Sootfree Cities

City Ranking

Questionnaire Update 2013

The “Sootfree for the Climate” campaign in cooperation with the Clean Air project would like to ask you to supply our city ranking with the necessary information about your activities to improve the air pollution and promote sustainable transport.

Some notes on this questionnaire:

- The questionnaire is longer than the last version, but due to improved structure we aimed to make it easier to answer and analyse.

- This questionnaire aims to update the first version of the ranking which has been published under www.sootfreecities.eu. Some of the questions we would like to ask you are not directly used in the City Ranking, but still give NGOs a better understanding of your situation.

- The aim of our city ranking project is not only to assess and compare your city’s efforts, but also to highlight to great work at the local level and facilitate exchange between cities on best-practice measures.

- We sincerely hope that you find the time to answer these questions. We hope that you are able to do so by **2 September 2013**

- We have divided the questionnaire into 17 subcategories covering air pollution & source contribution, the types of measures that you are undertaking on transport and on other sources, as well as your stance on air quality legislation and the revision of EU policy.

- Please feel free to contact us with any questions or comments regarding this questionnaire, or ranking and the project. You can find more information about the project on the last page of this document and on the websites mentioned there.

1. Air Pollution & reduction trends (i.e. concentrations)

In order to assess your city's air pollution reduction measures, we would like information on the air quality situation in your city for fine particles (PM_{10}, $PM_{2.5}$), nitrogen dioxide (NO_2) as well as Carbon monoxide (CO) and Ozone (O_3).

Measurement station: MY1
Is the selection of this urban transport station correct?

MY1 is part of Defra's Automatic Urban Rural Network (AURN) for NO_2. For 2013 so far it is currently recording the highest NO_2 concentrations (mean to date and number of hourly exceedences) of any of the other AURN sites. For PM_{10}, MY1 does not use the approved FDMS methodology and therefore MY7, co-located with MY1, should be referred to instead. Traditionally MY7 has recorded the highest levels of PM_{10} out of AURN sites. This year, so far, the roadside monitor at A2 Old Kent Road (SK5) has recorded more exceedence days than MY7 (data yet to be ratified). This monitor however has more gaps in its readings than MY7 and so MY7 would still be the more consistent and reliable monitor.

a. In our last round of the city ranking, we analysed station Bloomsbury as comparable urban background measurement station.

Urban background Measurement station: BL0
Is the selection of this urban transport station correct?

The selection of this site is good in terms of getting a reliable historical trend. Another possible urban background site to consider is KC7 at North Kensington however there are more gaps in the data

b. For these two measurement stations, please fill out this table as far as possible with the correspondent value for the mentioned years before the deduction of natural sources.

Station	*Pollutant*	*2005*	*2010*	*2011*	*2012*	*Expected trend (% improvement compared to 2010)*** *2015*	*2020*

Urban traffic	*PM_{10} (exceedance days)*	37 / 72	23 / 43	57 / 73	ND / 42	~10%	~20%
	PM_{10} (annual mean)	33 / 38	32 / 35	38 / 41	ND / 37	~5%	~10%
Marylebone Road	*$PM_{2.5}$ (annual mean)*	19/ND	17/23	ND/24	ND/22	~10%	~20%
For NO2, CO and O3 use MY 7	*NO_2 (annual mean)*	112	98	97	94	~10%	~30%
For PM10 use both MY1 (FDMS) and MY7 (TEOM). Data shown as MY1 / MY7	*CO (Maximum daily eight hour mean)*	ND	ND	ND	0	Not readily available	Not readily available
ND = no data	*O_3 (exceedences of 8 hour mean)*	0	0	ND	0	Not readily available	Not readily available
Urban backg.	*PM_{10} (exceedance days)*	22	13*	17	17	~25%	~30%
Bloomsbury	*PM_{10} (annual mean)*	25	23*	23	23	~5%	~10%
BL0	*$PM_{2.5}$ (annual mean)*	ND	16	17	16	~10%	~15%
** ND for 2010, data displayed is for 2009*	*NO_2 (annual mean)*	57	54*	50	50	~12%	~15%
	CO (Maximum daily eight hour mean)	0	0*	0	0		
	O_3 (exceedences of 8 hour mean)	1	1*	3	3		

** derived from concentrations modelling from the LAEI 2010 at the locations of the monitor for 2015 and 2020.

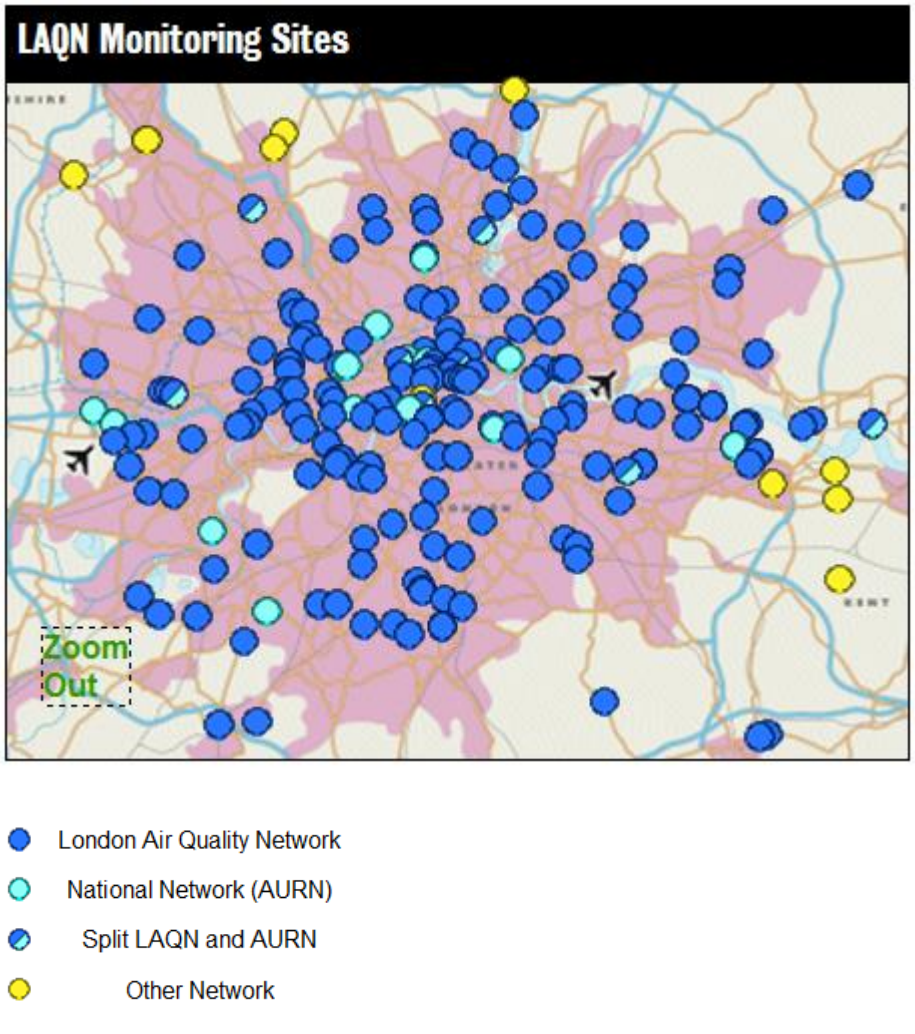
Assumes 2010 meteorological data

c. To what extent do you consider black carbon in current or coming clean air plans?

The GLA has provided £25,000 funding (matched by the EU JOAQUIN project) to airTEXT to enable the delivery of a black carbon alert service. This will be used for public information purposes and inform future policy development.

d. Please use this space for further information, data or background document links.

London has one of the most comprehensive monitoring networks of any world city. The network is funded by the Mayor (through the Greater London Authority and Transport for London), the City of London and the 32 London boroughs and is operated on their behalf by King's College London's Environmental Research Group. A map of the monitoring stations is shown below and more information on each is available at www.londonair.org.uk.



2. Source contribution (i.e. primary emissions)

Please provide us with an overview of the sources that the emissions in your city can be attributed to. This information shows us, what sources are the most important.

a. Please provide us (as far as possible) with the analysis of the city's relevant sources for the different pollutants (as a percentage) for 2010 and if available projected for 2015:

2010	*PM10*	*PM2.5*	NO_2	*CO*	O_3
London contribution	24%	25%	82%		
Outside London contribution	76%	75%	18%		

2015	*PM10*	*PM2.5*	NO_2	*CO*	O_3
London contribution	23%	24%	82%		
Outside London contribution	77%	76%	18%		

Note: CO emissions are modelled but are the concentrations are not estimated. O3 is a difficult question to answer as London technically removes O3 (due to high concentrations of NO) rather than emits it. Therefore the proportion of the London contribution could end up being a negative value.

b. Please provide us (as far as possible) with the analysis of the cities' relevant sources for the different pollutants (as a percentage) for 2010 and if available projected for 2015:

2010	*PM10*	*PM2.5*	NOx	*CO*
Industry / commercial	14%	21%	18%	12%
Biomass Burning	not included yet in the LAEI			
Transport	52%	57%	63%	67%
Resuspension & Abrasion	21%	1%	0%	0%
construction machinery	12%	17%	12%	16%
Other	2%	3%	7%	5%

2015	*PM10*	*PM2.5*	NOx	*CO*
Industry / commercial	14%	24%	20%	23%
Biomass Burning	not included yet in the LAEI			
Transport (detailed sources below)	51%	56%	63%	49%
Resuspension & Abrasion	23%	2%	0%	0%
construction machinery	9%	14%	10%	21%
Other (domestic)	2%	3%	7%	7%

Percentages are based on the proportion of emissions from each source as in the London Atmospheric Emissions Inventory 2010 (LAEI 2010). Whilst NO_2 is calculated for most sources as part of the inventory, looking at total NO_x takes into the consideration the primary NO_2 as well as potential for secondary NO_2 formation. O_3 is not included within the LAEI 2010 as this is not a primary emission

Emissions associated with biomass are not currently explicitly estimated within the LAEI. A methodology for including this source is being devised for inclusion within a future version of the LAEI.

c. Please provide us (as far as possible) with the analysis of the city's relevant transport sources for the different pollutants (as a percentage) for 2010 and if available projected for 2015:

2010	PM10	PM2.5	NO2	NOx	CO	O3
Passenger Cars including private hire vehicles	54%	49%	39%	28%	73%	
Heavy duty vehicles	14%	12%	15%	18%	3%	
Light duty vehicles	14%	15%	19%	9%	4%	
Construction Machinery	not included in "transport" see previous table					

Rail	5%	8%	not available	12%	2%	
Buses	4%	5%	19%	16%	0%	
Taxis	4%	4%	5%	3%	1%	
Airport	4%	5%	3%	12%	5%	
Motorcycles	1%	1%	0%	0%	11%	
Harbours & Ships	0%	0%	1%	1%	0%	
Resuspension & Abrasion	not included in "transport" see previous table					

2015	PM10	PM2.5	NO2	NOx	CO	O3
Passenger Cars	57%	54%	47%	28%	56%	
Heavy duty vehicles	12%	10%	5%	14%	1%	
Light duty vehicles	14%	14%	16%	9%	8%	
Construction Machinery	not included in "transport" see previous table					
Rail	3%	5%	not available	15%	4%	
Buses	5%	6%	2%	13%	0%	
Taxis	4%	4%	2%	3%	2%	
Airport	3%	5%	24%	16%	13%	
Motorcycles	1%	1%	0%	0%	15%	
Harbours & Ships	0%	1%	5%	1%	0%	
Resuspension & Abrasion	not included in "transport" see previous table					

Percentages are based on the proportion of emissions from each source as in the London Atmospheric Emissions Inventory 2010 (LAEI 2010). Whilst NO_2 is calculated for most sources as part of the inventory, looking at total NO_x takes into the consideration the primary NO_2 as well as potential for secondary NO_2 formation. O_3 is not included within the LAEI 2010 as this is not a primary emission

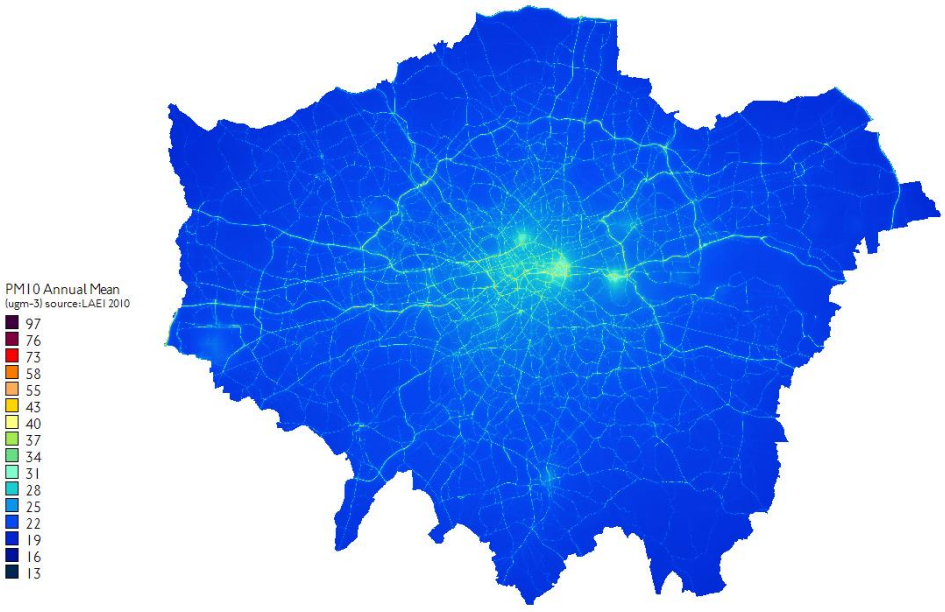
Construction machinery and resuspension are not included within the *transport* sector in the LAEI and therefore their emissions are shown in table b.

d. Please use this space for further information, data or background document links.

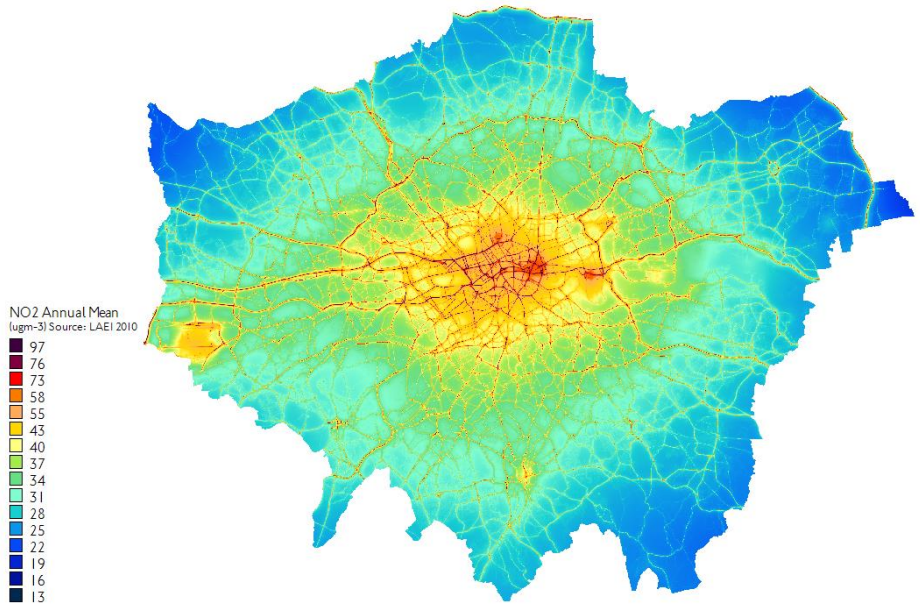
The Greater London Authority publishes the London Atmospheric Emissions Inventory on a two yearly cycle. The latest version is available online at: http://data.london.gov.uk/datastore/package/london-atmospheric-emissions-inventory-2010

The following maps show modelled annual mean concentrations for NO_2, PM_{10} and $PM_{2.5}$ and exceedence days for PM10 for 2010, validated against monitoring data.

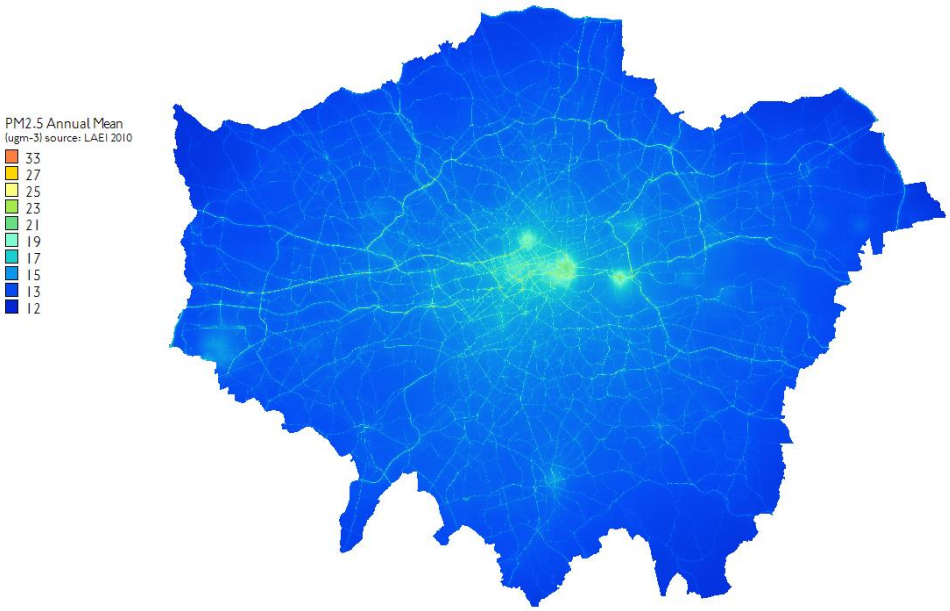
PM_{10} Annual Mean - 2010

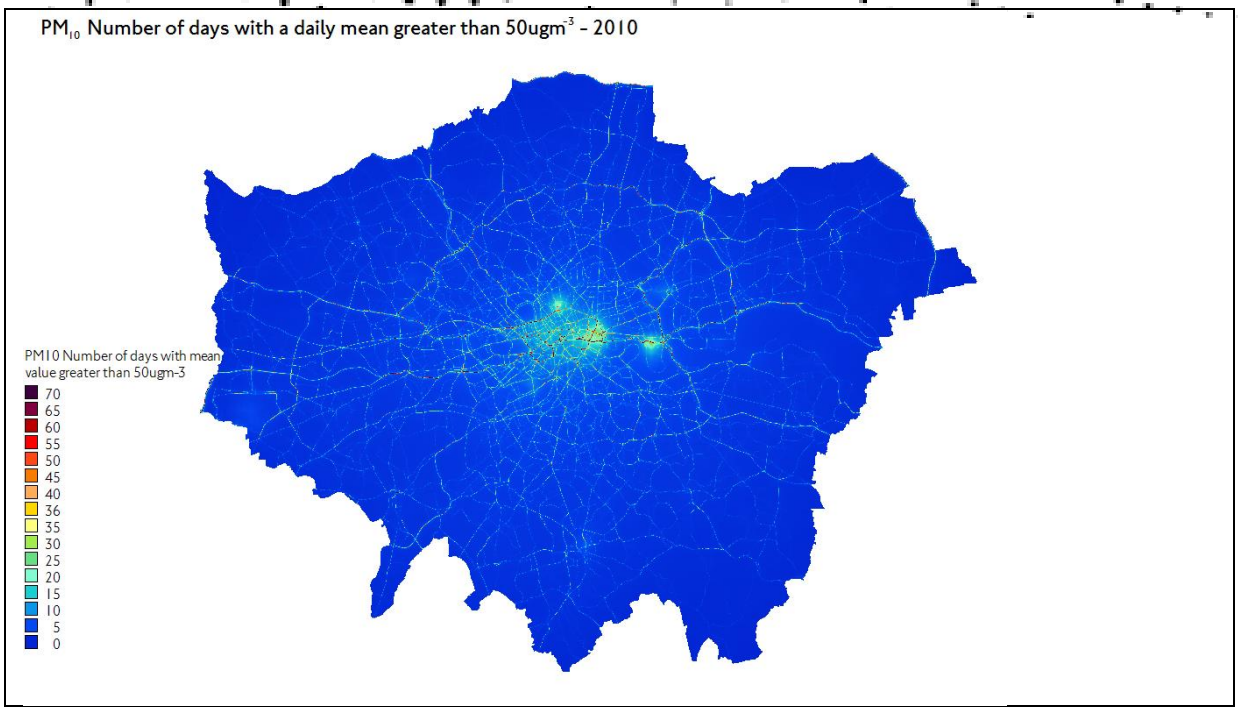


NO_2 Annual Mean - 2010



$PM_{2.5}$ Annual Mean - 2010





3. Modal Split

In this section we would like to assess what the current modal split of your city is. Also important are changes in the targets or expected changes in the future.

a. What is the city's current modal split (as percentages)? What are the targets for future years?

	2006	2010	2015	2031
Motorised individual transport	42%	38%	n/a	no official target
Cars (including private hire vehicles)	42%	38%	n/a	
Motorcycles	1%	0%	n/a	
Public Transport	25%	28%	n/a	no official target
Cycling	2%	2%	n/a	5%
Walking	30%	30%	n/a	no official target
Others (taxi)	1%	1%	n/a	no official target

current modal splits from Travel in London report. For travel by London residents

b. Please describe the desired effect of these targets on air quality. You may also use this space for further information, data or background document links.

These targets are integral to the assumptions in the Mayor's Air Quality Strategy to reduce emissions and concentrations of air pollution. The above concentration maps demonstrate the likely impact of these changes in modal split.

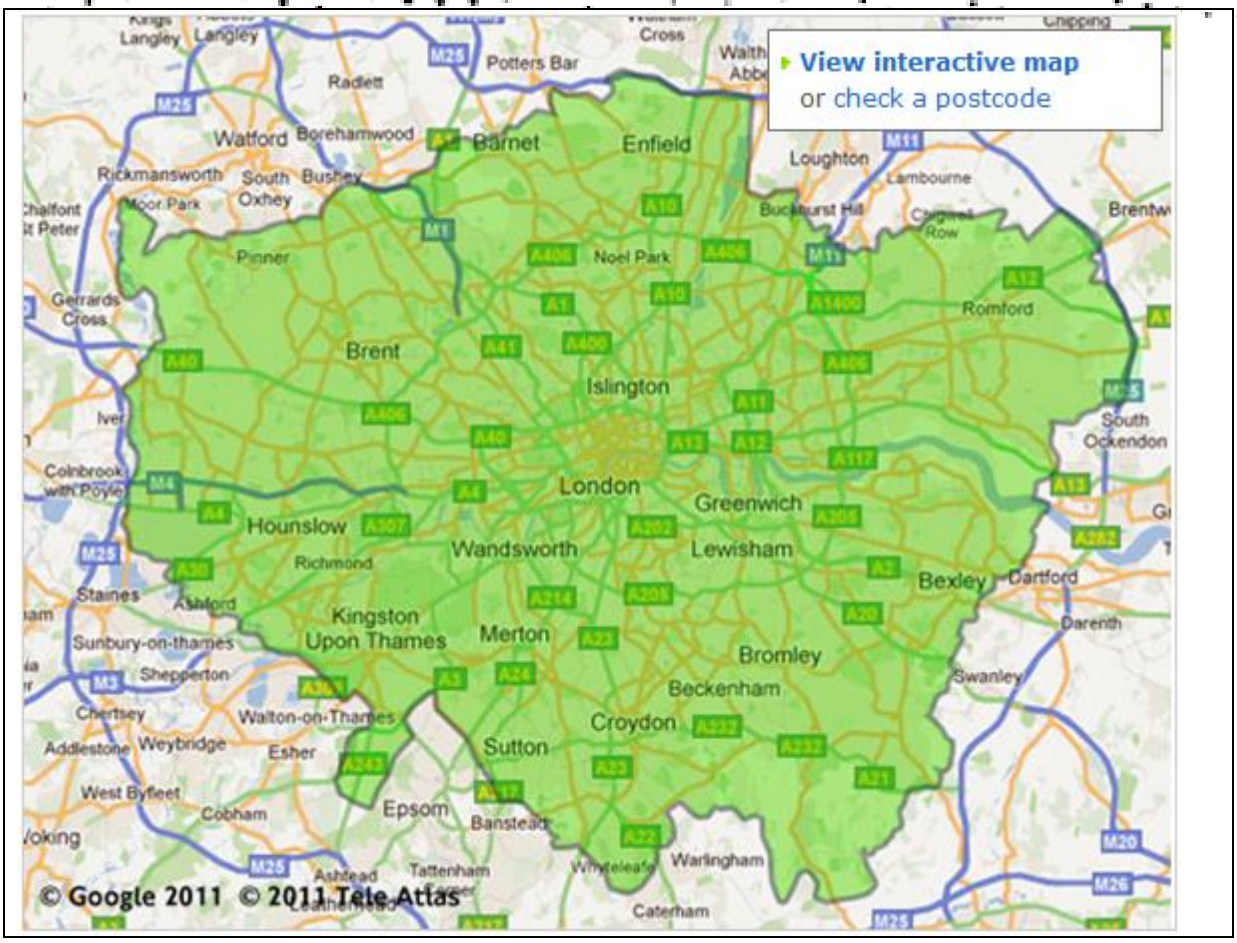
4. Low Emission Zones (LEZ)

a. Did your city implement a Low-Emission Zone (LEZ) or is it planning to implement one?

☑**yes** *since when: 04.02.2008*	☐no	☐is planned *When: date*

b. Please describe, which part of the city is covered by the LEZ?

98% of the city is covered by the Low Emission Zone, please see map below. We believe it is the largest city-wide Low Emission Zone in the world.



c. What types of vehicles are banned by the LEZ?

All vehicle types that are subject to the Low Emission Zone (shown in the table below) are required to achieve the relevant emission standard for PM10 or pay a daily charge. Failure to do so results in the issuance of a penalty charge notice. This applies to UK-registered and non-UK vehicles alike.

Vehicle type and definitions		Date of LEZ scheme implementation	Emission standard (for PM) required to drive in the LEZ at no charge
Heavier lorries - Goods vehicles exceeding 12t		Feb 2008 Jan 2012	Euro III Euro IV
Lighter lorries - Goods vehicles between 3.5 and 12t		Jul 2008 Jan 2012	Euro III Euro IV
Buses and coaches - Passenger vehicles with more than eight seats plus the driver's seat and exceeding 5t		Jul 2008 Jan 2012	Euro III Euro IV
Larger vans - Between 1.205t unladen and 3.5t gross* Minibuses – with more than eight seats plus the driver's seat and 5t or less	 	Jan 2012	Euro III

d. Please describe the timeline for implementation of the zone and, if applicable, its different stages.

year	*stage of implementation*
February 2008	Goods vehicles exceeding 12 tonnes must meet a Euro III PM standard
July 2008	Goods vehicles exceeding 3.5 tonnes, buses and coaches must meet a Euro III PM standard
January 2012	Goods vehicles exceeding 3.5 tonnes, buses and coaches must meet a Euro IV PM standard. Larger vans and minibuses must meet a Euro III PM standard.

e. How is it controlled and by which institution?

Institution of control	*Is responsible for moving vehicles*	*Is responsible for parking vehicles*
Transport for London	☑	☐
	☐	☐
	☐	☐

f. Please describe the penalties given for violations. How high are the penalties (driving penalties, etc.)?

Type and level of fine
A non-compliant goods vehicle, bus or coach may be issued a £1,000 penalty charge for not meeting the LEZ standards. The penalty is discounted to £500 if paid within 14 days. To avoid a penalty charge a £00 daily charge could be paid as a compliance option.
A non-compliant van or minibus may be issued a £500 penalty charge for not meeting the LEZ standards. The penalty is discounted to £250 if paid within 14 days. To avoid a penalty charge a £100 daily charge could be paid as a compliance option.

g. How many violations of the LEZ were detected in 2012 and how did this number change from the previous years, in particular from 2010 to 2012? If possible, provide detailed numbers for moving and parking vehicles.

Thanks to the comprehensive network of cameras we use we have a very high detection rate. Currently some 98% of vans and minibuses and some 94% of lorries, buses and coaches comply with the relevant emissions standards.

h. Please describe the exemptions for the LEZ. How can vehicles apply for an exemption and how many exemptions did the city award?

A small number of vehicles are entitled to an exemption from the Low Emission Zone (LEZ). These are:

- Specialist non-road going vehicles designed and built for mainly off-road use, but which may use the road for limited purposes (including agricultural and forestry tractors, mowing machines, agricultural and farm machinery and equipment, mobile cranes and road and building construction machinery) *[**NOTE:** the Mayor is currently consulted on emission standards for Non-Road Mobile Machinery]*
- Historic vehicles built before 1 January 1973
- Vehicles operated by the Ministry of Defence
- A small number of vehicles used by and for the purposes of showmen, predominantly s[specialist fair ground and circus vehicles. This recognises that there are certain types of vehicle that may not be able to be retrofitted with abatement equipment.

i. Please use this space for further information, data or background document links.

http://www.tfl.gov.uk/roadusers/lez/default.aspx

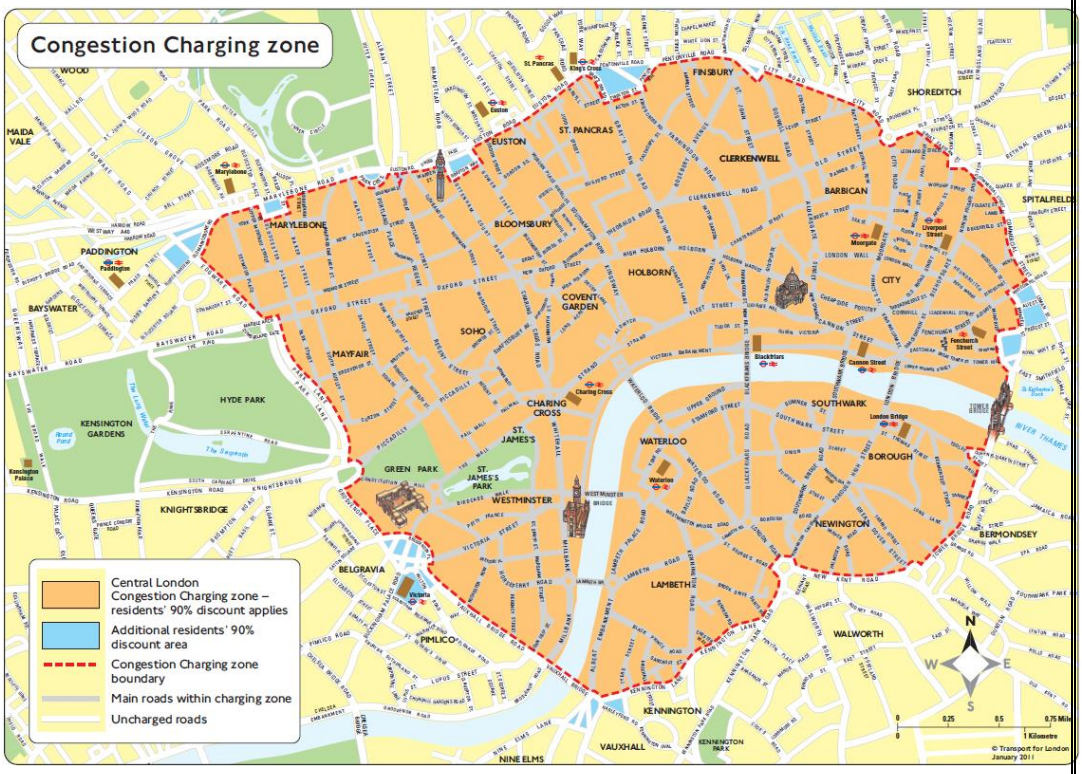
5. Congestion Charge

Congestion charge (CC) is an economic measure. It is dealt with earlier than the other questions, parking management and other economic measures are asked a little further below.

a. Has your city implemented a Congestion Charging Zone or is it planning to implement one?

☑**yes** *since when: 17.02.2003*	☐no	☐is planned *When: date*

b. If yes or planned, please provide details of the CC scheme.

Area covered	 The Central London Congestion Charging Zone covers around 22 square kilometres of central London.
Vehicles covered / not covered	All vehicles are covered by the Congestion Charge, except: • Two-wheeled motorbikes (and sidecars), and mopeds • Emergency service vehicles, such as ambulances and fire engines, which have a 'nil licence' for vehicle taxation • NHS vehicles that are exempt from vehicle tax • 'Disabled' taxation class vehicles that are exempt from car tax including

	motability and Dial-A-Ride vehicles • Taxis (registered with Transport for London) • Private Hire Vehicles (registered with Transport for London) • Buses
What are the rates?	• By midnight on the day of travel without Auto Pay (£10) • By Congestion Charging Auto Pay (£9) • By midnight the following charging day (£12) • Registered fleet vehicles (£9)
Introduction, Timeline, Changes	• The scheme was introduced in 2003 with a charge of £5. • In 2007 the scheme was extended to include a Western Zone, at the same time the charge was increased to £8 a day and the charging hours were slightly revised. • In 2008 a new Mayor was elected who, following two public consultations in favour of returning the zone to its original boundary, removed the western extension in December 2010. This reflected the different characteristics of the two areas – central London containing the central business district and world class retail and entertainment centres and west London being more residential in character. • From January 2011 the base charge of the congestion charge was increased to £10 and a new "Auto Pay" system introduced. • In 2013 a new Ultra Low Emission Discount was introduced to encourage the uptake of the lowest emission vehicles (emissions under 75 g/k CO2 and Euro 5).
How is control organised?	Transport for London is responsible for administering the Congestion Charge.
How high are the fines, how many violations were detected in 2012?	The current penalty charge is £130 (to be paid within 28 days) reduced to £65 if paid in 14 days. Approximately 60,000 penalty charges are issued each month.
Exemptions from the CC zone, <u>including discounts</u>?	Exempt vehicles are listed above. Vehicles eligible for a discount are listed below. The discount amount is in brackets. These discounts must be sought and approved by TfL. • Residents of the central London congestion charging zone (90% discount)

	• Blue Badge holders, i.e. disabled drivers (100% discount) • Accredited breakdown (100% discount) • Ultra Low Emission vehicles (ULED) (100% discount) • Vehicles with nine or more seats (100% discount) • Motor tricycles (100% discount) • Roadside recovery vehicles (100% discount)

c. Please use this space for further information, data or background document links.

http://www.tfl.gov.uk/roadusers/congestioncharging/default.aspx

6. Public procurement and fleet equipment

In the next three questions we ask you to please provide us with an update on your efforts in retrofitting and cleaning the municipal fleet and your expectations in the near future

a. Please briefly describe the city's current strategy on the municipal fleet.

Procurement: The Mayor spends around £3 billion a year procuring goods and services. He has adopted a responsible procurement policy which includes a requirement to reduce emissions from the vehicle fleet. More information can be found in the policy here: http://www.london.gov.uk/sites/default/files/Responsible%20Procurement%2011%20RP%20Policy.pdf

GLA fleets: The Mayor is committed to using the GLA fleet to support the wider uptake of electric vehicles, and the development of the necessary supporting infrastructure, across London. To do this he has set out his commitment to having 1,000 low emission vehicles in the GLA fleet by 2016.

This is a challenging target because of the challenging operational duties and national procurement rules that apply to some members of the GLA family (e.g. the Metropolitan Police). This means that the pool of eligible vehicles is quite small. However, significant progress has been made, with a number of low emission vehicles already in place. Of these 121 are in TfL and its contractors' fleets and 28 are in the MPS fleet. Whilst LFB does not currently have any electric vehicles in its fleet, it is actively exploring opportunities to introduce them where possible. The GLA currently has 2 electric vehicles.

In addition, Transport for London controls two operational fleets: the London bus fleet (through contracting) and London taxis (through licensing).

Buses: All buses must meet the Low Emission Zone standards. By 2015 all buses will also need to meet the Euro IV standard for PM and NOx. The Mayor has also set out a target of having 1,700

hybrid buses in the London fleet by 2016 (approx. 20%), which will be the largest fleet of its kind in Europe. This includes 600 of his ultra low emission New Bus for London. By 2020 all buses in central London will be hybrid to meet the requirements of the new central London Ultra Low Emission Zone. Transport for London is also trialling eight hydrogen buses and will shortly commence a trial of electric buses and inductive charging.

Taxis: All taxis new to licensing must meet a minimum Euro V emissions standard. The existing London fleet is also subject to a maximum age limit of 15 years and must also meet the Euro III standard for NOx and PM10. The Mayor is working with a number of manufacturers to develop a market ready taxi capable of zero emission operation as soon as possible.

Private Hire: All private hire vehicles new to licensing must meet Euro IV emission standards and be no more than 5 years old or younger at first licensing. Existing licensed private hire vehicles in London must meet a 10 year maximum age limit.

b. With regard to the degree of control, how much control do you have as city authority and how much is under control of different city authorities?

The Greater London Authority is responsible for its own fleet as well as those of Transport for London, the Metropolitan Police and the London Fire Brigade. The 32 London boroughs and the City of London Corporation are separate authorities that do not directly report to the Mayor of London.

c. Please describe as far as possible the share of the vehicles (total numbers and percentage) in the municipal fleet in 2012.

	EURO 2	EURO 3	EURO 4	EURO 5	EEV	EURO 6	HYBRID	E-MOB
Passenger Cars								
LGV								
HGV								
Buses								
Others, Taxis								

Information not readily available but details of electric and hybrid vehicles are included in 6(a).

d. If desired, please describe how this current state has changed in the last 5 years, and more importantly what the targets are in the coming 5 years.

Please see 6(a).

e. Please use this space for further information, data or background document links.

7. NRMM - Construction and road building

In the next three questions we ask you to please provide us with an update on your efforts in retrofitting and cleaning Non Road-Mobile Machinery (NRMM) since 2010 and your expectations in the near future

a. Did you know about the doubled cancer rate for workers of Non Road-Mobile Machinery?

☑ YES ☐ NO

b. Is construction equipment part of the municipal property?

☐YES ☑ NO

c. Please fill out this table

Municipal property of construction machinery	
How many construction machines are owned by your city?	N/A
What is the average age of these machines?	N/A
How many of your machines have you already equipped with filters?	N/A

d. Please fill out this table

General regulations of construction machinery	
Have you included a filter obligation for construction machinery	The Greater London Authority is currently consulting on the following requirements which are expected to be formally adopted

into the air quality plan of your city?	by the end of the year. More information can be found at: http://www.london.gov.uk/priorities/planning/consultations/draft-the-control-of-dust-and-emissions-during-construction-and From 1 September 2015 NRMM of net power between 37kW and 560kW will be required to meet the standards set out below. This will apply to both variable and constant speed engines for both NOx and PM. These standards will be based upon engine emissions standards set in EU Directive 97/68/EC and its subsequent amendments. • NRMM used on the site of any major development within Greater London will be required to meet Stage IIIA of the Directive as a minimum. • NRMM used on any site within the Central Activity Zone or Canary Wharf will be required to meet Stage IIIB of the Directive as a minimum. From 1 September 2020 the following changes will apply: • NRMM used on any site within Greater London will be required to meet Stage IIIB of the Directive as a minimum. • NRMM used on any site within the Central Activity Zone or Canary Wharf will be required to meet Stage IV of the Directive as a minimum.
Do you inform workers about the risks of emissions from construction machinery?	The Mayor has provided £400,000 through the Mayor's Air Quality Fund to support five central London boroughs to raise awareness about construction and air pollution and better manage construction sites.
Do you have a filter obligation in call for bids of public building projects?	Crossrail is a railway construction project under way mainly in central London. Its aim is to provide a high-frequency commuter/suburban passenger service, also to be branded Crossrail, that will, from 2018, link parts of Berkshire and Buckinghamshire, via central London, to Essex and South East London. The vast majority of construction plant (with a limited number of safety and project critical exceptions) must meet a minimum IIIB standard.
Further information	http://www.london.gov.uk/priorities/planning/consultations/draft-

	the-control-of-dust-and-emissions-during-construction-and http://www.crossrail.co.uk/sustainability/environment/managing-construction-impacts

e. As rail road, harbours and ships also potentially fall into this category on NRMM, please specify here, if applicable, programs and measures that your city is undertaking to reduce emissions from those sources. (feel free to use section 16 to add information on harbours and ships)

Harbours and shipping are the responsibility of the Port of London Authority and the Maritime and Coastguard Agency, which are separate authorities to the Mayor of London.

Railways are the responsibility of the national Department for Transport and Network Rail.

8. Parking Management

In the next three questions we ask you to please provide us with an update on your efforts in managing the parking spaces in the city and your expectations in the near future

Parking management is the responsibility of the 32 London boroughs and the City of London Corporation. These are separate authorities that do not directly report to the Mayor of London.

A number of boroughs have adopted innovative approaches to parking. The majority of boroughs now link the price of parking permits to CO2 emission standards. The Royal Borough of Kensington and Chelsea includes a diesel surcharge.

However, the Mayor does have some powers through the London Plan to set planning conditions for new developments. The Mayor wishes to see an appropriate balance being struck between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. Developments must ensure that 1 in 5 spaces (both active and passive) provide an electrical charging point to encourage the uptake of electric vehicles.

a. Please use the table to describe your parking management strategy. If possible, also provide numbers on the measured effects of this measure on traffic and air quality.

Short description of the targets of parking management in your city	See above
Future strategic targets	See above
Measured effect on traffic	N/A
Measured effect on air pollution	N/A

b. Please give an overview of the changes in parking supply experienced in the last years, the current levels (base year 2012) and, if possible, your predictions for coming years.

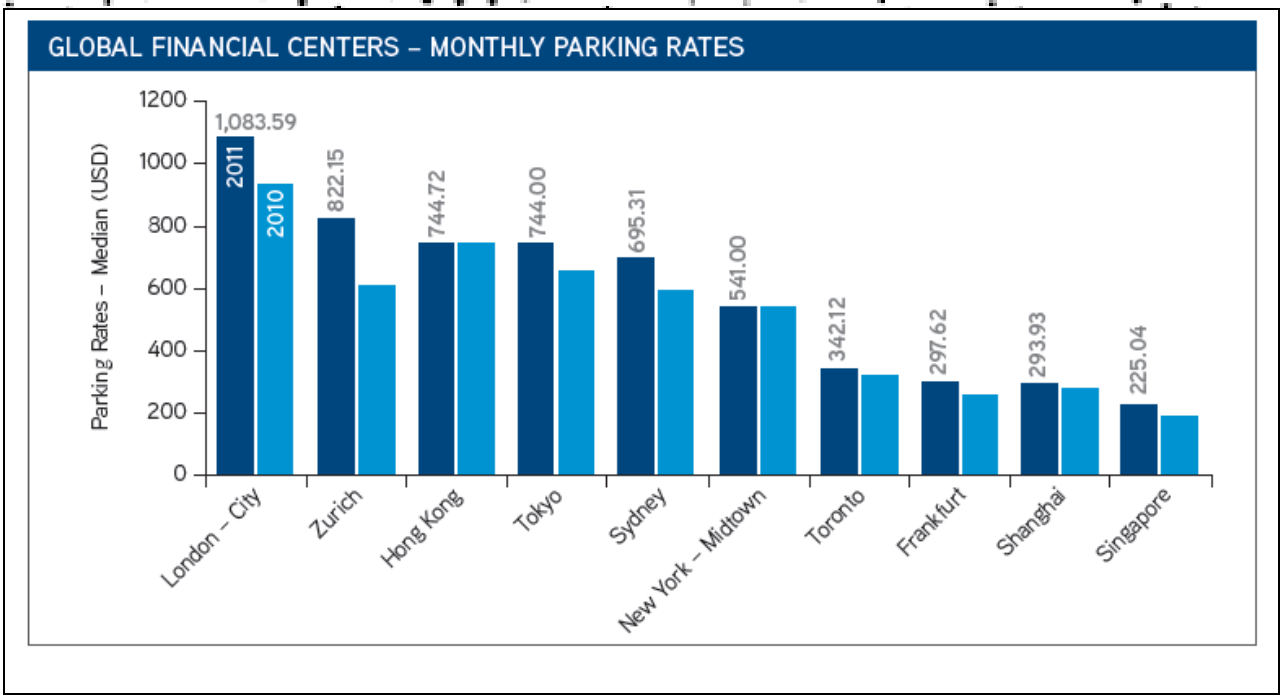
	2005	2010	2012	2015
Number of parking spaces				
Free parking spaces				
Paid parking spaces				
Overall change in parking fees (% or price in local currency)				

Please change years if fitting your statistics (2012 being base year)

A survey undertaken for TfL in 2000 suggested there were 6.8m parking spaces in London, the majority of which are located in controlled parking zones (i.e. paid for parking). This information was updated in 2004/5. Given that responsibility for parking is spread between London boroughs no regular updates covering the whole of London are undertaken.

c. Please use this space for further information, data or background document links.

According to Colliers International's Parking Rate Survey London has the highest monthly parking charges in the world.
http://www.thetruthaboutcars.com/wp-content/uploads/2011/07/globalcolliersparkingratesurvey2011.pdf



9. Other economic measures

a. Which other economic measures does your city undertake to combat air pollution from transport?

Retrofit subsidies	As part of the previous Taxi Emission Strategy taxi drivers were given an extra 20p per journey to help cover the cost of the retrofit equipment to ensure all taxis met a minimum Euro 3 for NOx and PM10. For the Low Emission Zone, individuals and businesses are expected to meet the standards at their own cost. Compliance costs are reduced by giving as much notice as possible so that
Subsidies available to companies for mobility management of their employees	Transport for London provides extensive technical assistance and support to help develop workplace travel plans.
Funding to support bike-to-work programmes	A national bike to work scheme is in place.
Car-pooling	N/A
Others	

b. Please use this space for further information, data or background document links.

10. Speed reductions & traffic calming

a. Please provide information on the speed limits set in residential areas, on main roads and on highways in the city area.

Categories	Size of area covered & change 2009 till 2012 (if applicable)	Information
Residential areas main speed limit	19% of London's is currently covered by 20mph zones	
Residential area targets	The Mayor's Road Task Force has set an aspiration for the whole of central London to be 20mph (this is expected to be achieved by 2020). Already two boroughs have declared all their roads 20mph only (Islington and Hackney). The Mayor will be providing funding to support the implementation of 20mph zones.	
Main Roads	Currently only very small parts of the major road network are 20mph (e.g. Tower Bridge)	
Main Road targets	Boroughs have been invited to make proposals to reduce the speed on major roads in their areas. These will be considered on the merits.	
Highways	Motorway speed limits are the responsibility of the national Department for Transport and the Highways Agency.	
Highway targets	Motorway speed limits are the responsibility of the	

	national Department for Transport and the Highways Agency.	
Air pollution reduction targets (if possible)	The main driver behind 20mph zones has been safety, especially for cyclists. While considerable air quality benefits are expected these have not yet been quantified.	

b. If desired please use this space to provide further details on speed limit measures.

Responsibility for speed limits predominantly lies with the 33 London boroughs who control about 95% of London's roads. The Mayor controls just 5% of the road network (the main strategic routes called the Transport for London Road Network).

However, the Mayor has recently set out an overarching vision for the road network in his Mayor's Road Task Force report. This includes an aspiration for the whole of central London to be 20mph (this is expected to be achieved by 2020).

c. Did the city implement other measures of traffic calming, possibly with the specific aim to reduce harmful air pollution?

All the signals in London are controlled by Transport for London, the Mayor's transport agency.

Currently, 40% of London's 6,000 traffic signals are using Split Cycle Optimisation Off-set Technique (SCOOT) to automatically improve traffic flows. TfL is planning to expand it to half of the signals by spring 2014. In addition, TfL reviews the functioning of 1,000 traffic signals each year to ensure their efficient operation.

So far, TfL has reviewed the functioning of 2,650 traffic signals since April 2009 and found that traffic delays at these locations have reduced by eight per cent, while pedestrian delays have reduced by one per cent. Upgraded junctions have delivered an average 12.7% cut in delays for vehicles on the road network, while in some locations traffic delays have also fallen.

TfL is now trialling a pedestrian SCOOT technology and is expecting to develop a prototype for the new technology by the end of 2013. The prototype will assess whether SCOOT technology could also used for better detection of cyclists and other vulnerable road users.

d. Please use this space for further information, data or background document links.

The Mayor's Roads Task Force report is available here:
http://www.tfl.gov.uk/corporate/projectsandschemes/28187.aspx

A technical assessment of the air quality impacts of the road network was prepared to support work on the Mayor's Roads Task Force.

http://www.tfl.gov.uk/assets/downloads/corporate/technical-note-21-what-is-air-quality-on-the-road-network.pdf

11. Public Transport

a. Please give details of expansion or improvements to the public transport system in the last 5 years as well as plans for the next 5 years.

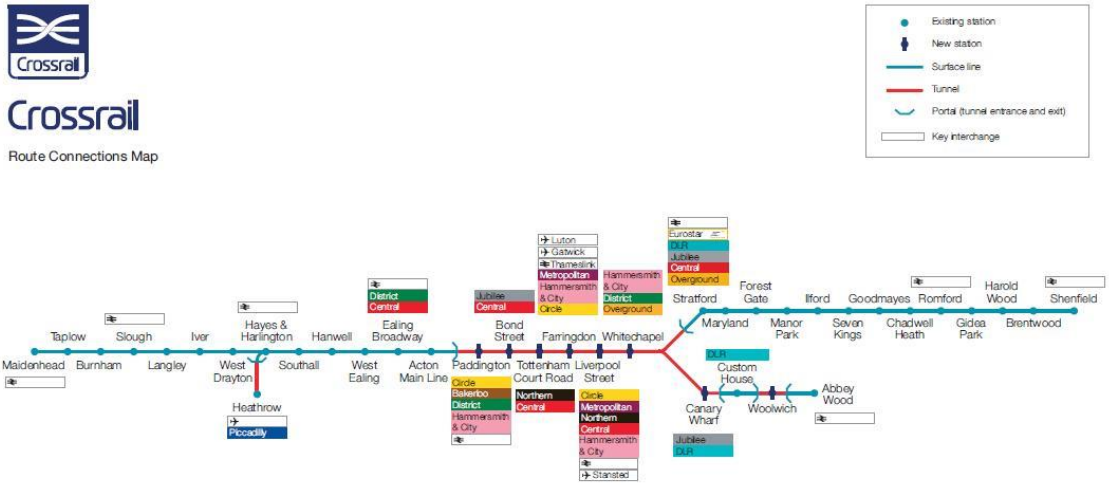
2.

Service volume	Unit	2012/13	2013/14	2014/15
London Underground: train kilometres	Million	75.7	77.8	81.2
London Buses: bus kilometres	Million	490.7	491.0	491.0
DLR: train kilometres	Million	5.7	6.4	6.4
London Overground: train kilometres	Million	7.1	7.3	7.5
Tramlink: train kilometres	Million	3.0	3.4	3.5
Passenger journeys				
London Underground	Million	1,222	1,234	1,265
London Buses	Million	2,382	2,427	2,451
DLR	Million	102.6	102.5	106.1
London Overground	Million	121.2	128.6	132.6
Tramlink	Million	30.5	31.5	32.8
Dial-a-Ride	Million	1.4	1.4	1.4
Emirates Air Line	Million	1.3	1.5	1.6

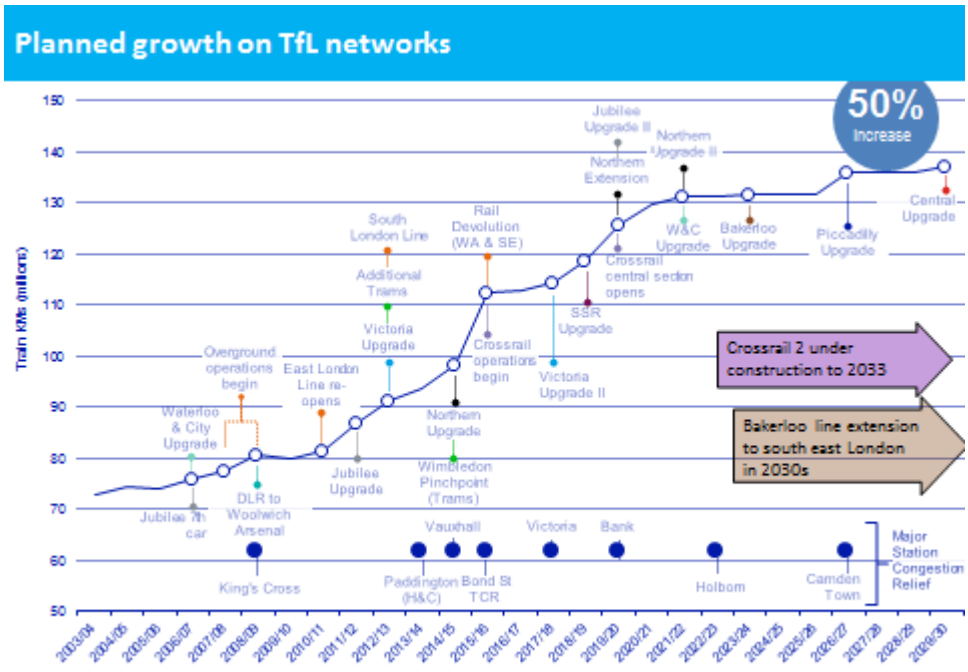
Buses	Realised	Planned
Expansion of bus routes	Over the last decade, London's bus network has expanded and its performance improved.	As table above

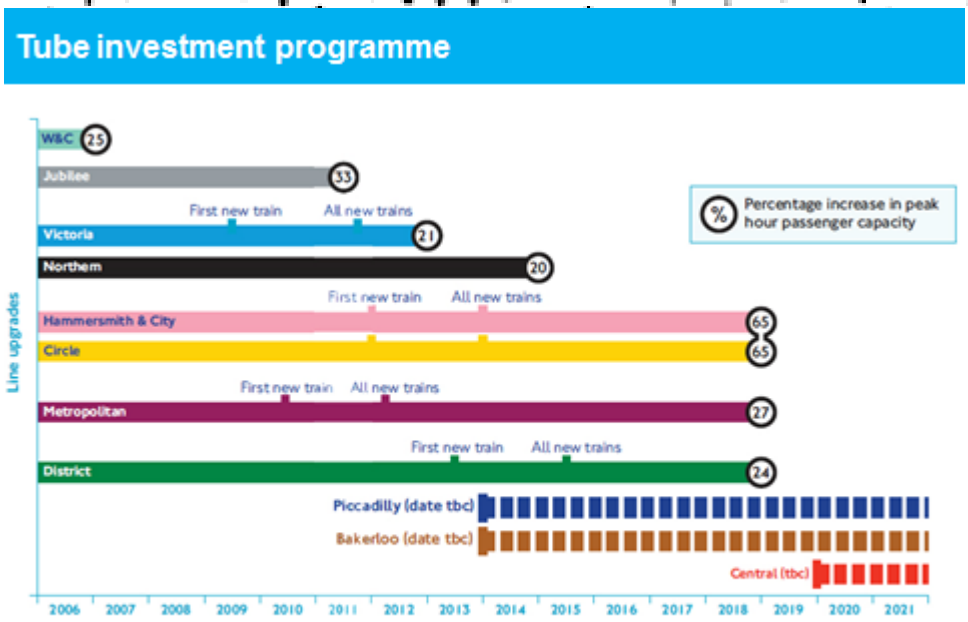
	Since 2000/01 there has been a 31 per cent increase in bus kilometres operated. London has seen bus usage increase by 40 per cent since 2000/01 while elsewhere in England bus usage has fallen by seven per cent.	
New buses	London operates more than 8,500 buses. The average age of a London bus is 5.9 years. Under current contracting rules, the oldest a bus can be (with the exception of historic buses) is 14 years.	More than 1,700 new hybrid buses will be on street by 2016, including 600 of the New Bus for London. 900 of the oldest Euro III buses will be retired and replaced with Euro VI buses by 2015.
Dedicated lanes	London has a comprehensive network of bus lanes, with more than 240 km of dedicated road.	
Increase in frequency/ efficiency	Since 2000/01 there has been a decrease in average excess waiting time from 2.2 minutes to 1.1 minute.	
Metro	Realised	Planned
New lines	London is currently building a new East West railway called Crossrail at a cost of £15 billion. This is expected to open in 2018 and will increase London's public transport capacity by 10%. Please see a diagram of the route below.	
Expansion of lines	London is investing around £20bn over ten years in upgrading the London Underground network. Please see "Planned growth on TfL networks" graph below.	
Increased frequency / efficiency	Please see "Tube investment programme" graph below.	

Where will the new Crossrail stations be?



New Crossrail stations will be built along the central route at Paddington, Bond Street, Tottenham Court Road, Farringdon, Liverpool Street, Whitechapel and Canary Wharf. Crossrail is keen to get the internal design of stations right as they have been designed to last for the next century. The new stations need to cope with large numbers of passengers and also be easy to navigate. To create this transport legacy for London it is essential that every fixture is fit for purpose, cost effective and built to last.





a. What information and promotion measures have been implemented in the Public Transport system since 1. Jan 2010

Websites	www.tfl.gov.uk is a comprehensive information resource on travel in London. Journey Planner helps people plan and choose their route. A new bus "countdown" service was launch earlier this year, enabling web and mobile based information about the next bus service at any of London's 19,500 bus stops.
Phone-lines	A one stop call centre is available to answer queries about Oyster (the ticketing system), journey planning etc.
Apps	A myriad of apps are available using direct API data. These are developed by third parties.
Signs	London has a network of more than 75 variable message signs which help communicate important time-specific information to drivrs.
Other	N/A
Marketing programmes	Over £1m was spent on no engine idling awareness. The livery of "green" London buses is being replaced to raise awarensss.
Pricing	Please see http://www.tfl.gov.uk/tickets/ A zone 1 single ticket with an Oyster card on the Tube is: £2.10 A zone 1 single ticket with an Oyster card on the bus is: £1.40

Other	iBus – all buses are installed with GPS satellite tracking. This has helped to improve our understanding of bus emissions in hotspots in real time and has been used extensively to improve service provision.

b. If you have further information, please insert it here, or attach it to your answer.

The annual operating subsidy for bus services rose from £41 million in 1999/2000 to £653 million in 2007/08. Since then the annual operating subsidy has reduced. In 2012/13 TfL spent around £1.8 billion operating the bus network of which £1.4 billion (77 per cent) is funded by fares and the remaining £400 million (23 per cent) by the bus subsidy.

12. Cycling & Walking

a. Please give details of the development of the bicycle traffic in your municipality.

	2010	*2012 / 2013*	*2015*
Number of bicycle racks (total number)	Cycle parking in London has increased on average by 20,000 spaces per year since 2008. The total number of bicycle parking spaces in London is not known, but TfL is currently working to create a database.		
Bicycle lanes (in km)	135km of Cycle Superhighways and LCN+ cycle tracks greater than 1.5m. In addition to these routes there are off carriageway tracks through green spaces, along canals and shared space with other users.		The Mayor has recently published his Vision for Cycling in London, in this he commits to building substantially segregated Cycle Superhighways, as well as creating Quietway routes on back streets across London.
Investment in bicycle traffic per inhabitant (in local currency	**£12.25 per London resident** Note that the spend in this year is particularly high due to one-off capital investment in London's public cycle hire scheme, which opened 30 July 2010.	Dedicated infrastructure spend on cycling during this year was limited due to work on the London 2012 Olympic and Paralympic Games.	The Mayor's Cycling Vision is a £913m programme of cycle-related projects over 10 years, though the breakdown of spend per year has not been finalised. Assuming an average spend of £91.3m per year, this would work out to £10.62 **per Londoner** in 2015 (based on GLA 2015 mid-year population forecasts). Significant amounts of this investment will be delivered through infrastructure projects over the next five years.
Number of employees in the Transport Department responsible for cycling	While there is a team dedicated to cycling in TfL, cycling is fully integrated across the business with designers, project managers and engineers, with hundreds of people involved at different stages of programme / project development and delivery. In addition to this, the 33 London boroughs, who are responsible for approximately 95% of London's roads, also have significant staff resource dedicated to development and delivery of cycling policy in London.		

b. Please provide details on pedestrian-oriented schemes and infrastructure, i.e. pedestrian crossings, other infrastructure improvements and information programmes.

Through pedestrian and public realm enhancement schemes on the Transport for London Road Network (TLRN) and borough roads, the quality of London's streets and spaces is being continuously upgraded to provide for safer, more attractive and more enjoyable walking. Thirty London boroughs have or are delivering schemes that support the key walking route principles of connected, accessible and high quality pedestrian routes to key destinations.

In addition, further improvements are being made to improve the accessibility of London's streets over the next four years. By 2015 Pedestrian Countdown, which shows people how long they have to cross the road, will be rolled out at 200 sites across the Capital. Work also continues to improve bus stop accessibility. Over 70 per cent of bus stops in London are already fully accessible and by 2016 Transport for London (TfL) aim to make sure that at least 95 per cent of bus stops are fully accessible.

Improvements to London's streets and spaces are being complemented by better wayfinding to create streets that are easier to navigate through the Legible London programme. This world-renowned system continues to expand across London, both on-street and through TfL's public transport system. There are currently around 1200 on-street signs in the ground across 22 boroughs and TfL has set a target to increase the number of on-street signs to 3000 by 2021.

c. What are the main indicators for assessing the city's bicycle sharing programme? How did the city develop this programme between 2010 and 2013?

Number of bicycles	Barclays Cycle Hire now covers an area of 65km2. In total, there are now over 8,000 available from over 570 docking stations and 15,000 docking points. Between 2010 and September 2013, there was a major expansion of the Mayor's flagship Barclays Cycle Hire scheme. In April 2012, the scheme expanding by almost a third in size, with an additional 2,300 new bikes provided across East London and out to Canary Wharf. By the end of 2013, the scheme will have expanded even further south and west. The new area will increase the number of cycles available by more than 2,000 bicycles, helping to support a greater proportion of business and leisure journeys and encourage trial and take-up by a wider demographic.	

User statistics	Since its launch in 2010, users of the scheme have undertaken more than 25 million hires, helping to deliver the Mayor's vision of making London a truly cyclised city. As of July 2013, there were 185,602 members of the scheme, and that figure continues to grow. Approximately 30,000 trips are taken each day on the bicycles.	
Tariffs	**Bike access tarriff** (includes unlimited journeys of up to 30 mins) 24 hours £2 7 days £10 Annual £90 **Extra ride charges** (if you keep a bike for 30 minutes or longer) Between 30 minutes and 1 hour £1 Up to 1 hour 30 minutes £4 Up to 2 hours £6 The full list of charges can be viewed here: http://www.tfl.gov.uk/roadusers/cycling/14811.aspx Around 93 per cent of all journeys made by Barclays Cycle Hire members have been under 30 minutes, which means that the vast majority of people using the scheme aren't paying any more than their access fees	
Membership options		
Other	Barclays Cycle Hire covers over 65km2 of the Capital stretching from Shepherd's Bush in the west, through central London and east to the fringes of the Olympic Park. Since its launch in 2010, users of the scheme have undertaken more than 25 million hires, helping to deliver the Mayor's vision of making London a truly cyclised city.	

d. Please use this space for further information, data or background document links.

The Mayor's Vision for Cycling can be located here:
http://www.london.gov.uk/sites/default/files/Cycling%20Vision%20GLA%20template%20FINAL.pdf

13. Further Mobility Management

a. Which mobility management programmes has the city developed between 2010 and today? Already approved and soon to be carried out programmes may be listed here as well.

Mobility Centres	TfL provides specialist mobility support to disabled, vulnerable and older Londoners. Please see http://www.tfl.gov.uk/gettingaround/3222.aspx for more information.
Commuting options	During the 2012 Olympics Transport for London delivered a significant programme of behavioural change called "Get Ahead of the Games". This encouraged people and organisations to change their travel patterns to reduce demand on the transport network at critical times, including by supporting changes to time of travel and home working. The learnings from this work are now being taken forward by TfL as part of their business as usual activities. In addition, the Mayor has supported a number of trials of Smarter Travel projects, including providing £5m of funding to the London Borough of Sutton. Relevant reports are available here: https://www.sutton.gov.uk/index.aspx?articleid=11905
Workplace travel plans	TfL widely support the development of workplace travel plans and has a dedicated team to provide technical advice and support to businesses.
Traveller Information tools	The TfL website includes a comprehensive journey planner available in 19 languages. http://journeyplanner.tfl.gov.uk This is being redeveloped as part of a wider improvement programme to the TfL website.
Mobile and social applications	API feeds are now available for the Tube and Countdown provides real time service information for the bus fleet. Numerous apps are

	available using this data. TfL's policy is to provide the raw feed and enable third party operators to develop appropriate systems.
Other	

b. What programmes and information services does your city run for particularly sensible and vulnerable groups, i.e., children, elderly, patients suffering from respiratory or other health problems?

The airTEXT Consortium is a consortium of London Boroughs, Slough Borough Council, the Greater London Authority, Environment Agency and Health Protection Agency which provides text alerts about air pollution, UV, pollen and temperature. This information is also available online and as an app.

The GLA is currently working with Barts NHS Hospital Trust to promote the wider use of airTEXT by the most vulnerable Londoners.

www.airtext.info

c. Is there data on the health impact (incl. costs, mortality, etc.) of air pollution on municipal level and/or does the city communicate health cost benefits of improved air quality?

Yes. Please see:
http://www.london.gov.uk/sites/default/files/Health_Study_%20Report.pdf

In addition, the GLA is currently preparing bespoke Joint Strategic Needs Assessment documents for each borough. These are available here:
http://www.london.gov.uk/priorities/environment/clearing-londons-air/air-pollution-and-public-health

d. Which car-sharing or car-pooling programmes (provided by the city) have been introduced since 2010? Are there plans for introducing this type of programme or plans for expansion of the current programme over the next 5 years?

Number of cars	While programmes are not directly provided by the City extensive support and free parking spaces have been provided. The planning system has also been used to support these services. TfL has a website promoting car club use: http://www.tfl.gov.uk/roadusers/smarterdriving/7549.aspx

Operating hours	N/A
Tariffs	N/A
Membership options	N/A
Other	N/A

e. Please provide contact data, website and further information of your mobility service offices.

f. Please use this space for further information, data or background document links.

14. Communications & transparency

a. Please provide details on the recent activities of the city on communications to the public and their involvement (both citizens and NGOs).

Information	• A number of existing websites already provide information on air quality in London. However, the GLA and London boroughs are producing a new Cleaner Air for London website, to provide a one stop shop of information for Londoners. The site will provide information and guidance to a range of audiences about air quality in the Capital. • The GLA promotes and provides general funding to airTEXT, which provides information on air pollution to vulnerable Londoners. In addition the GLA has part funded a project to improve the range of airTEXT forecasts, and is currently working on a project to develop a Black Carbon Alert Service. • To maximise the opportunity of the public health agenda being managed locally the GLA has produced bespoke air quality guidance documents for public health professionals containing borough-specific information. The GLA is also actively working with boroughs to promote the inclusion of

	air quality into borough Joint Strategic Needs Assessment documents and Health and Wellbeing Strategies.
Participation	• The GLA is delivering a Cleaner Air Champions Programme to train volunteers in partnering boroughs to become air quality advocates and to raise awareness of air quality, mitigation and adaptation strategies in their localities. So far more than 20 champions in three boroughs have been appointed. There is funding to roll out the scheme to a further three boroughs.

b. What significant changes have you made in response to public feedback on consultations?

Following public consultation the Mayor decided to remove the western extension of the congestion charging zone. Sixty two per cent of respondents backed its removal.

c. Does your city undertake efforts to build public understanding about air pollution?

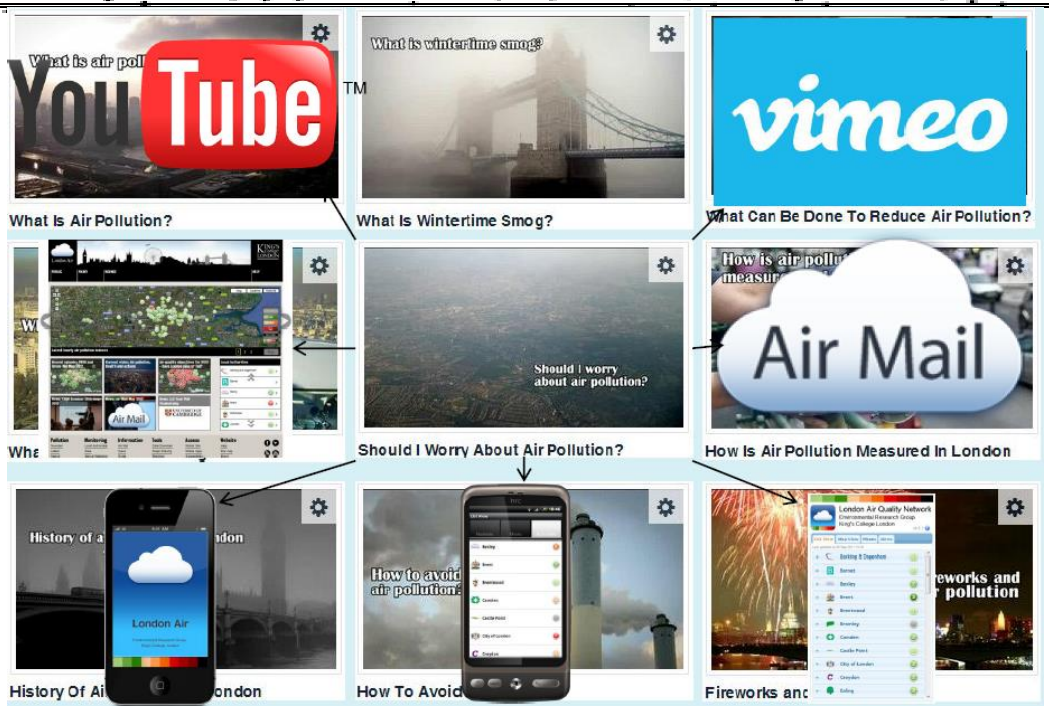
Yes. Many of these activities are set out above in section (a) and in section (d) below.

Activities undertaken as part of the London Air Quality Network (LAQN) hosted by King's College London are included below. The majority of operating costs for the LAQN, the website and other public understanding activities are covered by the Greater London Authority/Transport for London and by the London boroughs.

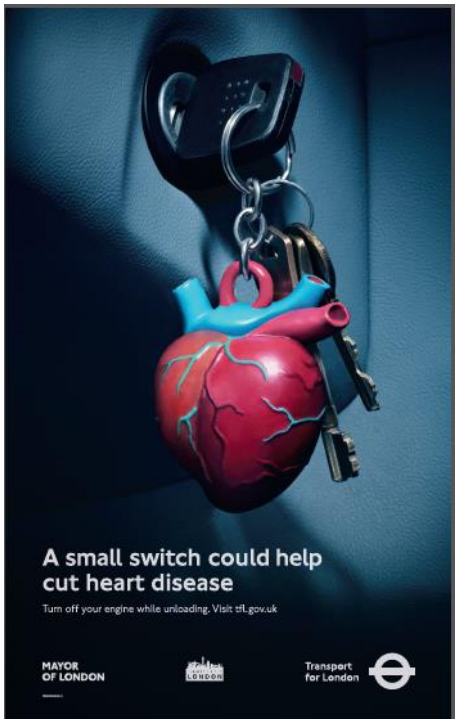
d. Please name the relevant contact details and website as far as they exist.

Information about	*Contact details and website*
Current air quality data	www.londonair.org.uk

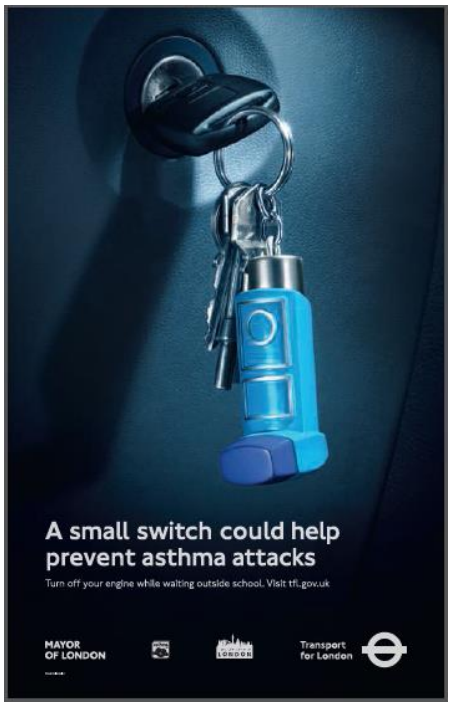
	
Smog warnings	www.airtext.info and www.londonair.org.uk. Information is also made available by the Mayor's emergency planning agency: http://www.london.gov.uk/mayor-assembly/mayor/london-resilience
Specific air quality information for vulnerable groups i.e. schools, elderly	London Air Quality Schools Toolkit: www.cleanerairforlondon.org.uk *(forthcoming)* include a "personalised air quality" tool which provides bespoke information
Measures to improve the city's air quality	www.london.gov.uk/airquality www.cleanerairforlondon.org.uk *(forthcoming)*
Awareness raising	www.londonair.org.uk

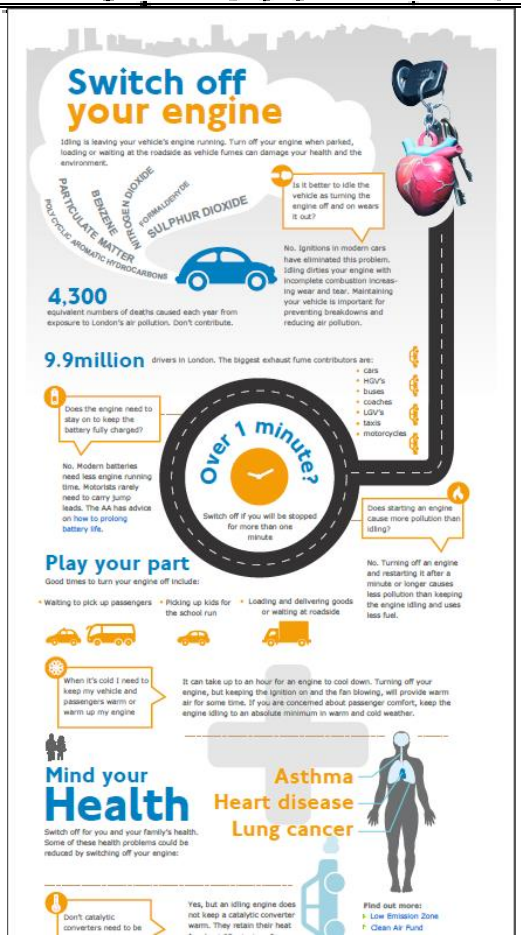


http://www.tfl.gov.uk/roadusers/25091.aspx - £1m no engine idling campaign which also raised awareness about air pollution and used powerful imagery.




A small switch could help
reduce lung cancer
Turn off your engine while you're parked. Visit tfl.gov.uk
MAYOR
OF LONDON
LONDON
Transport
for London


A small switch could help
prevent asthma attacks
Turn off your engine while waiting outside school. Visit tfl.gov.uk
MAYOR
OF LONDON
LONDON
Transport
for London

	
Urban planning	http://www.london.gov.uk/priorities/planning/london-plan (Most of our advice on urban planning is aimed at specialists)

e. Has your city undertaken steps to weaken already legally approved policies / measures?

The question implies that once a measure is in place it cannot be amended or changed to reflect changing public sentiment or circumstances (e.g. an economic emergency). In some instances, new evidence may also come to light that shows that previously planned policy would no longer be as effective as thought when originally designed (e.g. the impact of Euro standards).

There have been three major areas where the Mayor has decided to pursue other mechanisms to deliver air quality improvements:

- **Western Extension:** The current Mayor was elected on a manifesto commitment to consult on the future of the western extension to the congestion charging zone. Sixty two per cent of respondents to Transport for London's (TfL) public consultation on the Western Extension backed its removal and on 24 December 2010 was the last charging

day including the western zone. *Alternative approach:* The Mayor published a comprehensive Air Quality Strategy at the same time as the Western Extension was removed setting out other measures to improve air quality, including retiring the oldest taxis, retrofitting homes and using the planning system.

- **Low Emission Zone Phase 3 (introducing large vans and minibuses):** This was originally intended to be introduced in October 2010, during the height of the recession. Given that many of the non-compliant vans were owned by small businesses and many of the non-compliant minibuses owned by small charities, the Mayor thought it appropriate to defer the introduction of Phase 3 by 15 months to January 2012. *Alternative approach:* The Mayor published a comprehensive Air Quality Strategy at the same time as the decision to defer LEZ Phase 3 was made. This set out other measures to improve air quality, including retiring the oldest taxis, retrofitting homes and using the planning system.

- **Low Emission Zone Phase 5 (introducing a Euro IV NOx standard for HGVs, buses and coaches):** the Mayor had originally intended (with support from Government) to introduce a new standard to the Low Emission Zone for HGVs, buses and coaches. However, due to the difficulties experienced with Euro standards it was felt that the relatively small emission reductions (and adverse impact on direct NO2 emissions) would not justify the estimated £350m in compliance costs. *Alternative approach:* Consequently the Mayor decided to pursue other measures to deliver an emission savings equal to 200% of the expected benefits of LEZ Phase 5. This included making sure all buses meet a Euro IV PM and NOx standard by 2015, increasing the number of hybrid buses in the fleet, introducing new emission standards for Non Road Mobile Machinery and undertaking additional retrofit for public buildings and homes. The Mayor also set out his proposals for an Ultra Low Emission Zone in central London from 2020.

15. Other measures on the reduction of motorised vehicles

a. Which other measures did the city implement in the years between 2010 and 2013? (i.e. converted areas, access restrictions (other than congestion charge and LEZ, anti-idling, etc.)

- **Cleaner Air Fund (2011/12):** as part of a broader £5m package, smarter driving training was made available for taxi and private hire drivers to reduce fuel consumption and cut emissions. A team of eco-marshals worked at the busiest mainline station taxi ranks to educate drivers to turn their engines off when stationary. In addition these messages were disseminated to drivers across London on street to taxi drivers and via a mail shot to all standard private hire operators.

b. If desired, please use this space for further description, information, data or links to background documents.

16. Other measures

In section 1, you referred to the different relevant emission sources your city has to deal with. Although this questionnaire has the distinct focus on transport sources, we try to complete the picture with this section.

a. We give you the opportunity to give information about your activities on other sources. The **example** here a table on biomass burning (i.e. household heating). If desired, please fill out this table, or feel free to use it as template for information on other sources.

   Biomass burning (i.e. household heating)

   i. What is the share of biomass burning in emissions in your city?

Biomass burning is not currently caluclated as a separate entry in the London Atmospheric Emissions Inventory. However, this will be considered in the next iteration.

   ii. What are the current programmes tackling emissions from biomass burning? Please include changes from 2010-2013.

London is covered by a network of smoke control orders introduced by the London boroughs. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an "unauthorised fuel" for use within a smoke control area unless it is used in an "exempt" appliance ("exempted" from the controls which generally apply in the smoke control area). The current maximum level of fine is £1,000 for each offence.

The London Plan (the strategic planning and development control document for the city) includes a requirement for developments to be air quality neutral. The potential air quality impacts of biomass boilers has to be assessed as part of the mandatory air quality assessment

and need to be fully mitigated. The introduction of air quality neutral has already reduced the number of planning applications received including biomass boilers. The GLA is building on this by introducing specific biomass emission standards (see below).

iii. What are the current plans on biomass burning emissions for the coming 5 years?

The GLA is introducing the following biomass emission standards. Similar standards are also being introduced for Combined Heat and Power (CHP) systems.

To deliver both reductions in carbon dioxide emissions and improve air quality a tiered approach has been developed for applicable emission standards. This approach is based upon differentiation according to the baseline air quality in the area of development and will be dependent upon whether or not the development falls into the two tiers defined below.

Band	**Applicable Range**	
	Baseline Annual Mean NO2 and PM10	**Baseline 24-Hour Mean PM10**
Band A	> 5% below national objective	> 1-day less than national objective
Band B	Between 5% below or above national objective	1 day below or above national objectiv

The emission standards below are target minimum standards. If an assessment indicates that significant air quality effects may occur even when meeting the emission standards, additional measures (such as stack height increase, enforcement of more stringent standards etc.) should be considered in order to produce an acceptable level of impact.

Emission Standards for Solid Biomass Boilers and CHP Plant in the Thermal Input Range 50kWth – 20 MWth for development in Band A

Combustion Appliance	**Pollutant**	**Emission Standard (mg Nm^{-3})**	**Indicative Emission Factor**	**Likely Technique Required to Meet Emission Standard**
Spark ignition engine (natural gas/biogas)	NO_x	250[A]	0.7 g/kWh	Advanced lean burn operation (lean burn engines) NSCR (rich burn engines)
Compression ignition engine (diesel/bio-diesel)	NO_x	400 [A]	1.1 g/kWh	SCR

Gas turbine	NO_x	50[B]	0.4 g/kWh	None above standard technology for modern turbines
Solid biomass boiler (including those involved in CHP applications)	NO_x	275[C]	100 g/GJ	Modern boiler with staged combustion and automatic control
	PM	50 [C]	20 g/GJ	Cyclone/ multicyclone
All (stack heat release less than 1MW)[D]	Stack discharge velocity	10 ms^{-1}	N/A	Appropriate design of stack discharge diameter to achieve required velocity
All (stack heat release greater than or equal to 1MW) [D]	Stack discharge velocity	15 ms^{-1}	N/A	Appropriate design of stack discharge diameter to achieve required velocity

iv. How much does household heating account for biomass burning in your city?

Biomass burning is not caluclated as a separate entry in the London Atmospheric Emissions Inventory. The vast majority of every day home heating is achieved through natural gas with biomass (i.e. wood) mainly used for lifestyle reasons.

b. Other sources may include your actions on harbours, ships, inland ships, industrial or agricultural sources.

- **Mayor's Air Quality Fund:** The Mayor has introduced a new £20m Mayor's Air Quality Fund to support the boroughs in tackling local air pollution. The first £5.6m has now been allocated and will support projects including a "Zero Emission Network" to promote businesses to use low emission deliveries in East London; working with schools to raise awareness about air pollution in South London and developing Cleaner Air Zones around key hospital sites.

- **Buildings:** To date the RE:NEW programme has installed retrofit measures in 92,000 homes in London. The GLA is proposing to establish a long-term resource available to London boroughs and social housing providers, that will facilitate and enable the process of procuring domestic retrofit projects. RE:FIT, the Mayor's public sector

buildings programme, has to date retrofitted over 110 buildings. Over 70 public sector organsisations have signed up to work wth the RE:FIT team. The ODA Schools RE:FIT pilot retrofitted 12 primary and secondary schools reducing energy costs and CO2 by over 30% and achieving a four year payback period. The next phase of the programme has now been launched, aiming to retrofit over 200 schools in the next three years.

- **Using the Planning system:** The London Plan (the strategic planning and development control document for the city) includes a requirement for developments to be air quality neutral. More details about how air quality neutral will work in practice can be found in the consultation document at:

http://www.london.gov.uk/priorities/planning/consultations/draft-sustainable-design-and-construction

- **Integrating air quality into the public health system:** Recent changes to public health in the UK mean that local authorities now have a greater say about public health priorities. To better integrate air quality into the public health system the GLA is producing specific guidance and support information on air quality and health for each of London's 33 local authorities. We are also providing funding for pilot projects. More information can be found at:
https://www.london.gov.uk/priorities/environment/clearing-londons-air/air-pollution-and-public-health

c. Please use this space for further information, data or background document links.

The Mayor's comprehensive air quality strategy is available here:
http://www.london.gov.uk/sites/default/files/archives/Air_Quality_Strategy_v3.pdf

The most recent London progress report assessing success in delivering the air quality strategy is available here:
http://www.london.gov.uk/sites/default/files/MAQS%20Progress%20Report%20-%20July%202013.pdf

17. View on air quality legislation and revision of EU policy

At the moment the European Commission is in the stakeholder consultation process for the review of the Thematic Strategy on Air Pollution. Additionally to the previous questions on your various actions to reduce air pollution, we would like to ask you a couple of questions regarding your view on the current process and your desired changes and outcomes in EU policy.

a. What is your city's view on the current policy instruments of the EU? What are the key shortcomings and benefits?

The Mayor's focus is on ensuring that London and other cities/regions have the appropriate tools and additional resources to improve air quality. This includes lobbying for additional action to regulate sources at the EU level.

In terms of the existing legislative framework:

- **Limits –** the Mayor believes that the limits should be based on the available health evidence. We have deliberately not tried to specify what any new limits should be in order to defer to the outcome of the WHO review. The Mayor supports simplification to ensure action is targeted where there are the greatest impacts on human health (again based on WHO advice) and to aid communication with the public. The Mayor has also called for tighter source-related legislation and a more ambitious emissions ceilings under the national emissions ceiling directive.

- **Deadlines –** the Mayor has pushed to make sure that effective Euro standards and other tools are aligned with any compliance deadlines as without these tools in place achieving the limit values is very difficult. However, the Mayor has not lobbied for any of the existing compliance deadlines to be changed, extended etc.

- **Enforcement –** the Mayor believes enforcement is important and agrees it should be robust and effective. In fact, the infraction process has been extremely helpful in focusing minds and driving action. However, natural justice demands that authorities should only be held accountable for the things it can do. Fair minded people would agree that the Mayor should not be held accountable for the weather or other regions' pollution. It is important to emphasise, however, that this does NOT mean we think that the limit values should not apply in these circumstances. Nor does it mean others should not be taking action to address transboundary sources, which is the entire point of the national emissions ceiling directive, which the Mayor is calling to be tightened.

b. Did your city participate in the European Commission's stakeholder consultation on the review of the Thematic Strategy on Air Pollution, or did it lobby in any other way? If so, what position did your city take?

Yes.

In the spirit of transparency all of our consultation responses and other lobbying documents are published on our website:

http://www.london.gov.uk/priorities/environment/clearing-londons-air/working-european-partners

We are also a leading member of EUROCITIES and the Air Quality Initiative of the Regions. Relevant documents are available on their website.

c. Name the most important or most desired EU policy outcome(s) in the view of your city.

The Mayor has lobbied the European Commission to establish an Urban Clean Air Fund to provide additional support to cities to tackle the problem of air pollution, recognising the greater challenges urban areas face and the greater health impacts given the density of population/higher human exposure.

THE END

We thank you very much for completing this questionnaire