

THE BARNET AIR QUALITY ACTION PLAN 2023-2028

SUMMARY BOOKLET



engage.barnet.gov.uk

Caring for **people**, our **places** and the **planet**

BARNET·ZERO·

BARNET
LONDON BOROUGH

Contents

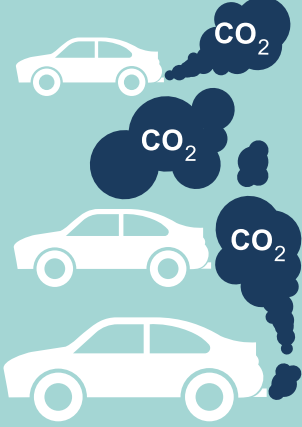







1.	Introduction: Why we need this Action Plan	3
2.	The New Air Quality Action Plan	5
3.	Current Air Quality in Barnet	7
3.1.	AQMAs and Air Quality Focus Areas.	7
3.2.	Sources of Pollution in Barnet	9
4.	Barnet's Air Quality Priorities and Actions	10
4.1.	Reducing Emissions from Construction and Development	10
4.2.	Public health and awareness raising	11
4.3.	Reducing emissions from road transport and adopting cleaner transportation methods	11
4.4.	Local Town Centre improvements and localised solutions	12
5.	Abbreviations	12



I. Introduction: Why we need this Action Plan

The Air Quality Action Plan (AQAP) has been produced as part of our duty to London Local Air Quality Management. It outlines the action we will take to improve air quality in Barnet between 2023 and 2028, In line with the Barnet Corporate Plan “Caring for People, our Places, and the Planet: Our Plan for Barnet 2023-2026”.

This action plan replaces the previous action plan which ran from 2017-2022. Highlights of successful projects delivered through the past action plan include:

<p>Launched Barnet’s Anti-Idling Campaign at All Saints Primary School, Whetstone.</p> 	<p>Publicising High and Moderate Air Pollution episodes through Barnet’s official communication channels e.g., twitter, council website.</p> 	<p>Experimental Cycle Lane established on the A1000, which was at first a COVID-19 measure, now made permanent. This will help encourage modal shift to active travel.</p> 	<p>Over 1009 trees planted in 2021, in addition to 1637 trees planted in 2020 and 2019.</p> 
<p>Sustrans was contracted to complete a scheme of Air Quality engagement projects at Barnet Schools. The workshop themes and activities include Lichen investigation, air quality banner competition, air quality posters, pupil-led feedback assemblies, and writing a letter to an MP on air quality.</p> 	<p>Completion of a School Air Quality Audit at Martin School, East Finchley; identified opportunities to improve air quality around a school located on a busy A road. This is a continuation of the Mayor of London’s School Air Quality Audit programme, which two schools in Barnet participated in previously.</p> 	<p>Over 100 Schools in Barnet maintained STARS Accreditation by the end of the 2017-2022 period.</p> 	<p>Barnet extended the North London NRMM project led by L. B. Merton, which concluded in 2019, and continues to remain part of the collaboration, which enables the auditing of construction sites.</p> 

Air pollution is associated with several adverse health impacts; it is, for example, 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 costs to society of the impacts of air pollution in the UK is estimated to be roughly £15 billion³. Focussing on London, research commissioned by the Greater London Authority and Transport for London estimates that if no action is taken to reduce current levels of pollution, by 2050 the cumulative cost of air pollution to the NHS and social care system in London will be £15.4 billion⁴.

As a large borough with a relatively high population of those vulnerable to poor air quality and particular issues raised by rapid growth and a substantial strategic road network, *The London Borough of Barnet* is committed to reducing the exposure of people in *Barnet* to poor air quality in order to improve health. Research by Imperial College suggests that in 2019 there were 201 deaths in *Barnet* attributable to air pollution, the second highest in London⁵.

There are huge gains to be made in terms of the length and quality of life for residents, as well as for scarce health and social care resources to be redirected to other key priorities.

Further information on air quality, such as monitoring results, in *Barnet* is available on the council's website at the following web address.

www.barnet.gov.uk/environmental-problems/air-quality



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

4 Health Lumen, Modelling the long-term health impacts of changing exposure to NO₂ and PM_{2.5} in London (2020)

5 Environmental Research Group - Imperial College London, London Health Burden of Current Air Pollution and Future Health Benefits of Mayoral Air Quality Policies (2022)

2. The New Air Quality Action Plan

We have developed actions that can be considered under seven broad topics which contribute to the progress of meeting our aims of Enhancing the Local Environment, under the Barnet Corporate Plan: “Caring for the Planet”:

- 1. Monitoring and other core statutory duties:** maintaining monitoring networks is critical for understanding where pollution is most acute, and what measures are effective to reduce pollution. There are also several other very important statutory duties undertaken by boroughs, which form the basis of action to improve pollution.
- 2. Improvement of Public Health and implementation/continuation of awareness campaigns:** air pollution has been linked to several respiratory and cardiovascular illnesses, and therefore is an important factor in being able to live a healthy life. Communities in Barnet must be supported and empowered in being able to influence change within their homes and in the wider community.
- 3. Reducing Transport Emissions:** road transport in Barnet is the largest contributor to air pollution in the borough. Actions such as installation of EV charging points and supporting a shift from private vehicle use to public transport are important measures to improve air quality across the whole borough.
- 4. Delivery servicing and freight:** vehicles delivering goods and services are usually light and heavy-duty diesel-fuelled vehicles with relatively high primary NO₂ emissions.
- 5. Borough fleet actions:** the Council’s own fleet includes light and heavy-duty diesel-fuelled vehicles such as minibuses and refuse collection vehicles with relatively high primary NO₂ emissions. Tackling our own fleet means we will be leading by example.
- 6. Emissions from developments and buildings:** emissions from buildings account for about 15% of the NO_x emissions across London so tackling these is important in affecting NO₂ concentrations; this includes enforcement of smoke control areas, and NRMM.
- 7. Localised solutions:** these seek to improve the environment of neighbourhoods through a combination of measures.

Within these topics, several key actions have been identified along with supporting actions:

- Enforcing the Non-Road Mobile Machinery (NRMM) Low Emission Zone
- Promoting and enforcing smoke control zones
- Promoting and delivering energy efficiency retrofitting projects in workplaces and homes
- Supporting alerts services such as Airtext, and promoting the Mayor's air pollution forecasts
- Reducing pollution in and around schools, and extending school audits to other schools in polluted areas
- Installing Zero Emission Vehicle (ULEV) infrastructure
- Supporting implementation of the extension to the London Ultra Low Emissions Zone
- Improving walking and cycling infrastructure
- Supporting improved public transport and use of low emission vehicles and infrastructure
- Regular Car Free days/temporary road closures in high footfall areas
- Reducing emissions from council fleets

The air quality action plan sets out how we will be working hard to continue to engage with stakeholders and communities which can make a difference to air quality in the borough. We would like to thank all those who have worked with us in the past and we look forward to working with you again as well with new partners as we deliver this new action plan over the coming years.

In the action plan we outline how we plan to effectively use local levers to tackle air quality issues within our control. Some of the measures to be implemented in during this action plan period (2023-2028) include:

- Explore the potential for additional diffusion tube monitors and seek funding for PM_{2.5} monitor(s)
- Raising awareness of new regulations for solid fuel and fully enforcing the borough-wide Smoke Control Zone.
- Encourage schools to join the TfL STARS (Transport for Life) accredited travel planning programme.
- Rollout of the requisite infrastructure to support the shift to low and zero emissions vehicles.
- School Streets Town Centre pedestrianisation schemes/Road Layout modification
- Expanding and improving green Infrastructure (GI)

We recognise that there are many air quality policy areas that are outside of our influence (such as Euro standards, national vehicle taxation policy, management of Transport for London and National Highways roads, and regulation of taxis and buses), and so we will continue to work with and lobby regional and central government on policies and issues beyond *Barnet Council's* direct influence.

3. Current Air Quality in Barnet

The UK Clean Air Strategy released in 2019, 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 Strategy objectives take into account EU Directives that set limit values which member states are legally required to achieve by their target dates.

Barnet is meeting all of the national objectives other than for the gas Nitrogen Dioxide (NO₂). While Barnet is meeting the current national objectives for Particulate Matter (PM₁₀ and PM_{2.5}), the legal objective is significantly less rigorous than the World Health Organisation (WHO) recommended guideline limit. For this reason, in the London Environment Strategy the Mayor has committed to meeting the WHO health-based guideline limits across London by 2030. Barnet is still exceeding World Health Organisation guideline PM_{2.5} limits, as well as progressing towards the WHO recommended guideline for NO₂ and PM₁₀, and so a key area of focus will be to help the Mayor meet this 2030 target.

3.1. AQMAs and Air Quality Focus Areas.

In Barnet, an Air Quality Management Area (AQMA) has been declared in the entirety of the borough 2001. The AQMA was amended in 2010.

The AQMA has been declared for the following pollutants:

- Nitrogen dioxide (NO₂)

The Annual mean objective of 40 µg m⁻³ is exceeded at strategic roads and A Roads in Barnet; currently we are exceeding the WHO guideline limit for this pollutant. The 1-hour mean was exceeded in main road locations and at Golders Green Bus Station. However, recent monitoring has shown concentrations of NO₂ at levels indicative of there being no exceedance of the hourly mean limits.

- Particulate Matter (PM₁₀)

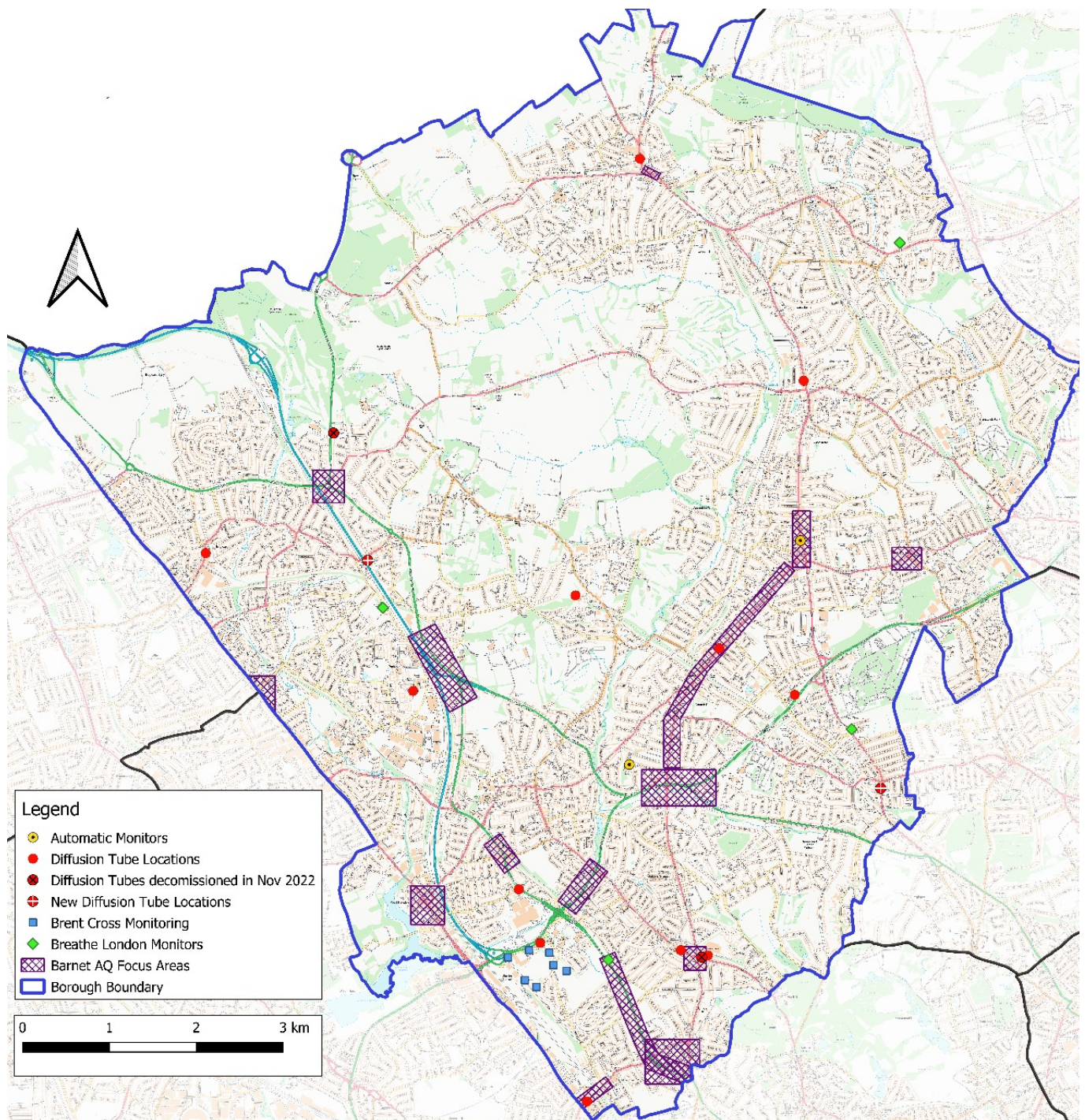
Barnet has also declared an AQMA for 24-Hour Mean concentrations of PM₁₀. The daily objective for PM₁₀ has been met for several consecutive years. The AQMA remains in place, as the WHO guideline limit of 5 µg m⁻³ is being exceeded for PM₁₀.

While there is no AQMA for PM_{2.5}, it is acknowledged that the WHO guideline is being exceeded for PM_{2.5}. While Barnet currently does not employ reference monitoring for PM_{2.5} within the administrative area, we recognise that Barnet has a formal responsibility to reduce PM_{2.5} concentrations. PM_{2.5} accounts for up to 80 % of ambient PM₁₀ concentrations.

An air quality Focus Area is a location that has been identified by the Greater London Authority based on LAEI data as having high levels of pollution and human exposure. There are 11 focus areas in the borough.

These are:

1. Cricklewood Junction A407 Cricklewood Lane/A5 Broadway
2. Cricklewood A41 Hendon Way
3. Barnet High Street including junction with Barnet Hill
4. Hendon M1 and A5
5. Hendon Central Town Centre
6. Apex Corner near Mill Hill M1/A41/A5109
7. A406 North Circular Brent Cross to Golders Green Road A502
8. A406 Henley's Corner
9. North Finchley Town Centre
10. Friern Barnet A1003 Woodhouse Road junction with Colney Hatch Lane
11. Fiveways Corner M1 Junction 2 and A1 Barnet Bypass



3.2. Sources of Pollution in Barnet

Air pollution in *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 NO_x are:

- Road transport: of which, the largest contributor is diesel vehicles, and
- Heat generation; used to warm residential and industrial/commercial buildings.

The main sources of particulate matter in Barnet are:

- Vehicles: from exhausts (diesels).
- Construction: e.g., new developments occurring within Barnet
- Resuspension: for PM₁₀ only, i.e., dust present on road surfaces that are not generated from tailpipe emissions, such as road, brake, and tyre wear. Windblown dust from other localities. Road additives such as de-icer and grit.
- Domestic wood/biomass for PM_{2.5} only, e.g., from the operation of wood burners.

NO_x concentrations in Barnet are mainly influenced the emissions from vehicles. Like other outer London Boroughs, there is a higher dependency on car travel, and less comprehensive public transport. Barnet is well connected to the UK's strategic road network, and as such a high volume of vehicles travel through the borough daily.

Industrial and commercial heat production is the next biggest contributor of NO_x concentrations in Barnet i.e., gas, oil and coal burning for non-domestic purposes e.g., to heat large office buildings, hospitals etc. Vehicles are the generally the greatest source of particulate matter pollution in the borough, for the same reasons as NO_x.

Barnet is undergoing a significant amount of regeneration, e.g., Brent Cross Regeneration project, and part of the process involves intensive amounts of construction which accounts for a significant portion of PM₁₀ emissions.

PM_{2.5} emissions are more likely to occur from combustion related processes; burning solid fuels, such as coal, wood, pellets, or briquettes, as well as gas. Burning wood domestically is the largest non-vehicle related source of this pollutant.



4. Barnet's Air Quality Priorities and Actions

In Barnet, we are taking forward and evolving our strategies as set out in the 2017-2022 Air Quality Action Plan, as well as introducing new measures for this 2023-2028 Air Quality Action Plan; we recognise the impact of these actions on our Sustainability Action Plan and the BarNET ZERO Campaign, therefore have linked the two together where relevant. This plan also meets the themes of Barnet's new Corporate Plan: Caring for Planet, and Enhancing the Local Environment, by improving air quality.

The following themes are addressed:

People:

- Consultation as part of being an effective and engaged council; finding out what Barnet residents and workers want.
- Tackling inequalities in the exposure to poor air quality e.g., improving conditions for those who live near busy roads.
- Improving health outcomes by reducing air pollution exposure, and therefore providing people with opportunities to live well.

Places:

- Championing the development of healthier town centres where residents and workers of Barnet can experience a cleaner and safer environment.

Planet:

- Reducing emissions from Buildings and vehicles so that residents benefit from cleaner air.
- Making sustainable choices and/or changes in how we live and work in Barnet in response to the Climate and Biodiversity Emergency declared in 2022.

We update our progress on the Action Plan every year in our Air Quality Annual Status Reports (ASR).

This can be found online at the council's air quality webpages at the following web address:

www.barnet.gov.uk/environmental-problems/air-quality/air-quality-monitoring

4.1. Reducing Emissions from Construction and Development

Construction activity and emissions from buildings are significant contributors to air pollution in Barnet. Emissions are often localised, particularly in case of construction, therefore those at risk of exposure are generally located in the immediate vicinity of construction sites. Generally, the larger the construction site or building, the more risk there is of emissions of pollutants which may be harmful. Approximately 19 % of particulate emissions in Barnet can be attributed to Construction sites.

The emissions from buildings may result from several everyday actions, including:

- Heating and Power Generation
- Cooking and Food Preparation
- Industrial Processes
- Waste Disposal

Of these, the largest contributor to NO_x concentrations in Barnet is heating and power generation for Industrial/commercial use, followed by domestic heat and power (23 % cumulatively, LAEI 2019).

BARNET COMMITS TO:

- Reducing the impact of emissions from construction and demolition activities.
- Reducing the impact of emissions from NRMM and generators on Barnet's air quality.
- Reducing the emissions and impact of air pollution from buildings.
- Reducing the emissions from wood and solid fuel burning.

**4.2. Public health and awareness raising**

Air quality is known to have a significant impact on the health and wellbeing of people. Even short-term exposure to NO₂ is known to cause inflammation of airways, increase susceptibility to allergens, respiratory infections, and exacerbate the symptoms of those suffering from chronic lung and heart conditions. In recent years, the particulate matter has increased in prominence as a factor affecting human health; fine particulate matter (particles of a diameter of 2.5 µm and below) has been identified as a serious risk to health, as it can easily enter the bloodstream and be transported to vital organs such as the heart, brain, and lungs. There is some evidence that exposure to particulates can be associated with an increased risk of dementia. Children are particularly vulnerable to the impacts of poor air quality.

BARNET COMMITS TO:

- Increasing the role of the Public Health Directorate in improving air quality.
- Increasing the availability of air quality data.
- Reducing exposure to air pollution for schools and hospitals, health centres and other hubs for vulnerable people.
- Empowering communities and schools to make an impact.
- Promoting public awareness of air quality issues.

**4.3. Reducing emissions from road transport and adopting cleaner transportation methods**

Road transport is the most significant contributor to air pollution in Barnet; 65 % of NO_x, 35 % of PM₁₀ and, 41 % of PM_{2.5} can be traced back to this source.

All forms of motorised vehicles contribute to air pollution. This is true even of electric vehicles; while these do not produce any gaseous emissions, there are still particulate emissions from road, brake, and tyre wear. Driving behaviours e.g., fast acceleration, engine idling, and hard braking, also contribute air pollutant emissions in Barnet, and have the biggest health impacts on those in the immediate vicinity of the vehicle - including those who are operating the vehicle.

The anti-idling campaign in Barnet launched in summer 2022, with a view to further promote anti-idling action following the strategies within the asthma-friendly schools action plan, Barnet's sustainability framework & the joint health and wellbeing strategy. These issues are particularly acute in Barnet given the parts of the UK's strategic road network in the Borough. A significant proportion of emissions will come from commercial vehicles whose journeys start and end outside our area and use roads managed by other agencies and/or authorities.

BARNET COMMITS TO:

- Reducing the impact of delivery, servicing, freight, and fleet in Barnet on air pollution and health.
- Reducing the impact of Road Transport in Barnet on air pollution, emissions, and health.
- Reducing vehicle engine idling in the borough.



The period covered by this plan will see implementation of the London-wide extension of the Ultra-Low Emissions zone, which will come into force in the summer of 2023. It is estimated that in Barnet this will lead to a 6.9% reduction in traffic-generated NO_x emissions, a 1.2% reduction in PM₁₀ emissions and a 1.8% reduction in PM_{2.5} emissions⁶.

Research on the long-term costs of poor air quality has estimated that over the period to 2050, the ULEZ extension could help save £118,631,800 in NHS and social care costs that would otherwise be spent on caring for those affected by poor air quality⁷.

The Council will work with TfL to ensure effective implementation of the ULEZ and to ensure its potential to improve air quality in Barnet is optimised.

4.4. Local Town Centre improvements and localised solutions

Barnet’s 30 local town centres are hubs of activity in Barnet, and as identified with the 2021 Air Quality Annual Status Report for the borough, likely to be subject to increased levels of air pollution, because of the way they are used and amenities which draw traffic to the area. These town centres may also be a significant place of exposure for the population of people that live in these locations. Currently Barnet has 11 air quality focus areas, which are defined as areas that have been identified as having high levels of pollution and human exposure, some of these (including Barnet High Street, Hendon Central and North Finchley) cover town centre areas.

Some of the measures required to improve conditions in local town centres acts in conjunction with solutions identified for cleaner transport, construction and building emissions.

BARNET COMMITS TO:

- Improving the air quality in our local town centres and high streets through a series of measures to have healthy and clean spaces for all.



Full details of the actions Barnet have committed to completing in this action plan period (2023-2028) can be found in the main action plan document, in table 4.1.

This table will be updated annually and published as part our commitment to the Annual Review and Assessment process as required by the Greater London Authority and DEFRA.

5. Abbreviations

AQAP	Air Quality Action Plan	LAQM	Local Air Quality Management
AQMA	Air Quality Management Area	LLAQM	London Local Air Quality Management
AQO	Air Quality Objective	NRMM	Non-Road Mobile Machinery
ASR	Annual Status Report	PM₁₀	Particulate matter less than 10 micron in diameter
EV	Electric Vehicle	PM_{2.5}	Particulate matter less than 2.5 micron in diameter
GLA	Greater London Authority	TfL	Transport for London
LAEI	London Atmospheric Emissions Inventory		

⁶ Jacobs, London-wide ULEZ Integrated Impact Assessment (May 2022)

⁷ Health Lumen, Modelling the long-term health impacts of changing exposure to NO₂ and PM_{2.5} in London (2020)

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 [BACK TO CONTENTS](#)