for a time extension to meet its NO₂ target. Nine other EU countries are also applying for extensions. Simon Birkett of the Campaign for Clear Air in London (CCAL) said: "Legal action to enforce health-based air quality laws is long overdue. We urge the Government to say urgently how it will comply fully with these laws. It can try to delay introducing measures to reduce air pollution but eventually it will have to meet these directives."

"The UK is already on the receiving end of legal action from the European Commission for breaching legal standards for dangerous airborne particles (PM10) and missing the deadline to apply for a time extension to comply with them. This legal action must be broadened and escalated rapidly unless the UK comes up with a convincing plan to justify a time extension."



Modern light rail has transformed the culture and environment in many European cities, as shown here by a Bombardier Flexity Outlook (STIB3035/6) in Brussels.
Neil Pulling

How light rail can help

The Light Rail Transit Association's Development Group has produced a paper that outlines the positive impacts on the UK's pressurised National Health Service – and the associated cost benefits – of a modal switch to light rail and expansion of the UK's LRT networks.

The annual total of respiratory disease-related deaths of over 150 000 is estimated to cost the UK around £9.65bn – through health service treatment costs, reduced economic production and lost working days. Taking even the lowest UK Government figures about the percentages attributed to transport emissions at 25%, the number of fatalities and costs associated with transport-related pollution are therefore 38 250 deaths and £2.41bn per annum.

We can also look at Government figures that show total road vehicle km at over 500bn km (300bn miles) per year. It is estimated that light rail diverts around 266m passenger/km from the UK's roads each year.

The number of fatalities and injuries on the UK's roads each year totals almost 260 000 per year, so immediately a pattern emerges that with a modal switch it could be reasonably expect to see 138 lives saved per year, saving the health services £2.1m annually. Adding in costs of accident treatment saved by this modal switch, that total around £6m, gives a total saving of £8.1m per annum.

Amortising this figure at 5% over 25 years (taken as the life of an LRT system) gives a figure of £114m saved. So given the cost savings to the health service, the amount of lives saved and the reduction in EU fines – without including benefits like cleaner cities and urban areas for future generations and saving the planet - doesn't light rail make a lot more sense in a joined-up governmental approach? **TAUT**