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Carcinogenic diesel exhaust disclosed for every significant road in London in the 'Year of Air'

Clean Air in London used powerful European access to environmental information laws to obtain 1.5 million pieces of data from the Mayor of London. Thousands of pages published

Top three worst roads in 2012 were A406 (North Circular), A282 (Dartford Crossing) and A13 (Commercial Road). Shoppers are being gassed in Oxford Street by Transport for London buses and showered in deadly particles in Brompton Road by taxis, diesel light goods vehicles and cars. Many suburban roads among the worst e.g. Reigate Hill and Twickenham Road

Diesel vehicles responsible for up to 30 times more nitrogen dioxide (NO₂) and particle exhaust emissions (PM_{2.5}) than petrol vehicles. Petrol cars and motorcycles most responsible for benzene. Air pollution has not fallen as the Mayor's computer modelling predicted. Annual average levels of NO₂ in Oxford Street and Brompton Road well over twice legal limits

Free Clean Air in Cities Index™ App reporting the health impact of long-term exposure to air pollution (PM_{2.5}) on the population in local areas, regions and England as a whole can be downloaded at <http://itun.es/i6xj69k>

Clean Air in London calls for the banning of all diesel vehicles from the most polluted parts of London by 2020

The Mayor of London has released details of diesel exhaust for every significant road link in London after a formal request from Clean Air in London (CAL) using powerful European access to environmental information laws. The World Health Organisation (WHO) classified diesel exhaust as carcinogenic for humans in June 2012 ^{Note 2}.

The information discloses for the first time emissions of 12 regulated pollutants from each category of road transport, in tonnes and tonnes per kilometre, in each of 2008, 2010 and 2012. Over 1.5 million pieces of computer modelling data have been released including:

- **Pollutants:** benzene, butadiene, methane (CH₄), carbon monoxide (CO), carbon dioxide (CO₂), non-methane volatile organic compounds (NMVOC), nitrogen dioxide (NO₂), oxides of nitrogen (NO_x), polycyclic hydrocarbons (PaH), dangerous airborne particles (PM₁₀ and PM_{2.5}), sulphur dioxide (SO₂);
- **Vehicle categories:** motorcycles, taxis, cars (petrol and diesel), light goods vehicles (petrol and diesel), London Transport bus, coaches and heavy goods vehicles (rigid and articulated); and
- **Roads:** 41,713 sections of road in London up to and including the M25. These have been released together with Transport for London's road classification for them.

The information has been provided in an Access database file with separate summaries for emissions of NO_x and PM₁₀ for each category of road transport in 2010. CAL is publishing thousands of pages of this information for benzene, NO₂, NO_x, PM_{2.5} and PM₁₀ in 2012 with a ranking of the worst roads.

Important: Please bear in mind that Mayor Johnson has disclosed computer modelling estimates of ‘emissions’ from tailpipes not actual ‘concentrations’ of air pollution in the air we breathe which may be available separately. Legal limits and WHO guidelines are set in terms of concentrations not emissions. Within the data, CAL considers emissions in tonnes per kilometre per year are a better indication of the air pollution challenge than tonnes per year since the latter will appear disproportionately high if a road link is long e.g. a motorway.

Key initial findings, excluding motorways, include:

- i. Top five worst roads in London in terms of emission rates (i.e. tonnes per kilometres per year) for the different air pollutants in London in 2012 in descending order were:
 - Benzene: **A406 (North Circular Road)**, A118, A1055, A40 and A282
 - NO₂: **A406**, A118, A1055, Alfred’s Way in East Ham and Barking (A13) and A13
 - NO_x: **A282 (Dartford Crossing)**, A406, A118, Alfred’s Way (A13) and A40 (Oxford Street)
 - PM_{2.5}: **A406**, A1055, A40, A118 and A4202 (Park Lane)
 - PM₁₀: **A406**, A1055, A40, A118 and A4202 (Park Lane)
- ii. Top five worst roads in London in terms of total tonnes emitted for the different air pollutants in London in 2012 in descending order were:
 - NO₂: **A13 (Commercial Road)**, A282, A3, A40 and A406
 - PM_{2.5}: **A13**, A3, A40, A406 and A282
- iii. Marylebone Road, which the Government claims is the most polluted place in London, appears nowhere in CAL’s ranking of the top 20 worst roads;
- iv. Oxford Street and Brompton Road, two of the busiest for shoppers, were in the top 15 worst locations in London in 2012 for emissions of NO₂ (9.0 tonnes per kilometre per year) and PM_{2.5} (0.8 tonnes per kilometre per year) respectively;
- v. coaches and London Transport buses are estimated to have emitted a staggering 1.3 tonnes and 6.4 tonnes of NO₂ per kilometre per year respectively at the worst place in Oxford Street in 2012. The main sources of PM_{2.5} in Brompton Road were taxis, diesel light goods vehicles and diesel cars at 500, 112 and 85 kilograms per kilometre per year respectively in 2012;
- vi. Oxford Street and Brompton Road appear also in the top 20 worst roads for emissions of benzene at 24 and 25 kilograms per kilometre per year respectively in 2012;
- vii. diesel vehicles produce the vast majority of NO₂, NO_x, PM_{2.5} and PM₁₀ of exhaust emissions in total tonnes per kilometre per year at 98%, 96%, 94% and 94% respectively on the worst road link for each pollutant i.e. 20 to 30 times more than petrol vehicles. Conversely, petrol cars and motorcycles produce some 79% of the total tonnes per kilometre per year for benzene emissions (64% and 15% respectively on the worst road link) i.e. four times more than diesel vehicles; and
- viii. those living near busy roads, often the poorest people, will be most exposed to the most harmful air pollutants.

Air pollution has not fallen as predicted by the Mayor’s computer modelling. Annual average levels of NO₂ in Oxford Street and Brompton Road are well over twice legal limits in legislation since 1999 to be complied with by 1 January 2010^{Note 8}. London has the highest levels of NO₂ of any capital city in Europe^{Note 6}.

CAL has passed the information released by the Mayor to the Conservative, Green, Labour and Liberal Democrat parties in the London Assembly to aid their scrutiny of the Mayor of London's efforts to reduce air pollution in London.

Quotes

Simon Birkett, Founder and Director of Clean Air in London, said:

“In environmental terms, this is like discovering the Rosetta Stone. All of a sudden Londoners can decode air pollution on their doorstep – in a nutshell, it's the ‘who’, ‘what’, ‘where’ and ‘when’ of air pollution in London. Clean Air in London applauds the Mayor for releasing this information.

“Health guidelines and legal limits are set in terms of billionths of a kilogram whereas this data reveals emissions in tonnes or hundreds of kilograms per kilometre per year. It is particularly valuable to see the sources of nitrogen dioxide (NO₂) emissions which are rarely disclosed despite it being one of the two most important air pollutants for public health and legal compliance. It will take months to analyse the data fully.

“Every politician, campaigner, resident, worker and business in London can now see summary information for the most dangerous forms of air pollution. Clean Air in London is also launching its free Clean Air in Cities Index™ (or Birkett Index™) App which reports the health impact of long-term exposure to air pollution (PM_{2.5}) on the population in local areas, regions and England as a whole ^{Note 10}. The App can be downloaded at <http://itun.es/i6xj69k>. Clean Air in London urges the Mayor to update the data used by the App annually and the diesel exhaust data every two years.

“Clean Air in London hopes campaigners, local authorities and others will challenge the Mayor where claimed emission reductions, based on computer modelling, have not been reflected in reductions in concentrations of regulated air pollutants reported by monitoring equipment. People can request further information from the Mayor or Transport for London using powerful European access to environmental information laws.

“People can protect themselves by walking down less polluted roads and reduce pollution for themselves and others by walking or cycling or using public transport rather than driving a diesel car. For indoor air quality, people can ask if buildings with mechanical ventilation use regularly maintained air filters that comply with British and European standard EN 13779.

“Ultimately, the only answer is for London to eliminate completely deadly diesel exhaust from the most polluted parts of London by 2020. By doing so, London can lead the way in Europe and elsewhere in innovation and creating a successful, truly balanced economy.

“Last but not least, Clean Air in London records its thanks to Gerry Facenna, a leading barrister at Monckton Chambers, for his assistance in encouraging the Mayor to release this information.”

Notes

1. Quick guide to air pollution and the ‘Year of Air’

<http://cleanairinlondon.org/news/quick-guide-to-air-pollution/>

2. Diesel exhaust: The World Health Organisation (WHO) announced on 12 June 2012 it had ‘classified diesel engine exhaust as carcinogenic to humans (Group 1), based on sufficient evidence that exposure is associated with an increased risk for lung cancer’. More details at:

http://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf

3. Clean Air in London submitted requests for details of emissions of diesel exhaust for every road in London carrying an average of 10,000 vehicles per day or more on: 30 September 2012; 9 November 2012; and 28 February 2013. The Mayor declined these requests. CAL sought an internal review of the third refusal after taking legal advice from Gerry Facenna, a leading barrister at Monckton Chambers. The Mayor responded favourably to this request and released the information on 3 June 2013.

4. ‘Investigation into Government’s failure to control harmful diesel exhaust’ dated 3 April 2013

<http://cleanairinlondon.org/sources/investigation-into-governments-failure-to-control-carcinogenic-diesel-exhaust/>

5. ‘Something in the air’ report by Policy Exchange dated 19 July 2012

<http://cleanairinlondon.org/olympics/clean-air-in-london-congratulates-policy-exchange-on-its-report-something-in-the-air/>

6. ‘London has highest levels of NO₂ of any capital city in Europe again’ dated 1 June 2013

<http://cleanairinlondon.org/hot-topics/highest-no2-of-any-capital-city-in-europe-again/>

7. Health impacts

Review of evidence of health aspects of air pollution (REVIHAAP)

<http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/air-quality/publications/2013/review-of-evidence-on-health-aspects-of-air-pollution-revihaap>

Air pollution – Bang goes the theory

<http://www.youtube.com/watch?v=s3MCYPNZDEE&feature=share&list=FLTvOgL6SoXxnMrQtsBC71w>

Dangerous airborne particles (PM_{2.5} and PM₁₀)

<http://www.epa.gov/air/particlepollution/health.html>

Nitrogen dioxide

<http://www.epa.gov/airquality/nitrogenoxides/health.html>

Benzene

<http://www.epa.gov/ttn/atw/hlthef/benzene.html>

8. London Air Quality Network monitoring results

	Brompton Road		Marylebone Road		Oxford Street	
	NO ₂ annual mean (ug/m ³)	NO ₂ hourly exceedances	NO ₂ annual mean (ug/m ³)	NO ₂ hourly exceedances	NO ₂ annual mean (ug/m ³)	NO ₂ hourly exceedances
2013 YTD	103	363	77	5	105	310
2012	92	500	94	122	N/A	N/A
2011*	81	179	97	217	N/A	N/A
2010	N/A	307	98	524	N/A	N/A
2009	90	371	107	469	N/A	N/A
2008	95	515	115	801	N/A	N/A

* Western extension congestion charging zone removed 4 January 2011

Monitoring sites

http://www.londonair.org.uk/london/asp/publicstats.asp?region=0&site=&la_id=&network=All&postcode=&MapType=Google&VenueCode=

Legal limits

<http://ec.europa.eu/environment/air/quality/standards.htm>

Brompton Road in 2013

http://www.londonair.org.uk/london/asp/publicstats.asp?region=0&site=KC3&Maptype=Google&mapview=all&statyear=2013&la_id=&zoom=9&lat=51.431751825946115&lon=-0.17578125&laEdge=

Marylebone Road in 2013

http://www.londonair.org.uk/london/asp/publicstats.asp?region=0&site=MY1&Maptype=Google&mapview=all&statyear=2013&la_id=&zoom=9&lat=51.431751825946115&lon=-0.17578125&laEdge=

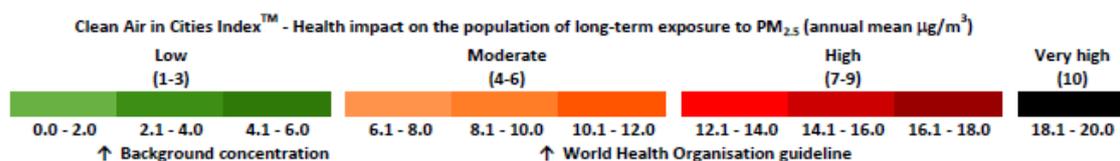
Oxford Street in 2013

http://www.londonair.org.uk/london/asp/publicstats.asp?mapview=all&statyear=2013&MapType=Google®ion=0&site=WM6&postcode=&la_id=&objective=All&zoom=9&lat=51.431751825946115&lon=-0.17578125&VenueCode=

9. '10 steps for Clean Air in London', a guide for campaigners

<http://cleanairinlondon.org/solutions/10-steps-for-clean-air-in-london/>

10. The innovative new **Clean Air in Cities Index™** (or **Birkett Index™**) reports the health impact on the population of long-term exposure to PM_{2.5} in local areas, regions and England as a whole.



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The Clean Air in Cities Index™ (or Birkett Index™) App can be downloaded from the App Store. It can be found at <http://itun.es/i6xj69k> or by searching for 'Clean Air in Cities' on the App Store.

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