

London Borough of Barnet Air Quality Action Plan 2017-2022

September 2019 Annual Update

SUMMARY

Barnet Council's Air Quality Action Plan (AQAP) was produced in 2017 as part of the Council's duty to contribute to London Local Air Quality Management¹. It outlines the action the Council will take to improve air quality in the London Borough of Barnet between 2017 and 2022. The Air Quality Action Plan is a living document. This report provides an update on the Council's air quality work in 2018/19, and incorporates new London and local priorities to be addressed in the lifetime of the plan.

Highlights of successful projects delivered in 2018/2019 include:

- 110 new e-vehicle charging points - 40 lamp column charging points for electric vehicles have been installed, and another 40 will be installed this autumn. A further 30 stand-alone electric vehicle charging points will be added to car parks in the borough throughout 2019.
- 225 trees were planted in areas with poor air quality. This is part of a five-year scheme believed to be the largest of its kind in London to plant 4,500 trees to boost air quality, reduce the risk of flooding, provide protection from the sun, replace ageing trees and improve parks.
- The completion of a project to audit construction sites to ensure heavy site machinery complies with emissions limits to reduce pollution. 12% of air pollution in London comes from construction sites.
- Clean Air Day 2018 was marked by delivering 2 lessons at a new school in Millbrook Park. A professor from Middlesex University gave a fun presentation to Year 1 children. The children also made pollution catchers using paper plates with Vaseline to capture particulates in their school playground.

Key outcomes were:

- The average percentage of children travelling to school by car has continued to reduce and is now 23%.
- Barnet achieved the highest number of schools in London awarded STARS recognition (Sustainable Travel to and from their school that is Active, Responsible and Safe). 71 schools were awarded the top Gold rating.

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}.

Between 2017 and 2025, the total cost to the NHS and social care of air pollution for where there is more robust evidence for an association, is estimated to be £1.60 billion for particulate matters and nitrogen dioxide, NO₂, combined³. 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.

Actions for 2017-2022 (September 2019 Update)

Actions have been identified under seven broad topics, with monitoring introduced as a new topic:

- **Monitoring and other core statutory duties**
Monitoring is a fundamental to delivering the Council's air quality duties and is critical to understanding and addressing air quality issues.
- **Reduce 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;
- **Localised solutions** to improve the environment of local neighbourhoods through a combination of measures;
- **Improve public health and raise awareness of the causes of air 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;
- **Reducing emissions from Council fleet vehicles** 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; and
- **Incentivise walking, cycling 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

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 Estimation of costs to the NHS and social care due to the health impacts of air pollution, Public Health England, May 2018

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, TFL and Highways England controlled trunk roads), 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.

This Air Quality Action Plan 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.

If you have any comments on this Air Quality Action Plan please send them to

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Abbreviations

CHP	Combined Heat and Power
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.

The monitoring results since 1992 have shown excellent progress in improving Barnet's air quality. There is more detail in the 2018 Annual Status report.

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. Barnet's 2017-2022 Air Quality Action Plan, updated September 2019, outlines the steps the Council will take to improve air quality across the borough.

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 updated Action Plan 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.
- How the Council will respond to the revised priorities in the GLA's Local London Air Quality Management Action Plan Matrix (updated 2019).
- How improving air quality is a shared aim between Environment, Public Health and Transport and we will work together to deliver this action plan.

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 GLA funded project to reduce dust and emissions from construction sites in the borough. The proposal to extend the Ultra Low Emission Zone (ULEZ) to the A406 North Circular Road in October 2021 is predicted to reduce nitrogen dioxide emissions by up to 30% with improvements across the whole Borough. Work to continue understanding the public

health impacts of air pollution, through partnership working with GP practises and schools will help our most vulnerable residents.

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. In Barnet, 7.6% of premature deaths can be attributed to air pollution. We must work together to take advantage of the opportunities this increased profile is bringing and continue to build momentum through this updated Action Plan to improve the air we all breathe.

Councillor Dean Cohen
Chairman
Environment Committee
London Borough of Barnet

Introduction

This plan outlines the actions that The London Borough of Barnet will deliver between 2017 and 2022 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 government's latest Clean Air Quality Strategy (AQS) was published in January 2019. It 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 current UK Air Quality Objectives take into account EU Directives that set limit values which member states are legally required to achieve by their target dates. The new AQS intends to set legislation in the form of an Environment Bill to create tougher limits on air quality including for PM_{2.5} (based on World Health Organisation guidelines).

The London Borough of Barnet is meeting all of the current national Air Quality objectives other than for the gas nitrogen dioxide (NO₂). It is meeting the current objectives for particulate matter (PM₁₀) and particulate matter (PM_{2.5}) but as PM_{2.5} 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 in Barnet is largely caused by road transport. Other significant sources are construction, and heat and power from both industrial/commercial and domestic sources. The map shows there has been an improvement since the previous 2013 dataset.

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

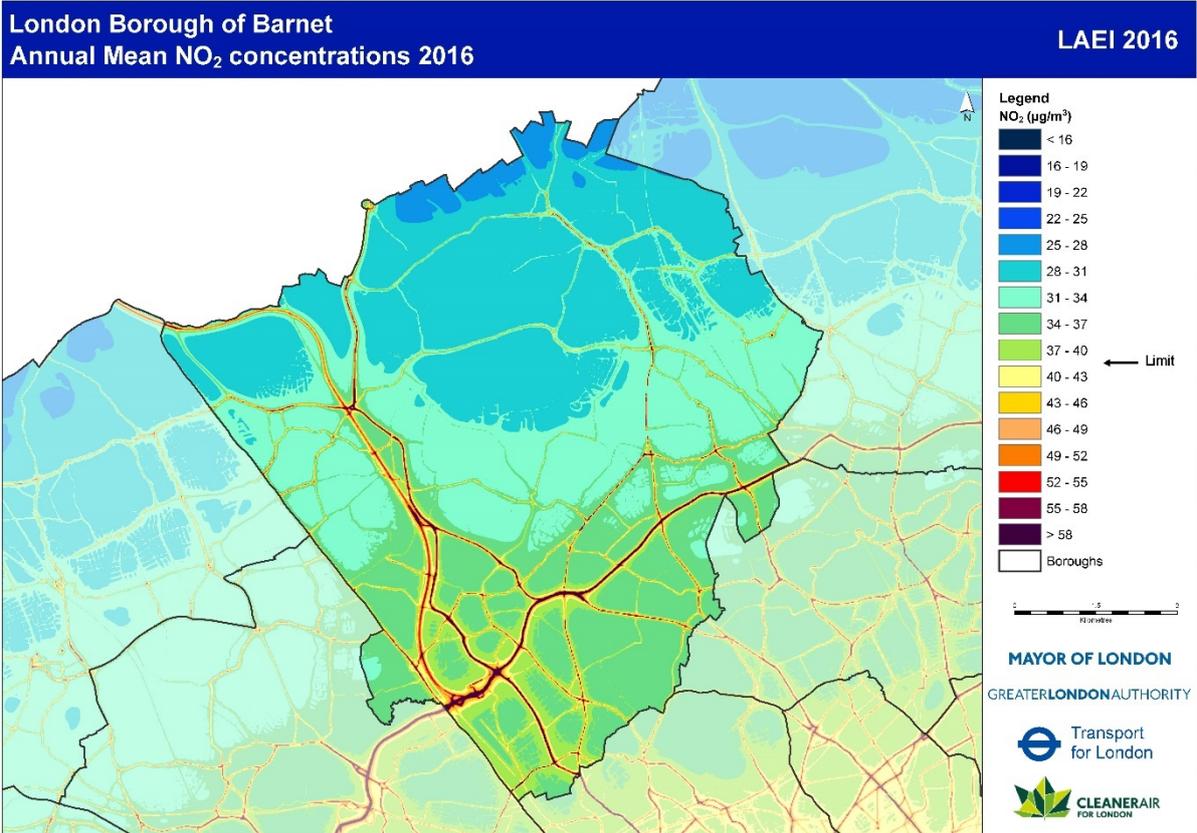


Figure 1 Modelled map of annual mean Nitrogen Dioxide, NO₂ concentrations (taken from the 2016 LAEI)

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 2016 dataset is the most recent at the time of writing this updated Action Plan. Further information is available on the London Datastore.

<https://data.london.gov.uk/dataset/laei-2016---borough-air-quality-data-for-llaqm>

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, A41 and the A1. The biggest source of PM₁₀ pollution is construction, followed by road transport. However, the area of exceedence does not include residents, and is concentrated on the carriageways. This shows an improvement to the previous 2013 dataset.

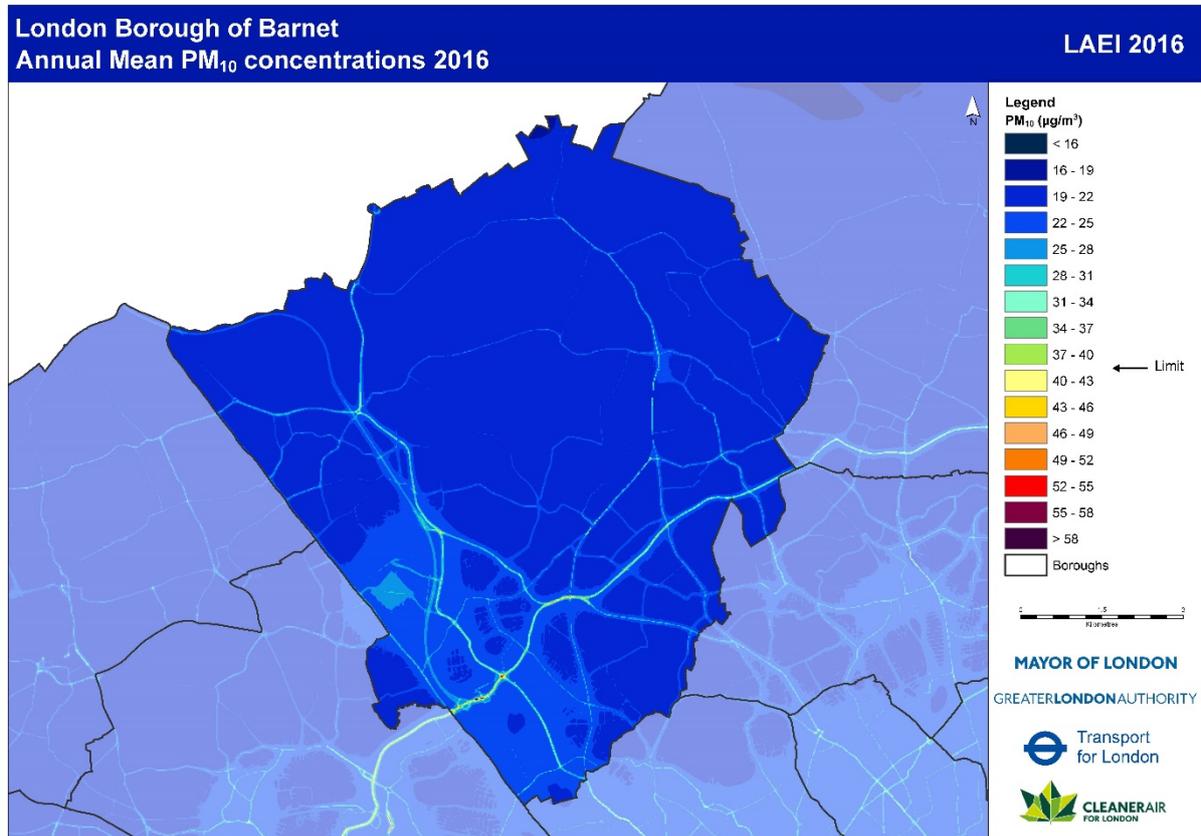


Figure 2 Modelled map of annual mean PM₁₀ (taken from the 2016 LAEI)

Particulate concentrations, PM_{2.5}

There is a new borough role that requires Councils to address PM_{2.5} issues in their areas. There is no regulatory standard to meet a limit value applicable to local authorities at present; however, actions to address NO₂ and PM₁₀ will work towards reductions in PM_{2.5}. It should also be noted that the government's new Clean Air Strategy aspires to meeting the World Health Organisation Guideline for PM_{2.5} of 10µg/m³ expressed as an annual mean. The modelled map below highlights that PM_{2.5} concentrations are highest on parts of the A406 and A1 at major junctions. The sources of PM_{2.5} pollution in Barnet are road transport followed by construction and wood burning in domestic stoves. The whole of the Borough is in exceedence of the WHO guideline.

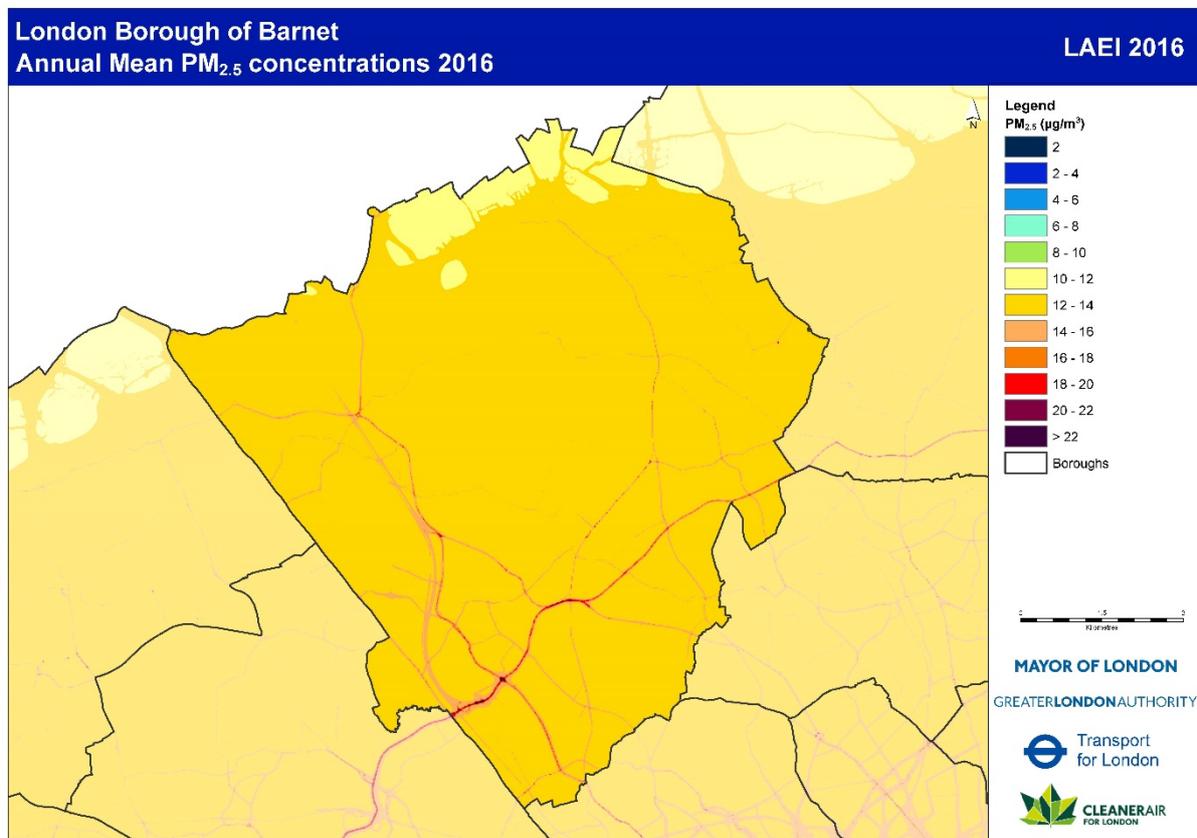


Figure 3 Modelled map of annual mean PM_{2.5} (taken from the 2016 LAEI)

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 area that exceeds has decreased. The EU hourly mean objective is also being exceeded at some busy High Street locations and also Golders Green Bus Station.

2. Particulates, PM₁₀

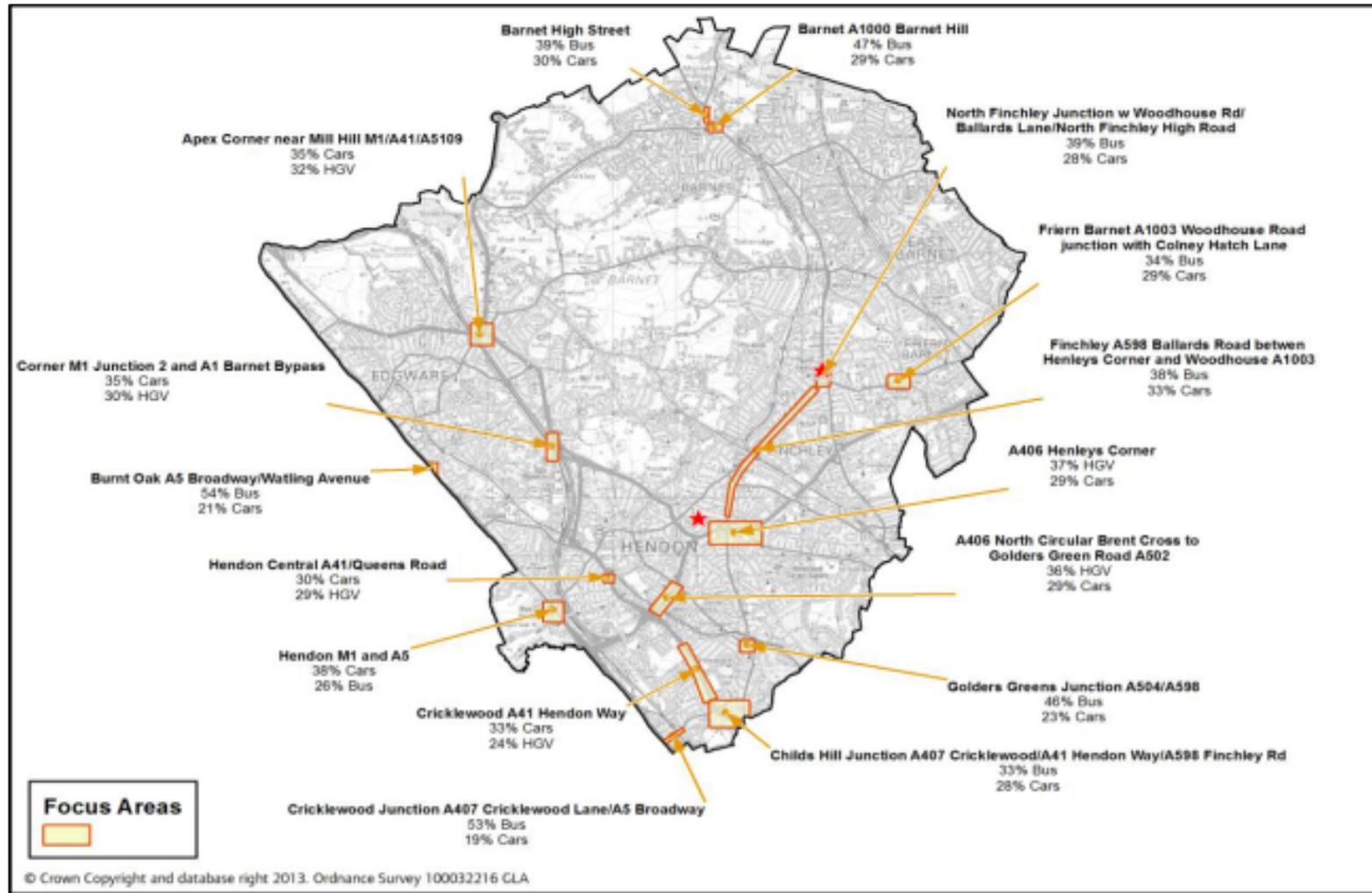
The EU daily mean objective is now being met; however the AQMA remains in place as the World Health Organisation air quality guideline is being exceeded. Furthermore, from 2016 the Council has a new statutory responsibility to work towards reductions of PM_{2.5}, a smaller sized particulate due to increased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

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 currently 14 focus areas in the borough (Barnet A1000 is no longer a focus area). The purpose of defining these areas is to target action in the most problematic areas. The majority of Focus Areas in Barnet are not on Barnet-controlled roads and this is highlighted in the table below:

List of Focus Areas in Barnet

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

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 nitrous oxides, NO_x, including nitrogen dioxide, NO₂, are diesel cars (22%); vans and mini-buses (12%); NRMM (Non-Road Mobile Machinery) on construction sites (12%) and heat and power generation from industrial/commercial sources (10%). These results are from the recently released 2016 London Atmospheric Emissions Inventory (LAEI). The contribution from vans and mini-buses has more than doubled since the 2013 LAEI. The contribution from domestic gas has decreased, while that from industrial/commercial heat and power has increased.

The increase in the contribution of NO_x from vans and mini-buses can probably be explained by the increase in on-line shopping and deliveries by courier van. There has been a trend for localised energy generation in the form of CHP plant (Combined Heat and Power) in new major developments.

The main sources of particulate matter, PM₁₀, are construction (dust and Non-Road Mobile Machinery), 45%; re-suspension (matter not directly emitted in tailpipe exhaust), 13%; and petrol and diesel cars, 16%. 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. There has been a significant change from the 2013 LAEI with the relative contribution of transport decreasing by half, and the contribution from construction sites increasing five-fold.

The distribution of PM_{2.5} is 36% from road transport, of which the biggest contributors are diesel and petrol cars, and vans and minibuses. The second largest source is construction, 23%, followed by biomass (domestic wood burning), 15%.

It is important to know the relative contribution from different sources so that resources can be targeted. It is clear that the main sources of air pollution in Barnet are road transport, construction sites, heat and power generation from industrial/commercial sources, and domestic wood burning.

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

Distribution of NOx Emissions - 2016 - Barnet

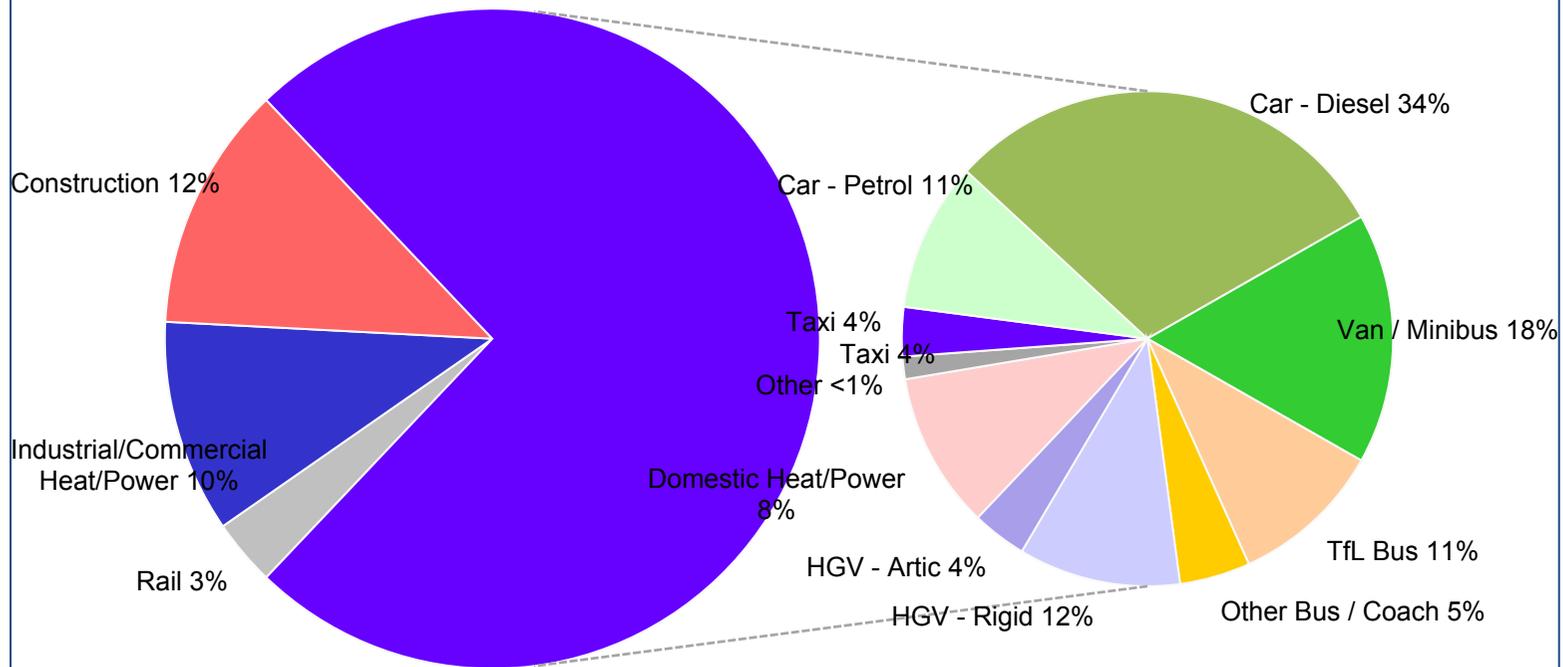


Figure 4 NOx Emissions by source and vehicle type (downloaded from the most recent LAEI dataset in August 2019)

Distribution of PM10 Emissions - 2016 - Barnet

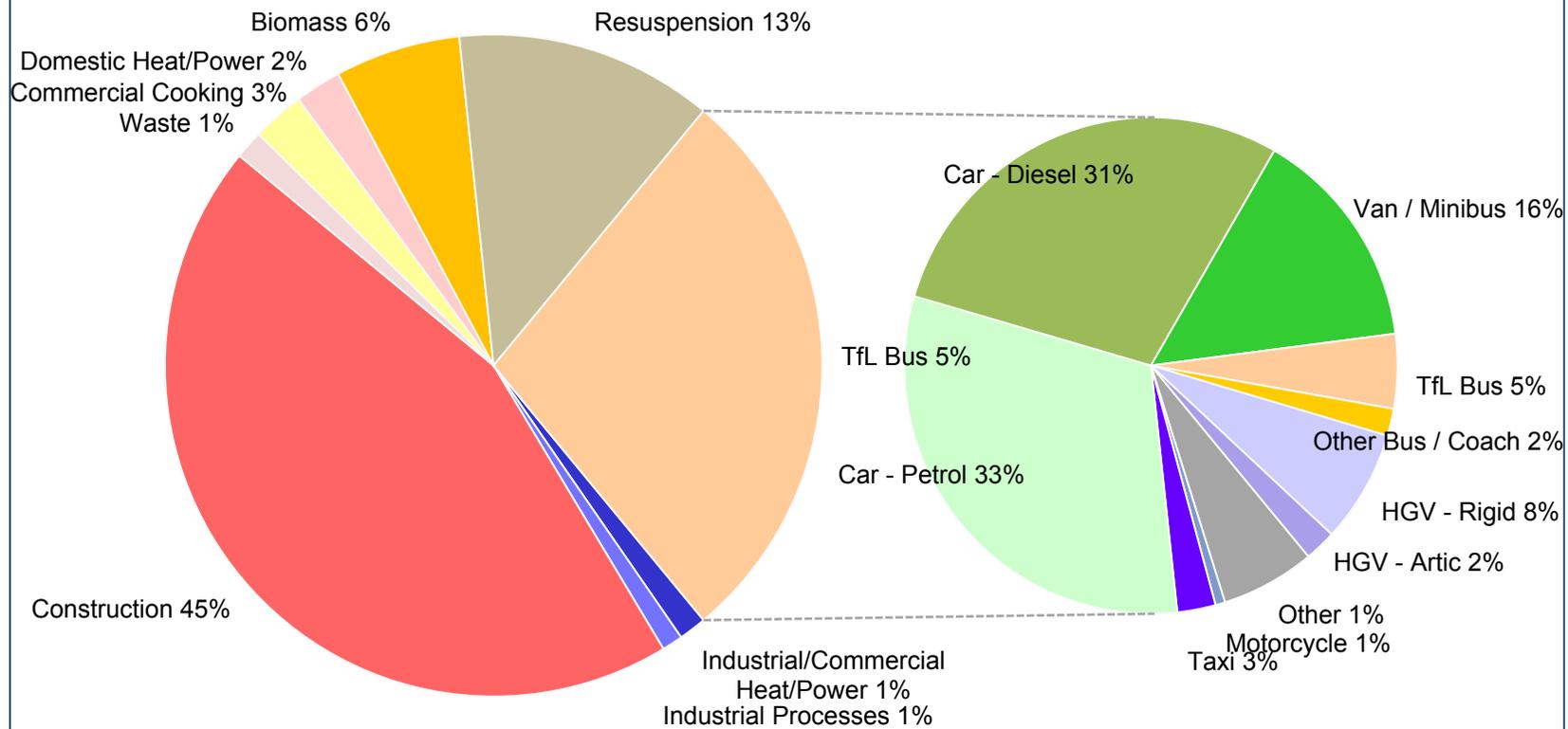


Figure 5 PM₁₀ Emissions by source and vehicle type (downloaded from the most recent 2016 LAEI in August 2019).

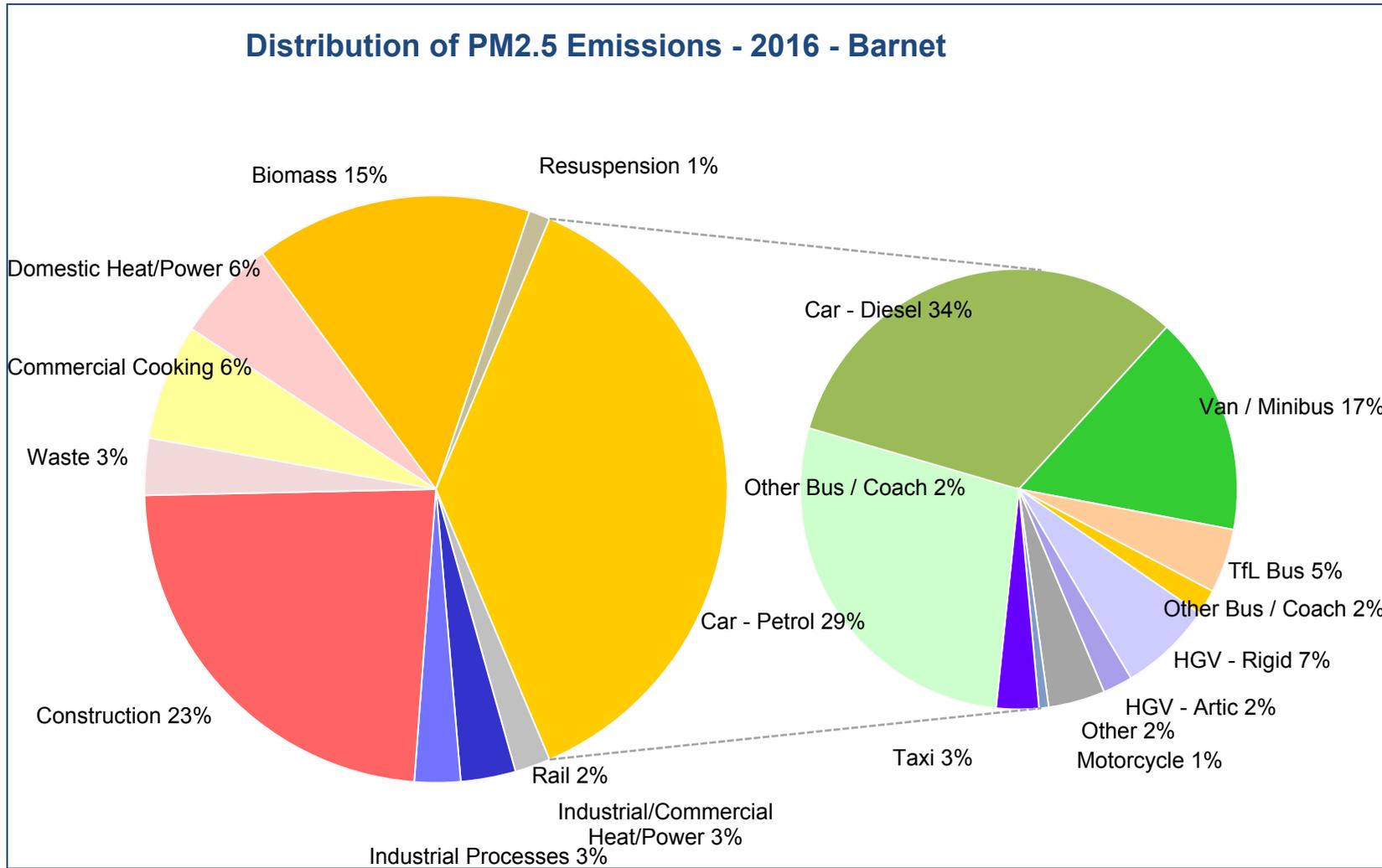


Figure 6 PM_{2.5} emissions by source and vehicle type (downloaded from the most recent 2016 LAEI in August 2019).

2 London Borough of Barnet Air Quality Priorities

The biggest sources of air pollution in Barnet are road transport, construction, and heat/power generation. A significant source of PM2.5 is wood-burning. The action plan has several points which seek to reduce the impact from these sources. The Borough has several key trunk routes passing through it with significant vehicle numbers. 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. As well as addressing the key sources of pollution as a priority, it is also a priority to better communicate the health risks of poor air quality and reduce exposure to air pollution. This will be key to the work undertaken alongside Public Health.

3 Development and Implementation of the Air Quality Action Plan (September 2019 update)

3.1 Steering Group

The Air Quality Action Plan is a working document and progress is reported annually to the GLA, Defra and Barnet Environment Committee. Barnet Council established cross departmental and agency steering group in 2016 to develop and monitor the implementation of the Air Quality Action Plan. Meetings are held quarterly. The core group consists of the Assistant Director for Community Safety & Regulatory Services, Assistant Director for Transport and Highways, Public Health Analyst, Environmental Health, Highways Engineer leading on the LIP (Local Implementation Plan), Transport and Regeneration Manager, and Sustainable School Travel officer. The steering group has worked together to update this air quality action plan.

3.2 July 2019 Update

This update has been produced to respond to the changes to the London Local Air Quality Management Action Plan Matrix. This has resulted in a change in priority of some actions with a view to consistent working across London to achieve the biggest improvements in air quality.

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 2017-2022 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 Barnet Air Quality Action Plan (revised August 2019)

The actions have been grouped into seven categories: Monitoring and other core statutory duties; Emissions from developments and buildings; Public health and awareness raising; Borough fleet actions; Localised solutions; and Cleaner transport.

Theme		Measure	Magnitude of Air Quality Benefits (1=High)	Performance Measure / target and completion date	Responsibility	Links to other Strategies/ Plans/ Policies	Comments
Monitoring and other core statutory duties	1	Maintaining and where possible expanding monitoring networks, and fulfilling other statutory duties	1	Achieve 90% data capture in line with Defra requirements; maintain existing networks at a minimum; annual reporting to the GLA and Defra	Environmental Health		New Action However, this work is already carried out by Environmental Health
Emissions from developments and buildings	2	Ensuring emissions from construction are minimised	2	Count number of complaints received. Number of Construction Method Statement planning conditions applied to developments.	Environmental Health and Planning	Supplementary Planning Document (SPD) for Sustainable Design and Construction	Existing action Focus has changed from solely dust to include emissions from transport of materials, waste, staff to and from site (logistics)
Emissions from developments and buildings	3	Ensuring enforcement of Non-Road Mobile Machinery (NRMM) air quality policies	1	Number of site audits and enforcement actions	Delivered by London Borough of Merton	SPD for Sustainable Design and Construction	Existing action: LBB is part of the Pan-London Project delivered by LB Merton to audit and enforce NRMM on major construction sites from September 2020.
Emissions from developments and buildings	4	Reducing emissions from CHP (Combined Heat and Power)	1	Number of planning applications for CHP	Environmental Health and Planning	SPD for Sustainable Design and Construction	Existing action: within LBB Planning

buildings		Power plant)		and biomass boilers; number of planning applications approved and refused.	Planning	Design and Construction	system – further scope to work with energy officers to improve carbon emission reductions e.g. when existing schemes require new or upgraded heat sources
Emissions from developments and buildings	5	Enforcing Air Quality Neutral policies	2	Number of planning applications requiring an air quality assessment; number of applications refused on grounds of poor air quality	Environmental Health, Planning and Highways	2016-2021 Performance indicator PITD03 Monitoring Travel Plans for Developments London Plan Barnet's new Local Plan – adoption expected 2021	Existing action: Air quality neutral ensures new buildings do not emit more pollution than existing buildings of the same type. Currently within LBB planning system.
Emissions from developments and buildings	6	Ensuring adequate, appropriate, and well located green space and infrastructure is included in new developments and buildings	1		Planning	Green Infrastructure SPD (adopted Oct 2017) Barnet's new Local Plan SPD for Sustainable Design and Construction Application of Urban	New Action This work already happens in Barnet. See also action 18. Barnet council SPDs will be revised following the adoption of the new Local Plan in 2021.

						Greening Factor through the new London Plan – adoption expected Spring 2020	
Emissions from developments and buildings	7	Declaring Smoke Control Zones and ensuring they are fully promoted and enforced	1	Number of complaints about smoky chimneys. Number of enforcement actions.	Environmental Health		Existing Action Environmental health will continue to enforce. New emphasis is to tackle PM2.5 from the burning of wood in domestic stoves.
Emissions from developments and buildings	8	Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through Borough carbon-offset funds.	1	Number of projects; percentage of eligible buildings that have been retrofitted	Environmental Health, Energy Resource Manager		New Action There are designated officers working on this in other council teams but linking energy efficiency measures to air quality needs improvement.
Emissions from developments and buildings	9	Master Planning and redevelopment areas aligned with Air Quality Positive and Healthy Streets Approaches	2		Highways, Planning		New Action Mayor's Healthy Streets Approach embedded within London Plan and Barnet's new Local Plan – adoption expected 2021. Air Quality Positive is also in the London Plan and will be proposed for Barnet's new Local Plan.

Public health and awareness raising	10	Public Health taking shared responsibility for Borough air quality issues and implementation of Air Quality Action Plans.	2	Evidence of joint projects. Evidence of how public health are involved in decision making processes	Public Health and Environmental Health	JSNA	Existing Action DPH signs of the ASR, Supporting Action Plan, agrees AQ project with Re and PH strategist is part of the AQ Steering Group. Planning for new joint projects has commenced.
Public health and awareness raising	11	Engagement with businesses	2	Evidence of projects with businesses	Environmental health and Town Centre Investment Managers	Town Centre strategies	New Action LBB unsuccessful in securing Mayor's Air Quality Fund for business engagement project. Still scope to engage businesses in town centres via the Business Enterprise Team. Furthermore, there is LIP funding of £35K/year for business engagement projects.
Public health and awareness raising	12	Supporting a direct alerts service such as Airtex, and promotion and dissemination of high pollution alert services	2	Evidence that pollution alerts are being disseminated.	Environmental Health; Communications Team		New Action Environmental health receives Mayor's alerts. Consideration will be given to how best use the Council's new website to disseminate this information. Other systems eg the OWL system to be considered.

Public health and awareness raising	13	Encourage schools to join the TfL STARS accredited travel planning programme	2	Target to be set by Highways. % of schools signed up to STARS	Highways (Sustainable Travel team)		Existing Action Barnet Council is currently the most successful in London in engaging schools via the STARS programme.
Public health and awareness raising	14	Air quality in and around schools	2	Number of audits done at schools. Evidence of interventions carried out.	Environmental Health and Highways		Existing Action To be continued in 2019/2020 Audits and other interventions to continue.
Public health and awareness raising	15	Update of procurement policies to reduce pollution from logistics and servicing	3		Environmental Health and Procurement	Social Value Policy	Existing Action There are existing initiatives including the requirement for contractors with a fleet to be a member of FORS. There will be new initiatives including to ensure all new contracts have ULEZ compliant vehicles
Public health and awareness raising	16	Reducing emissions from deliveries to local businesses and residents	2	Evidence of educational media campaign	Environmental Health and Communications Team		New Action This tackles trend for online ordering and the consequent increase in delivery vehicles on the roads. Scope to raise awareness of impacts and also to work with businesses to group together (consolidate) deliveries.

Borough Fleet	17	Reducing emissions from council fleets	2	<p>Number of alternative-fuelled vehicles.</p> <p>Percentage of Euro VI vehicles in diesel and petrol fleet.</p>	Street Scene		<p>Existing Action Vehicles with alternative energy will be assessed for operational and financial sustainability.</p> <p>(Procurement of new Euro VI vehicles with started with four refuse collection vehicles delivered in November 2018, with a tender currently out for a further twelve vehicles.)</p>
Localised Solutions	18	Expanding and improving Green Infrastructure (GI)	3	<p>Number of trees planted each year in pollution hotspots. Target of 200 per year.</p>	Arboriculture Officers, Highways, Green Spaces	<p>Barnet Tree Policy 2017.</p> <p>Green Infrastructure SPD</p>	<p>Existing Action Exists within the LBB planning system through the application of the London Plan Urban Greening Factor and the Supplementary Planning Document on Green Infrastructure. The SPD outlines the capacity of GI to deliver a wide range of benefits and how these might be promoted and delivered through existing policies and processes. Benefits include preparing Barnet for the impacts of climate change by controlling flooding, reducing pollution and moderating temperatures.</p>

							Further supported through Barnet's Tree Policy which is supporting the planting of 4500 trees over five years, including prioritisation of trees in areas of poor air quality.
Localised Solutions	19	Low Emissions Neighbourhoods (LENs)	1	Make bid for grant funding when available.	Environmental Health, Highways, Planning		New Action Low Emissions Neighbourhoods require substantial funding and those underway in London have benefitted from large grants through the Mayor's Air Quality Fund.
Cleaner Transport	20	Ensuring that Transport and Air Quality Policies are Integrated	1	Air quality in Transport Strategy	Environmental Health, Highways		New Action This is something that the Council already does through officers attending Steering groups, input into LIP 3,
Cleaner Transport	21	Discouraging unnecessary idling by taxis and other vehicles	3	Carry out at least two anti-idling events per year including close to schools.	Environmental Health, Sustainable Travel team		New Action Enforcement requires investment, however the borough currently run anti-idling awareness raising and have conducted action days in the areas, specifically outside schools, where this has taken place – propose action would be to introduce anti-idling policy. LBB is one of 2

							boroughs not taking part in the pan-London anti-idling project
Cleaner Transport	22	Regular temporary car-free days	1	At least one car free initiative per year.	Environmental Health, Highways, Town Centre Managers.		New Action LBB is taking part in the Pan- London Car Free project as part of the MAQF. This could include temporary closures, school streets, timed closure during peak travel
Cleaner Transport	23	Using parking policy to reduce pollution emissions	1		Parking, Highways	Parking Tariffs Operational Review.	Existing action Barnet introduced differential charged for residential parking permits based on pollutant emissions £10 surcharge on diesel cars
Cleaner Transport	24	Installation of Ultra-Low Emission Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid vehicle electric charging points and hydrogen refuelling stations)	1	Number of EV points installed each year.	Highways, Planning	Transport Strategy	Existing Action 40 lamp-post column charging points installed in 2018/19. A further 40 to be installed in August 2019. 30 freestanding chargers to be installed in car-parks and on-street locations in Autumn 2019. Rapid charging points are being installed in partnership with TfL
Cleaner Transport	25	Provision of infrastructure to support walking and	1	Number of cycle parking spaces	Highways, Planning	Local Implementatio	Existing Action Implemented through

		cycling		installed per year; number of children and adults receiving cycle training per year; length of cycle routes installed per year.		n Plan	the Green Infrastructure SPD, LIP targets for walking and cycling, new cycle parking, cycle training.
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5 Further information and implementation plan for each action

Action 1 Maintaining and where possible expanding monitoring networks, and fulfilling other statutory duties.

Monitoring is critical to understanding and addressing the problem of air quality. Monitoring is also used to validate modelling of air quality. The GLA considers monitoring to be the bedrock of London Local Air Quality Management. 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.

Action 2 Ensuring emissions from construction are minimised

This is part of the day to day work of scientific officers in Environmental Health. It is achieved through application and enforcement of planning conditions.

Environmental Health also respond to resident complaints of dust and noise nuisance from construction sites as part of its duties under the Environmental Protection Act 1990.

Action 3 Ensuring enforcement of Non-Road Mobile Machinery (NRMM) air quality policies

NRMM contributes to a large proportion of emissions. Barnet is part of a pan-London project to audit construction sites for NRMM compliance.

Action 4 Reducing emissions from CHP (Combined Heat and Power plant)

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. Environmental Health comment on applications for Environmental Permits under the Small Combustion Plants Directive led by the Environment Agency.

Action 5 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 6 Ensuring adequate, appropriate, and well located green space and infrastructure is included in new developments and buildings

The Council's Green Infrastructure SPD was adopted in October 2017. The new London Plan will bring in the concept of a Urban Greening Factor.

Action 7 Declaring Smoke Control Zones and ensuring they are fully promoted and 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.

There is a new awareness that the burning of solid fuel is contributing to between 23 and 31% of PM2.5 in London. Addressing this source is crucial to achieving the London Environment Strategy target of meeting the WHO guideline levels for PM2.5 by 2030. Enforcement powers are limited; however education campaigns with residents and retailers will be done.

Action 8 Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through Borough carbon-offset funds

As tailpipe emissions from road vehicles decreases, the relative contribution of power generation has increased. Using less energy means less combustion of fuels and fewer emissions. There is also a co-benefit for carbon dioxide emissions.

Action 9 Master Planning and redevelopment areas aligned with Air Quality Positive and Healthy Streets Approaches

This action is concerned with major redevelopment areas. The most important in Barnet is the Brent Cross / Cricklewood Regeneration.

Action 10 Public Health taking shared responsibility for Borough air quality issues and implementation of Air Quality Action Plans

This will include joint projects between public health and environmental health. Work will include mapping air quality hotspots against childhood asthma; working with GP

surgeries to provide targeted information and advice to patients vulnerable to COPD; Promotion of active travel.

Action 11 Engagement with businesses can be effective in helping them reduce transport emissions from their fleet as well as emissions from energy use. This can also include working with businesses in a certain area to consolidate deliveries, cargo bikes, work place travel plans.

Action 12 Supporting a direct alerts service such as Airtext, and promotion and dissemination of high pollution alert services

It is important to be able to provide direct alerts to vulnerable people such as those with asthma. The alerts give advice on what action to take during pollution episodes, for instance reducing physical activity. Social media can be used to disseminate the GLA alerts and to raise awareness.

Action 13 Encourage schools to join the TfL STARS accredited travel planning programme

This travel planning programme is a successful way to reduce the numbers of children travelling to school by car. Alternatives to the car such as walking and cycling are better for exercise and health. Too many cars near to schools causes issues with local residents when the cars block drive ways and leave engines running, as well as safety concerns when cars are parked carelessly or on double yellow lines.

Action 14 Air quality in and around schools

Schools projects can help to reduce exposure and emissions and help target one of the most vulnerable groups. Schools audits assess the sources of pollution at the worst polluted schools and recommend interventions to reduce exposure and pollution levels. Interventions include installation of green / living walls, filtration of air, provision of cycle parking and are dependent on the location of the school. Other projects include delivering lessons on air quality at schools and colleges.

Action 15 Update of procurement policies to reduce pollution from logistics and servicing

Councils can use their procurement policy and purchasing power to influence and incentivise suppliers to use cleaner vehicles wherever possible. Barnet has existing initiatives to require contractors with a fleet to be a member of FORS (Freight Operators Recognition Scheme). New contracts will need to ensure all contractors have ULEZ-compliant vehicles.

Action 16 Reducing emissions from deliveries to local businesses and residents

Implementation of schemes to reduce deliveries is important but requires significant time and financial investment, which can only be realistically achieved through

winning grant funding. However it is possible to raise awareness with businesses and residents about this issue. The number of deliveries have increased significantly with the trend for on-line shopping.

Action 17 Reducing emissions from council fleets

It is important for Boroughs to lead by example and fleets are directly within the control of the Council. Barnet council is working to increase the proportion of the cleanest Euro VI engine conventional vehicles in its fleet. This will also help to meet the upcoming ULEZ (Ultra Low Emission Zone) requirements. Other vehicles with alternative energy are also being assessed for operational and financial sustainability. The Council fleet currently has Bronze accreditation of the Fleet Operator Recognition (FORS) scheme.

Action 18 Expanding and improving Green Infrastructure (GI)

Barnet Council has a Tree Policy. It aims to plant 900 trees per year over five years. Environmental Health work with the Arboriculture officers to plan the locations of the tree planting. Planting trees in the worst polluted areas can reduce the amount of pollution that people are exposed to. Vegetation has the ability to clean the air by filtering out pollutants.

The Council's Supplementary Planning Document for Green Infrastructure was adopted in November 2017.

Action 19 Low Emissions Neighbourhoods (LENs)

A LEN is an area-based scheme. It is a package of measures in a pollution hotspot designed to reduce emission and visibly improve the pedestrian and cyclist environment.

Action 20 Ensuring that Transport and Air Quality Policies are Integrated

Road traffic emissions are one of the main sources of air pollution in London. To ensure effective communication between transport and air quality colleagues, senior highways officers attend the air quality steering group meetings. Likewise, air quality officers are helping to shape the Council's new Transport Strategy by attending steering meetings.

Action 21 Discouraging unnecessary idling by taxis and other vehicles

Idling vehicles are an avoidable source of air pollution. Environmental Health and the Sustainable Travel team carry out regular anti-idling weeks at schools. Officers talk to parents and children about why it is important to turn engines off while waiting nearby the school at drop off and collection times.

Action 22 Regular Temporary Car-Free Days

Car-Free Days can help to change behaviour and prompt modal shift away from the private car. They allow people to experience their neighbourhood from a different perspective.

Action 23 Using parking policy to reduce pollution emissions

Parking policies can have a significant impact on driver behaviour, incentivising cleaner vehicles. Barnet was one of the first Councils in London to introduce differential parking permits based on pollutant emissions.

Action 24 Installation of Ultra-Low Emission Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid vehicle electric charging points and hydrogen refuelling stations)

Electric vehicles have zero emissions from the tailpipe. Infrastructure is needed to support the transition from conventional vehicles for both businesses and residents.

Action 25 Provision of infrastructure to support walking and cycling

Walking and cycling infrastructure is key in terms of improving air quality. This includes installation of cycle racks, cycle training, and improved cycle and walking routes.

