

## Health in Hackney Scrutiny Commission

### Health impacts of air pollution: evidence and responses

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#### 1. Introduction

Air pollution is the largest environmental risk to the public's health in the UK, with estimates of between 28,000 and 36,000 deaths each year attributed to human-made air pollution. There is now a close association between exposure to air pollution and cardiovascular and respiratory diseases, including lung cancer, cognitive disorders, low birth weight and diabetes, along with emerging evidence that children in their early years are especially at risk, including asthma and poorer lung development.<sup>1</sup>

Outdoor air pollution is a significant contributor to ill health and early death in Hackney. Data indicates pollution levels exceed legal standards in some areas of the borough, and exposure to these levels will have a negative impact on the health of all residents and visitors. People with existing conditions, and those who are socioeconomically deprived, are particularly affected, making air pollution a contributor to health inequality. There are chronic long term effects on health and wellbeing, as well as more acute effects on sufferers of respiratory conditions.

This paper provides an overview of air quality in Hackney. It sets out the health impacts of air pollution, summarises the main public health frameworks and principles for effective action on air quality, provides an update on major actions relating to these frameworks, and describes the progress of the specific actions to reduce the health impacts of poor air quality outlined in Hackney's newly adopted Air Quality Action Plan 2021-2025 (AQAP).<sup>2</sup>

#### 2. Air Quality in Hackney - the local picture

##### 2.1 Main Sources of pollutants in Hackney

The main pollutants measured in Hackney are NO<sub>2</sub>, which is produced in the atmosphere from a conversion of NO<sub>x</sub>, and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). According to the 2019 London Atmospheric Emissions Inventory data:<sup>3</sup>

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<sup>1</sup>[Review of interventions to improve outdoor air quality and public health](#)

<sup>2</sup> [Air Quality Action Plan 2021-2025](#)

<sup>3</sup> <https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory--laei--2019>

- **NO<sub>x</sub>:** In 2019 Hackney emitted 515 tonnes/annum of NO<sub>x</sub>, this is down from 751 tonnes/annum in 2016 and 844 tonnes/annum in 2013. Road transport is the largest emission source contributing 53% of emissions, this is down from 64% in 2016 and 71% in 2013; the second-highest emission source, industrial/commercial contributes 36% of emissions which is up from 16% in 2016. For reference, industrial/commercial includes construction, heat and power generation, commercial cooking and industrial processes.
- **PM<sub>2.5</sub>:** In 2019 Hackney emitted 55.9 tonnes/annum of PM<sub>2.5</sub> which is down from 68.9 tonnes/annum in 2016 and 73.9 tonnes/annum in 2013. Industrial/commercial within Hackney is the largest emission source of PM<sub>2.5</sub>, this makes up 43% of total emissions, this is down from 44% in 2016; transport is the second-largest source with 31% of emissions from this source in 2019, which is down from 35% in 2016.
- **PM<sub>10</sub>:** In 2019 Hackney emitted 117.3 tonnes/annum of PM<sub>10</sub>, which is down from 146.3 tonnes/annum in 2016 and 133.6 tonnes/annum in 2013. Industrial and commercial is the largest contributor of PM<sub>10</sub> emissions, contributing 41%, this is down from 43% in 2016; transport is the second-largest contributor, making up 34.4% of emissions which is up from 30% in 2016.

## 2.2 Geographical distribution of pollutants in Hackney

With regards to which areas within Hackney have the highest levels of pollution, the following points are key, as noted in the Joint Strategic Needs Assessment (forthcoming):

- Inner City areas with high traffic density are particularly affected by air pollution. Locally, Hackney Central, Shoreditch, and the area close to the A12 in Hackney Wick have the highest rates of pollution overall.
- The highest modelled concentrations of NO<sub>2</sub> are primarily around major roads.
- Hackney currently has one permanent PM<sub>10</sub> and PM<sub>2.5</sub> monitor in Old Street, Shoreditch and four PM<sub>10</sub> monitors on hire for 2 years. By the end of 2023, we are planning to have an additional 2 PM<sub>10</sub> monitors and 2 PM<sub>2.5</sub> monitors installed. The Council has also recently undertaken borough-wide modelling for concentrations for particulate matter and NO<sub>2</sub>, the modelled data shows that construction activity has the highest contribution to PM<sub>10</sub> emissions in Hackney and therefore, has a strong influence on the distribution of PM<sub>10</sub> concentrations. PM emissions are also high around major roads and in areas where solid fuel is burned.
- Estimates suggest that the number of deaths attributable to PM<sub>2.5</sub> across Hackney each year is evenly spread across electoral wards. This highlights the difficulty in clearly attributing the impacts of air pollution geographically, when people may have exposure where they live, work or go to school, and that they may live in different areas throughout their life.

- There is also significant variation in air pollution exposure over very small areas. Shelter from air movements caused by tall buildings in parts of London for example can create a 'street canyon' microclimate, concentrating pollution over time.
- Ambient air pollution has historically been the main focus of air quality strategies and measurements of pollution are typically taken outdoors, whether this be in an urban or rural environment. However, as we spend the majority of our time indoors - at home, work, school or when we socialise indoor air pollution can also largely impact our health. The sources of indoor air pollution include heating and cooking at home, damp and mould, smoke and vapour and chemicals we use for cleaning and decorating. Smoking is one of the major causes of indoor air pollution, especially in generating PM. It releases around 4000 different chemicals. Exposure to environmental tobacco smoke has been linked to greater risk of many adverse health outcomes, such as cancers and respiratory diseases. The World Health Organisation estimate that globally approximately 600,000 deaths are caused by the effects of second hand smoke (breathing in someone else's tobacco smoke)<sup>4</sup>
- Wood burner use has recently increased in homes, which is contributing to poor indoor air quality despite reduction in other sources, such as traffic. It releases particulate matter PM2.5, one of two pollutants of greatest concern in London linked to adverse health outcomes. A report from the European Environment Bureau showed that even those stoves certified as 'Eco-stoves' produce 750 times more PM2.5 per gigajoule of energy than a modern HGV<sup>5</sup>. It is typically harder to regulate indoor air pollution as conditions in homes can vary significantly and the Council has no authority under the air quality regulations to improve indoor air quality.

However, the Council's Housing department undertakes inspection and home visits to identify mould and damp. The necessary repairs and improvements will then be made and advice is given to residents on reducing damp and condensation, increasing ventilation and improvements to cooking facilities.

### 2.3 Comparison with neighbouring areas

Air pollution tends to be higher in dense urban areas and due to Hackney's location next to central London, levels are expected to be higher than in a more rural setting. Hackney's neighbours that are close to Central London therefore, experience similar pollution levels. In 2016, 58% of the Hackney population was exposed to NO<sub>2</sub> concentrations exceeding the annual mean NO<sub>2</sub> national air quality objectives (NAQO) thresholds. 77% of the Tower Hamlets population and 76% of the Islington population were exposed to NO<sub>2</sub> concentrations exceeding the same threshold in 2016<sup>6</sup>.

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<sup>4</sup> Rivas et al., 2019

<https://pubs.rsc.org/en/content/chapterhtml/2019/bk9781788015141-00001?isbn=978-1-78801-514-1&sercode=bk>

<sup>5</sup> <https://eeb.org/library/where-theres-fire-theres-smoke-emissions-from-domestic-heating-with-wood/>

<sup>6</sup> Mayor of London, 2019, London Atmospheric Emissions Inventory

However, the 2019 LAEI data has shown air quality is improving across the whole of London. There was a significant drop in the % of the population being exposed. Hackney dropped from 58% in 2016 to 1.2% in 2019, Tower Hamlets dropped from 76% to 7.5% and Islington dropped from 76% to 3.1%

### 3. Health impacts of air pollution in Hackney

#### 3.1 Deaths attributable to air pollution

Based on the Global Burden of Disease Study, 54 deaths among residents of Hackney in 2017 were estimated to be attributable to outdoor air pollution. According to the Greater London Air Quality for Public Health Professionals report as many as 8.7% of all deaths among people in Hackney over age 30 in 2019 can be attributed to air pollution (NO<sub>2</sub> and PM<sub>2.5</sub>). Note that the figure for both Tower Hamlets and Islington was 8.9%, for the City of London it was 10.1% and for Waltham Forest, 8.0% of deaths were attributable to the same cause; reinforcing the case for joint action at the London level and among local authorities.

A lot more attention has been drawn to the health impacts of air quality after the coroners' issued a prevention of future death report (PFDR)<sup>7</sup> which attributed air pollution as a cause of death for the young Lewisham girl Ella Adoo-Kissi-Debrah. This was significant because it was the first time air pollution had been defined as a direct cause of death and highlighted how damaging air pollution can be. The formal government response to the PFDR detailed 6 areas for national focus including additional funding, greater public awareness, more systematic approach to asthma management and a consultation on new legal targets.<sup>8</sup>

#### 3.2 Health and care costs attributable to air pollution

The estimated costs to local health and care services caused by air pollution in 2019 for Hackney were over £50 million (£30.3 million for PM<sub>2.5</sub> and £19.9 million for NO<sub>2</sub>). This includes costs to primary care, secondary care, medication and social care (Public Health England, Air pollution: a tool to estimate healthcare costs).<sup>9</sup> Furthermore, the cost of the early preventable deaths attributed to air pollution is estimated at £2m by the UK Treasury.

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<sup>7</sup> <https://www.judiciary.uk/publications/ella-kissi-debrah/>

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[https://www.gov.uk/government/news/government-responds-to-coroner-after-ella-kissi-debrah-inquest#:~:text=The%20Government%20has%20today%20\(17,public%20awareness%20about%20air%20po llution.](https://www.gov.uk/government/news/government-responds-to-coroner-after-ella-kissi-debrah-inquest#:~:text=The%20Government%20has%20today%20(17,public%20awareness%20about%20air%20po llution.)

<sup>9</sup> London Borough of Hackney Draft Joint Strategic Needs Assessment

## 4. National guidance and evidence-based recommendations for public health action on air quality

### 4.1 Summary of National Institute for Health and Care Excellence (NICE) Guidance NG70<sup>10</sup>

- Include air pollution within local strategic plans and processes, including the Local Plan, core strategy, transport plan, and health and wellbeing strategies, with a focus on zero or low-emission travel.
- Consider air quality within plans for new developments or regeneration programmes, ensuring appropriate steps are taken to reduce the need for motorised travel and to minimise exposure to air pollution.
- Utilise Community Infrastructure Levy funding to implement air quality monitoring and measures to reduce road traffic-related emissions.
- Consider ways to reduce or mitigate road-traffic-related air pollution, including initiatives to reduce motorised vehicle trips, encourage the use of no or low emission vehicles, and review tree and vegetation management.
- Consider the implementation of local, potentially cross-borough clean air zones, which act to promote zero or low emission travel and discourage motorised vehicular travel.
- Ensure that air quality is considered within decisions around public sector fleet procurement and that the staff driving these vehicles are adequately trained in how to drive in such a way as to minimise fuel consumption and air pollution.
- Provide information to the public and health professionals about the impacts of poor air quality on health, and how to reduce local air pollution and minimise exposure to it.
- Develop infrastructure for active travel to support and encourage cycling and other forms of active travel.

### 4.2 Summary of recommendations from Public Health England's evidence review of interventions to improve outdoor air pollution<sup>11</sup>

- Local authorities need to work together: air pollutants do not respect borders, and joint working is needed to reduce all pollution, rather than displace it from one populated area to another, e.g. clean air zones can be across the borough.

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<sup>10</sup> NICE Guidance NG70: Air pollution - outdoor air quality and health, 2017

<sup>11</sup> Public Health England, 2020, Review of interventions to improve outdoor air quality and public health

- Effective strategies require a coherent approach: these should cover local authority functions such as environmental and public health, transport, spatial planning, relations between local government and local communities, as well as other public and private sector organisations.
- Everyone has a role to play: individuals need to change behaviours to reduce exposure to and contribution to pollution, and local authorities need to provide leadership and coordinate action.
- Public sector organisations should lead by example: Employers and private sector organisations should engage with initiatives.
- Reduce air pollution at the source to mitigate the consequences: the hierarchy for the most effective approaches is to prevent (reduce emissions), mitigate (reduce air pollution and environmental concentrations), then avoid (avoid and reduce individual exposure) (see figure 1 below)

**Figure 1: Air pollution intervention hierarchy**



- Implement targeted interventions to address specific local sources or issues e.g. anti-idling interventions in pollution hotspots or near vulnerable groups (including school children).
- Reduce emissions from existing vehicles by planning for active travel and public transport (e.g. driving restrictions, anti-idling enforcement).
- Promote uptake of active transport by default and where not possible replace vehicles with low emission vehicles and reduce demand for more polluting forms of transport (e.g. low emission zones, lorry restrictions).
- To influence behaviour and raise awareness about air pollution and health, provide information to businesses and the public on what companies and individuals can do, and explain how people can minimise their exposure to air pollution.

- Clean by design: local planning frameworks and processes should ensure any housing or other development is designed by default to reduce pollution, and should support walking, cycling and clean public transport, as well as provide charging points for future ultra-low emission vehicles.
- Focus on children: children are particularly vulnerable to the effects of air pollution. Exposure to air pollution in early life can have a long-lasting effect on lung function. Local authorities should consider interventions such as no-idling zones outside schools, making it easier to walk or cycle to school, and increasing public awareness relating to air pollution and the impacts on children.

### 4.3 Co-health benefits of actions to improve air quality

Action to address air quality has numerous important co-health benefits. A reduction of air pollution levels can also mean reducing premature deaths and diseases from stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma.<sup>12</sup>

There is also emerging evidence to show an association between certain air pollutants and a range of mental health outcomes including depression, dementia and cognitive development.<sup>13</sup>

Further initiatives aimed at improving air quality, such as increasing physical activity through active travel can also contribute to the health and well-being of residents.

## 5. Local action to improve air quality

The following are actions the Council has undertaken to improve air quality across the borough.

### 5.1 Reducing transport-related emissions

- Filtering traffic to eliminate through-traffic ('rat runs'), reduce total number of vehicle journeys and improve streets for walking and cycling and contribute to improving air quality.
- Low Traffic Neighbourhoods are areas of road re-designed to limit overall vehicle transport travelling through streets and aim to reduce pollution levels, whilst also creating quieter safer roads. LTNs also have numerous public health objectives as well as improving air quality such as increasing walking and cycling rates, reducing opportunities for traffic collisions and reducing severance with positive impacts seen on community cohesion and social connections.
- Charging polluting vehicles through emissions-based parking permits and charging diesel and polluting vehicles more to discourage their use.

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<sup>12</sup> [World Health Organisation: Fact Sheet - Better Air for Better Health](#)

<sup>13</sup> [Air pollution, mental health, and implications for urban design](#)

- Anti-Idling events have been held at 7 different schools across Hackney as part of a wider anti-idling campaign. The campaign has also seen 51 signs installed in an attempt to encourage behaviour change.
- The Council fleet includes 75 electric vehicles with all of Hackney's waste services and parks refuelling at Millfields Depot using biofuels. To further reduce harmful emissions there is a move towards using biofuels for other vehicles, along with adding to the fleet's 30 bicycles and cargo bikes.
- Supporting electric vehicles work has been completed on establishing over 300 electric charging points, and procurement of chargers is currently taking place with a view to introducing 3,000 charging points over the next 15 years.
- Ultra-Low Emissions Zone: Hackney lobbied TfL successfully for the Ultra-Low Emissions Zone to be extended in 2021 to the whole of Hackney and is working with them to introduce a low emissions bus zone in Hackney. These zones tackle the worst pollution hotspots by concentrating cleaner buses on the most polluted routes.
- Ultra-low emissions streets Ultra-low emissions streets remove polluting vehicles from 5 streets in Shoreditch at peak hours, developed in partnership with Islington Council and the Mayor of London.
- Zero Emissions Network (ZEN) supports businesses in the City Fringe to switch to low or zero-emissions vehicles. At present, 1600 business members and over 1100 residents are part of ZEN.
- Low emissions neighbourhood to combat air pollution in the City Fringe through introducing schemes that prioritise walking, cycling and the use of electric vehicles. The scheme is developed in partnership with Islington and Tower Hamlets Councils and funded by the Mayor of London. A further low emission neighbourhood has been launched in Stoke Newington that included the introduction of a bus gate on Church Street and associated side street closures.
- Promoting walking and cycling Streetscene delivers a number of behaviour change campaigns and free services to promote walking and cycling and reduce the number of cars on the road - including an annual Car Free Day event and free cycle lessons to everyone who lives, studies, or works in the borough. Hackney has long worked to be London's leading borough for cycling, and now has a higher proportion of journeys made by bike than any other borough. A network of 'dockless' cycle hire stations has also been developed, there are 2758 parking stands, 106 bike ports, 414 cycle hoops and there is a manifesto commitment to increase the number of bicycle parking stations across the borough.
- Sustainable Travel to School Programme: Hackney has focused on achieving a modal shift in the school community through the Sustainable Travel to School Programme. This programme includes supporting behaviour change initiatives, such



as Bikers' Breakfasts and Walk Once a Week, and delivering programmes like School Streets.

- Parklets and cycle hangers Hackney has implemented 10 parklets and installed 650 cycle hangers in parking bays to increase the uptake of cycling or walking rather than driving.

## 5.2 Clean by design

- The Council works with developers through the planning process to ensure that building work and new developments do not add to poor air quality in the borough and that the health of future occupiers is protected. For instance, if a development is proposed for residential use in an area exceeding national maximum air pollution thresholds, measures must be implemented to protect residents from the impacts of air pollution.
- To tackle air quality and promote walking and cycling, Hackney's Local Plan 33 states that all new developments must be car free, with parking limited to disabled spaces or essential servicing needs.

## 5.3 Reducing exposure to air pollution

- Hackney is planting over 30,000 extra trees, including 5,000 street trees, which will contribute to absorbing and blocking harmful pollutants.

## 5.4 Tackling non-transport sources of pollution (cooking, heating, construction)

- Zero Emissions Network (ZEN) has run a behaviour change campaign in Hackney<sup>14</sup> on domestic and commercial solid fuel burning. The aim of the campaign was to raise awareness of the contribution solid fuel-burning has to levels of particulate air pollution and make people aware of the ways they can eliminate or reduce their emissions from solid fuel burning.
- As part of a Pan London Project funded by the Mayor of London, all Non-Road Mobile Machinery (NRMM) used on development sites within Hackney, must meet the relevant emission standards of the Low Emission Zone. Regular site inspections are also made by Pan London Project officers to sites in Hackney to monitor compliance with the standards. Working to these emission standards minimises particulate emissions from NRMM on construction sites.

Further details and links are available on Hackney's Air Quality webpage. <sup>15</sup>

## 6.0 Hackney's Air Quality Action Plan (AQAP) 2021-2025

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<sup>14</sup> Hackney Council. Tackling Poor Air Quality: [Solid Fuel Burning](#)

<sup>15</sup> [Air Quality in Hackney](#)

To provide a wider context for action to improve air quality that may improve public health, Hackney's recently updated AQAP has established a set of themes and priorities that have been designed to reduce the health harms of air pollution and align closely with all the Greater London Authority's recommendations.<sup>16</sup> Hackney also aims to go further by working towards meeting the more stringent World Health Organisation's Guideline Values as outlined in section 6.3 of this report.

An update on the progress with delivering the specific actions to reduce the health impacts of air quality listed in the Air Quality Action Plan is prepared each year and made publicly available. A range of actions has been, and are being, taken by a wide variety of service areas, including Land Water Air Team, Streetscene, Planning, Fleet, Parks, Parking and Public Health.

## 6.1 Themes

**Monitoring and other core statutory duties:** evaluating the air quality monitoring throughout Hackney to keep track of compliance with our core statutory objectives.

**Emissions from development and buildings:** emissions from construction alone account for approximately 37% of the PM<sub>10</sub> emissions across Hackney, and therefore work in this area is important in reducing particulate concentrations. This will focus on air quality mitigation through the planning system and correlates with the Council's sustainability objectives.

**Public health and awareness-raising:** increasing awareness can drive behavioural change to lower emissions as well as reduce exposure to air pollution. For example, a shift in attitude with respect to solid fuel burning through increasing awareness of the impact this causes can help facilitate overall behaviour change.

**Delivery servicing and freight:** ensuring delivery servicing and freight vehicles are re-evaluated as these are usually heavy-duty diesel-fueled vehicles with high primary NO<sub>2</sub> emissions. Assessment of the impacts is especially important as our shopping habits change, particularly in response to the Covid pandemic

**Borough fleet:** Hackney's fleet includes a mixture of light and heavy-duty diesel-fuelled vehicles, now alongside 66 electric vehicles. Building on our 2018 Green Fleet of the Year award, we will continue to make improvements in our own fleet, thereby leading by example.

**Localised solutions:** these seek to improve the environment of neighbourhoods through a combination of measures such as Low Traffic Neighbourhoods, traffic filtering, parking schemes and biodiversity projects.

**Cleaner transport:** road transport is the main source of air pollution in London and Hackney. We will continue to incentivise and facilitate a change to walking, cycling, public transport and ultra-low emission vehicles (such as electric) as far as possible.

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<sup>16</sup> [LLAQM Borough Air Quality Action Matrix](#)

**Schools and communities:** implementing initiatives that target the most susceptible groups in Hackney in order to ensure those most at risk are not disproportionately affected by the impacts of poor air quality.

**Lobbying:** Hackney will continue to lobby and influence regional and national organisations and stakeholders on policies and issues beyond Hackney's influence to introduce progressive measures aimed at improving air quality.

## **6.2 Our 10 key priorities**

1. Adopt updated WHO guidelines for PM<sub>10</sub> and PM<sub>2.5</sub> with a compliance deadline by 2030.
2. Ensure standards for Non-Road Mobile Machinery (NRMM) are met through the use of planning conditions and by carrying out compliance monitoring checks.
3. Minimise emissions from construction through the development of Hackney's own Supplementary Planning Document (SPD) and code of construction for air quality which goes above and beyond the GLA Supplementary Planning Guidance (SPG).
4. Run air quality campaigns to raise awareness and encourage behaviour change.
5. Assess the potential impact of installing Ultra-Low Emission Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid electric vehicle charging points).
6. Increase uptake of electric vehicles and ensure electric vehicle charging infrastructure is commensurate with growth in the borough's Fleet.
7. Ensure that Transport and Air Quality policies and projects are integrated and assess the air quality benefits of the actions in Hackney's Transport Plans and Strategies.
8. Provide new cycling and walking infrastructure (including cycle parking) and assess air quality impacts of new infrastructure.
9. Deliver updated Parking and Enforcement Plan.
10. Lobby Central Government to control and reduce emissions that are outside of Hackney's authority.

## **6.3 Actions specific to reducing the health impacts of air quality (AQAP - Progress)**

As we have become more aware of how exposure to high levels of air pollution can cause a variety of adverse health outcomes, it was considered essential to include public health as a theme in the updated AQAP. As the AQAP was published in July 2021 there is still much

work to be done; however, the following provides a progress update on specific actions that relate to public health and improving air quality.

Action 1. Adopt updated WHO guidelines for PM10 and PM2.5 with a compliance deadline of 2030:

- Adoption of the World Health Organisation's more stringent air quality guidelines.
- In August 2021 the updated AQAP was formally published, with one of the top priorities being commitment to adopting the more stringent WHO guidelines for NO<sub>2</sub> and PM. At the time of publication, the WHO's recommended annual mean targets for PM10 and PM2.5 were 20 ug/m<sup>3</sup> and 10 ug/m<sup>3</sup> respectively. These are the levels that Hackney has committed to achieving with a compliance deadline of 2030. However, in September 2021, the WHO tightened its quality guidelines and adopted new annual mean guideline thresholds of 15 ug/m<sup>3</sup> for PM10 and 5ug/m<sup>3</sup> for PM2.5. Whilst these guidelines are ambitious, Hackney is still committed to achieving the WHO levels and supports the WHO interim target of compliance with an annual mean of 10ug/m<sup>3</sup> for PM2.5 by 2030.

Action 18. Raise awareness of air quality and encourage behaviour change through campaigns and working with local communities:

- Public consultation took place for Hackney's 2020-2025 Air Quality Action Plan. During the consultation over 670 responses were received and the AQAP was amended to take account of the feedback received.
- An Air Quality Awareness Survey is being developed but will be carried out among targeted groups during the summer of 2022.
- Events were held at 7 different schools as part of the pan-London campaign to discourage engine idling.
- Clean Air Day was promoted on social media. This included messages on Twitter providing advice on ways to minimise air pollution from transport as well as celebrating the planting of more than 2500 street trees since 2018.
- Car-Free Day in September 2021 was promoted with the launch of a publicly available cargo bike-sharing scheme, the first of its kind in the country.

Action 19. Develop a Joint Strategic Needs Assessment (JSNA) that will focus on air quality and public health:

- A JSNA currently exists in draft form. This will be revised and updated by the Intelligence Team in Public Health before its publication in late 2022.

Action 20. Develop and promote the existing high air pollution alert system:

- LB Hackney is a member of the AirTEXT consortium. Details about registering to receive free pollution alerts are included on the Council website. At the end of 2021, there were 377 active subscribers receiving airTEXT alerts for Hackney by email, text and voicemail. This was an increase of 60 since the end of 2020.
- Where the Mayor of London issues pollution alerts, awareness of them is promoted through Hackney's own social media channels.

Action 21. Continue to collaborate in the cross-borough project encouraging canal boat owners to switch from wood-burning stoves and diesel engines to electric or more sustainable fuel:

- Hackney has teamed up with Tower Hamlets and Newham to undertake a joint communication campaign, which includes linking to information on Hackney's website. Additional communication was carried out in conjunction with Canal and River Trust. Officers have contacted marinas in the borough as a way to spread information on solid fuel burning and also engaged with local groups when complaints have been received.

As children and the elderly are particularly susceptible to poor air quality, the AQAP also contains actions that focus on improving air quality to benefit public health in Schools and Communities:

Action 40. Reduce air pollution near schools and protect children through the delivery of the School Streets Programme:

- The objective is to reduce /eliminate traffic related to the school run, improve air quality and also reduce parking and congestion in school-related streets as well as promote healthy and sustainable travel to school by children and improve road safety.
- There are now 41 permanent school streets across Hackney

Action 41. Reduce air pollution at schools and protect children by delivering more green screens:

- In primary schools where pollution is higher and it is suitable to do so, install green screens to act as a barrier and reduce exposure to transport emissions.
- Green screens have been installed at St Mary's Church of England Primary School and Grasmere Primary School with further green screens planned at other schools.

Action 44: Review pollutant concentrations at all healthcare centres, hospitals, care homes and schools and where relevant implement an audit and improvement scheme:

- The target date for this action is 2025. Diffusion tubes have been placed at Hackney health centres and Hospitals.
- Borough-wide modelling of NO<sub>2</sub> and PM was carried out to determine concentrations at healthcare centres and hospitals for the year 2018. This will act as a benchmark for future years.

## **7. Action on air quality in partnership with our neighbours and at London level**

The London Boroughs of Islington and Tower Hamlets and the City of London are members of cross-borough initiatives such as Zero Emissions Network (ZEN).

- Examples of the work that Islington Council<sup>17</sup> is undertaking: School Streets, schools audits, and air quality awareness days including Car Free Day and Clean Air Day.
- Tower Hamlets Council<sup>18</sup> projects include the Breathe Clean behaviour change campaign, the Clean Van Commitment, which supports drivers to pledge to move to zero-emission vans by 2028, and the Mayor of Tower Hamlets Air Quality Grants for third party organisations to carry out projects combating air pollution.
- City of London and Hackney share a Public Health department and we have previously partnered with the City to deliver a webinar highlighting the association between air pollution and public health.

Hackney has also been successful in securing funding from Defra to provide advice to people on reducing their exposure to air pollution. This is a joint project with Newham, City and Tower Hamlets.

On a regional level, Hackney is a member of the AirText consortium which focuses on how we need to be promoting the pollution alert service, particularly through health professionals.

The Greater London Authority (GLA) and Transport for London (TfL) are working on multiple London wide initiatives to reduce air pollution, in conjunction with boroughs including Hackney and our neighbours. Major schemes and projects to improve air quality are outlined below.

The Ultra Low Emission Zone (ULEZ) was launched in 2018. To help improve air quality, the ULEZ operates 24 hours a day, 7 days a week, every day of the year, except Christmas Day,

<sup>17</sup> Islington Council. Air Quality. What We Are Doing:

<https://www.islington.gov.uk/energy-and-pollution/pollution/air-quality/what-we-are-doing>

<sup>18</sup> Tower Hamlets. Air Quality:

[https://www.towerhamlets.gov.uk/ignl/environment\\_and\\_waste/environmental\\_health/pollution/air\\_quality/air\\_quality.aspx](https://www.towerhamlets.gov.uk/ignl/environment_and_waste/environmental_health/pollution/air_quality/air_quality.aspx)

within the same area of central London as the Congestion Charge. Most vehicles, including cars and vans, need to meet the ULEZ emissions standards or their drivers must pay a daily charge to drive within the zone. From 25th October 2021, the ULEZ has been extended up to the north and south Circular Roads<sup>19</sup>.

The Mayor's School Audit Program: Supported by the Mayor's Air Quality Fund, 50 schools across London, including William Patten and De Beauvoir Primary school in Hackney, were audited in relation to air quality in 2018. Audits included identifying local emission sources outside and within the school premises. Based upon these findings, mitigation measures such as moving school entrances from busy roads and reducing emissions through local road layouts were proposed for the school to implement. Following on from the study, the GLA released school auditing guidance for Local Authorities to undertake auditing at any school within their borough<sup>20</sup>. Hackney will be developing its own Schools Auditing Programme in the coming months.

The London Air Quality Network (LAQN)<sup>21</sup> is a collection of urban air pollution monitoring stations and is a further London wide initiative. The network is managed by Imperial College London's Environmental Research Groups and is one of the largest air quality monitoring networks in the world. The network provides independent monitoring and scientific measurements that can be accessed freely by the public, policy users and scientists.

The Greater London Authority is also currently consulting on a Green New Deal.<sup>22</sup> This has been developed as a response to the pandemic and aims to tackle the climate, ecological emergencies and improve air quality by doubling the size of London's green economy by 2040 to accelerate job creation for all.

## 8. Next steps

Hackney will continue to ensure public health forms an integral part of air quality management in the borough and deliver on the AQAP actions. Officers are also updating the Joint Strategic Needs Assessment which will have a chapter specifically devoted to the environment and air quality.

There are several additional action plans that are being prepared as a result of the Council declaring a climate emergency in June 2019, these include the Green Infrastructure Plan, Local Nature Recovery Plan and Net Zero Energy Strategy. Climate Action Plans are also in development and will consist of 7 different strategies aimed at reducing our carbon footprint.

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<sup>19</sup> Transport for London (TfL). Ultra Low Emission Zone. When and Where:

<https://tfl.gov.uk/modes/driving/ultra-low-emission-zone/ulez-where-and-when#on-this-page-1>

<sup>20</sup> Mayor of London. London Assembly. The Mayor's School Air Quality Audit Programme:

<https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/mayors-school-air-quality-audit-programme>

<sup>21</sup> [The London Air Quality Network](#)

<sup>22</sup> [A Green New Deal](#)

Further to this, having been successful in securing over £300,000 in funding from Defra's Air Quality Grant Programme, Hackney is leading a team of boroughs in developing a web tool aimed at increasing the public's understanding of the impact air quality has on public health.

## 9. Conclusion

An average of 1,110 people die every year in Hackney and the City, with 35% of these deaths being preventable. The greatest numbers of deaths are caused by cardiovascular disease (301 per year) and cancer (326 per year), followed by respiratory disease (135 deaths per year) ([Hackney mortality JSNA, 2018](#)). Given the strong association between air pollution and cardiovascular and respiratory disease, improving air quality is vital for public health.

As noted in Public Health England's evidence review (2019), although there are opportunities for individuals to reduce their personal exposure (or that of their children) to air pollution, these are limited. Likewise, whilst there are opportunities for local authorities to reduce the way air pollution concentrates in certain places, these are also limited. The interventions that will have the greatest impact on reducing harm to people's health are, therefore, those which reduce emissions of air pollution at the source and these should be the main focus of action.

Consequently, Hackney's approach of joining forces with other local authorities to create clean air zones, lobbying to expand and strengthen TfL-led schemes, and ensuring that all possible local actions are taken to reduce emissions (including by the Council fleet and local businesses) and ensure that new development is 'clean by design' are powerful tools to protect public health. The continued effort to focus on vulnerable groups such as the elderly, those with pre-existing conditions and children is also vital to limit exposure to air pollution and the associated health harms.

The potential of wider action to benefit Hackney residents is illustrated by a recently published study by Lumen consultancy commissioned by the GLA. According to this study, the Mayor's air quality policies, including the ULEZ, ULEZ expansion and standards in the London Environment Strategy, will prevent 7,531 cases of new air pollution-related diseases and 23,278 fewer hospital admissions in Hackney by 2050. This will result in a saving of £95.1 million to the NHS and social care system in Hackney by 2050.

The National Institute for Clinical Excellence guidance and the Public Health England evidence review recommendations provide valuable reference points for appreciating the quality and comprehensiveness of the air quality response so far in Hackney and identifying future opportunities to be considered in developing further work in this field.



## Appendix

### Policy Context

The Clean Air Act<sup>23</sup> was introduced in 1956, however, local government was not given responsibility for managing local air quality until the 1990's when the Environment Act 1995<sup>24</sup> was passed. A requirement of the Act was for the government to create a UK Air Quality Strategy which was published in 1997. The Government has now published the third iteration of this strategy; Clean Air Strategy 2019<sup>25</sup>.

Part IV of the Environment Act requires all local governments to review air quality in their constituencies. Where national air quality objectives (NAQO) and limit values are not being met, an Air Quality Management Area (AQMA) must be designated. The legally binding limit values are derived from the EU Ambient Air Quality Directive 2008 and have been transposed into legislation as the Air Quality Standard Regulations 2010.

Once an AQMA is designated it is the responsibility of the local authority to develop an Air Quality Action Plan (AQAP) which must be reviewed and updated every five years. Hackney Council declared an AQMA in 2006 for the exceedance of both the short term and long term NAQOs for NO<sub>2</sub> and PM<sub>10</sub>.

In light of the evidence of the impacts of climate change and air pollution, the Government is developing new legislation and guidance. The Environment Bill<sup>26</sup> was introduced to Parliament on 15th October 2019 with the aim to tackle the biggest environmental issues. The Environment Bill makes a commitment to set a legally binding target for PM<sub>2.5</sub>. At present whilst the Environment Act 1995 and Clean Air Act 1993 provide mechanisms for local authorities to address local air quality, the duties to act and the powers to enable action were often misaligned. The Bill, therefore, aims to update the Local Air Quality Management Framework (LAQM), focusing responsibility for air quality improvements on local government and relevant public bodies. There are also provisions for the amendments to the Clean Air Act 1993, making enforcement of smoke control zones simpler, possibly through a decriminalised regime with a simplified structure for issuing penalty notices. The Bill is seeking to update legislation to give councils the power of entry, and there will also be additional enforcement powers for domestic burning. It will extend these powers to allow enforcement on moored vessels.

Hackney Council welcomes the opportunity to update and strengthen guidance in relation to air quality improvements. However, the Bill does not take a firm stance on addressing the health issues caused, which could be undertaken by particulate matter by adopting the World Health Organisation targets for PM<sub>2.5</sub> by 2030. Whilst the Bill focuses on making air quality improvements local governments' responsibility, it does not detail the additional

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<sup>23</sup> Clean Air Act (1956): <http://www.legislation.gov.uk/ukpga/Eliz2/4-5/52/enacted>

<sup>24</sup> Environment Act (1995): <http://www.legislation.gov.uk/ukpga/1995/25/contents>

<sup>25</sup> Clean Air Strategy (2019): <https://www.gov.uk/government/publications/clean-air-strategy-2019>

<sup>26</sup> Environment Bill (2019 - 21) - Government Bill: <https://services.parliament.uk/bills/2019-21/environment.html>

requirements i.e. the resourcing and funding local government would need to take on this responsibility.

The Private Members Emissions Reduction Bill held its first reading on the 13th of January 2020. The aim of the Bill is to allow Councils to achieve reductions in emissions from specified point source plants such as NRMM and diesel generators. This would be done through the Bill outlining specifications for new point source plants and giving the local authority the ability to issue penalty notices if specifications are not met<sup>27</sup>.

The Mayor of London has committed to the following proposal within his Environment Strategy 2019:

*“Objective 4.3: Establish and achieve new, tighter air quality targets for a cleaner London by transitioning to a zero emission London by transitioning to a zero emission London by 2050, meeting World Health Organisation health based guidelines for air quality.”*

*“Proposal 4.3.1a: The Mayor will set new concentration targets for PM2.5, with the aim of meeting World Health Organisation guidelines by 2030.”*

Hackney Council has made a clear commitment to improve the quality of air across the borough, detailed in the Air Quality Action Plan. Further, the Mayor of Hackney’s Manifesto commitment 126 commits to: *“work towards cleaning up the air by reducing harmful emissions such as nitrogen dioxide and particulate matter”*.

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<sup>27</sup> Emissions Reduction Bill (Local Authorities in London) Bill (HL) (2019 - 21) - Private Members Bill:  
<https://services.parliament.uk/bills/2019-21/emissionsreductionlocalauthoritiesinlondon.html>