

London Borough of Barnet Air Quality Action Plan 2017-2022

SUMMARY

This Air Quality Action Plan (AQAP) has been produced as part of the Council's duty to contribute to London Local Air Quality Management. It outlines the action the Council will take to improve air quality in the London Borough of Barnet between 2017 and 2022. It replaces the previous action plan which ran from 2003 to 2016.

Highlights of successful projects delivered through the previous action plan include:

- Air Quality Champion (2014-2016) project funded by the Mayor's Air Quality Fund

Key outcomes were:

- Worked with 45 schools directly delivering lessons about air quality, anti-idling initiatives and road safety/active travel initiatives
- Advised 189 drivers of anti-idling at 10 schools over seven days and stopped 64 instances of idling
- Engaged with three local communities to monitor and map their local air quality

- North Finchley Cleaner Air (2014-2016) project part funded by the Mayor's Air Quality Fund

Key outcomes were:

- Membership of an electric vehicle car club allowing Council staff and the public to use electric cars
- Installation of a 40m long ivy screen alongside a school playground bordering the A41
- 221 nitrogen dioxide reducing trees planted across the Borough's air quality focus areas
- 1,600 secondary school pupils attended a "Go Your Own Way to School" show; 92% of these pupils are now committed to improving air quality outside their school, and 87% will make an effort to walk and cycle more for their health

Air pollution is associated with a number of adverse health impacts; it is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas^{1,2}.

The annual health cost to society of the impacts of air pollution in the UK is estimated to be roughly £15 billion³. The London Borough of Barnet is committed to reducing the exposure of people to poor air quality in its Borough in order to improve health.

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010.

² Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006.

³ Defra. Air Pollution: Action in a Changing Climate, March 2010

Actions for 2017-2022

Actions have been identified under six broad topics:

- **Emissions from developments and buildings:** emissions from buildings account for about 15% of the NO_x emissions across London and so have a significant impact upon overall NO₂ concentrations;
- **Public health and raising awareness of causes of pollution:** increasing awareness can drive behavioural change to lower emissions as well as to reduce exposure to air pollution;
- **Delivery servicing and freight:** vehicles delivering goods and services are usually light and heavy duty diesel-fuelled vehicles with high primary NO₂ emissions;
- **Borough fleet actions:** The Council fleet includes light and heavy duty diesel-fuelled vehicles such as mini buses and refuse collection vehicles with high primary NO₂ emissions. Tackling the Council's own fleet means leading by example;
- **Localised solutions:** these seek to improve the environment of neighbourhoods through a combination of measures; and
- **Cleaner transport:** road transport is the main source of air pollution in London. A change to walking, cycling and ultra-low emission vehicles (such as electric) needs to be incentivised as far as possible.

This plan demonstrates that the Council have worked hard to engage with stakeholders and communities who can help make a difference to air quality in the borough. The Council would like to thank all those who have worked with them in the past. It is intended to continue these partnerships and the Council also welcome new partners to help this new action plan to be delivered over the coming years.

This AQAP outlines how the Council plan to effectively use local levers to tackle air quality issues within their control.

However, it is recognised that there are a large number of air quality policy areas that are outside of the Council's influence (such as Euro standards, national vehicle taxation policy, taxis and buses), and so will continue to work with and scope to lobby regional and central government on policies and issues beyond The London Borough of Barnet's influence.

RESPONSIBILITIES AND COMMITMENT

This AQAP was prepared by the Environmental Health Department of The London Borough of Barnet Council. This AQAP has been approved by:

Jamie Blake, Commissioning Director for Environment

Rick Mason, Service Director, Regulatory Services

Councillor Dean Cohen, Chair of London Borough of Barnet Environment Committee

This AQAP will be subject to an annual review, appraisal of progress and reporting to the relevant Council Committee. Progress each year will be reported in the Annual Status Reports produced by The London Borough of Barnet, as part of the statutory London Local Air Quality Management duties.

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Abbreviations

AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
CAZ	Central Activity Zone
EV	Electric Vehicle
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
PM ₁₀	Particulate matter less than 10 micron in diameter
PM _{2.5}	Particulate matter less than 2.5 micron in diameter
TEB	Transport Emissions Benchmark
TfL	Transport for London

Foreword

Improving air quality in Barnet is vitally important. It has a direct impact on the health and wellbeing of all the Council's residents, workers and visitors. Air pollution does not respect borough boundaries, and joint action is needed, not just at a local level, but at regional and national levels of government. It is however crucial that the London Borough of Barnet plays its part in improving air quality and provides strong leadership on this important issue.

In common with all central London boroughs and areas near to the busy roads of outer London, Barnet continues to exceed national targets for air pollution. This new Air Quality Action Plan builds on the previous plan and outlines the steps the Council will take from 2016 to improve air quality across the borough.

Looking back at the monitoring results since 1992, it can be seen that there has been excellent progress on improving Barnet's air quality. There is more detail in the 2016 Annual Status report <https://www.barnet.gov.uk/citizen-home/environmental-health/pollution/air-quality/review-and-assessment-of-air-quality.html>.)

Policies have been improved across the Council to reduce emissions from new developments and Council vehicles and buildings. The uptake of low emission vehicles has been promoted. The Council has worked with its schools and businesses on projects to improve the built environment and raise awareness of air quality issues.

This new Action Plan continues where the last plan left off. It outlines:

- How the Council will continue to meet its statutory obligations for managing air quality;
- How it will work across many Council teams and beyond to minimise emissions from transport, from existing buildings and new developments, including Brent Cross and many other regeneration projects;
- How the Council will continue to raise awareness of air quality issues to the public and help them to both do their bit to reduce levels of pollution and help them reduce their exposure to poor air quality; and
- How the Council will work in partnership with others to press for more action to be taken at all levels of government.

It is also a living document, and during its lifetime the Council will always be seeking out new opportunities to make a greater difference, such as a new GLA funded project to reduce dust and emissions from the construction projects in the borough. The new proposal for an Ultra Low Emission Zone (ULEZ) in Barnet would have the highest impact on improving air quality as 2/3rds of the Nitrogen Dioxide emissions in the borough are from transport sources; and a significant amount of journeys on the busy roads in Barnet are taken by people travelling straight through the borough without stopping. The ULEZ zone should significantly improve air quality and reduce commuter congestion, without overly burdening local people as the current proposals mean Barnet residents would have an extra 3 years to comply with the conditions of the scheme.

I write this in a time of increased awareness and understanding of the health implications of air pollution in London. It is estimated that across the capital nearly 9,500 people die prematurely each year as a result of being exposed to London's air. We must work together to take advantage of the

opportunities this increased profile may bring and build momentum through this new Action Plan to improve the air we all breathe.



Councillor Dean Cohen
Environment Committee Chairman
London Borough of Barnet

Introduction

This plan outlines the actions that The London Borough of Barnet will deliver between 2016 and 2021 in order to reduce concentrations of pollution and exposure to pollution, thereby positively impacting on the health and quality of life of residents and visitors to the borough.

It has been developed in recognition of the legal requirement placed upon the local authority to work towards air quality objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the London Local Air Quality Management statutory process⁴.

1 Summary of current air quality in the London Borough of Barnet

The UK Air Quality Strategy (AQS), released in July 2007, provides the overarching strategic framework for air quality management in the UK and contains national air quality standards and objectives established by the Government to protect human health. The AQS objectives take into account EU Directives that set limit values which member states are legally required to achieve by their target dates.

The London Borough of Barnet is meeting all of the national AQS objectives other than for the gas nitrogen dioxide (NO₂) and particulate matter (PM₁₀). It is meeting the current objectives for particulate matter (PM_{2.5}) but as this pollutant is damaging to health at any level, it remains a pollutant of concern.

Nitrogen dioxide concentrations, NO₂

The EU Limit Value is 40µg/m³ measured as an annual mean. Where the map below is coloured yellow, orange and red, this value is exceeded. The worst affected areas are alongside the busiest roads and junctions in the borough, including the M1, A1, A406, and A1000. There is also a marked difference between the north and south of the Borough, with NO₂ concentrations increasing further towards central London. Nitrogen dioxide pollution is largely caused by transport.

⁴ LLAQM Policy and Technical Guidance. <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs>

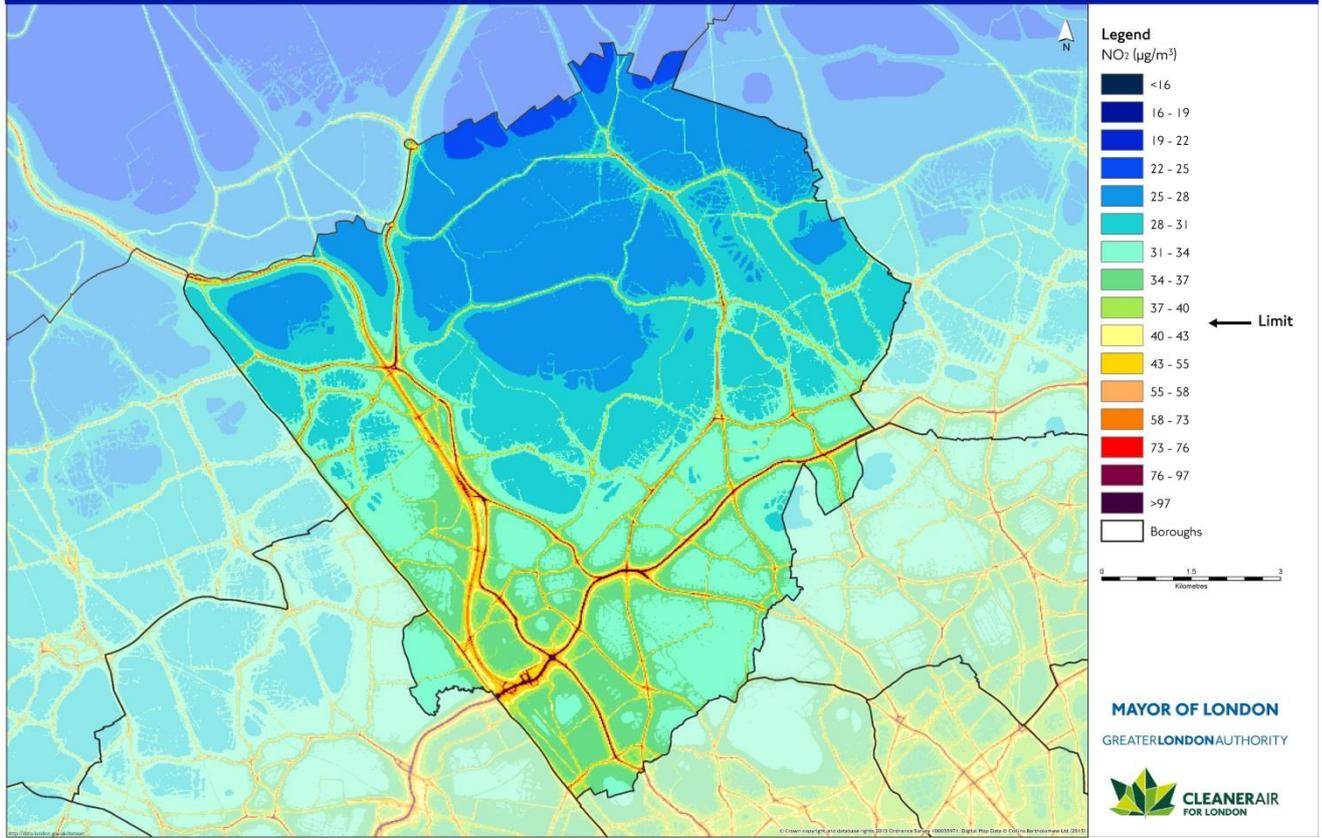


Figure 1 Modelled map of annual mean NO₂ concentrations (taken from the 2013 LAEI)

The maps in this report are modelled using data from the London Atmospheric Emissions Inventory (LAEI), a regional database of London's atmospheric emissions undertaken by the Greater London Authority (GLA) as part of the implementation of the Mayor's Air Quality Strategy. This incorporates all source emissions in London combined with information on non-London contributions, weather data and street layout. This model is then validated against real world monitoring data. The 2013 dataset is the most recent at the time of writing this Action Plan. Further information is available on the London Datastore.

<http://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory-2013>

Particulate Concentrations, PM₁₀

The limit value is 40µg/m³ expressed as an annual mean. The map below shows that the limit value is exceeded along the A406 and the A1. PM₁₀ pollution is caused largely by transport.

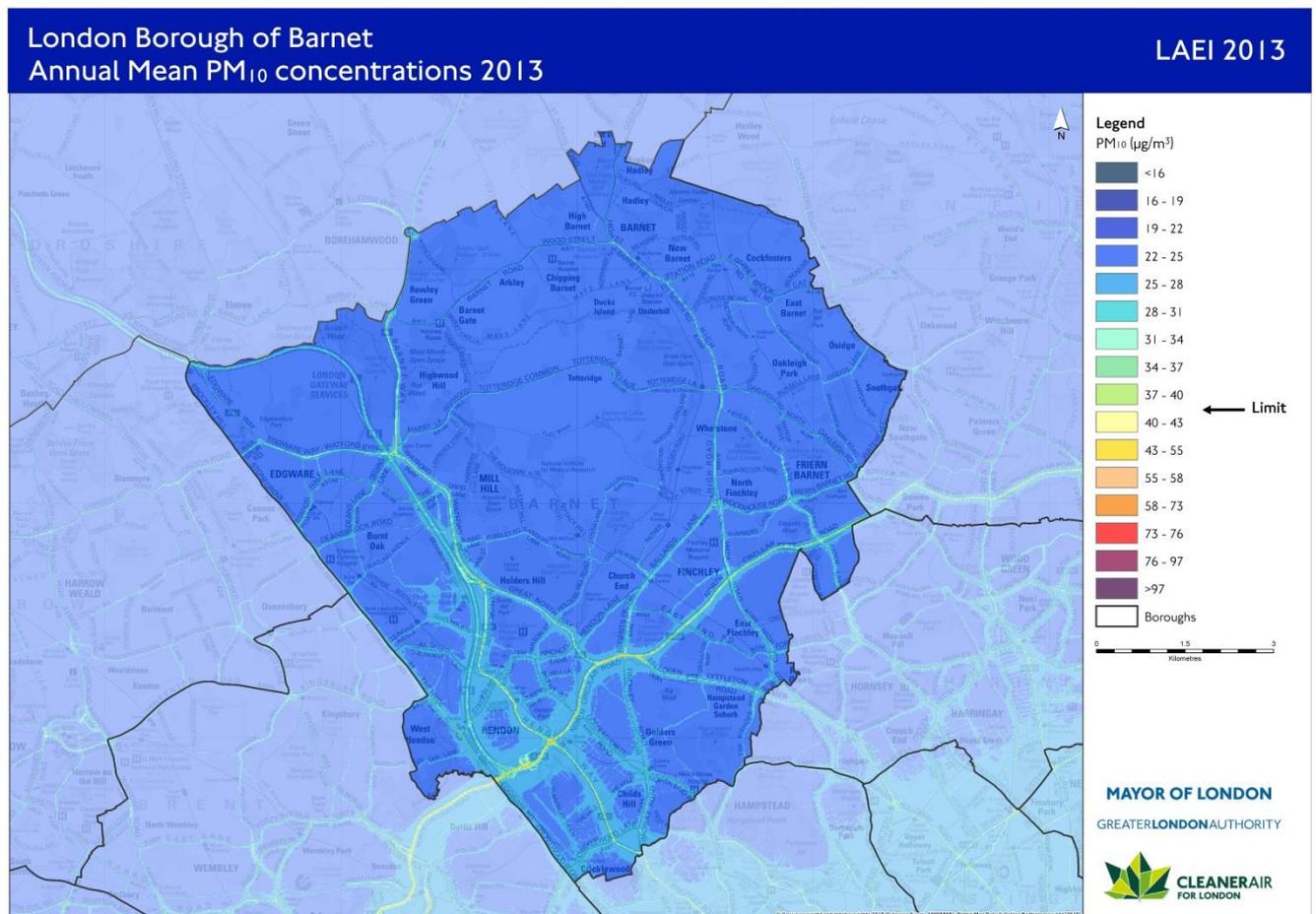


Figure 2 Modelled map of annual mean PM₁₀ (taken from the 2013 LAEI)

Particulate concentrations, PM_{2.5}

There is a new borough role that requires Councils to address PM2.5 issues in their areas. There is no regulatory standard to meet a limit value applicable to local authorities; however actions to address NO₂ and PM10 will work towards reductions in PM2.5. The modelled map below highlights that PM2.5 concentrations are highest on parts of the A406 and A1 at major junctions. PM2.5 pollution is caused largely by transport.

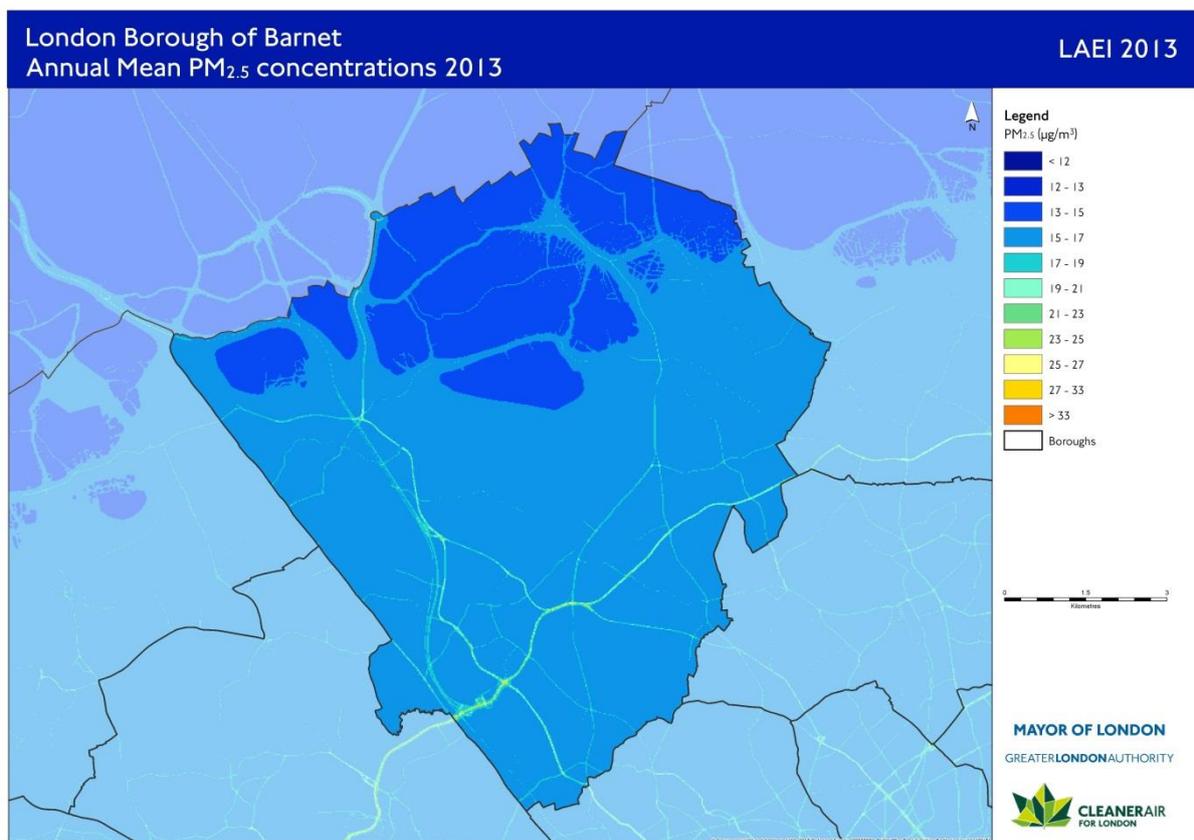


Figure 3 Modelled map of annual mean PM_{2.5} (taken from the 2013 LAEI)

1.1 Air Quality Management Areas and Focus Areas

The London Local Air Quality Management process derives from Part IV of the Environment Act 1995. It places a legal obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where they are not, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

In the London Borough of Barnet an Air Quality Management Area (AQMA) was declared in 2001 for the whole of the Borough for the following pollutants:

1. Nitrogen dioxide.

The EU annual mean objective is being exceeded in locations alongside the busiest roads in the Borough. The EU hourly mean objective is also being exceeded at some busy High Street locations and also Golders Green Bus Station.

2. Particulates, PM₁₀

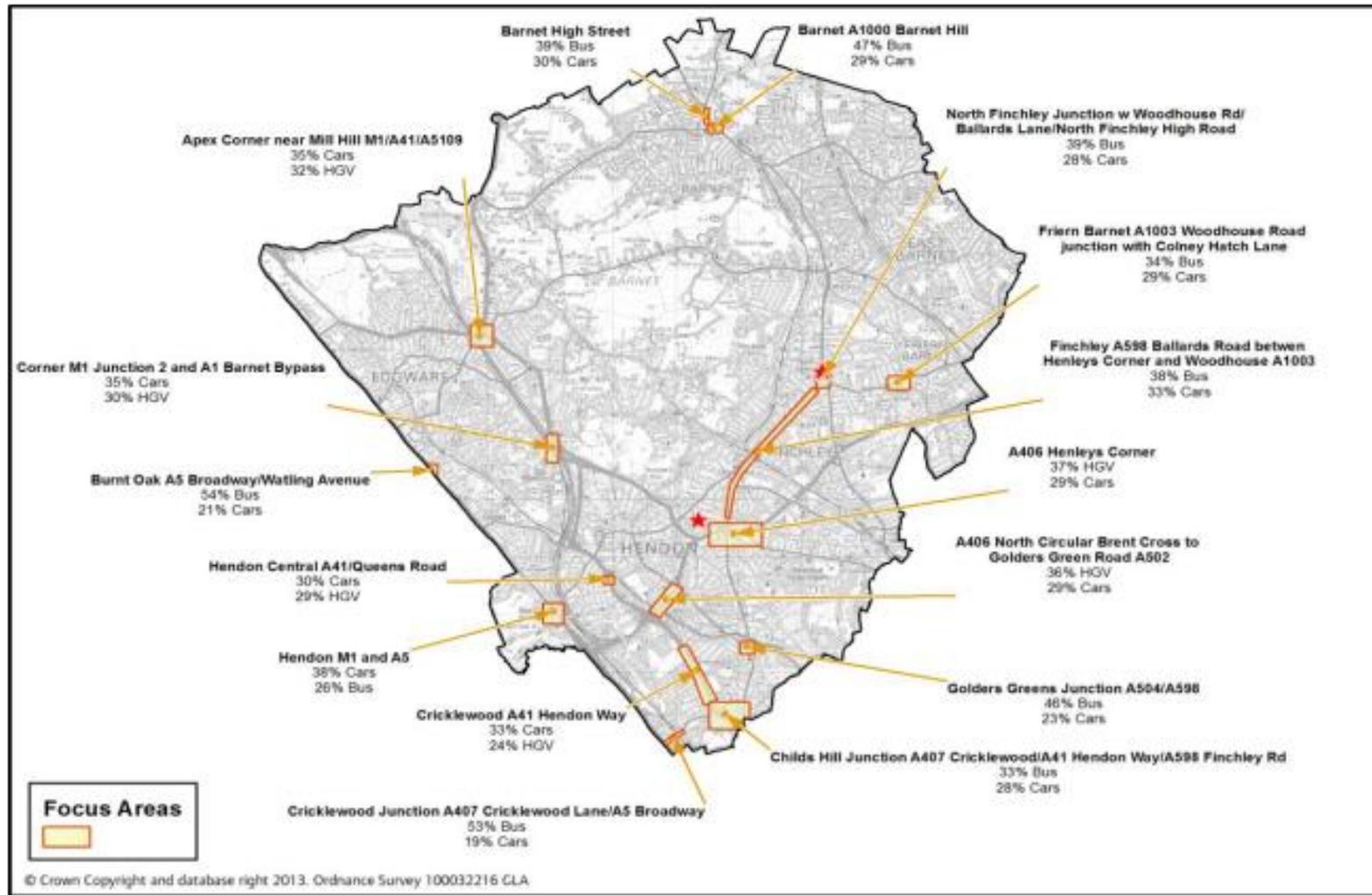
The EU daily mean objective is now being met; however the AQMA remains in place as the World Health Organisation air quality guideline is being exceeded. Furthermore, from 2016 the Council has a new statutory responsibility to work towards reductions of PM_{2.5}, a smaller sized particulate.

An air quality Focus Area is a location that has been identified by the GLA as having high levels of pollution (not meeting the EU objectives) and high human exposure. There are 16 focus areas in the borough. The purpose of defining these areas is to target action in the most problematic areas.

The list of Focus areas in Barnet are highlighted in the table and map below:

1	Apex Corner near Mill Hill M1/A41/A5109
2	Fiveways Corner M1 Junction 2 and A1 Barnet Bypass
3	Hendon Central A41/Queens Road
4	A406 North Circular Brent Cross to Golders Green Road A502
5	A406 Henleys Corner
6	Finchley A598 Ballards Road between Henleys Corner and Woodhouse A1003
7	North Finchley Junction with Woodhouse Rd/Ballards Lane/North Finchley High Road
8	Barnet A1000 Barnet Hill
9	Barnet High Street
10	Cricklewood Junction A407 Cricklewood Lane/A5 Broadway
11	Childs Hill Junction A407 Cricklewood/A41 Hendon Way/A598 Finchley Rd
12	Golders Greens Junction A504/A598
13	Friern Barnet A1003 Woodhouse Road junction with Colney Hatch Lane
14	Cricklewood A41 Hendon Way
15	Hendon M1 and A5

Map of GLA Focus Areas in Barnet showing vehicle split



1.2 Sources of Pollution

Air pollution in the London Borough of Barnet comes from a variety of sources. This includes pollution from sources outside of the borough, and, in the case of particulate matter, a significant proportion of this comes from outside of London and even the UK.

Of the pollution that originates in the borough the main sources of NO₂ are diesel cars, domestic gas, and NRMM (Non Road Mobile Machinery) and the main sources of particulate matter are re-suspension (matter not directly emitted in tailpipe exhaust), NRMM, petrol and diesel cars. NRMM is a term referring to emissions coming from the engines of mobile machinery used on construction sites; the main ones being excavators, dumpers and telehandlers.

The pie-charts below illustrate the different sources of pollution within the Borough.

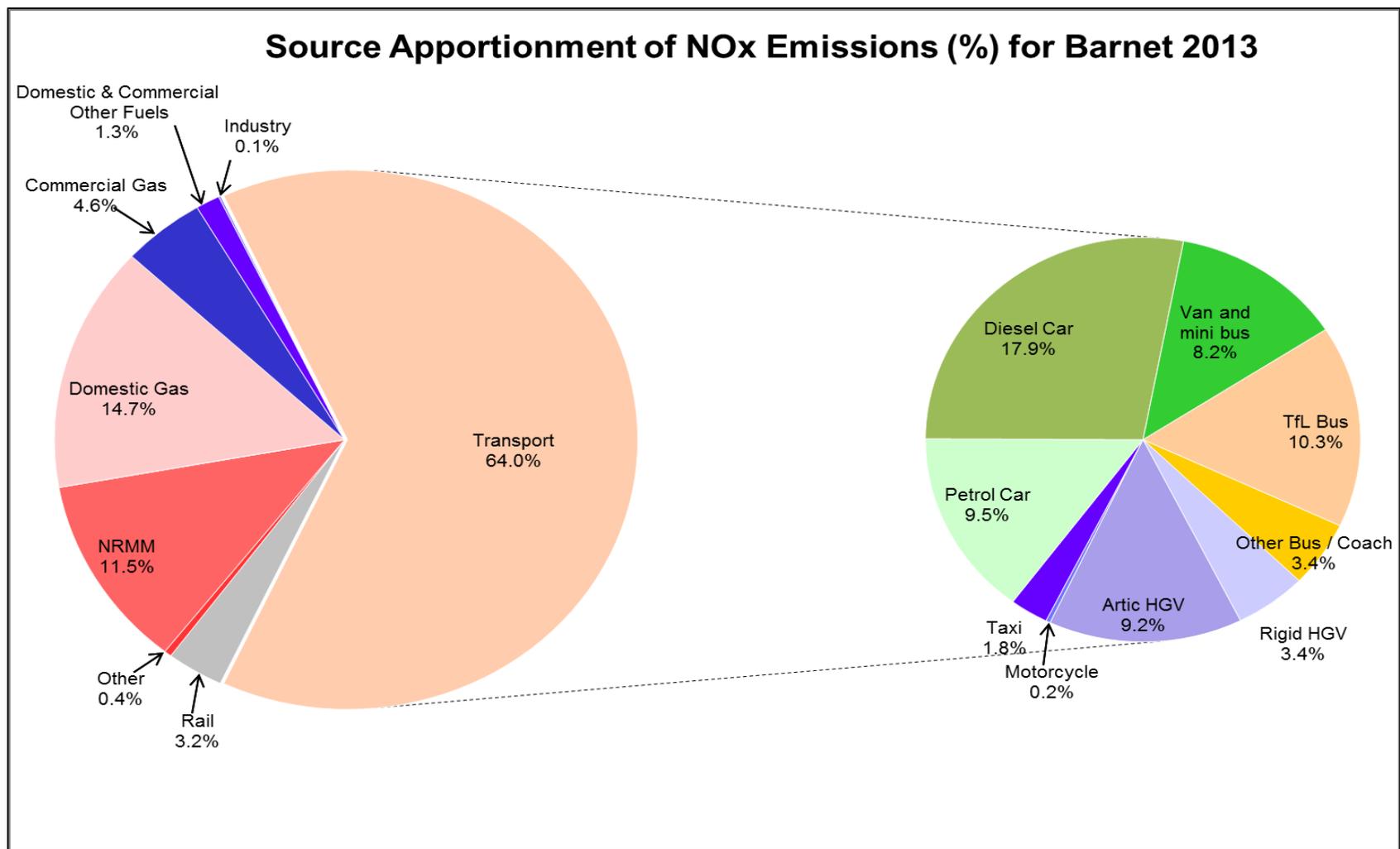


Figure 4 NOx Emissions by source and vehicle type (downloaded from the LAEI in March 2013)

The main source of NOx is transport at 64%. A breakdown of the transport emissions is provided in the second diagram; the biggest source of this is diesel cars then buses, petrol cars and HGVs

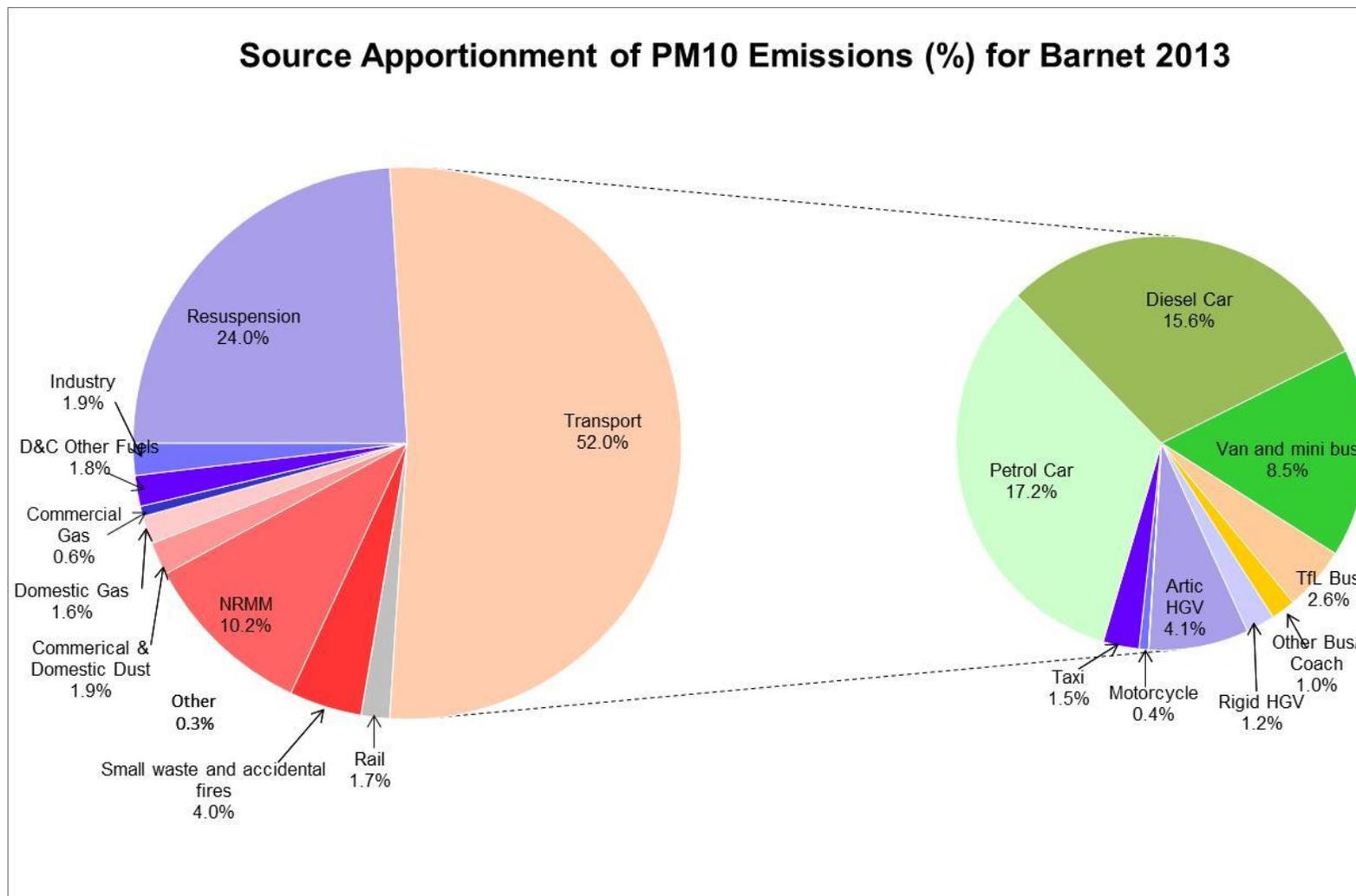


Figure 5 PM₁₀ Emissions by source and vehicle type (downloaded from the LAEI in March 2013)

The main source of PM₁₀ is from transport (breakdown shown in the second diagram) and the biggest contributors to this are petrol and diesel cars.

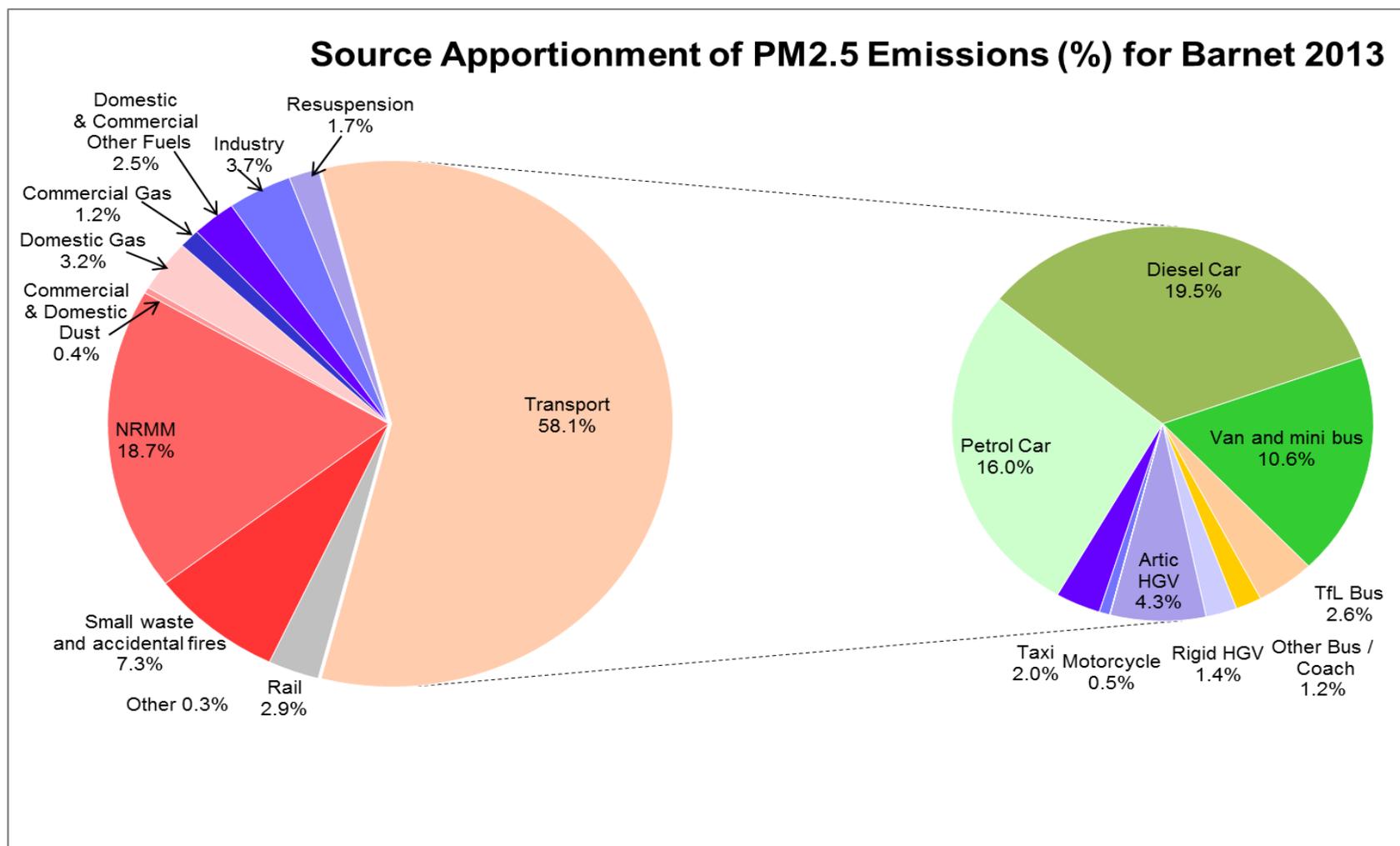


Figure 6 PM_{2.5} Emissions by source and vehicle type (downloaded from the LAEI in July 2013)

The biggest source is from transport (broken down in the second chart). Diesel is the highest source, then petrol cars, followed by vans and mini bus. Construction emissions in the form of Non Road Mobile Machinery are the next biggest source.

2 London Borough of Barnet Air Quality Priorities

The biggest source of air pollution in Barnet is from transport and the action plan has several points which seek to reduce the impact from transport and improve air quality. The second priority is minimising poor air quality from construction sources. 27,000 new homes are being built in the London Borough of Barnet over the next 10 to 15 years, and 30,000 new jobs are being created. Existing Council estates are being regenerated. Within Barnet there are some of the most significant new planned developments in London. Hence a major potential source of air pollution is dust and vehicle emissions from construction sites. The key priorities for the next three years will be actions that reduce air pollutants from construction activities.

3 Development and Implementation of the Air Quality Action Plan

3.1 Consultation and Stakeholder Engagement

In developing the action plan the Council have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 3.1. In addition the Council have published the draft action plan on www.barnet.gov.uk for public consultation.

The response to the consultation/stakeholder engagement is summarised in Appendix A.

Table 3.1 Consultation Undertaken

Yes/No	Consultee
Yes	the Secretary of State
Yes	the Environment Agency
Yes	Transport for London and the Mayor of London (who will provide a joint response)
Yes	all neighbouring local authorities

3.2 Steering Group

A steering group has been established to monitor the implementation of the Air Quality Action Plan. The Plan is a working document. Progress is reported annually to the GLA and Defra. The group consists of the Commissioning Director for Environment, Strategic Leads for Environment and Effective Borough Travel and Safer Communities, Environmental Health, and School Travel Planning. The first meeting of this Steering Group was held in June 2016, and further meetings will be held regularly with the aim to provide a six-monthly report to the Commissioning Director for Environment. Future meetings will concentrate on the progress of specific actions.

4 Air Quality Action Plan Progress

Table 4.1 sets out the London Borough of Barnet's Air Quality Action Plan. It contains:

- a list of the actions that form part of the plan;
- the responsible individual and departments/organisations who will deliver this action;
- estimated cost to the council. Several measures reflect existing work being undertaken by the Council and therefore result in no additional cost. This is noted in the table where relevant;
- expected benefit in terms of emissions and concentration reduction;
- the timescale for implementation. Several measures are an existing statutory requirement and are currently being implemented, so have a timescale of 2016-2021 to reflect that they are on-going; and
- how progress will be monitored.

For more detail on each action, see section 5.

Table 4.1 Air Quality Action Plan

The actions have been grouped into six categories: Emissions from developments and buildings; Public health and awareness raising; Delivery servicing and freight; Borough fleet actions; Localised solutions; and Cleaner transport.

Action category	Action ID	Action description	Responsibility	Cost	Expected emissions/ concentrations benefit	Timescale for implementation	How implementation will be monitored	Signposts to other Council strategies and plans
Emissions from developments and buildings	1	Minimise dust emissions from construction sites	Environmental Health and Planning	No additional cost to Council	Medium. 12% of air pollution in Barnet arises from construction sites. Action will reduce PM10 and PM2.5.	2016-2021	Number of dust complaints received	Supplementary Planning Guidance for Sustainable Design and Construction
Emissions from developments and buildings	2	Enforce Non Road Mobile Machinery (NRMM) air quality policies	Environmental Health and Planning Enforcement	No additional cost to Council. Grant funded by GLA	Medium. 12% of air pollution in Barnet arises from construction sites. Action will reduce NO2, PM10 and PM2.5.	Sep 2016-March 2019	Number of enforcement inspections and enforcement actions	Supplementary Planning Guidance for Sustainable Design and Construction
Emissions from developments and buildings	3	Enforce CHP and biomass air quality policies	Environmental Health and Planning	No additional cost to Council	Medium. (Benefits potentially significant but unquantifiable) Action will reduce NO2, PM10 and PM2.5.	2016-2021	Number of planning applications for CHP and biomass boilers; number of applications approved and refused	Supplementary Planning Guidance for Sustainable Design and Construction
Emissions from developments and buildings	4	Enforce Air Quality Neutral policies and Monitor sustainable Travel Plans for	Environmental Health and Planning and Highways	No additional cost to Council	Medium. (Benefits potentially	2016-2021 Performance indicator PITD03	Number of planning applications	Supplementary Planning Guidance for Sustainable

		developments			significant but unquantifiable) Action will reduce NO2, PM10 and PM2.5.	Monitoring Travel Plans for Developments	requiring an air quality assessment; number of applications refused on grounds of poor air quality	Design and Construction
Localised solutions	5	Increase the planting of green barriers and vegetation	Highways and Green Spaces	Existing Green Spaces- Heritage Lottery funding and some opportunities for funding from GLA/TFL	Low. Action may lead to absorption of NO2, PM10 and PM2.5.	2016-26	L.B. Barnet Tree strategy	Local Plan
Emissions from developments and buildings	6	Enforce Smoke Control Areas	Environmental Health	No additional cost	Medium. Action will reduce PM10 and PM2.5.	2016-2021	Number of complaints of smoke from chimneys; number of enforcement actions	DRS Enforcement Policy
Public health and awareness raising	7	Regularly brief Director of Public Health (DPH) on air quality issues in Barnet; what is being done, and what is needed.	Environmental Health and Public Health	No additional cost	Low. (But unquantifiable)	On-going	Action will link Air quality and Health and Wellbeing	2015-2020 Joint Strategic Needs Assessment (JSNA). Health and Wellbeing Strategy 2016-2020
Public health and awareness raising	8	Director of Public Health to sign off statutory Annual Status Reports and all new Air Quality Action Plans	Environmental Health and Public Health	No additional cost	Low. (But unquantifiable)	2016-2021	Action will link Air quality and Health and Wellbeing	2015-2020 Joint Strategic Needs Assessment (JSNA). Health and Wellbeing Strategy 2016-2020

Public health and awareness raising	9	Encourage schools to join the TfL STARS accredited travel planning programme by providing information on the benefits to schools and supporting the implementation of such a programme	Highways (School Travel team)	No additional cost/LIP funding	Medium. Action will reduce NO2, PM10 and PM2.5.	2016-2021	90% of Barnet schools have a School Travel Plan Target level is 106 for 2016. The 2015 performance was 88 schools.	2015-2020 Joint Strategic Needs Assessment (JSNA). Health and Wellbeing Strategy 2016-2020
Public health and awareness raising	10	Air quality projects with schools	Environmental Health and Highways (School Travel team)	No additional cost (completing projects from Mayor's Air Quality Fund round 1)	Medium. Action will reduce NO2, PM10 and PM2.5.	2016-2017	Environmental Health and Highways(School travel Team)	2015-2020 Joint Strategic Needs Assessment (JSNA). Health and Wellbeing Strategy 2016-2020
Delivery servicing and freight	11	Investigate joining North London Freight Consolidation Scheme	Environmental Health and Procurement	No additional cost	Low. Action will reduce NO2, PM10 and PM2.5.	2016-2019	Calculate road transport emissions reductions	
Borough fleet actions	12	Maintain Bronze accreditation of the Fleet Operator Recognition Scheme (FORS) for the borough's own fleet	Street Based Services	No additional cost	Medium. Action will reduce NO2, PM10 and PM2.5.	2016-2019	Achieve Bronze accreditation by October 2016 with plans to achieve Silver March 2018.	Travel Plan for Depot
Borough fleet actions	13	Investigate the possibility of increasing the number of hydrogen, electric, hybrid, bio-methane and other cleaner vehicles in the borough's fleet	Street Based Services and Procurement	Low	Low. Action will reduce NO2, PM10 and PM2.5.	2016-2021	Aim is to demo vehicles with alternative fuel for Parks & Open Spaces and Street Cleansing Services between September – November 2016. If successful will be introduced in	

							main fleet.	
Borough fleet actions	14	Accelerate uptake of new Euro VI vehicles in borough fleet	Street Based Services and Procurement		Low. Action will reduce NO2, PM10 and PM2.5.	2016-2021	All new vehicles purchased by L.B.Barnet will be Euro VI, going forward.	
Borough fleet actions	15	Safer Urban Driver Training for drivers of vehicles in Borough's fleet i.e. through training of fuel efficient driving and providing regular re-training of staff. This was introduced in 2012 with training from the Energy Savings Trust.	Street Based Services		Low. Action will reduce NO2, PM10 and PM2.5. and contribute to road safety	2016-2021	Aim to arrange Smarter Driver training for 50 drivers by end of December 2016 and on-going 100% of drivers to receive training	
Localised solutions	16	Control air pollution from industrial / commercial and residential sources	Environmental Health	No additional cost to Council	Low. Action will reduce NO2, PM10 and PM2.5.	2016-2021	Regional Enterprise Regulatory Services KPI EH02(LAPPC) for annual 100% inspection of medium and high risk rated premises.	DRS Enforcement Policy
Localised solutions	17	Monitor air quality	Environmental Health	No additional cost to Council	Low. Action to review and assess Air Quality levels and effectiveness of Action plan	2016-2021	Air Quality Monitoring data	
Cleaner transport	18	Explore the option of extending the Ultra Low Emission Zone (currently proposed to stop at the A406) to cover whole of	TfL, Highways and Environmental Health	No cost to Council	High. Action will significantly reduce NO2, PM10 and PM2.5.	2019-20	n/a	

		London Borough of Barnet						
Cleaner transport	19	Lower the legal speed limit to 20mph in areas close to certain schools	Highways	LIP funding	Medium. Action will reduce NO2, PM10 and PM2.5.	2016-2021	Currently 23.2km of 20mph road in the borough. A target of an extra 2km per year.	Transport Strategy, Local Implementation Plan
Cleaner transport	20	Differential charges for residential parking permits based on pollutant emissions	Highways (Parking)	No additional cost	Low. Action will reduce NO2, PM10 and PM2.5.	We have implemented emissions based parking permits in 2015-16 and will constantly review our pricing strategy to reflect national, regional and local policies.		Transport Strategy
Cleaner transport	21	Improvement of electric vehicle charging point infrastructure	Highways, planning	Funded by LIP, and developer contributions through planning obligations	Medium. Action will reduce NO2, PM10 and PM2.5.	100 new points in next 3 years (2016-2019)		Transport Strategy; Car Club Strategy
Cleaner transport	22	Increase provision of cycle parking	Highways	Funded by LIP	Low. Action will increase cycle journeys and reduce NO2, PM10 and PM2.5.	2016-2021	Number of cycle spaces installed. Target of between 50-100 extra cycle spaces per annum	Cycle Strategy, LIP
Cleaner transport	23	Encourage modal shift to	Highways	Funded by LIP	Medium.	2016-2021	Total length of	Cycle Strategy, LIP

		bicycle through improved bicycle routes and encourage a shift to walking by providing safer, more accessible and attractive pedestrian routes.			Action will increase active and sustainable travel and reduce NO2, PM10 and PM2.5.	Current evidence of 1% modal shift based on 3 years data from TfL. Target of 2,000 children and 250 adults to receive cycle training per year.	cycle routes provided. Regional Enterprise Highways PI HSTD02 target of 3 % of journeys by cycle in 2024 and HSTD01 % increase trips by walking from 29-31% by 2024	
Cleaner transport	24	Liaise with Transport for London to explore traffic control actions on TfL-controlled roads	TfL, Highways, Environmental Health	No cost to Council	Medium. Action will reduce NO2, PM10 and PM2.5.		Monitoring a reduction in congestion and pollution concentrations	Mayor's Air Quality Plan
Cleaner transport	25	Liaise with the Highways Agency to explore options for improving air quality on the M1	Highways Agency, Highways, Environmental Health	No cost to Council	Medium. Action will reduce NO2, PM10 and PM2.5 and Noise	Work in 2016 concerning feasibility of Noise and air quality barriers in Mill Hill	Reduction in pollution concentrations and Noise	

5 Further information and implementation plan for each action

Action 1 Minimise dust emissions from construction sites.

This action refers to dust emissions. Environmental Health responds to dust nuisance complaints from residents as part of its duties under the Environmental Protection Act 1990. Environmental Health also enforces dust emissions from other construction plant under the Environmental Permitting Regulations, for instance concrete crushing machines. Construction method statements required as a planning condition ensure dust is dampened down on building sites.

Action 2 Enforce Non Road Mobile Machinery (NRMM) air quality policies.

This is a key element of the London Mayor's air quality strategy and aims to reduce tailpipe emissions from vehicles on construction sites. All Non Road Mobile Machinery of net power between 37kW and 560kW must meet at least Stage IIIA of EU Directive 97/68/EC and its amendments. The London Borough of Barnet is leading on a joint project with the London Boroughs of Haringey, Waltham Forest and Enfield to employ a shared Enforcement Officer for dust and NRMM emissions on construction sites. A grant of £180,000 over three years has been awarded for the project from the Mayor's Air Quality Fund.

Action 3 Enforcing Combined Heat and Power (CHP) plant and biomass air quality policies.

Environmental Health require detailed air quality dispersion modelling assessments of proposed CHP and biomass plant from applicants, to ensure they meet the criteria required by the GLA. Where the criteria cannot be met then developments will be refused on air quality grounds. This is written into the Council's Supplementary Planning Guidance on Sustainable Design and Construction.

Action 4 Enforcing Air Quality Neutral Policies.

The Council's Supplementary Planning Guidance for sustainable design and construction requires air quality assessments to be carried out for certain developments. These developments may be in an area of existing poor air quality, or could result in a decrease in air quality due to their size. Environmental Health review the assessments and ensure that exposure to poor air quality is minimised through mitigation measures. Where this is not possible, or there is an unacceptable increase in pollution levels, Environmental Health will recommend refusal of a planning application on air quality grounds. Highways also monitor Sustainable Travel Plans for new Developments in accordance with Regional Enterprise Performance indicator PITD03.

Action 5 Increase the planting of green barriers and vegetation.

Belts of vegetation along roads can reduce the amount of air pollution that people behind it are exposed to. They consist of hedges between a road and pavement or cycle track. Urban vegetation is the sum of parks and smaller green patches within the city such as green walls made of ivy and green roofing. Vegetation has the ability to clean the air by filtering out pollutants.

The 2013 to 2016 Mayor's Air Quality Fund enabled the planting of 221 nitrogen dioxide reducing trees on the Borough's streets. LIP funding enabled the planting of a 40m long ivy green-screen to

remove air pollutants from a school playground adjoining the A41. Greening has a key part to play in removing air pollution. Environmental Health will continue to apply for funding for similar schemes.

Planning requirements for new developments also act to ensure green spaces are not lost but enhanced.

Future improvements from the Borough's Open Spaces and new Tree Strategy:

- committing to a program that involves a net gain in trees across the borough
- strengthening the quality of the landscape (through planting avenues, tree groups, park boundaries and woodlands)
- addressing urban warming and reducing pollution (tree planting concentrated in the south of the borough where it is needed most)
- addressing NO₂ (tree planting next to major roads) from 2016

Action 6 Ensuring that Smoke Control Areas are enforced.

The Council has a statutory duty under the Clean Air Act 1993 to prevent dark smoke from chimneys. This involves responding to complaints about residential chimneys, providing advice on approved appliances and fuels, and taking action where necessary. The majority of the London Borough of Barnet is a designated Smoke Control Area. As part of the 2014-2016 Air Quality Champion project, leaflets about Smoke Control were distributed to local businesses. These included restaurants using charcoal, and businesses selling wood burning stoves. This work will continue.

Action 7 Brief Director of Public Health on Air Quality in Barnet.

The Director will be periodically briefed on air quality measures and improvements as it has a direct influence on the health of Barnet residents.

Action 8 Director of Public Health to sign off Annual Status Reports and new Air Quality Action Plans.

This action aims to ensure that air quality is high on the agenda for the Health & Wellbeing Board, and also to promote partnership working.

Action 9 School travel planning.

The London Borough of Barnet encourages walking and cycling to school. It develops school travel plans, provides bicycle training, maintenance sessions and teaches road safety. The work is evaluated by the No. of Local Authority, Independent, Academy and Free Schools with TfL STAR Accreditation (TfL STAR - Sustainable Travel Accredited and Recognised). Currently this is 90% of schools.

Action 10 Air quality projects with schools.

The projects initiated by the 2013-2016 Mayor's Air Quality Fund will continue where funding is realised. These include an anti-idling awareness campaign at primary schools; campaign work with the charity Living Streets to promote walking to school and "Clean Air Routes"; work with the music industry to encourage secondary school children to walk or cycle to school to improve air quality and their health; and provision of information to parents about air quality in the form of leaflets. The Council has worked with 45 schools, directly delivering lessons about air quality, anti-idling initiatives and road safety/active travel initiatives. Over a seven day period, outside 10 schools, 189 drivers have been advised about not leaving vehicles idling and 64 instances of idling were stopped. 1,600 secondary school pupils attended a "Go Your Own Way to School" show; 92% of these pupils are now committed to improving air quality outside their school, and 87% have stated they will make an effort to walk and cycle more for their health.

Action 11 Investigate joining North London Freight Consolidation Scheme.

Barnet has recently been awarded £55K as part of the London Mayor's Air Quality Fund over a period of two years to join the existing North London Freight Consolidation Scheme on a trial basis. Boroughs work together to consolidate their deliveries. Goods are delivered to a consolidation centre, from which cleaner, low emission vehicles make the final part of the journey to Council offices. The aim is to reduce the amount of vehicle trips and therefore the amount of air pollution. The project will start with a review of the Council's existing deliveries, and contracts with partners to understand the current behaviours around ordering and deliveries. The second phase will involve joining the existing consolidation scheme, if appropriate to Barnet's needs and requirements.

Action 12 Achieve Bronze accreditation of the Fleet Operator Recognition Scheme (FORS) for the borough's own fleet by October 2016 and Silver accreditation by March 2018.

The Borough's vehicle fleet numbers approximately 380, and includes rubbish trucks, gritting lorries, road sweepers, small vans, minibuses, mowers and other machinery. All of the fleet complies with the requirements of the Low Emission Zone and there is a mix of Euro V and the highest Euro VI standard vehicles. The Fleet Operator Recognition Scheme is an accreditation scheme encompassing safety, fuel efficiency, vehicle emissions and improved operations.

Action 13 Investigate the possibility of increasing the number of hydrogen, electric, hybrid, bio-methane and other cleaner vehicles in the borough's fleet.

Continued decreases in vehicle emissions are possible with cleaner vehicle technologies. The council currently has none of these vehicles in its fleet, however it is actively exploring the use of Hybrid Vans and the feasibility of introducing them.

Action 14 Accelerate uptake of new Euro VI vehicles in borough fleet.

Euro VI vehicles have the lowest emissions for nitrogen dioxides and particulates for standard vehicles, and the higher the percentage of these vehicles in the fleet, the lower the overall pollutant emissions. All new vehicles procured will be to the highest Euro VI standard.

Action 15 Safer Urban Driver Training for drivers of vehicles in borough's fleet.

LIP funding is provided for CPC Safer Urban Driver Training for borough fleet drivers. The training focuses on the challenges of driving in cities in a way that lowers the risk to vulnerable road users, such as cyclists and pedestrians. The training includes an outdoor on-road cycling session to gain insights into the cyclist experience on the road.

Action 16 Control air pollution from industrial / commercial and residential sources.

The Council has a statutory duty to regulate over 100 premises to reduce emissions to air, including cement batchers, dry cleaners, crematoria, printing presses, petrol stations, vehicle re-sprayers and concrete crushers. It also has a duty to investigate complaints of dust nuisance, including complaints about construction sites. The relevant legislation is the Environmental Permitting Regulations and the Environmental Protection Act 1990. Key Performance Indicator EH02(LAPPC) sets an annual target of 100% inspection of medium and high risk rated premises. This has been achieved every year since 2005.

Action 17 Monitor air quality.

The London Borough of Barnet has a duty to review and assess air quality. There are two automatic air quality stations at Tally Ho and Chalgrove School (measuring particulates, PM10 and nitrogen dioxide, NO₂). These results are published on the web at www.airqualityengland.co.uk. Nitrogen dioxide is also monitored using 15 diffusion tubes across the borough. The results are reported to Defra and the GLA, and help to inform residents, and consultants acting on behalf of developers.

Action 18 Ultra Low Emission Zone to cover the whole of the London Borough of Barnet.

The ULEZ will come into being in September 2020. It includes all vehicles and covers the area of the current congestion charging zone. A feasibility study was carried out for TfL in 2015 to consider the expansion of the proposed ULEZ. One proposal is to have the boundary of the A406 as the limit of the zone. This could lead to residential streets close to tube, bus and railway stations near the A406 North Circular Road in Barnet becoming more congested with people trying to avoid paying the charge. There are also highly polluted trunk roads north of the A406 in Barnet such as A1, M1, A41, A5 and A1000 that if not in the ULEZ will not see a significant reduction in vehicle congestion or pollution reduction to residents. It is recommended that the option to increase the ULEZ to cover the whole of Barnet is explored and members consulted on this option. This action is likely to have the most significant impact on reducing air pollution in the Borough. In the GLA evidence for a ULEZ, in 2025 there was a 31% predicted reduction in NO_x emissions in Barnet if all of Barnet is in the ULEZ, but if only the area below the A406 is in the ULEZ there will be only an 8% decrease in NO_x emissions by 2025. The major roads in Barnet are significantly used by commuters who drive through the borough without stopping and they would be subject to the ULEZ by 2019-20, whereas Barnet residents who can have an exemption until 2023. This means residents with petrol vehicles pre Euro IV would be at least 14 years old and diesel cars at least 9 years old before they were non-compliant and subject to a charge. There is consultation on a generous scrappage scheme for pre Euro VI diesels for all residents in the ULEZ. The ULEZ should also encourage more sustainable and active transport.

Action 19 Lower legal speed limit to 20mph in areas close to schools.

This is a policy that was agreed by the Council Cabinet in 2014. LIP funding is being used to design and implement 20mph zones close to schools for road safety. This should have indirect benefits for air quality as more people are encouraged to walk and cycle to school instead of taking the car. There are currently 23.2km of 20mph road in the borough. There is an achievable target of an extra 2km per year subject to feasibility studies.

Action 20 Differential charges for residential parking permits based on pollutant emissions.

The Council's new parking permit scheme for residents links the charges to the emissions in gCO₂ (grams of carbon dioxide) that the vehicle emits in order to try to persuade car owners to move towards vehicles emitting less carbon dioxide. There are three payment bands. Cars in the 2 higher bands must pay a higher price for their permit. This action reflects the Council's Parking Policy and helps encourage the take-up of low emission vehicles. Electric vehicles incur no charge. The Council will carry out an annual review of emissions based bands to reflect national and regional policies.

Action 21 Improved electric vehicle charging point infrastructure.

Encouraging motorists to choose electric vehicles rather than the traditional petrol or diesel car is a key government policy to improve air quality. The installation of more electric vehicle charging points in residential streets as well as car parks will encourage the take up of electric vehicles. Some LIP funding is being spent in 2016/2017 for installation of new points and EVCP infrastructure will also be provided by Bluepoint as part of Source London, following the first 12 points installed in 2015. In addition, charging points are a requirement of certain new developments.

Action 22 Increase provision of cycle parking.

Support for cycling is provided financially through the Local Implementation Plan (LIP). Better parking provision for cyclists helps make cycling an attractive alternative to the private car, encouraging modal shift. Sites for improved facilities will include leisure centres, shopping areas, rail and tube stations, and other transport hubs. Target of between 50-100 cycle spaces per annum.

Action 23 Encourage modal shift to bicycle through improved bicycle routes and encourage walking with safer, attractive and more accessible pedestrian routes.

A key strategy is to encourage alternative means of transport as road traffic is the primary source of air pollution in Barnet. The LIP is funding the improvement of bicycle routes and the details will be in the finalised cycle strategy. Quietway routes are being progressed in the Borough. These give cyclists an alternative quiet route to the busy main roads. Many of the major roads in Barnet are sufficiently wide to accommodate a cycle lane (1-1.5m wide with a white line). This would improve car and bicycle lane discipline and reduce congestion for motorists, while making cycling a safer option. This need not impede parking or restrict access to business. This type of option would be subject to a road space asset review. It is important to continue to consider the needs of different road-users.

The target for 2016/17 is aiming to train 2,000 children (Bikeability Level 2 or 3) and 250 adults.

In 2015 1,764 pupils and 261 adults were trained.

Performance Indicators HSTD02: target of 3 % of all journeys by cycle in 2024 and HSTD01: % trips by walking to increase from 29-31% by 2024.

Current evidence suggests a 1% modal shift of increased journeys from cycling based on 3 years data from TfL.

Action 24 Actions on TfL-controlled roads.

Transport for London manage the roads which are the busiest and the source of the most air pollution in Barnet, namely the A406, A41, A5 and A1. TfL also run the buses that operate on Barnet's roads. The Council will liaise with TfL to explore options to reduce congestion and improve air quality on these roads. This could include deploying the newest lowest emission buses, creating cycle lanes where feasible, and better traffic signal management and junction design.

Action 25 Actions on the M1.

The M1 motorway is managed by the Highways Agency. It passes through very populated areas of Barnet, causing poor air quality and also high noise levels. The Council will liaise with the Highways Agency to explore options for improving air quality in Barnet. Work is currently taking place on feasibility studies of noise and air quality barriers in Mill Hill.

Appendix A Response to Consultation

Table A.1 Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Consultee	Category	Response
<i>e.g. Chamber of Commerce</i>	<i>Business</i>	<i>e.g. Disagree with plan to remove parking on High Street in favour of buses and cycles; consider it will harm business of members.</i>

Appendix B Reasons for Not Pursuing Action Plan Measures

Table B.1 Action Plan Measures Not Pursued and the Reasons for that Decision