# The London Borough of Hillingdon


# Air Quality Annual Status Report, 2020

# London Borough of Hillingdon
# Air Quality Annual Status Report for 2020

# Date of publication: May 2021

This report provides a detailed overview of air quality in the London Borough of Hillingdon during 2020. It has been produced to meet the requirements of the London Local Air Quality Management statutory process[1]. It also updates on the Council's Air Quality Action Plan since its adoption in May 2019 to the end of March 2021, and indications of the effects of the response to the Coronavirus epidemic on air quality in the Borough.

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[1] LLAQM Policy and Technical Guidance 2019 (LLAQM.TG(19)). https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs

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Note: Some additional tables are provided in the text, numbered Table 1, 2, etc. These provide supplementary information and are not listed here.



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# Abbreviations

| | |
|---|---|
| AQ | Air quality |
| AQAP | Air Quality Action Plan |
| AQFA | Air Quality Focus Area |
| AQMA | Air Quality Management Area |
| AQN | Air Quality Neutral |
| AQO | Air Quality Objective |
| AQSPG | Air Quality Supplementary Planning Guidance |
| ASR | Annual Status Report |
| AURN | Automatic Urban and Rural Network |
| BAM | Beta attenuation monitoring |
| BEB | Buildings Emission Benchmark |
| CAB | Cleaner Air Borough |
| CHP | Combined Heat and Power |
| CO | Carbon monoxide |
| DCO | Development Consent Order |
| EV | Electric Vehicle |
| FDMS | Filter Dynamics Measurement System |
| FIDAS | Fine Dust Analysis System |
| FORS | Fleet Operator Recognition System |
| GLA | Greater London Authority |
| HE | Highways England |
| HS2 | High Speed 2 (rail line from London to Birmingham) |
| LAEI | London Atmospheric Emissions Inventory |
| LEZ | Low Emission Zone |
| LIP | Local Implementation Plan (for Borough transport) |
| LLAQM | London Local Air Quality Management |
| MAQF | Mayor's Air Quality Fund |
| NOx | Oxides of nitrogen ($NO_2$ + NO) |
| $NO_2$ | Nitrogen dioxide |
| NPPF | National Planning Policy Framework |
| NRMM | Non-Road Mobile Machinery |
| $O_3$ | Ozone |
| $PM_1$ | Particulate matter less than 1 micron in diameter |
| $PM_{10}$ | Particulate matter less than 10 microns in diameter |
| $PM_{2.5}$ | Particulate matter less than 2.5 microns in diameter |
| QA/QC | Quality Assurance / Quality Control |
| $SO_2$ | Sulphur dioxide |
| SPG | Sustainable Planning Guidance |
| STARS | TfL Community Project to reduce car usage |
| TEB | Transport Emissions Benchmark |
| TEOM | Tapered Element Oscillating Microbalance (for PM measurement) |
| TfL | Transport for London |
| TSP | Total Suspended Particulate Matter |
| ULEZ | Ultra-Low Emission Zone |
| VCM | Volatile Correction Model |
| WHO | World Health Organization |

# Summary

This report provides information on:

- Air quality levels and trends in the London Borough of Hillingdon in 2020 using monitored and predicted data;
- Implications of COVID 19 Pandemic on Local Air Quality in the London Borough of Hillingdon;
- Progress with the Borough's Air Quality Action Plan (AQAP) from March 2020 to March 2021;
- Planning Applications that were relevant to air quality in the Borough and the role of the Planning System on Local Air Quality Management;
- The linkages between the London Plan March 2021 and the London Borough of Hillingdon Action Plan and Policies to improve Air Quality and protect Health
- Update on the London Borough of Hillingdon actions undertaken for improving air quality
- Lessons learnt and opportunities and challenges.

The management of local air quality in the UK is driven by a series of limit values covering different pollutants. Of these, nitrogen dioxide ($NO_2$) and fine particulate matter (expressed as either $PM_{2.5}$ or $PM_{10}$ reflecting different size fractions) are particularly important in Hillingdon. The Borough's Air Quality Management Area (AQMA) was declared because of non-compliance with the annual limit value for $NO_2$ in parts of the Borough. It is possible that one or more of the air quality limit values may be reduced in the coming years as a consequence of the Environment Bill, expected shortly, and publication of new air quality guidelines by the World Health Organisation. This would, naturally, further strengthen the protection of public health, whilst having clear consequences for local air quality management.

The Borough has in recent years, in conjunction with GLA, defined Air Quality Focus Areas, which are densely populated zones with elevated levels of pollution. Whilst the Council seeks to improve air quality across the Borough, these areas continue to require stricter measures and actions to reduce potential hazardous effects on public health and remain areas of concern to Hillingdon, as illustrated by measurements made prior to the COVID-19 pandemic. Data collected in the reporting year (2020) find compliance with the air quality objectives throughout the Borough. However, analysis presented in this report demonstrates that the change from non-compliance in 2019 to compliance in 2020 has been driven to a very large extent by the measures taken to combat the COVID-19 pandemic, leading to reduced traffic on the roads and massively reduced demand for aviation.

Given the unique circumstances of 2020/2021, data from this period is not informative for the purpose of assessing long-term trends. Using results from analysis covering the period 2009-2019, rates of declining or increasing $NO_2$ concentrations were calculated and applied to 2020 monitoring data to estimate what levels would be assuming a 'business as usual' situation (had COVID -19 not occurred). The results obtained indicate a mild trend to improvement of annual mean concentrations of $NO_2$, $PM_{10}$ and $PM_{2.5}$. However, they also

show that the risk of exceedance of the current air quality objectives is still present within Focus Areas if we return to similar activity levels as those seen pre-pandemic.

In view of the unique circumstances for the reporting year, developers are advised to use 2019 data to characterise their baseline conditions as well as for model verification purposes.

The trend to a mild improvement in air quality over time reflects reductions in emissions linked to action taken by Hillingdon through its AQAP, actions by the GLA, and legislation at UK and European levels. On a more local area level, some Focus Areas present better improvements than others; this is primarily due to differences in the dominant emission sources affecting each Focus Area, differing background levels, and development, particularly in expanding residential areas.

An analysis across the Borough was undertaken to understand which areas experienced a more pronounced effect of COVID-19 restrictions on local emissions in terms of $NO_2$ concentrations. Greater reductions are observed in the Heathrow catchment area, in relation to the remaining areas of the Borough. The monitoring site close to Swakeleys roundabout (Site HILL06) experienced the lowest reduction (relative to 2019 levels) in concentration levels; this might be associated with HS2 continuing construction activities.

Hillingdon continues to take action under its new AQAP to address problems across the Borough to:

- understand and tackle the pollution problems of the Borough;
- reduce emissions where it has direct influence, for example on Council-controlled roads and from the Council fleet;
- work with others such as TfL, Highways England, HS2 and Heathrow to control emissions where Hillingdon does not have direct influence; and
- make efficient use of the planning system to improve air quality and reduce citizens exposure to hazardous levels by ensuring that new developments do not introduce significant new sources of emission to the Borough and making sure proposals in Focus Areas achieve air quality positive, in alignment with the London Plan and LBH Local Action Plan 2019-2024.

The COVID-19 pandemic has had a significant impact across the Borough in terms of the implementation of the AQAP with some planned actions delayed. However, the planning system has continued to play a key role in the Borough's local air quality management. A notable success for the Council concerned an appeal by a developer against the Council's planning decision on Gas-powered Electricity Generator and Related Infrastructure within the Hayes Focus Area, near a heavily residential area at North Hyde Gardens. The inspector upheld the Council's decision, recognising the need to safeguard and maintain air quality in residential areas, the nature of the Focus Area, and the need to mitigate emissions in alignment with the National Planning Policy Framework, the London Plan, and Hillingdon's local policies and Air Quality Action Plan. These conclusions will assist the Council when considering future planning applications that could worsen air quality in the Borough.

Links are being made through the Council's AQAP with other policy areas. The development of a Climate Change Strategy for Hillingdon is quite well advanced, including actions which will reduce both carbon emissions and improve air quality being currently under consultation[2].

There are several lessons learnt and resulting opportunities and challenges to local air quality management resulting from the events of 2020. Hillingdon will continue to map and address them, ensuring an integrated approach with other relevant disciplines, namely transport and climate change.

Continued improvement of air quality in the Borough faces a number of challenges, from the return to 'normality' after the pandemic, to major development activities such as HS2. In the latter case, the Council has successfully liaised with those responsible for the development to promote mitigation and monitoring of emissions.

There are, however, also added opportunities for air quality improvement. Some of these opportunities have already been mentioned, for example in relation to the linkage of air and climate policies in the Borough. Information gathered on changes in air quality over 2020 and reported here has been extremely useful for demonstrating the key sources of pollution and the extent to which measures on different sectors and in different locations could reduce concentrations. There is also an increased spotlight on air quality improvement, particularly in London, following the release of a Future Prevention of Death report by the Coroner handling the tragic case of London schoolgirl Ella Aloo-Kissi-Debrah, recording air pollution as a cause of death for the first time in the UK. The publication of revised Air Quality Guidelines by WHO, drawing on an enormous body of epidemiological literature from around the world, seems likely to further highlight the adverse health impacts to what have historically been considered 'low' levels of air pollution.

[2] modgov.hillingdon.gov.uk/documents/s51163/Draft%20Climate%20Change%20Action%20Plan%20for%20consultation.pdf

# 1 Introduction

## 1.1 The purpose of this report

This report provides a detailed overview of air quality in the London Borough of Hillingdon during 2020. It has been produced to meet the requirements of the London Local Air Quality Management statutory process[3]. National Air Quality Standards and Objectives are given in Table A. There are no exceedances in the Borough of limit values for other pollutants for which standards exist.

**Table A. Summary of National Air Quality Standards and Objectives for the pollutants of relevance to London Borough of Hillingdon**

| Pollutant | Objective (UK) | Averaging Period | Date[1] |
|---|---|---|---|
| Nitrogen dioxide - $NO_2$ | 200 μg $m^{-3}$ not to be exceeded more than 18 times a year | 1-hour mean | 31 Dec 2005 |
| | 40 μg $m^{-3}$ | Annual mean | 31 Dec 2005 |
| Particles - $PM_{10}$ | 50 μg $m^{-3}$ not to be exceeded more than 35 times a year | 24-hour mean | 31 Dec 2004 |
| | 40 μg $m^{-3}$ | Annual mean | 31 Dec 2004 |
| Particles - $PM_{2.5}$ | 25 μg $m^{-3}$ | Annual mean | 2020 |
| | Target of 15% reduction in concentration at urban background locations | 3-year mean | Between 2010 and 2020 |

Note: [1] by which to be achieved by and maintained thereafter

It is anticipated that the World Health Organisation (WHO) will publish updated air quality guidelines in Summer 2021. These may feature a significant reduction in concentrations relative to the figures shown in Table A.

## 1.2 Description of the Local Authority Area

Hillingdon is, geographically, the second largest local authority in London and has approximately 250,000 residents. Parts of the Borough to the north of the A40 are semi-rural, with Ruislip as the district centre. The south of the Borough is more densely populated, urban in character, and contains the metropolitan centre of Uxbridge and the towns of Hayes and West Drayton. It also contains numerous important transport links. As well as being home to Heathrow Airport the Borough is crossed by the M4 and the A40 and bordered to the west by the M25 and to the east by the A312, attracting traffic into the Borough and encouraging

[3] LLAQM Policy and Technical Guidance 2016 (LLAQM.TG(16)). https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs

traffic to pass through it. These roads generate a significant air pollution burden on the people of the Borough.

## 1.3 Hillingdon's Air Quality Management Area (AQMA)

An AQMA was declared in Hillingdon against exceedance of objectives for $NO_2$ in 2003. Air quality problems in the Borough continue to be most severe around Heathrow Airport and the major road network that goes through the Borough, reflecting the largest sources of nitrogen oxide ($NO_x$) emissions within the AQMA which covers the southern half of the Borough (Figure 1). The possible inclusion of areas in the north of the Borough has been kept under review.


**Figure 1. Hillingdon's AQMA**

An Action Plan, showing how Hillingdon Borough Council intended to tackle these problems, was first issued in 2004. The plan was updated in June 2019 (Air Quality Action Plan 2019-2024)[4] and remains central to the Borough's decision-making process on air quality improvement. The plan emphasises improvements in certain areas of the Borough that are most adversely affected, these being referred to as the Focus Areas. Benefits of the Action Plan, however, are not restricted to these Areas.

In addition to providing data on air quality in the Borough in 2020, this report also provides

i) A trend analysis for the Air Quality Focus Areas prior to COVID-19 effects, recognising that the response to the pandemic through lockdowns has had a significant, though short-term impact on air quality;
ii) An analysis of implications of COVID 19 pandemic on Local Air Quality in the London Borough of Hillingdon during 2020;
iii) A review of the achievements made to date through the implementation of the 2019-2024 air quality action plan;
iv) A list of planning applications that were relevant to air quality in the Borough and the role of the planning system on Local Air Quality Management;
v) The linkages between the London Plan of March 2021 and the London Borough of Hillingdon Action Plan and policies to improve air quality and protect health;
vi) An update on the London Borough of Hillingdon actions in relation to Ella's Inquest outcomes and the Report to Prevent Future Deaths; and
vii) A summary of opportunities and challenges to Hillingdon's local air quality management for future years.

[4] http://www.hillingdon-air.info/pdf/Hillingdon_AQAP_2019_2024_finalversion.pdf

# 2 Air Quality Monitoring in Hillingdon

## 2.1 Automatic monitoring sites

There were 12 operational automatic continuous monitoring sites in the London Borough of Hillingdon in 2020 (Table B). Hillingdon 1 in South Ruislip (HI1), Hillingdon 3 in Oxford Avenue (HI3), Hillingdon Sipson (SIPS), London Harmondsworth (HIL1), Hillingdon Hayes (HIL5), and London Harmondsworth Osiris (HIL4) are all part of the Borough monitoring network. London Hillingdon (HIL) is part of the Defra - owned Automatic Urban and Rural Network (AURN). London Heathrow (LHR2), Heathrow Oaks Road (T54), Heathrow Green Gates (T55), London Harlington (HRL) and London Heathrow Bath Road (LHRBR) are all part of the Heathrow Airport monitoring network. A map showing the location of the automatic stations is shown in Figure 2.

The method used by the Osiris monitoring system at HIL4 (Hillingdon Harmondsworth) has been validated for the UK monitoring network and results for the site are included in this report.

## 2.2 Non-automatic monitoring sites

Passive diffusion tube monitoring of $NO_2$ was carried out at 44 sites in the Borough in 2020, covering both background and roadside locations, supplementing the information generated by the more expensive automatic network (Figure 3). Three of the diffusion tube sites are co-located with continuous monitoring sites to derive local bias adjustment factors: HILL03 (that has triplicate tubes) is co-located with Hillingdon 1 in South Ruislip automatic monitoring site (HI1); HILL01 (single tube) is co-located with London Hillingdon automatic monitoring site (HIL); and site HILL44 is co-located with Hillingdon Hayes automatic monitoring site (HIL5).

A bias adjustment factor of 0.84 was taken from the latest version of the national database of co-location studies[5] conducted for tubes prepared (50% TEA in acetone) and analysed by Gradko. This has been used to correct the diffusion tube results. The factor was calculated using only roadside and urban background sites reflecting those included in the Borough's non automatic network. Only tubes precision classified as "Good"[6] were used in the derivation of the bias adjustment factor.

Full details of diffusion tube QA/QC, including justification for the choice of bias adjustment factors are presented in Appendix A. Monthly $NO_2$ diffusion tube data are provided in Appendix B.

[5] http://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html

[6] Tube precision is determined as follows: G = Good precision - coefficient of variation (CV) of diffusion tube replicates is considered G when the CV of eight or more periods is less than 20%, and the average CV of all monitoring periods is less than 10%

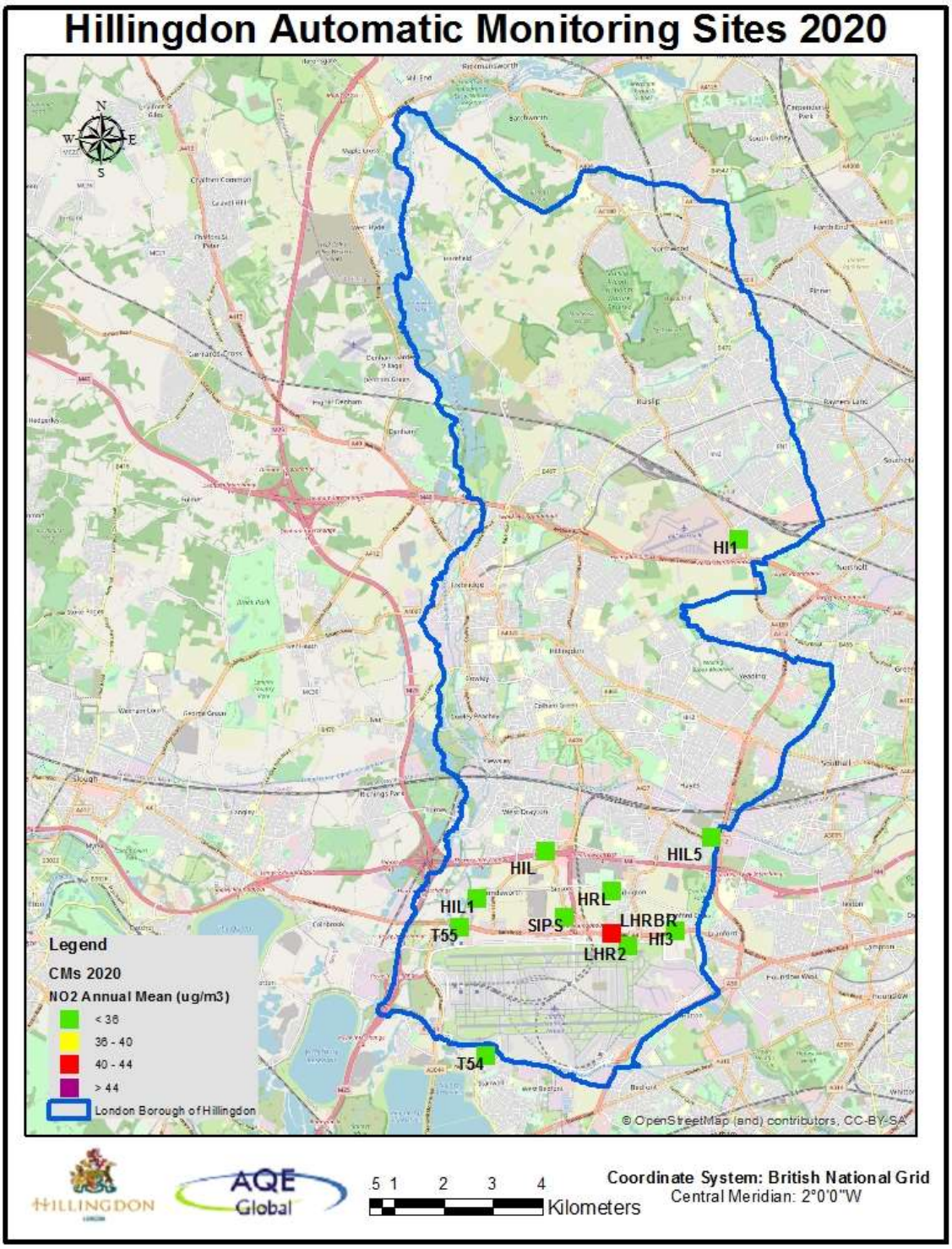


**Figure 2. Location of the automatic monitoring sites in Hillingdon, nitrogen dioxide annual mean concentrations, $NO_2$ (ug/m$^3$) 2020**

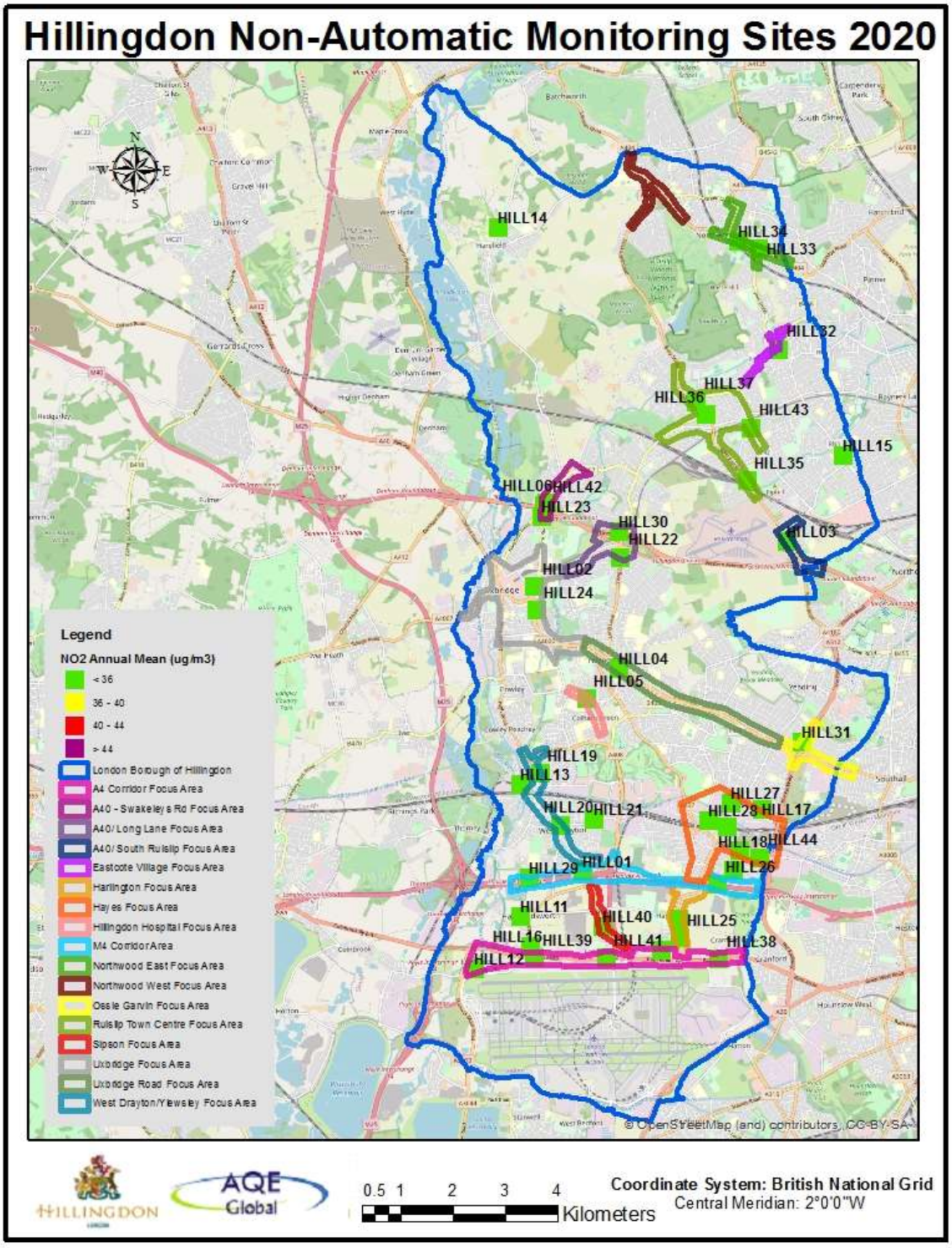


**Figure 3. Location of non-automatic monitoring sites in Hillingdon, nitrogen dioxide annual mean concentrations, $NO_2$ (ug/m$^3$) 2020. The figure also shows the Focus Areas that are being used for Local Air Quality Management**

**Table B. Details of automatic monitoring sites in Hillingdon for 2020**

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA? (Y/N) | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (N/A if not applicable) (m) | Inlet height (m) | Pollutants monitored | Monitoring technique |
|---|---|---|---|---|---|---|---|---|---|---|
| *LHR2* | London Heathrow | 508600 | 176700 | Airport | Y | N/A | N/A (inside airport) | 1.5 | $NO_2$, $PM_{10}$, $PM_{2.5}$ | Chemiluminescence FIDAS |
| *HIL* | London Hillingdon | 506951 | 178605 | Urban background | Y | 16m | 2.5m (30m to M4) | 1.5 | $NO_2$, $O_3$ | Chemiluminescence |
| *HI1* | Hillingdon 1 - South Ruislip | 510857 | 184917 | Roadside | Y | 11m | 2.5m | 1.5 | $NO_2$, $PM_{10}$ | Chemiluminescence TEOM |
| *HI3* | Hillingdon 3 - Oxford Avenue | 509557 | 176994 | Roadside | Y | 8m and 17m | 33m to A4 Bath Road (2m to Oxford Avenue) | 1.5 | $NO_2$, $PM_{10}$ | Chemiluminescence TEOM |
| *HRL* | London Harlington | 508295 | 177800 | Airport | Y | N/A | 3m | 1.5 | CO, $NO_2$, $O_3$, $PM_{10}$, $PM_{2.5}$ | Chemiluminescence TEOM FDMS |
| *SIPS* | Hillingdon Sipson | 507325 | 177282 | Urban background | Y | 9m | 2.5m | 1.5 | $NO_2$ | Chemiluminescence |
| *HIL1* | London Harmondsworth | 505561 | 177661 | Roadside | Y | 20m | 1m | 1.5 | $NO_2$, $PM_{10}$ | Chemiluminescence BAM |
| *HIL4* | London Harmondsworth Osiris | 505671 | 177605 | Urban background | Y | 1m | 13m | 1.5 | TSP, $PM_{10}$, $PM_{2.5}$, $PM_1$ | Optical |
| *T55* | Heathrow Green Gates | 505207 | 177072 | Airport | Y | 32m | N/A (background for the airport) (62m to airport boundary) | 1.5 | $NO_2$, $PM_{10}$, $PM_{2.5}$ | Chemiluminescence FIDAS |
| *T54* | Heathrow Oaks | 505729 | 174496 | Airport | Y | N/A | 5m | 1.5 | $NO_2$, $PM_{10}$, $PM_{2.5}$ | Chemiluminescence FIDAS |
| *HIL5* | Hillingdon Hayes | 510303 | 178882 | Roadside | Y | 15m | 1m | 1.5 | $NO_2$, $PM_{10}$ | Chemiluminescence BAM |
| *LHRBR* | Heathrow Bath Road | 508279 | 176949 | Roadside | Y | 140m | 6m | 1.5 | $NO_2$, $PM_{10}$, $PM_{2.5}$ | Chemiluminescence FIDAS |

**Table C. Details of non-automatic monitoring sites in Hillingdon in 2020**

| Site ID 2020 | Site Name | X (m) | Y (m) | Site Type | In AQMA? (Y/N) | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (N/A if not applicable) (m) | Inlet height (m) | Pollutants monitored | Tube co-located with an automatic monitor? (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| HILL01 | *AURN Site, Keats Way, West Drayton* | *506926* | *178614* | *Roadside* | *Y* | *0* | *30m from M4* | *1.5* | *$NO_2$* | *Y* |
| HILL02 | *Uxbridge Day Nursery Park Road Uxbridge (on wire Fence)* | *505996* | *184058* | *Roadside* | *Y* | *0* | *4* | *1.5* | *$NO_2$* | *N* |
| HILL03 | *South Ruislip Monitoring Station West End Road* | *510821* | *184923* | *Roadside* | *Y* | *14* | *2.5* | *1.5* | *$NO_2$* | *Y* |
| HILL04 | *Hillingdon Primary School Uxbridge Road Hillingdon (on wire fence)* | *507617* | *182506* | *Roadside* | *Y* | *0* | *5* | *1.5* | *$NO_2$* | *N* |
| HILL05 | *Hillingdon Hospital Monitoring Station Colham Road (Near John Rich House on former junction to Pield Heath Road)* | *506989* | *181920* | *Roadside* | *Y* | *7* | *2* | *1.5* | *$NO_2$* | *N* |
| HILL06 | *Warren Road Ickenham Uxbridge (1st lamp post on left)* | *506243* | *185653* | *Roadside* | *Y* | *1* | *23* | *1.5* | *$NO_2$* | *N* |
| HILL07 | *Harold Avenue (first lamp post on left)* | *509918* | *179015* | *Roadside* | *Y* | *4* | *30* | *1.5* | *$NO_2$* | *N* |
| HILL08 | *15 Phelps Way Hayes (lamp post outside of)* | *509798* | *178654* | *Roadside* | *Y* | *7* | *1.5* | *1.5* | *$NO_2$* | *N* |
| HILL09 | *25 Cranford Lane Harlington (lamp post on the left after car park)* | *508758* | *177718* | *Roadside* | *Y* | *7* | *1* | *1.5* | *$NO_2$* | *N* |
| HILL10 | *Brendan Close Harlington (1st lamp post on the left)* | *508414* | *177125* | *Roadside* | *Y* | *0* | *1* | *1.5* | *$NO_2$* | *N* |
| HILL11 | *Harmondsworth Green Harmondsworth (lamp post outside nursery)* | *505736* | *177752* | *Roadside* | *Y* | *0* | *1* | *1.5* | *$NO_2$* | *N* |
| HILL12 | *Heathrow Close Longford (1st lamp post on the right)* | *504851* | *176770* | *Roadside* | *Y* | *0* | *2* | *1.5* | *$NO_2$* | *N* |
| HILL13 | *31 Tavistock Road (on lamp-post outside house)* | *505731* | *180288* | *Roadside* | *Y* | *3* | *1* | *1.5* | *$NO_2$* | *N* |
| HILL14 | *Harefield Hospital Hill End Road (lamp-post outside entrance)* | *505299* | *190923* | *Background* | *N* | *0* | *5* | *1.5* | *$NO_2$* | *N* |

| Site ID 2020 | Site Name | X (m) | Y (m) | Site Type | In AQMA? (Y/N) | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (N/A if not applicable) (m) | Inlet height (m) | Pollutants monitored | Tube co-located with an automatic monitor? (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| HILL15 | *Field End Road/Field End School S.Ruislip 3rd Lamp-post south of school entrance (outside AQMA)* | *511889* | *186563* | *Roadside* | *N* | *8* | *1* | *1.5* | $NO_2$ | *N* |
| HILL16 | *49 Zealand Avenue Lamp Post* | *505920* | *177188* | *Roadside* | *Y* | *8* | *13* | *1.5* | $NO_2$ | *N* |
| HILL17 | *49 Silverdale Gardens, Hayes Lamp Post (8)* | *510361* | *179820* | *Background* | *Y* | *9* | *14* | *1.5* | $NO_2$ | *N* |
| HILL18 | *Blyth Road, Hayes Lamp Post (4)* | *509683* | *179486* | *Roadside* | *Y* | *6* | *2* | *1.5* | $NO_2$ | *N* |
| HILL19 | *Side of 104 Yiewsley High Street (front of 1A Fairfield Road) Lamp Post (2)* | *506108* | *180493* | *Background* | *Y* | *9* | *37* | *1.5* | $NO_2$ | *N* |
| HILL20 | *1 Porters Way (corner with Kingston Lane) Lamp Post (1)* | *506503* | *179510* | *Background* | *Y* | *12* | *9* | *1.5* | $NO_2$ | *N* |
| HILL21 | *5-7 Mulberry Crescent, West Drayton Lamp Post (18)* | *507141* | *179628* | *Background* | *Y* | *10* | *2* | *1.5* | $NO_2$ | *N* |
| HILL22 | *340 Long Lane, Uxbridge Lamp Post (71)* | *507649* | *184611* | *Roadside* | *Y* | *18* | *2* | *1.5* | $NO_2$ | *N* |
| HILL23 | *198 Harefield Road, Uxbridge Lamp Post (2)* | *506143* | *185395* | *Background* | *Y* | *9* | *33* | *1.5* | $NO_2$ | *N* |
| HILL24 | *59 Hillingdon Road, Uxbridge Lamp Post (56)* | *506035* | *183611* | *Roadside* | *Y* | *12* | *1.5* | *1.5* | $NO_2$ | *N* |
| HILL25 | *10 West End Lane, Harlington Lamp Post (2)* | *508773* | *177352* | *Background* | *Y* | *11* | *33* | *1.5* | $NO_2$ | *N* |
| HILL26 | *R/O 130 Cleave Avenue, Hayes Lamp Post (33)* | *509499* | *178370* | *Roadside* | *Y* | *18* | *27* | *1.5* | $NO_2$ | *N* |
| HILL27 | *Botwell House RC Primary School (Side-fence)* | *509755* | *179934* | *Roadside* | *Y* | *5* | *12* | *1.5* | $NO_2$ | *N* |
| HILL28 | *Blyth Road 2nd Tube, Hayes Lamp Post (17) (western most lamp post in front of 133 Enterprise House)* | *509328* | *179603* | *Roadside* | *Y* | *5* | *2* | *1.5* | $NO_2$ | *N* |
| HILL29 | *Little Benty, Road name sign corner of The Brambles and Little Benty. UB7 7UJ* | *505906* | *178497* | *Background* | *Y* | *5* | *1.5* | *1.9* | $NO_2$ | *N* |
| HILL30 | *Lamp-post down alley next to No 60a The Chase, Ickenham. Red* | *507612* | *185118* | *Background* | *Y* | *4* | *25* | *2.5* | $NO_2$ | *N* |

| Site ID 2020 | Site Name | X (m) | Y (m) | Site Type | In AQMA? (Y/N) | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (N/A if not applicable) (m) | Inlet height (m) | Pollutants monitored | Tube co-located with an automatic monitor? (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| | *garage door, set back from road. UB10 8ST* | | | | | | | | | |
| HILL31 | *On white lamp-post at end of Dorchester Waye that runs parallel with A312, side of houses* | *511103* | *181097* | *Background* | *Y* | *18* | *10* | *2.2* | *$NO_2$* | *N* |
| HILL32 | *Roadside lamp-post, outside Georgian Lodge flats, Field End Road, Eastcote. HA52QL.* | *510664* | *188599* | *Background* | *N* | *8.9* | *0.6* | *2.0* | *$NO_2$* | *N* |
| HILL33 | *Kerbside lamppost outside Roundabout House, 34 Pinner Road. HA6 1BZ* | *510284* | *190524* | *Roadside* | *N* | *7.0* | *0.5* | *2.2* | *$NO_2$* | *N* |
| HILL34 | *Roadside lamp-post, pavement outside 177/179 Pinner Road. HA6 1DB.* | *509900* | *190648* | *Roadside* | *N* | *4* | *2* | *2.2* | *$NO_2$* | *N* |
| HILL35 | *Grey Lamp-post, West End Road, to the south of Sidmouth Drive, outside Aroma House Chinese. HA4 6LR* | *510055* | *186080* | *Roadside* | *N* | *7* | *0.4* | *2.3* | *$NO_2$* | *N* |
| HILL36 | *Lamp-post outside Vodafone, 69 High Street Ruislip. HA4 8JB* | *509275* | *187340* | *Roadside* | *N* | *4* | *3* | *2.4* | *$NO_2$* | *N* |
| HILL37 | *2/6 High St. Ruislip Lamp-post with Parking and church sign. HA4 7AW* | *509097* | *187597* | *Roadside* | *N* | *3* | *1* | *2.0* | *$NO_2$* | *N* |
| HILL38 | *Blue street light neat speed camera markings to west of Oxford Ave, Near AQMS. UB3 5HU* | *509525* | *176949* | *Roadside* | *Y* | *6* | *1.2* | *2.2* | *$NO_2$* | *N* |
| HILL39 | *Pinglestone Close/Bath Road A4. On cycle lane sign post. Park up Pinglestone close. UB7 0DJ.* | *506000* | *176969* | *Roadside* | *Y* | *10* | *1.5* | *2.2* | *$NO_2$* | *N* |
| HILL40 | *On zone sign at corner of Sipson Close/Sipson Rd. UB7 0JX.* | *507316* | *177576* | *Roadside* | *Y* | *4* | *1.8* | *1.9* | *$NO_2$* | *N* |
| HILL41 | *On the north side of the A4 near the houses by the junction with Sipson Way* | *507369* | *176966* | *Roadside* | *Y* | *6* | *0.7* | *2.0* | *$NO_2$* | *N* |

| Site ID 2020 | Site Name | X (m) | Y (m) | Site Type | In AQMA? (Y/N) | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (N/A if not applicable) (m) | Inlet height (m) | Pollutants monitored | Tube co-located with an automatic monitor? (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| HILL42 | *Telegraph pole next to big house/field on South corner of The Drive. UB10 8DA* | *506192* | *185614* | *Roadside* | *Y* | *5* | *4.5* | *2.3* | *$NO_2$* | *N* |
| HILL43 | *Lamp-post outside tattoo and Five star nail parlours, No 60, Victoria Road. HA4 0AH.* | *510134* | *187086* | *Roadside* | *Y* | *3.5* | *1.5* | *2.4* | *$NO_2$* | *N* |
| HILL44 | *Hillingdon Hayes AQ site North Hyde Gardens, Hayes, UB3 4QR* | *510303* | *178882* | *Roadside* | *Y* | *15* | *1* | *2.1* | *$NO_2$* | *Y* |

## 2.3 Comparison of Monitoring Results with Air Quality Objectives

Trends in the monitored pollution data for the Borough are presented in the following summary Figures:

- Figure 4. Annual mean $NO_2$ concentrations measured at the automatic monitoring stations, 2009-2020, showing data for each site in the Borough. Units: $\mu g.m^{-3}$. No sites exceed the annual mean objective. Units: $\mu g.m^{-3}$.
- Figure 5. Annual mean $NO_2$ concentrations measured at diffusion tube locations, 2014-2020, showing data for each site in the Borough. Units: $\mu g.m^{-3}$. No sites exceed the annual mean objective. Units: $\mu g.m^{-3}$.
- Figure 6. Annual mean $PM_{10}$ concentrations measured at the automatic monitoring stations, 2010-2019 (average across all sites in the Borough). No sites exceed the annual mean objective. Units: $\mu g.m^{-3}$.
- Figure 7. Annual mean $PM_{2.5}$ concentrations measured at the automatic monitoring stations, 2011-2019 (average across all sites in the Borough). No sites exceed the annual mean objective. Units: $\mu g.m^{-3}$.

The results presented are after adjustments for "annualisation" and for distance to a location of relevant public exposure (wherever applicable). Details of adjustments are provided in Appendix A. As noted above, permissible levels of pollution may be reviewed in the near future, following publication of updated guidelines by WHO.

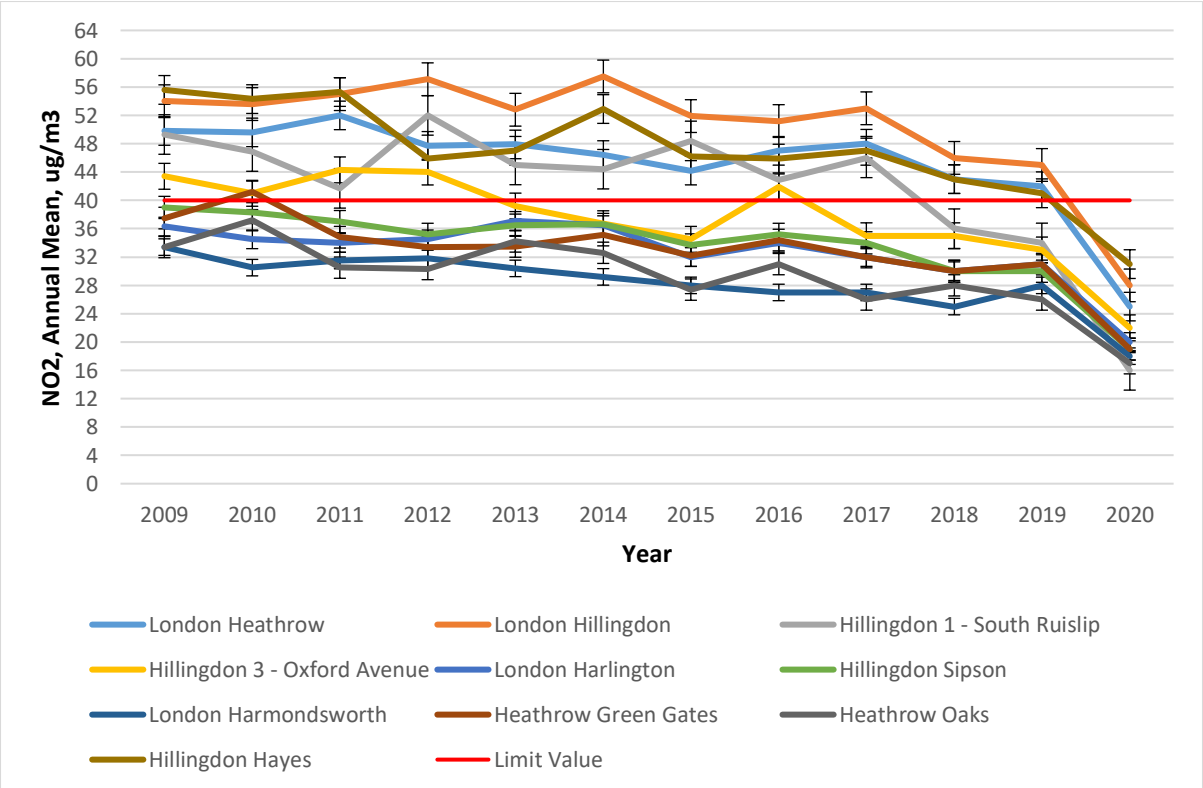


**Figure 4. Annual mean $NO_2$ concentrations measured at the automatic monitoring stations, 2009-2020, showing data for each site in the Borough Units: $\mu g.m^{-3}$**

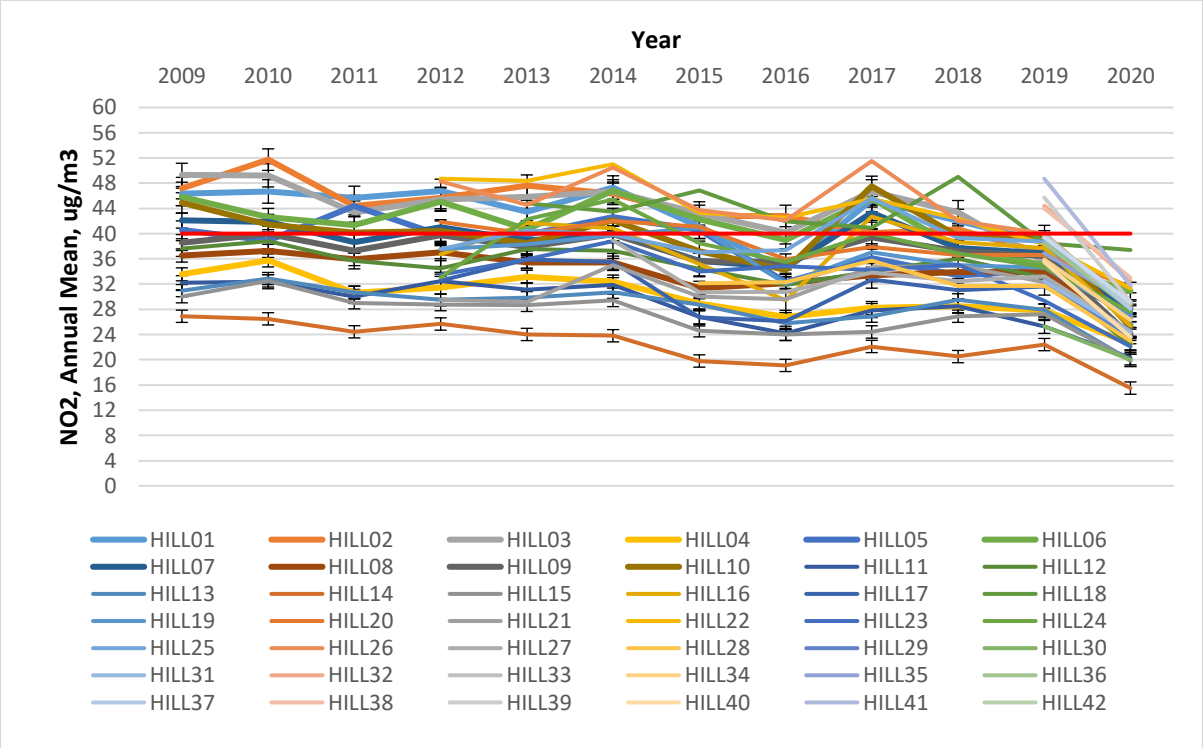


**Figure 5. Annual mean $NO_2$ concentrations measured at the diffusion tube locations, 2009-2020, showing data for each site in the Borough Units: µg.m$^{-3}$**

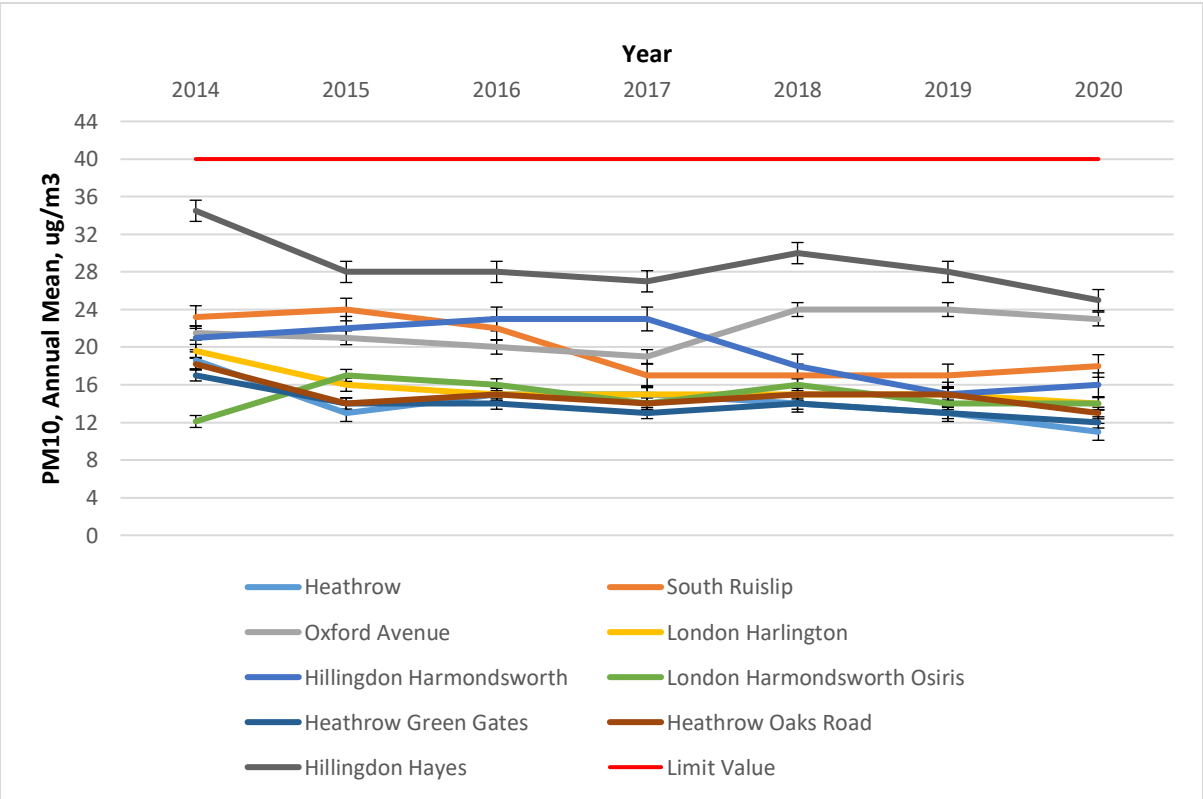


**Figure 6. Annual mean $PM_{10}$ concentrations measured at the automatic monitoring stations, 2014-2020, showing data for each site in the Borough Units: µg.m$^{-3}$**

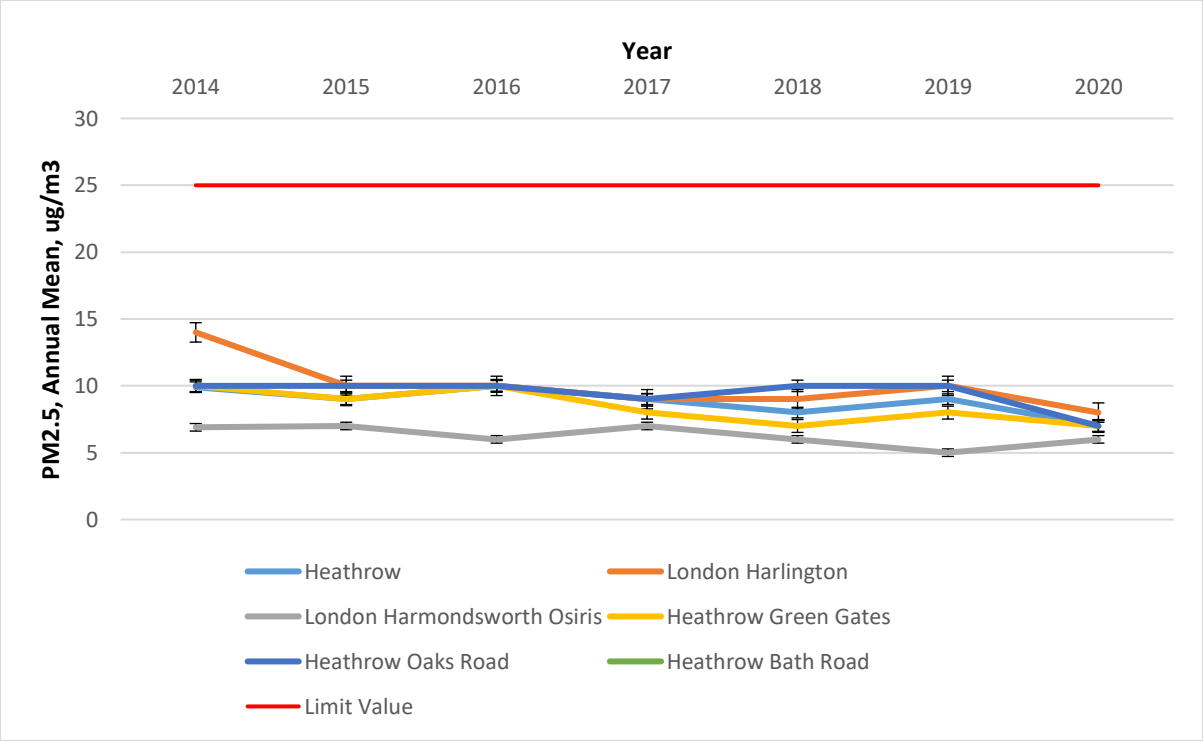


**Figure 7. Annual mean $PM_{2.5}$ concentrations measured at the automatic monitoring stations, 2014-2020, showing data for each site in the Borough Units: µg.m$^{-3}$**

Figure 4 and 5 indicates a significant reduction in $NO_2$ annual mean concentrations across all monitoring sites during 2020. To a very large extent this reflects the effects of COVID-19 restrictions on travel, including road traffic and operations at Heathrow Airport. This issue is addressed in more detail in the next section.

The effects of the pandemic and the response to it are less marked for particulate matter concentrations ($PM_{10}$ and $PM_{2.5}$), which only present an average reduction of 1 to 3 ug/m$^3$ (Figures 6 and 7) across all sites, with some sites showing an increase in concentrations. This is a result of background levels resulting from emission sources outside the local area.

Conclusions on the effectiveness of pollution control measures brought in under the Action Plan cannot be drawn for the reporting year given the exceptional situation during 2020 and 2021. Further analysis of the effect of the pandemic and the response to it on air quality in Hillingdon in 2020 are presented in Section 2.4.

The following tables provide data for the last seven years for each monitoring site:

- Tables D1. Annual Mean $NO_2$ Ratified and Bias-adjusted Monitoring Concentrations (µg.m$^{-3}$) at automatic monitoring sites.
- Tables D2. Annual Mean $NO_2$ Ratified and Bias-adjusted Monitoring Concentrations (µg.m$^{-3}$) at diffusion tube sites.
- Table E. $NO_2$ Automatic Monitor Results: Comparison with 1-hour Mean Objective.
- Table F. Annual Mean $PM_{10}$ Automatic Monitoring Results (µg.m$^{-3}$).

- Table G. $PM_{10}$ Automatic Monitor Results: Comparison with 24-Hour Mean Objective.
- Table H. Annual Mean $PM_{2.5}$ Automatic Monitoring Results ($\mu g.m^{-3}$).

Analysis of all Tables (D1 to H) indicate there are no locations in the Borough where the limit values and objectives for any pollutant of concern ($NO_2$ and PM) were exceeded in 2020. The effect of actions linked to the COVID-19 pandemic on air quality are analysed further below in Section 2.4.

Following LLAQM.TG(19) paragraph 3.10, current guidance states that the last four years of monitoring data should be considered in a trend analysis undertaken to identify any significant changes. However, 2020 (and probably 2021) are not representative of existing trends because of the pandemic. Compliance with statutory limits now does not guarantee continued compliance in the future. Accordingly, the Council will continue with the implementation of its AQAP to ensure the improvements that could be gained are still pursued. The following chapter/section provides the evidence to support the Council's decision.

## Table D1. Annual mean $NO_2$ ratified monitoring results (µg $m^{-3}$) for the automatic monitoring sites in Hillingdon in 2020

| *Site ID* | Site Name | Valid data capture for monitoring period % [a] | Valid data capture, 2020, % [b] | Annual Mean Concentration (µg.$m^{-3}$) [c] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] | 2018 [c] | 2019 [c] | 2020 [c] |
| *LHR2* | *London Heathrow* | *95.58* | *95.58* | ***46.4*** | ***44.2*** | ***47.0*** | ***48*** | ***43*** | ***42*** | *25* |
| *HIL* | *London Hillingdon* | *97.61* | *97.61* | ***57.5*** | ***51.9*** | ***51.2*** | ***53*** | ***46*** | ***45*** | *28* |
| *HI1* | *Hillingdon 1 - South Ruislip* | *96.20* | *96.20* | ***44.4*** | ***48.4*** | ***42.9*** | ***46*** | *36 [d]* | *34* | *16* |
| *HI3* | *Hillingdon 3 – Oxford Avenue* | *99.61* | *99.61* | *36.7* | *34.5* | ***41.9*** | *35* | *35* | *33* | *22* |
| *HRL* | *London Harlington* | *98 .71* | *98 .71* | *36.5* | *32.0* | *34.0* | *32* | *30* | *31* | *20* |
| *SIPS* | *Hillingdon Sipson* | *92.71* | *92.71* | *36.6* | *33.7* | *35.2* | *34* | *30* | *30* | *19* |
| *HIL1* | *London Harmondsworth* | *89.62* | *89.62* | *29.2* | *28.0* | *27.0* | *27* | *25* | *28* | *18* |
| *T55* | *Heathrow Green Gates* | *99.65* | *99.65* | *35.1* | *32.2* | *34.4* | *32* | *30* | *31* | *19* |
| *T54* | *Heathrow Oaks* | *95.89* | *95.89* | *32.6* | *27.4* | *31.0* | *26* | *28* | *26* | *17* |
| *HIL5* | *Hillingdon Hayes* | *98.37* | *98.37* | ***52.9*** | ***46.2*** | ***45.9*** | ***47*** | ***43*** | ***41*** | *31* |
| *LHRBR* | *Heathrow Bath Road* | *22.63* | *22.63* | - | - | - | - | - | - | ***44.5*** [e] *(39.5)* [f] |

Notes: Exceedance of the $NO_2$ annual mean AQO of 40 µg $m^{-3}$ are shown in **bold**

$NO_2$ annual means in excess of 60 µg $m^{-3}$, indicating a potential exceedance of the $NO_2$ hourly mean AQS objective are shown in **bold** and underlined (no such cases are present)

[a] Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means were "annualised" in accordance with LLAQM Technical Guidance, when valid data capture is less than 75%

[d] Relocation of station to provide room for a foot path. This meant a slight shift away from the road and more representative of public exposure

[e] Only three months of data due to power supply interruption – annualised value reported (see dates, background monitoring sites used and resulting adjustment factors in Appendix A)

[f] Brackets indicate concentration at relevant exposure. The value herewith reported is to be treated with extreme caution and is only presented as indicative as it is more than 20m further away from the kerb than the monitor that it relates to.

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## Table D2. Annual mean $NO_2$ ratified and bias-adjusted monitoring results ($\mu g\ m^{-3}$) diffusion tubes for diffusion tubes in Hillingdon in 2020

| Site ID | Site Name | Valid data capture for monitoring period % [a] | Valid data capture, 2020, % [b] | Annual Mean Concentration ($\mu g.m^{-3}$) [c] | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| HILL01 | Co-located with London Hillingdon CM | 83.3 | 83.3 | **47.3** | **41.1** | 34.3 | **45.3** | **42** | 38.6 | 25.6 |
| HILL02 | Uxbridge Day Nursery, Park Road | 83.3 | 83.3 | **46.3** | **42.8** | **42.8** | **40.1** | **40.7** | 36.9 | 28.9 |
| HILL03 | Co-located with South Ruislip CM | 75.0 | 75.0 | **46.7** | **43.2** | **40.2** | **46.7** | **43.4** | 35.5 | 26.7 [d] |
| HILL04 | Hillingdon Primary School | 75.0 | 75.0 | 32.4 | 28.9 | 26.8 | 28.2 | 28.5 | 27.8 | 22.6 |
| HILL05 | Colham Rd/Pield Heath Road opposite Hillingdon Hospital | 83.3 | 83.3 | **42.6** | **40.6** | 32.3 | 36.1 | 33.4 | 34.1 | 27.4 |
| HILL06 | Warren Road Ickenham | 83.3 | 83.3 | **46.8** | **42.3** | 39 | **45.6** | 37.6 | 35.0 | 30.9 |
| HILL07 | Harold Avenue, Hayes | 83.3 | 83.3 | **40** | 35.7 | 34.7 | **43.3** | 37.7 | 36.9 | 28.1 |
| HILL08 | Phelps Way Hayes | 83.3 | 83.3 | 35.4 | 31.4 | 32.1 | 33.4 | 33.9 | 33.9 | 24.1 |
| HILL09 | Cranford Lane Harlington | 75.0 | 75.0 | 39.9 | 35.6 | 35.5 | 39.4 | 37.2 | 36.4 | 23.8 |
| HILL10 | Brendan Close Harlington | 83.3 | 83.3 | **42.1** | 37.2 | 34.2 | **47.5** | 39.6 | 39.7 | 25.2 |
| HILL11 | Harmondsworth Green | 83.3 | 83.3 | 31.9 | 26.8 | 24.2 | 27.8 | 28.5 | 25.3 | 20.3 |
| HILL12 | Heathrow Close Longford | 83.3 | 83.3 | 37.3 | 34.4 | 31.9 | 34 | 36 | 33.0 | 22.4 |
| HILL13 | Tavistock Road | 83.3 | 83.3 | 30.7 | 28.7 | 25.8 | 26.9 | 29.5 | 27.9 | 19.9 |
| HILL14 | Harefield Hospital Hill End Road (Outside of AQMA) | 83.3 | 83.3 | 23.8 | 19.8 | 19.1 | 22.1 | 20.5 | 22.4 | 15.5 |
| HILL15 | Field End School (Outside of AQMA) | 83.3 | 83.3 | 29.4 | 24.6 | 24 | 24.4 | 26.9 | 27.2 | 19.9 |
| HILL16 | Zealand Avenue, Sipson | 83.3 | 83.3 | **40.8** | 35.2 | 29.4 | **42.7** | 38.6 | 37.7 | 25.4 |
| HILL17 | Silverdale Gardens, Hayes | 83.3 | 83.3 | 35.5 | 26.7 | 26.1 | 32.7 | 31 | 31.6 | 24.7 |
| HILL18 | Blyth Road, Hayes | 83.3 | 83.3 | **46.8** | **41.9** | **40.9** | **49** | 38.5 | 37.4 | 29.9 |
| HILL19 | Yiewsley High Street | 83.3 | 83.3 | 39.7 | **40.9** | 32 | 37 | 35 | 34.6 | 27.1 |
| HILL20 | Porters Way, West Drayton | 83.3 | 83.3 | **42** | **41.1** | 35.9 | 37.9 | 36.6 | 36.6 | 31.6 |
| HILL21 | Mulberry Crescent, West Drayton | 75.0 | 75.0 | 35 | 30 | 29.6 | 34.7 | 34.9 | 32.3 | 23.4 |
| HILL22 | Long Lane, Uxbridge | 83.3 | 83.3 | **51** | **43.3** | **42.5** | **45.5** | **42.4** | 38.3 | 31.3 |
| HILL23 | Harefield Road, Uxbridge | 75.0 | 75.0 | 38.8 | 34 | 34.8 | 34.2 | 35.1 | 29.3 | 22.1 |
| HILL24 | Hillingdon Road, Uxbridge | 83.3 | 83.3 | **45.4** | 38.5 | 35.5 | **40** | 36.9 | 34.7 | 27.6 |
| HILL25 | West End Lane, Harlington | 83.3 | 83.3 | 39.8 | 37 | 37.4 | **45.6** | 39.3 | 38.7 | 28.3 |
| HILL26 | R/O Cleave Avenue, Hayes | 83.3 | 83.3 | **50.5** | **43.7** | **42.1** | **51.5** | **42** | **40.0** | 28.2 |
| HILL27 | Botwell House Primary School | 83.3 | 83.3 | 38.9 | 30.7 | 30.8 | 33.8 | 32.5 | 33.2 | 24.5 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *HILL28* | *Blyth Road, Hayes* | *83.3* | *83.3* | *-* | *32.1* | *32.3* | *35.7* | *31.7* | *31.7* | *23.0* |
| *HILL29* | *Little Benty, Road, West Drayton* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *32.6* | *23.7* |
| *HILL30* | *The Chase, Ickenham* | *75.0* | *75.0* | *-* | *-* | *-* | *-* | *-* | *25.3* | *20.0* |
| *HILL31* | *Dorchester Waye, Hayes* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *32.5* | *24.3* |
| *HILL32* | *Field End Road, Eastcote. (Outside of AQMA)* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | ***44.4*** | *32.5* |
| *HILL33* | *34 Pinner Road* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *39.5* | *29.0* |
| *HILL34* | *177/179 Pinner Road* | *75.0* | *75.0* | *-* | *-* | *-* | *-* | *-* | *35.9* | *26.3* |
| *HILL35* | *West End Road, Ruislip (Outside of AQMA)* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *36.9* | *28.9* |
| *HILL36* | *High Street Ruislip (Outside of AQMA)* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *38.5* | *28.1* |
| *HILL37* | *2/6 High St. Ruislip (Outside of AQMA)* | *75.0* | *75.0* | *-* | *-* | *-* | *-* | *-* | *39.9* | *28.1* |
| *HILL38* | *Oxford Ave, Near Oxford Avenue CM* | *75.0* | *75.0* | *-* | *-* | *-* | *-* | *-* | ***44.0*** | *33.0* |
| *HILL39* | *Pinglestone Close/Bath Road A4* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | ***45.7*** | *29.2* |
| *HILL40* | *Sipson Close/Sipson Rd.* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *35.5* | *23.6* |
| *HILL41* | *A4 by junction with Sipson Way* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | ***48.7*** | *31.8* |
| *HILL42* | *The Drive, Ickenham* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *39.6* | *28.9* |
| *HILL43* | *Victoria Road, Ruislip (Outside of AQMA)* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *39.4* | *29.1* |
| *HILL44* | *Co-located with Hillingdon Hayes CM* | *83.3* | *83.3* | *-* | *-* | *-* | *-* | *-* | *-* | *32.6* |

Notes: Exceedance of the $NO_2$ annual mean AQO of 40 µg $m^{-3}$ are shown in **bold**

$NO_2$ annual means in excess of 60 µg $m^{-3}$, indicating a potential exceedance of the $NO_2$ hourly mean AQS objective are shown in **bold** and underlined (no such cases are present)

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means were "annualised" in accordance with LLAQM Technical Guidance, when valid data capture is less than 75%

[d] This is a triplicate measurement.

**Table E. $NO_2$ automatic monitoring results for Hillingdon in 2020: Comparison with 1-hour mean objective, showing the number of 1-hour means where $NO_2$ > 200 µg $m^{-3}$**

| Site ID | Site Name | Valid data capture for monitoring period % [a] | Valid data capture 2020 % [b] | Number of Hourly Means > 200 µg.$m^{-3}$ | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] | 2018 [c] | 2019 [c] | 2020 [c] |
| LHR2 | London Heathrow | 95.58 | 95.58 | 0 | 2 | 8 | 12 | 0 | 1 | 0 |
| HIL | London Hillingdon | 97.61 | 97.61 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| HI1 | Hillingdon 1 - South Ruislip | 96.20 | 96.20 | 0 | 0 | 2 | 2 | 0 | 0 | 0 |
| HI3 | Hillingdon 3 – Oxford Avenue | 99.61 | 99.61 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| HRL | London Harlington | 98 .71 | 98 .71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIPS | Hillingdon Sipson | 92.71 | 92.71 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| HIL1 | London Harmondsworth | 89.62 | 89.62 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| T55 | Heathrow Green Gates | 99.65 | 99.65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T54 | Heathrow Oaks | 95.89 | 95.89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HIL5 | Hillingdon Hayes | 98.37 | 98.37 | 2 | 2 | 1 | 12 | 0 | 0 | 0 |
| LHRBR | Heathrow Bath Road | 22.63 | 22.63 | - | - | - | - | - | - | 0 |

Notes: Exceedance of the $NO_2$ short term AQO of 200 µg $m^{-3}$ over the permitted 18 days per year or where the 99.8th percentile exceeds 200 µg $m^{-3}$ are shown in **bold** (no instances)**.** Where valid data are available for less than 85% of a full year, the 99.8th percentile is shown in brackets after the number of exceedances.

a) data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

b) data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

c) Means are "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% (does apply only to LHRBR which only presented 3 months of data – January to March 2020).

## Table F. Annual Mean $PM_{10}$ Automatic Monitoring Results (µg.m$^{-3}$)

| Site ID | Site name | Valid data capture for monitoring period % [a] | Valid data capture 2020 % [b] | Annual Mean Concentration (µgm$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] | 2018 [c] | 2019 [c] | 2020 [c] |
| *LHR2* | *Heathrow* | *99.8 4* | *99.8 4* | *18.6* | *13* | *15* | *15* | *14* | *13* | *11* |
| *HI1* | *South Ruislip* | *97.20* | *97.20* | *23.2* | *24* | *22* | *17* | *17* | *17* | *18* |
| *HI3* | *Oxford Avenue* | *98 .44* | *98 .44* | *21.5* | *21* | *20* | *19* | *24* | *24* | *23* |
| *HRL* | *London Harlington* | *98 .8 3* | *98 .8 3* | *19.6* | *16* | *15* | *15* | *15* | *15* | *14* |
| *HIL1* | *Hillingdon Harmondsworth* | *97.75* | *97.75* | *21* | *22* | *23* | *23* | *18* | *15* | *16* |
| *HIL4* | *London Harmondsworth Osiris* | *55.77* | *55.77* | *12.1* | *17* | *16* | *14* | *16* | *14* | *15* |
| *T55* | *Heathrow Green Gates* | *99.93* | *99.93* | *17* | *14* | *14* | *13* | *14* | *13* | *12* |
| *T54* | *Heathrow Oaks Road* | *99.53* | *99.53* | *18.2* | *14* | *15* | *14* | *15* | *15* | *13* |
| *HIL5* | *Hillingdon Hayes* | *94.05* | *94.05* | *34.5* | *28* | *28* | *27* | *30* | *28* | *25* |
| *LHRBR* | *Heathrow Bath Road* | *22.65* | *22.65* | - | - | - | - | - | - | *14* |

Notes: Exceedance of the $PM_{10}$ annual mean AQO of 40 µg m$^{-3}$ are shown in **bold** (no instances).

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%. Measured concentrations at sites HIL4 and LHRBR have been annualised (Please see Appendix A for annualisation details).

## Table G. $PM_{10}$ Automatic Monitor Results: Comparison with 24-Hour Mean Objective

| Site ID | Site name | Valid data capture for monitoring period % [a] | Valid data capture 2020 % [b] | Number of Daily Means > 50 µgm$^{-3}$ | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] | 2018 [c] | 2019 [c] | 2020 [c] |
| LHR2 | Heathrow | 99.8 4 | 99.8 4 | 6 | 3 | 3 | 7 | 1 | 6 | 0 |
| HI1 | South Ruislip | 97.20 | 97.20 | 18 | 3 | 9 | 6 | 1 | 3 | 1 |
| HI3 | Oxford Avenue | 98 .44 | 98 .44 | 6 | 3 | 11 | 4 | 2 | 4 | 6 |
| HRL | London Harlington | 98 .8 3 | 98 .8 3 | 6 | 3 | 5 | 3 | 1 | 6 | 1 |
| HIL1 | Hillingdon Harmondsworth | 97.75 | 97.75 | 7 | 4 | 4 | 6 | 1 | 0 | 0 |
| HIL4 | London Harmondsworth Osiris | 55.77 | 55.77 | 0 | 17 | 0 | 1 | 0 | 1 | 0 |
| T55 | Heathrow Green Gates | 99.93 | 99.93 | 2 | 3 | 3 | 3 | 1 | 4 | 0 |
| T54 | Heathrow Oaks Road | 99.53 | 99.53 | 2 | 5 | 2 | 4 | 1 | 4 | 0 |
| HIL5 | Hillingdon Hayes | 94.05 | 94.05 | 45 | 14 | 32 | 26 | 22 | 25 | 16 |
| LHRBR | Heathrow Bath Road | 22.65 | 22.65 | - | - | - | - | - | - | 0 |

Notes: Exceedance of the $PM_{10}$ short term AQO of 50 µg m$^{-3}$ over the permitted 35 days per year or where the 90.4th percentile exceeds 50 µg m$^{-3}$ are shown in **bold**. Where the period of valid data is less than 85% of a full year, the 90.4$^{th}$ percentile is shown in brackets after the number of exceedances.

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%. Measured concentrations at sites HIL4 and LHRBR have been annualised (Please see Appendix A for annualisation details).

## Table H. Annual Mean $PM_{2.5}$ Automatic Monitoring Results (µg.m$^{-3}$)

| Site ID | Site Name | Valid data capture for monitoring period % [a] | Valid data capture 2020 % [b] | Annual Mean Concentration (µgm$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] | 2018 [c] | 2019 [c] | 2020 [c] |
| *LHR2* | *Heathrow* | *99.84* | *99.84* | *9.9* | *9.0* | *10* | *9* | *8* | *9* | *7* |
| *HRL* | *London Harlington* | *98.83* | *98.83* | *14.0* | *10.0* | *10* | *9* | *9* | *10* | *8* |
| *HIL4* | *London Harmondsworth Osiris* | *55.77* | *55.77* | *6.9* | *7.0* | *6* | *7* | *6* | *5* | *7* |
| *T55* | *Heathrow Green Gates* | *99.93* | *99.93* | *10.0* | *9.0* | *10* | *8* | *7* | *8* | *7* |
| *T54* | *Heathrow Oaks Road* | *99.51* | *99.51* | *10.0* | *10.0* | *10* | *9* | *10* | *10* | *7* |
| *LHRBR* | *Heathrow Bath Road* | *22.65* | *22.65* | - | - | - | - | - | - | *10* |

Notes: Exceedance of the $PM_{2.5}$ annual mean AQO of 25 µgm$^{-3}$ are shown in **bold**.

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%. Measured concentrations at sites HIL4 and LHRBR have been annualised (Please see Appendix A for annualisation details).

## 2.4 Observations on trend

Table 1 summarises the improvement or decline of air quality across the Hillingdon for the period 2009-2019, prior to COVID-19 effects (discussed in the next section). A rate value with a negative sign in Table 1. Pollution Decline/Increase Rates per Monitoring Site**Error! Reference source not found.** indicates a declining trend in air pollution levels, whereas a positive sign indicates an increase in pollution.

**Table 1. Pollution Decline/Increase Rates per Monitoring Site**

| Focus Area | Site | Rate | Rank |
|---|---|---|---|
| Northwood West Focus Area<br>Northwood East Focus Area | HILL14 | -0.6300 | 21 |
| Ruislip Town Centre Focus Area<br>Eastcote Village Focus Area | HILL15 | -0.4431 | 28 |
| A40 - Swakeleys Rd Focus Area | HILL06 | -0.6488 | 20 |
| | HILL23 | -0.4045 | 30 |
| A40/ Long Lane Focus Area | HILL22 | -1.4323 | 1 |
| A40/ South Ruislip Focus Area | HILL03 | -0.8173 | 10 |
| | HI1 | -1.0750 | 4 |
| Uxbridge Focus Area | HILL02 | -1.2449 | 3 |
| | HILL24 | -0.7558 | 16 |
| Uxbridge Road Focus Area | HILL04 | -0.7220 | 17 |
| Hillingdon Hospital Focus Area | HILL05 | -0.7990 | 12 |
| West Drayton/Yiewsley Focus Area | HILL13 | -0.4428 | 29 |
| | HILL19 | -0.5165 | 25 |
| | HIILL20 | -0.8157 | 11 |
| | HILL21 | 0.4039 | 37 |
| Hayes Focus Area | HILL27 | 0.082 | 36 |
| | HILL28 | -0.1049 | 34 |
| | HILL17 | -0.5432 | 22 |
| | HILL18 | -1.0278 | 6 |
| | HILL07 | -0.5155 | 26 |
| | HILL08 | -0.3723 | 32 |
| | HIL5 | -1.3857 | 2 |
| M4 Corridor Focus Area | HILL01 | -0.768 | 15 |
| | HIL | -0.775 | 14 |
| | HILL26 | -0.8619 | 9 |
| Sipson Focus Area | SIPS | -0.8667 | 8 |
| Harlington Focus Area | HILL09 | -0.1684 | 33 |
| | HRL | -0.500 | 27 |
| | HILL25 | 0.0699 | 35 |
| A4 Corridor Focus Area | HILL12 | -0.3815 | 31 |
| | HILL11 | -0.6604 | 18 |
| | T55 | -0.6500 | 19 |
| | HILL16 | -0.5318 | 23 |
| | HILL10 | -0.5191 | 24 |
| | HI3 | -1.0400 | 5 |
| | T54 | -0.9250 | 7 |
| | LHR2 | -0.7833 | 13 |

The location where the largest improvement rate for local air quality is observed is roadside diffusion tube HILL22 (340 Long Lane, Uxbridge, A40/ Long Lane Focus Area), with the top 5 following sites being roadside continuous monitor HIL5 (Hillingdon Hayes, Hayes Focus Area), roadside diffusion tube HILL02 (Uxbridge Day Nursery, Park Road, Uxbridge Focus Area), roadside continuous monitor HI1 (Hillingdon 1 - South Ruislip, A40/ South Ruislip Focus Area), roadside continuous monitor HI3 (Hillingdon 3 – Oxford Avenue, A4 Corridor Focus Area), and roadside diffusion tube HILL18 (Blyth Road, Hayes Focus Area). These results are encouraging as they indicate the efforts the Borough has been making to improve air quality in these areas. It is interesting to note that the second highest rate of improvement is within Hayes Focus Area, which is also one of the most polluted areas of the Borough.

Analysis of the data indicates that the worst locations in terms of air quality improvement over the period 2009-2019 are background diffusion tube HILL21 (5-7 Mulberry Crescent, West Drayton/Yiewsley Focus Area), roadside HILL27 (Botwell House RC Primary School, Hayes Focus Area), and background diffusion tube HILL25 (10 West End Lane, Harlington, Harlington Focus Area), where a mild deterioration of air quality has been observed. It is noted that two of these sites represent background levels, which indicate a tendency for background levels to increase in these locations. The third location is a school. Possible initiatives for the school include no idling events to raise awareness of the impact of idling vehicles (measure 21 of the Local Action Plan) and workshop activities with positive engagement of the school children.

# 3 Effects of the Pandemic and Pandemic Response on Air Quality in Hillingdon

## 3.1 Background

The effect of COVID-19 restrictions has had a visible effect on air quality across Hillingdon, most notably for $NO_2$ concentrations. The highest reductions are noted in the south of the Borough, around Heathrow. Monitored data gives the impression of widespread compliance with statutory levels for 2020 (Figure 4 to Figure 7).

## 3.2 Methods

This section presents a spatial analysis of the reduction in pollution levels observed in 2020 for $NO_2$ in relation to 2019 levels, showing how different emission sources have been impacted by the pandemic situation. To gain a better understanding of the observed reductions, further analysis has been undertaken to estimate annual mean concentrations in 2020 for a "business as usual" case, assuming that the pandemic had not occurred.

## 3.3 Impact of COVID-19 at Measuring Stations

Table 2 presents the improvement observed in air quality during 2020 across Hillingdon in % and absolute terms, when compared to 2019 levels (noting that some sites are relatively new and had incomplete data capture for 2019). Focus Areas linked to each monitoring station are identified.

**Table 2. Pollution falls in 2020 due to COVID-19 per Focus Area ranked**

| Site ID | Site Name | Site Type | Focus Area | Distance to kerb of nearest road | Reduction in $NO_2$ annual mean relative to 2019 levels (%) | Absolute Reduction in $NO_2$ Annual Mean ($\mu g.m^{-3}$) | Rank Change Magnitude |
|---|---|---|---|---|---|---|---|
| *HI1* | *Hillingdon 1 - South Ruislip* | *Roadside* | *A40/ South Ruislip Focus Area* | *2.5m* | *52.9* | *18* | *1* |
| *LHR2* | *London Heathrow* | *Airport* | *A4 Corridor Focus Area* | *N/A (inside airport)* | *40.5* | *17* | *2* |
| *HIL* | *London Hillingdon* | *Urban background* | *M4 Corridor Area* | *2.5m (30m to M4)* | *37.8* | *17* | *3* |
| *HILL41* | *junction with Sipson Way* | *Roadside* | *A4 Corridor Focus Area* | *0.7* | *34.7* | *16.9* | *4* |
| *HILL39* | *Pinglestone Close/Bath Road A4. UB7 0DJ.* | *Roadside* | *A4 Corridor Focus Area* | *1.5* | *36.1* | *16.5* | *5* |
| *HILL10* | *Brendan Close Harlington* | *Roadside* | *A4 Corridor Focus Area* | *1* | *36.5* | *14.5* | *6* |
| *HILL01* | *AURN Site, Keats Way, West Drayton* | *Roadside* | *M4 Corridor Area* | *30m from M4* | *33.7* | *13* | *7* |

| Site ID | Site Name | Site Type | Focus Area | Distance to kerb of nearest road | Reduction in $NO_2$ annual mean relative to 2019 levels (%) | Absolute Reduction in $NO_2$ Annual Mean ($\mu g.m^{-3}$) | Rank Change Magnitude |
|---|---|---|---|---|---|---|---|
| HILL09 | 25 Cranford Lane Harlington | Roadside | Harlington Focus Area | 1 | 34.6 | 12.6 | 8 |
| HILL16 | 49 Zealand Avenue | Roadside | A4 Corridor Focus Area (near) | 13 | 32.6 | 12.3 | 9 |
| T55 | Heathrow Green Gates | Urban background | A4 Corridor Focus Area | 13m | 38.7 | 12 | 10 |
| HILL32 | Field End Road, Eastcote. HA52QL. | Background | Eastcote Village Focus Area | 0.6 | 26.8 | 11.9 | 11 |
| HILL40 | Sipson Close/Sipson Rd. UB7 0JX. | Roadside | Sipson Focus Area | 1.8 | 33.5 | 11.9 | 12 |
| HILL26 | R/O 130 Cleave Avenue, Hayes | Roadside | M4 Corridor Area | 27 | 29.5 | 11.8 | 13 |
| HILL37 | 2/6 High St. Ruislip Lamp-post HA4 7AW | Roadside | Ruislip Town Centre Focus Area | 1 | 29.6 | 11.8 | 14 |
| HI3 | Hillingdon 3 - Oxford Avenue | Roadside | A4 Corridor Focus Area | 33m to A4 Bath Road (2m to Oxford Avenue) | 33.3 | 11 | 15 |
| HRL | London Harlington | Airport | Harlington Focus Area | 3m | 35.5 | 11 | 16 |
| SIPS | Hillingdon Sipson | Urban background | Sipson Focus Area | 2.5m | 36.7 | 11 | 17 |
| HILL38 | Oxford Ave, UB3 5HU | Roadside | A4 Corridor Focus Area | 1.2 | 25 | 11 | 18 |
| HILL42 | South corner of The Drive UB10 8DA | Roadside | A40 - Swakeleys Rd Focus Area | 4.5 | 27 | 10.7 | 19 |
| HILL12 | Heathrow Close Longford | Roadside | A4 Corridor Focus Area | 2 | 32.1 | 10.6 | 20 |
| HILL33 | Roundabout House, 34 Pinner Road. HA6 1BZ | Roadside | Northwood East Focus Area | 0.5 | 26.6 | 10.5 | 21 |
| HILL25 | 10 West End Lane, Harlington | Background | Harlington Focus Area | 33 | 26.9 | 10.4 | 22 |
| HILL36 | 69 High Street Ruislip. HA4 8JB | Roadside | Ruislip Town Centre Focus Area | 3 | 27 | 10.4 | 23 |
| HILL43 | No 60, Victoria Road. HA4 0AH | Roadside | Ruislip Town Centre Focus Area | 1.5 | 26.1 | 10.3 | 24 |
| HIL1 | London Harmondsworth | Roadside | N/A | 1m | 35.7 | 10 | 25 |
| HIL5 | Hillingdon Hayes | Airport | Hayes Focus Area | for the airport) | 24.4 | 10 | 26 |
| HILL08 | 15 Phelps Way Hayes | Roadside | N/A | 1.5 | 28.9 | 9.8 | 27 |
| HILL34 | 177/179 Pinner Road. HA6 1DB. | Roadside | Northwood East Focus Area | 2 | 26.7 | 9.6 | 28 |

| Site ID | Site Name | Site Type | Focus Area | Distance to kerb of nearest road | Reduction in $NO_2$ annual mean relative to 2019 levels (%) | Absolute Reduction in $NO_2$ Annual Mean ($\mu g.m^{-3}$) | Rank Change Magnitude |
|---|---|---|---|---|---|---|---|
| T54 | Heathrow Oaks | Airport | N/A | N/A (background | 34.6 | 9 | 29 |
| HILL29 | Little Benty, Road UB7 7UJ | Background | M4 Corridor Area | 1.5 | 27.3 | 8.9 | 30 |
| HILL21 | 5-7 Mulberry Crescent, West Drayton | Background | N/A | 2 | 27.6 | 8.9 | 31 |
| HILL03 | South Ruislip Monitoring Station West End Road | Roadside | A40/ South Ruislip Focus Area | 2.5 | 24.8 | 8.8 | 32 |
| HILL07 | Harold Avenue | Roadside | Hayes Focus Area | 30 | 23.8 | 8.8 | 33 |
| HILL27 | Botwell House RC Primary School | Roadside | Hayes Focus Area | 12 | 26.2 | 8.7 | 34 |
| HILL28 | Blyth Road 2nd Tube, Hayes | Roadside | Hayes Focus Area | 2 | 27.4 | 8.7 | 35 |
| HILL31 | Dorchester Waye | Background | Ossie Garvin Focus Area | 10 | 25.2 | 8.2 | 36 |
| HILL02 | Uxbridge Day Nursery Park Road Uxbridge | Roadside | Uxbridge Focus Area | 4 | 21.7 | 8 | 37 |
| HILL13 | 31 Tavistock Road | Roadside | West Drayton/Yiewsley Focus Area (near) | 1 | 28.7 | 8 | 38 |
| HILL35 | West End Road HA4 6LR | Roadside | Ruislip Town Centre Focus Area | 0.4 | 21.7 | 8 | 39 |
| HILL18 | Blyth Road, Hayes | Roadside | Hayes Focus Area | 2 | 20.1 | 7.5 | 40 |
| HILL19 | Side of 104 Yiewsley High Street | Background | West Drayton/Yiewsley Focus Area | 37 | 21.7 | 7.5 | 41 |
| HILL15 | Field End Road/Field End School S.Ruislip (outside AQMA) | Roadside | A40/ South Ruislip Focus Area (near) | 1 | 26.8 | 7.3 | 42 |
| HILL23 | 198 Harefield Road, Uxbridge) | Background | A40 - Swakeleys Rd Focus Area | 33 | 24.6 | 7.2 | 43 |
| HILL24 | 59 Hillingdon Road, Uxbridge | Roadside | Uxbridge Focus Area | 1.5 | 20.5 | 7.1 | 44 |
| HILL22 | 340 Long Lane, Uxbridge | Roadside | A40/ Long Lane Focus Area | 2 | 18.3 | 7 | 45 |
| HILL17 | 49 Silverdale Gardens, Hayes | Background | Hayes Focus Area (near) | 14 | 21.8 | 6.9 | 46 |
| HILL14 | Harefield Hospital Hill End Road | Background | Northwood West Focus Area (near) | 5 | 30.8 | 6.9 | 47 |
| HILL05 | Hillingdon Hospital Monitoring Station Colham Road | Roadside | Hillingdon Hospital Focus Area | 2 | 19.6 | 6.7 | 48 |

| Site ID | Site Name | Site Type | Focus Area | Distance to kerb of nearest road | Reduction in $NO_2$ annual mean relative to 2019 levels (%) | Absolute Reduction in $NO_2$ Annual Mean ($\mu g.m^{-3}$) | Rank Change Magnitude |
|---|---|---|---|---|---|---|---|
| *HILL30* | *No 60a The Chase, Ickenham. set back from road. UB10 8ST* | *Background* | *A40/ Long Lane Focus Area* | *25* | *20.9* | *5.3* | *49* |
| *HILL04* | *Hillingdon Primary School Uxbridge Road Hillingdon* | *Roadside* | *Uxbridge Road Focus Area* | *5* | *18.7* | *5.2* | *50* |
| *HILL11* | *Harmondsworth Green Harmondsworth* | *Roadside* | *N/A* | *1* | *19.8* | *5* | *51* |
| *HILL20* | *1 Porters Way (corner with Kingston Lane)* | *Background* | *West Drayton/Yiewsley Focus Area* | *9* | *13.7* | *5* | *52* |
| *HILL06* | *Warren Road Ickenham Uxbridge* | *Roadside* | *A40 - Swakeleys Rd Focus Area* | *23* | *11.7* | *4.1* | *53* |

The effects of the actions introduced to deal with COVID-19 effects are clear, with a decline in air pollution levels ranging from 52.9% reduction observed at Hillingdon 1 South Ruislip continuous monitor, to 11.7% observed at the roadside HILL06 diffusion tube location, 1m from relevant exposure and 23 from the nearest road, representing urban centre levels. This significant reduction observed on air pollution levels across the Borough during the 2020 pandemic restrictions in relation to 2019 business as usual scenarios, clearly indicates the benefits of significantly reducing car usage and aircraft movements, particularly in the most sensitive areas for exceedance of limit values. Restrictions on vehicle movements and reduced activity at Heathrow Airport, have had a notable impact on pollution levels in the Borough.

These results are reflected in Ricardo's analysis for Hillingdon on a month-by-month basis using data at automatic continuous monitoring sites. Figure 8 to Figure 11 show the extent to which $NO_2$ concentrations fell between 2019 to 2020 on a monthly basis. In each case columns show concentrations for one month in 2019 (e.g. July 2019) followed by the same month one year later (e.g. July 2020). The results for 2020 are systematically lower than those for 2019.

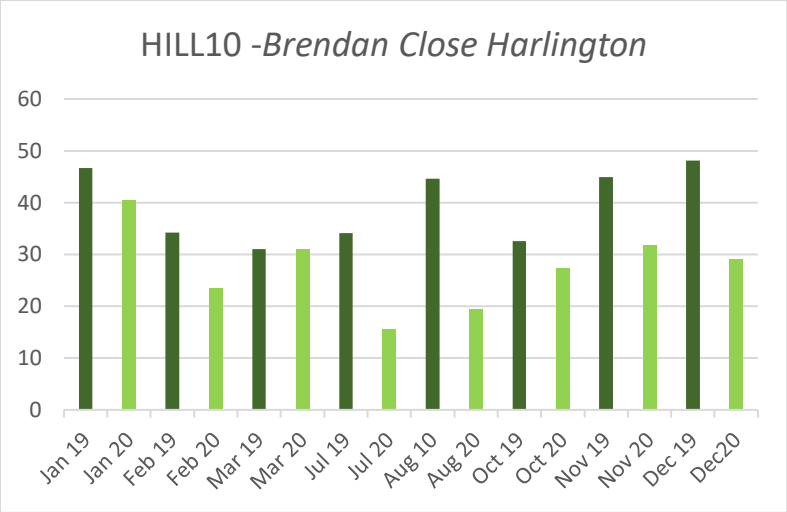


**Figure 8. Comparison between 2019 and 2020 monthly values (bias adjusted) for $NO_2$ for site HILL10. Units, ug.m$^{-3}$.**

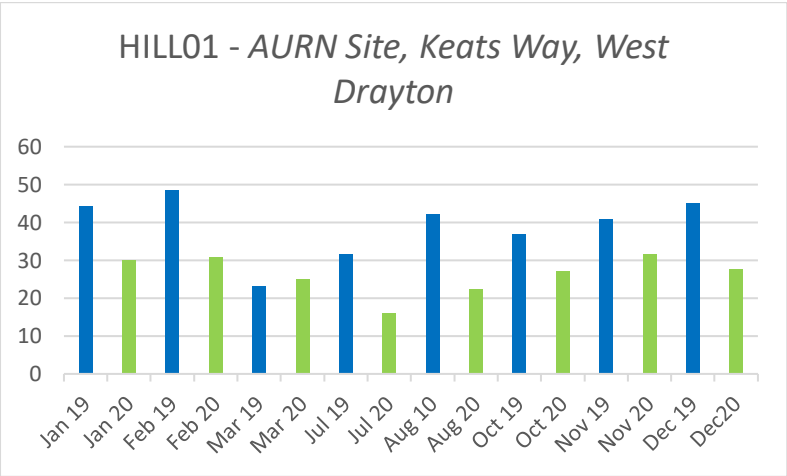


**Figure 9. Comparison between 2019 and 2020 monthly values (bias adjusted) for $NO_2$ for site HILL01. Units, ug.m$^{-3}$.**

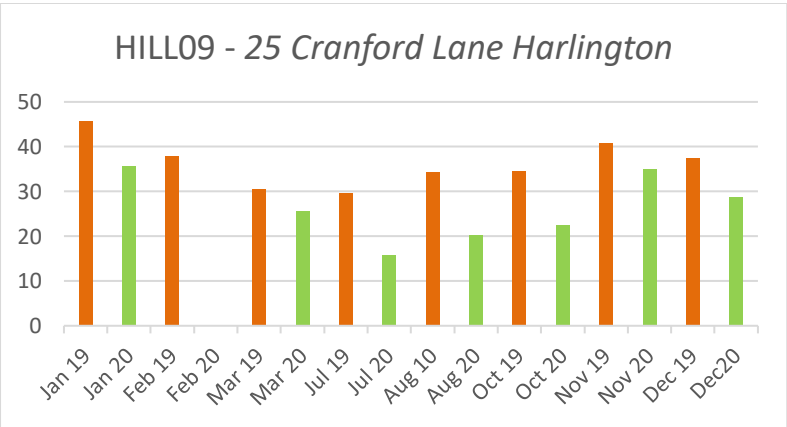


**Figure 10. Comparison between 2019 and 2020 monthly values (bias adjusted) for $NO_2$ for site HILL09. Units, ug.m$^{-3}$.**

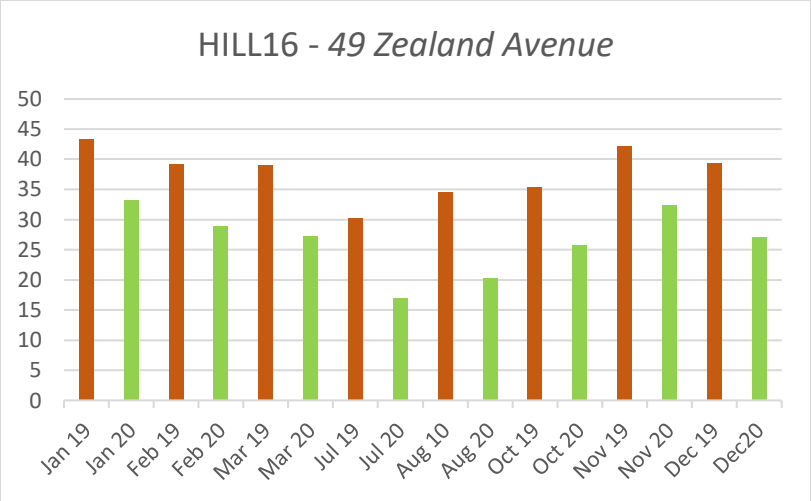


**Figure 11. Comparison between 2019 and 2020 monthly values (bias adjusted) for $NO_2$ for site HILL16. Units, ug.m$^{-3}$.**

The lowest record of road traffic activity was in April/May 2020 coinciding with the biggest drops in concentrations from 13-16ug/m$^3$ $NO_2$ at the majority of the monitoring stations in Hillingdon. The monitor at Bath Road/Oxford Avenue, did not show a similar drop until May. The biggest drop in concentration in the Borough was recorded in April 2020 at LHR (monitor on-airport) which recorded a drop of around 25µg/m$^3$. This coincided with the biggest drop noted in activity at Heathrow:

**Table 3. Heathrow Activity data (source: CAA)**

| Airport Activity | April 2019 | April 2020 | Difference | % Reduction |
|---|---|---|---|---|
| Air Transport Movements | 40,452 | 5,296 | 35,156 | 87% |
| Terminal Passengers | 6,798,206 | 206,600 | 6,591,606 | 97% |

Whilst other stations close to busy roads such as the M4 (London Hillingdon) and the A312 (Hillingdon Hayes) have shown substantial drops in concentrations, these are not as marked as those around Heathrow, the escalated call for home deliveries throughout the lockdown period, may have influenced this.

## 3.4 Results at the Borough level

The following figures (Figure 12 to Figure 16) show the change in $NO_2$ concentrations at monitoring stations in the Borough from 2019 to 2020, and forecasts of concentrations, drawing on trends from 2009-2019, under a business as usual (BAU) scenario with no pandemic. The BAU results show that without the pandemic it is likely that there would have been exceedances of the annual mean air quality limit value. Measured $NO_2$ annual means and estimated data are shown for each monitoring site for which sufficient trend data were available in Table 4.

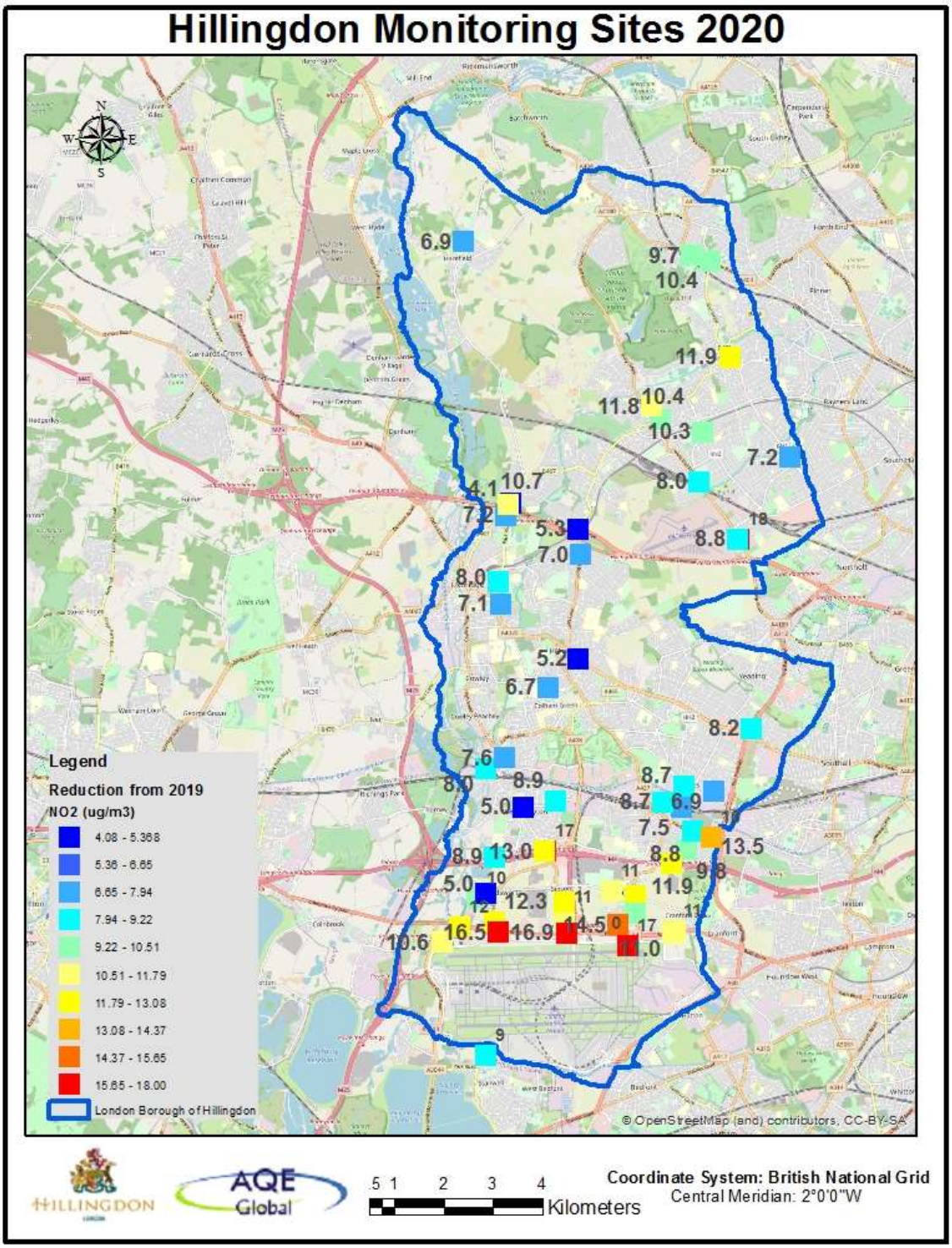


**Figure 12. Reduction in nitrogen dioxide annual mean monitored concentrations in relation to 2019 levels at all monitoring sites, $NO_2$ (ug/$m^3$) 2020**

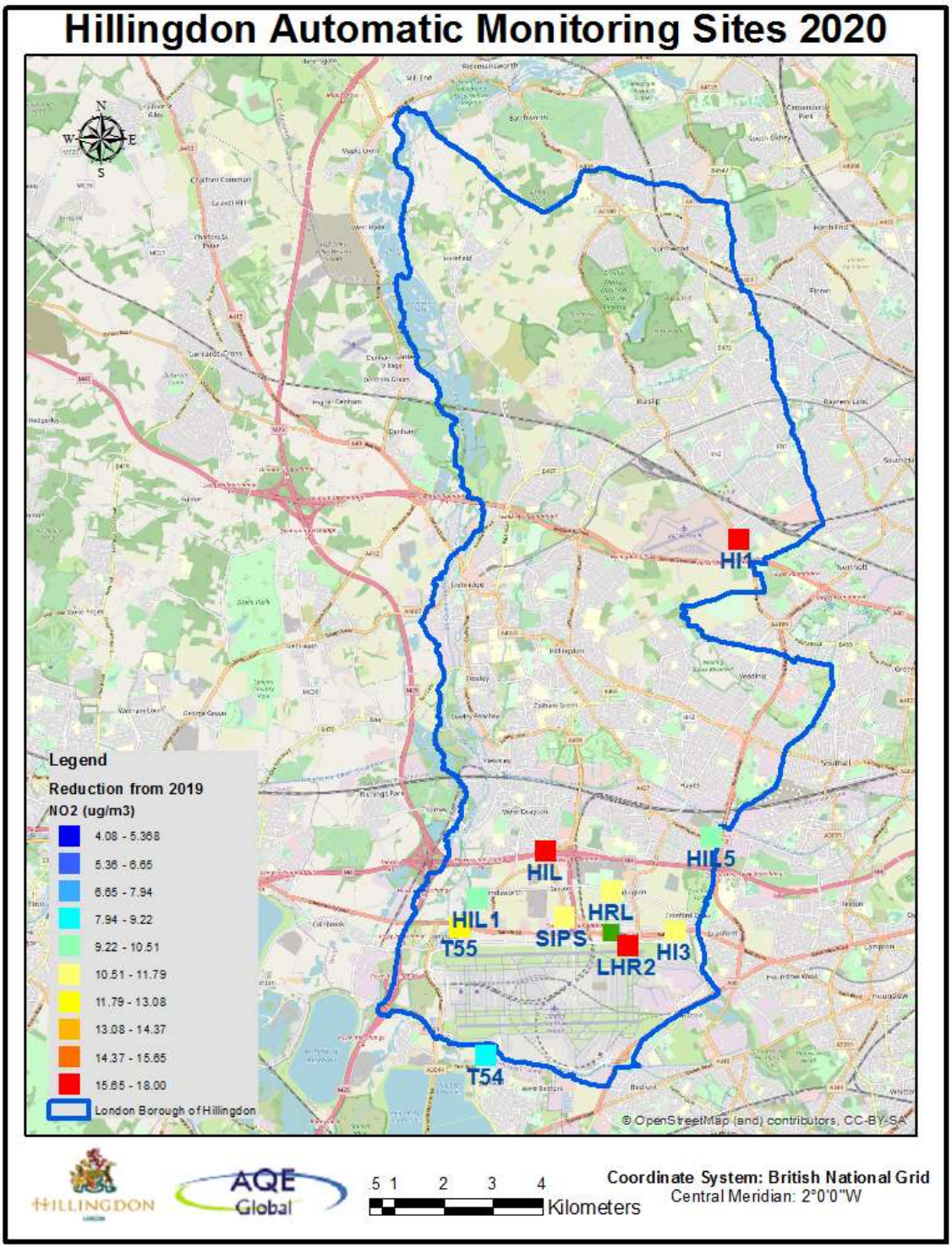


**Figure 13. Reduction in nitrogen dioxide annual mean monitored concentrations in relation to 2019 levels at continuous monitoring sites, $NO_2$ ($ug/m^3$) 2020**

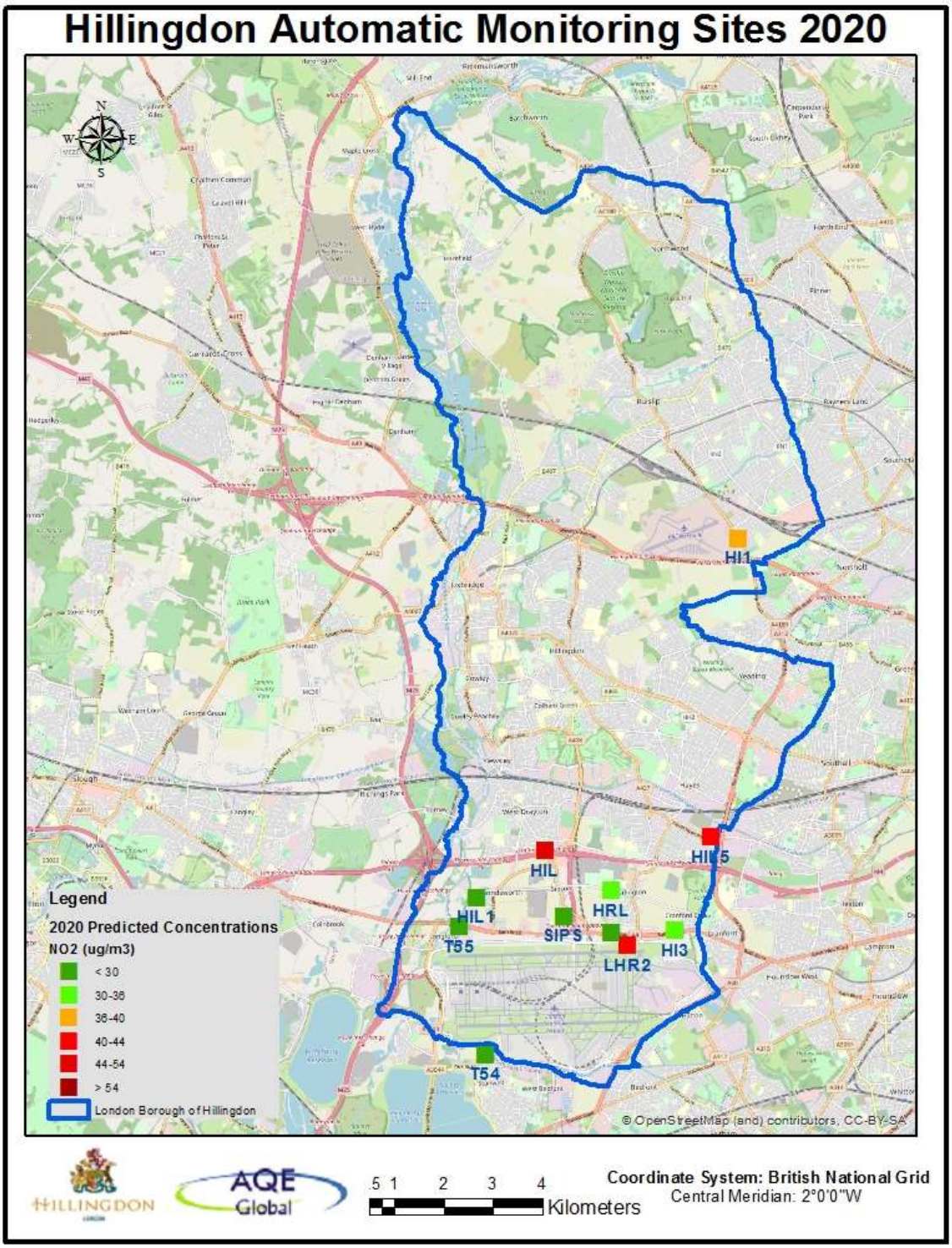


**Figure 14. 2020 Predicted nitrogen dioxide annual mean concentrations across the Borough, at continuous monitoring locations, $NO_2$ (ug/$m^3$) 2020**

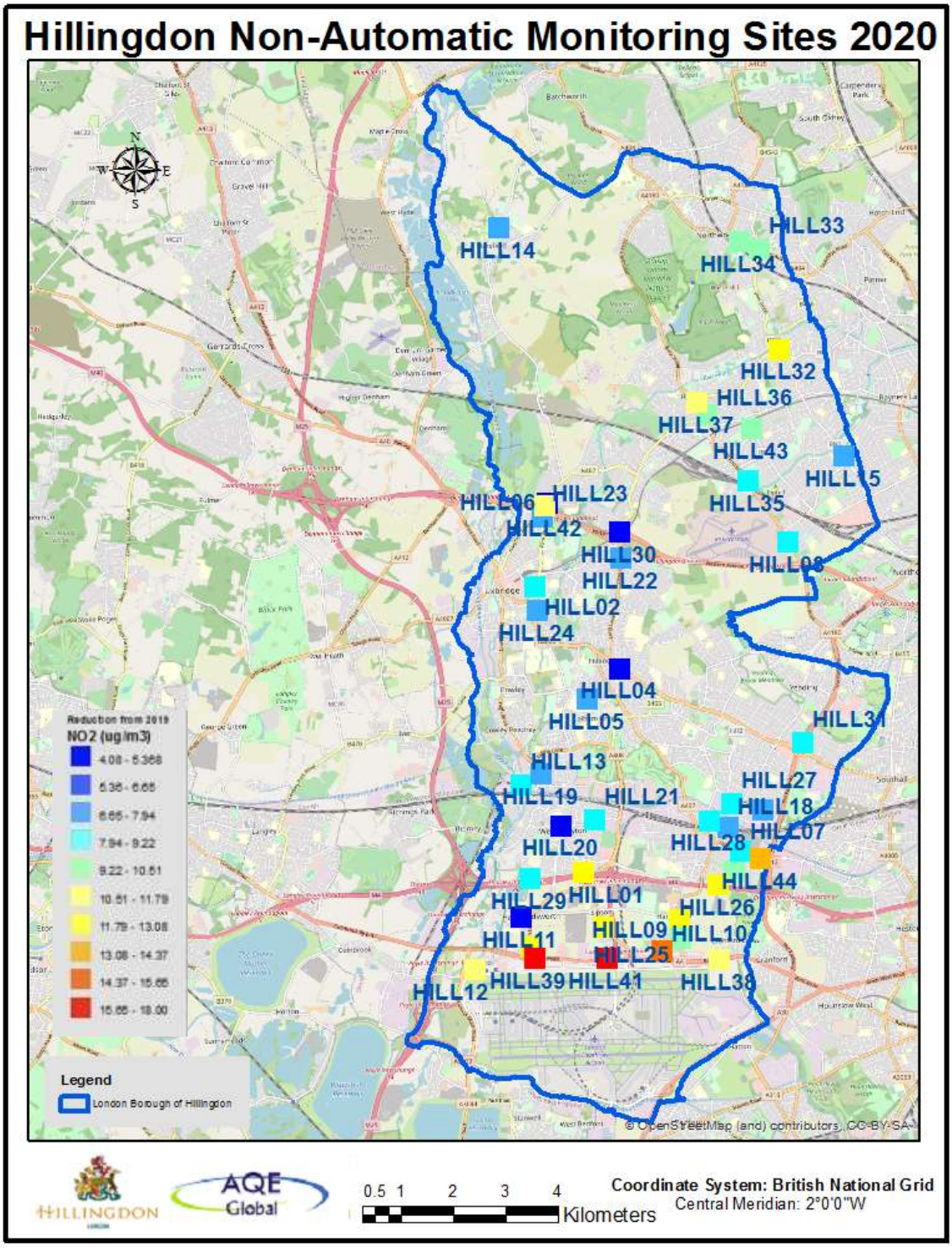


**Figure 15. Reduction in nitrogen dioxide annual mean monitored concentrations in relation to 2019 levels at diffusion tube locations, $NO_2$ ($ug/m^3$) 2020**

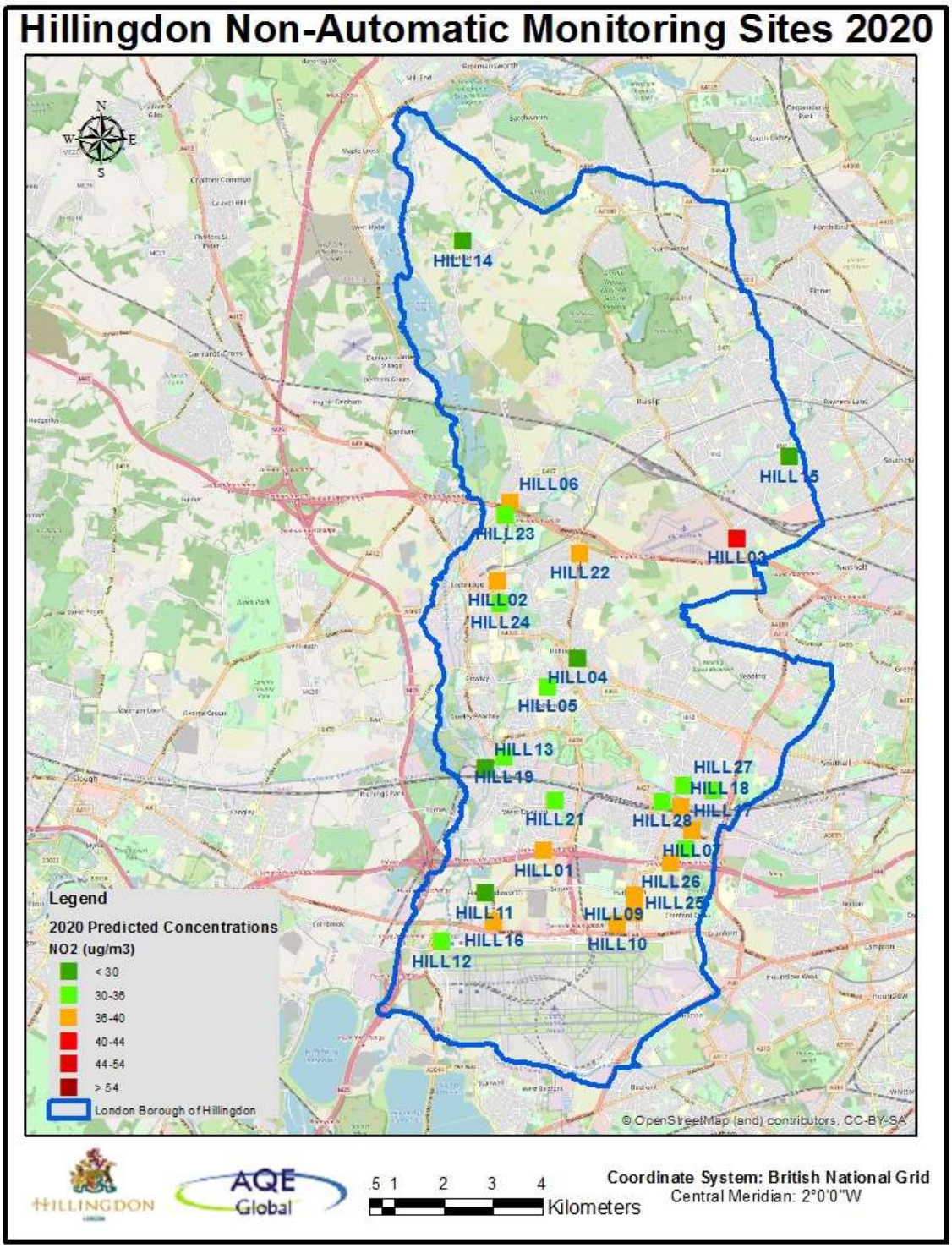


**Figure 16. 2020 Predicted nitrogen dioxide annual mean concentrations across the Borough, at diffusion tube locations, $NO_2$ (ug/m$^3$) 2020**

**Table 4. 2020 Predicted $NO_2$ Annual Mean Concentrations ($\mu gm^{-3}$) per Monitoring Site**

| Site | Name | Measured $NO_2$ ($\mu g.m^{-3}$) | Predicted $NO_2$ ($\mu g.m^{-3}$) |
|---|---|---|---|
| LHR2 | London Heathrow | *25* | ***41.7*** |
| HIL | London Hillingdon | *28* | ***48.0*** |
| HI1 | Hillingdon 1 - South Ruislip | *16* | *37.5* |
| HI3 | Hillingdon 3 - Oxford | *22* | *32.0* |
| HRL | London Harlington | *20* | *30.5* |
| SIPS | Hillingdon Sipson | *19* | *29.4* |
| HIL1 | London Harmondsworth | *18* | *24.4* |
| T55 | Heathrow Green | *19* | *30.0* |
| T54 | Heathrow Oaks | *17* | *25.1* |
| HIL5 | Hillingdon Hayes | *31* | ***40.4*** |
| HILL01 | Hillingdon AURN | *25.6* | *38.7* |
| HILL02 | Uxbridge Nursery | *28.9* | *36.7* |
| HILL03 | South Ruislip AQMS | *26.7* | ***40.1*** |
| HILL04 | Hillingdon Primary | *22.6* | *26.0* |
| HILL05 | Hillingdon Hospital | *27.4* | *33.3* |
| HILL06 | Warren Rd | *30.9* | *36.5* |
| HILL07 | Harold Ave | *28.1* | *36.4* |
| HILL08 | 15 Phelps Way | *24.1* | *32.8* |
| HILL09 | 25 Cranford Lane | *23.8* | *36.6* |
| HILL10 | Brendan Close | *25.2* | *36.2* |
| HILL11 | Harmondsworth Green | *20.3* | *25.7* |
| HILL12 | Heathrow Close | *22.4* | *32.8* |
| HILL13 | 31 Tavistock Rd | *19.9* | *26.7* |
| HILL14 | Harefield Hospital | *15.5* | *20.0* |
| HILL15 | Field End School | *19.9* | *25.1* |
| HILL16 | 49 Zealand Avenue | *25.4* | *37.3* |
| HILL17 | 49 Silverdale Gardens | *24.7* | *30.4* |
| HILL18 | 1 Blyth Road | *29.9* | *36.6* |
| HILL19 | Yiewsley Wilko | *27.1* | *34.4* |
| HILL21 | 5 Mulberry Crescent | *23.4* | *32.7* |
| HILL22 | 340 Long Lane | *31.3* | *37.8* |
| HILL23 | Harefield Road | *22.1* | *33.1* |
| HILL24 | 59 Hillingdon Road | *27.6* | *35.1* |
| HILL25 | 10 West End Ln | *28.3* | *39.2* |
| HILL26 | 130 Cleave Avenue | *28.2* | *39.9* |
| HILL27 | Botwell House School | *24.5* | *32.9* |
| HILL28 | 133 Enterprise House | *23.0* | *31.6* |

## 3.5 Focus Area analysis

Subsequent analysis focuses on concentrations of $NO_2$ in the Focus Areas, following the trends in each Focus area over the period 2009 – 2019. Results are presented in the following maps. Where possible, 2 maps are shown per Focus Area, one showing the change in concentrations of $NO_2$ from 2019 to 2020, and the second showing estimated concentrations for the case where the pandemic did not occur. Some Focus Areas are not included: for these,

there is insufficient data at the present time to provide detailed analysis. Further data are being collected.

### 3.5.1 A40 - Swakeleys Rd Focus Area

$NO_2$ values at the A40 - Swakeleys Rd Focus Area present a clear declining trend over the period 2009-2019 at roadside monitoring site HILL06 and a slightly milder decline at the background monitoring site HILL23. The maps show that biggest reduction was close to the northern access to the A40, through reduction in queuing traffic. The predicted concentration for 2020 indicates that there is still a potential problem at this location (levels of $NO_2$ over 36 ug.m$^{-3}$ indicate a potential exceedance of the 40 ug.m$^{-3}$ limit).


**Figure 17. A40 - Swakeleys Road Focus Area – reduction in concentration in relation to 2019 levels**

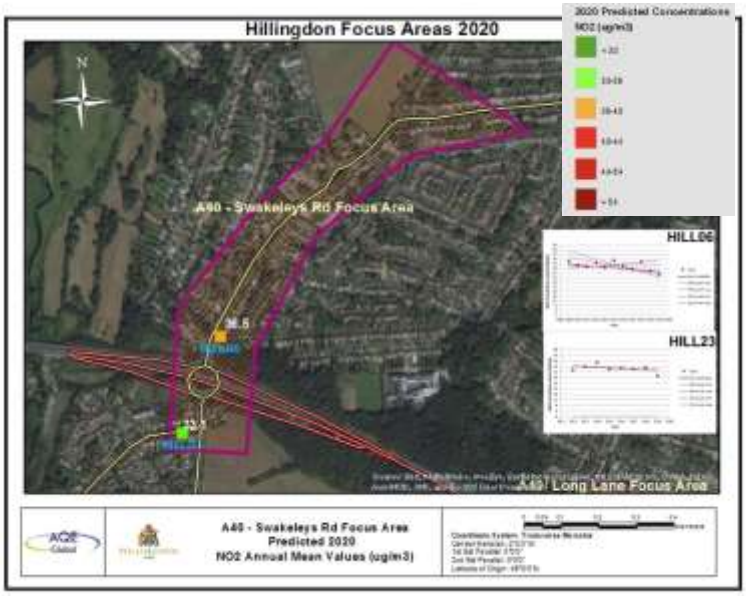


**Figure 18. A40 - Swakeleys Road Focus Area – predicted 2020 annual mean concentrations assuming BAU.**

### 3.5.2 A40/ Long Lane Focus Area

A40/ Long Lane Focus Area presents a clear declining trend for the period 2012-2019 at the roadside HILL22 diffusion tube location. Predicted data in Figure 20 indicate that there would still be potential exceedance if effects of Covid on air quality were effects.

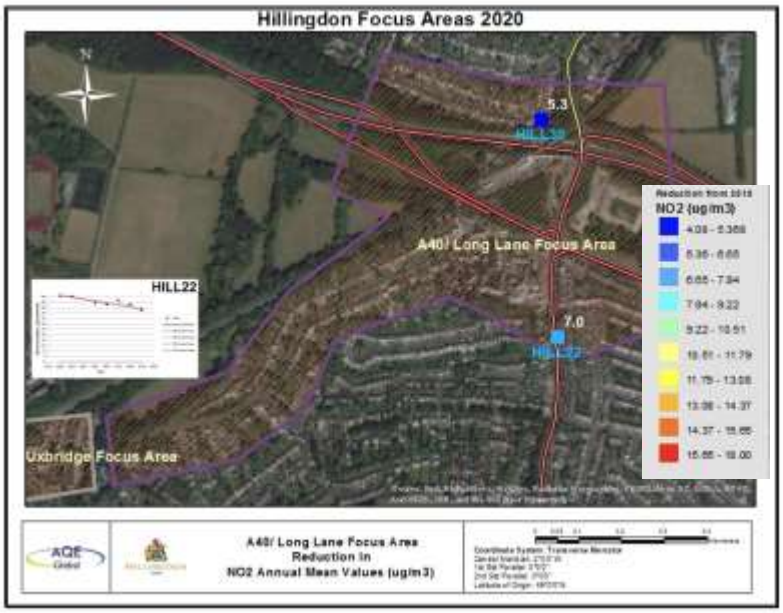


**Figure 19. A40/ Long Lane Focus Area – reduction in concentration in relation to 2019 levels**


**Figure 20. A40/ Long Lane Focus Area – predicted 2020 annual mean concentrations assuming BAU.**

### 3.5.3 A40/ South Ruislip Focus Area

The A40/ South Ruislip Focus Area shows an even sharper declining trend than that observed for A40/ Long Lane Focus Area for the period 2012-2019, particularly at the roadside continuous monitoring site Hillingdon 1 - South Ruislip (HI1). Whereas the diffusion tube co-located at this site presents a similar trend, the roadside HILL03 diffusion tube location presents a milder decline which can be attributed to over-adjustment of monitored values at this site by the application of national bias adjustment. There is clear potential for a return to exceedance at this site if Covid air quality effects are reversed.

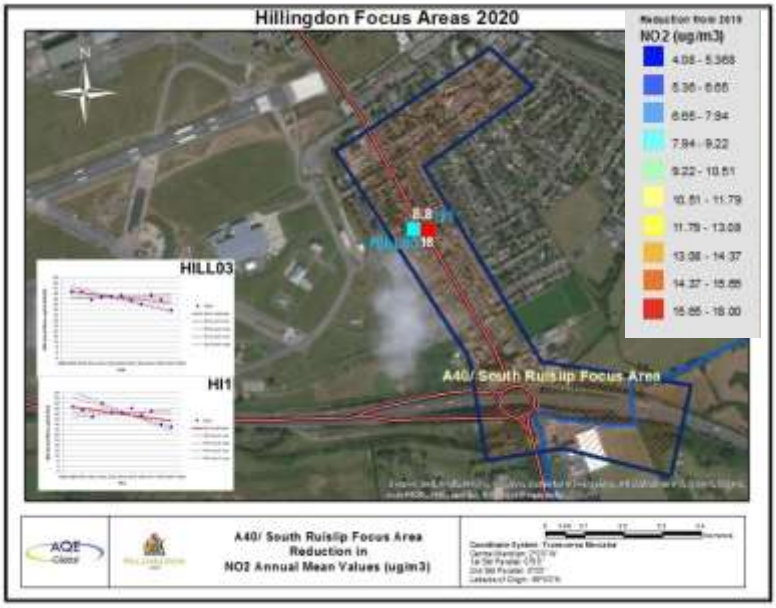


**Figure 21. A40/ South Ruislip Focus Area – reduction in concentration in relation to 2019 levels**

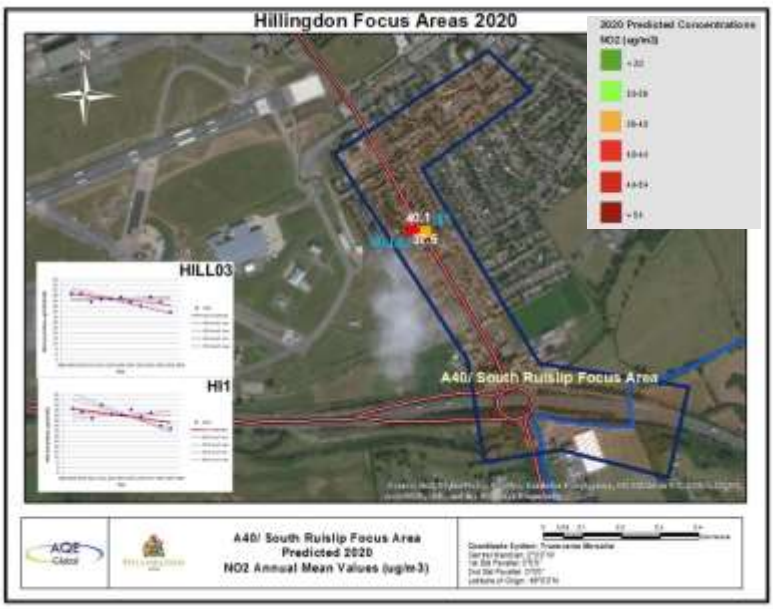


**Figure 22. A40/ South Ruislip Focus Area – predicted 2020 annual mean concentrations assuming BAU.**

### 3.5.4 Hayes Focus Area

The Hayes Focus Area has the largest public exposure, in terms of residential dwellings, in the Borough. It is also subject to pressure for both industrial and residential re-development which has the potential to bring more emissions into the area and to increase the numbers exposed. Hillingdon's planning system is therefore closely linked with the application of measures in the AQAP. There is a particular need in this area to ensure that all new developments are clean by design and have an air quality positive approach to ensure emissions are minimised.

Analysis of the temporal and spatial trends within the area indicate a mild increase of pollution levels at site HILL27 during the 2009-2019 period with stagnant levels depicted at location HILL28.

HILL18 and HIL5 present a significant decline in nitrogen dioxide over the last ten years. However, as the predicted 2020 analysis demonstrates, these sites are still likely to be above the annual mean limit value for $NO_2$, or close to exceedance (36$\mu g.m^{-3}$ and above).

The reductions in concentrations from the impact of Covid restrictions are displayed in Figure 23. The largest reduction is seen at North Hyde Road, close to the Hayes Bypass. These roads are normally highly trafficked and can be congested which suggests that road traffic from both these sources has a large contribution to the pollution levels experienced in this area.

The business-as-usual 2020 predictions indicate that there would be locations where there are exceedances are possible. These are North Hyde Road (HIL5) close to the A312 and residential area, Harold Avenue (HILL07), a residential street off North Hyde Road and Blyth Road (HILL18). These areas are subject to rapid development with future traffic from the Nestles development impacting on Harold Avenue and North Hyde Road and in Blyth Road close to new developments.

The trend analysis suggests that although these areas have seen declines in concentrations, they are still above the air quality standards. The trend analysis at the sites away from these areas such as Botwell Primary School (HILL 27), and Blyth Road (HILL 28) further away from the developments, although lower in concentration, are not showing any trend for improvement.

The biggest reduction in concentration due to COVID-19 occurred at HILL 18, presumably as economic activity was temporarily halted. There is concern that this could return once business resumes. Impacts from the new developments along Nestles Avenue have yet to be felt, and so the areas of North Hyde Road and Harold Avenue remain susceptible to increasing concentrations.


**Figure 23. Hayes Focus Area – reduction in concentration in relation to 2019 levels**

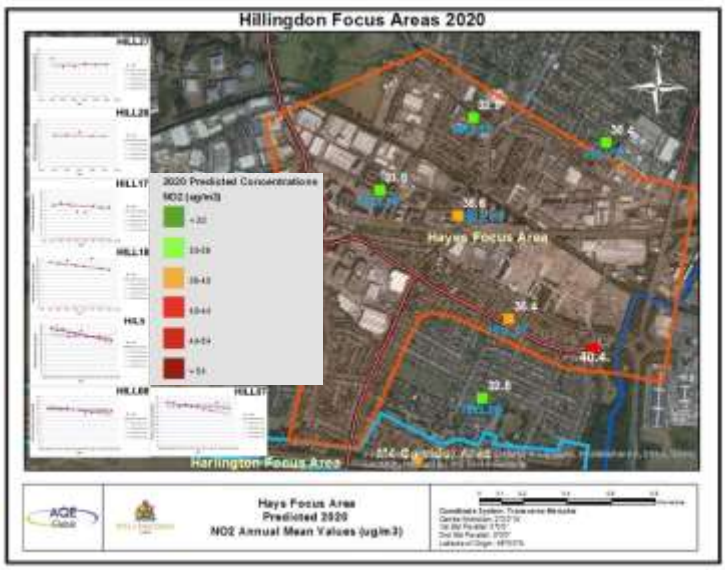


**Figure 24. Hayes Focus Area – predicted 2020 annual mean concentrations assuming BAU.**

### 3.5.5 M4 Corridor Area

Analysis of the temporal and spatial trends within the M4 Corridor Focus Area indicate a declining pattern of $NO_2$ concentrations at all monitoring sites, (HIL, HILL01, and HILL26) during the 2009-2019 period. The M4 is normally a heavily trafficked and congested road, the large reductions in concentrations observed indicating that the road traffic emissions are a significant contributor to the pollution levels in the area.

The map of predicted 2020 levels indicates that, despite a downward trend, some of these sites are likely to be still above the annual mean limit value for $NO_2$ or close to exceedance (36μg.m$^{-3}$ and above).

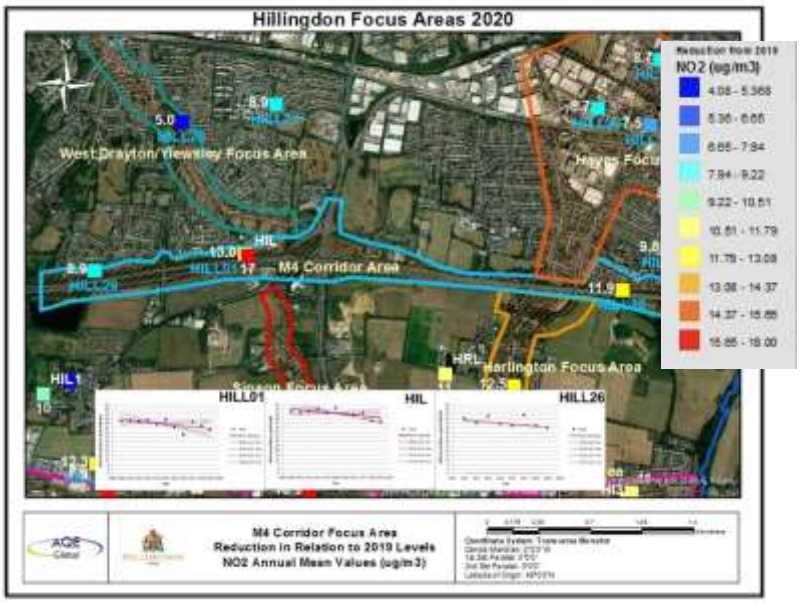


**Figure 25. M4 Corridor Focus Area – reduction in concentration in relation to 2019 levels**

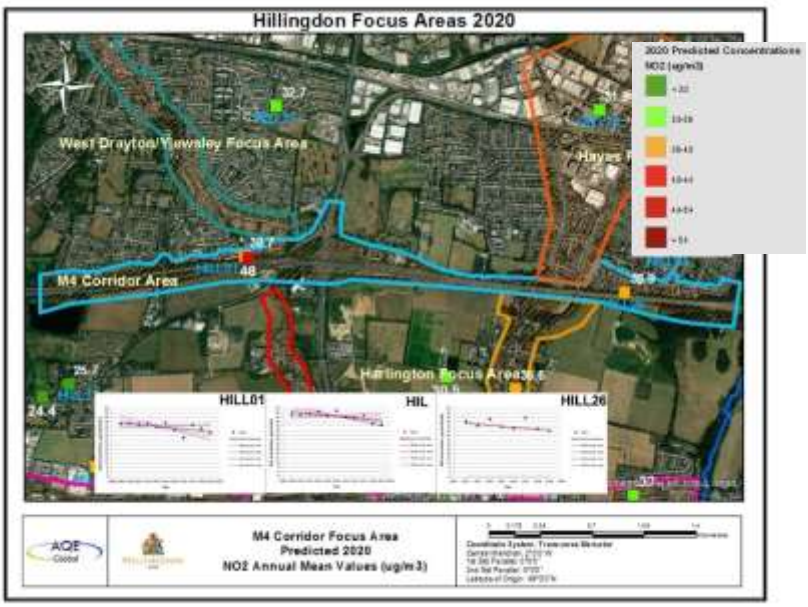


**Figure 26. M4 Corridor Focus Area – predicted 2020 annual mean concentrations assuming BAU.**

### 3.5.6 Harlington Focus Area

Analysis of the temporal and spatial trends within the Harlington Focus Area indicate a very mild declining pattern of $NO_2$ concentrations at the continuous monitoring site (London Harlington, HRL) during the 2009-2019 period. Moving south, towards the airport catchment area, the declining trend reduces significantly (HILL09), with HILL25 presenting a very mild upward trend. The trends observed could be related with both airport related background levels and increased traffic congestion in access routes to the airport.

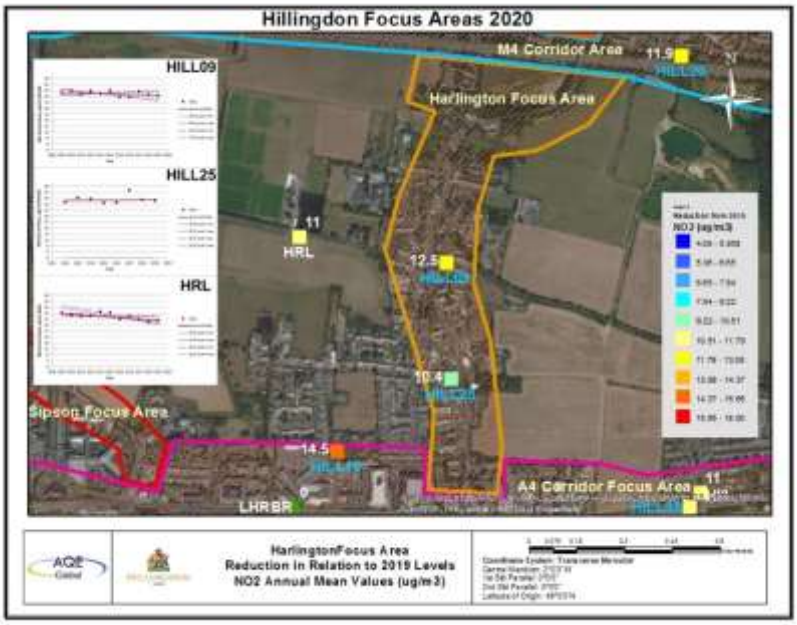


**Figure 27. Harlington Focus Area – reduction in concentration in relation to 2019 levels**

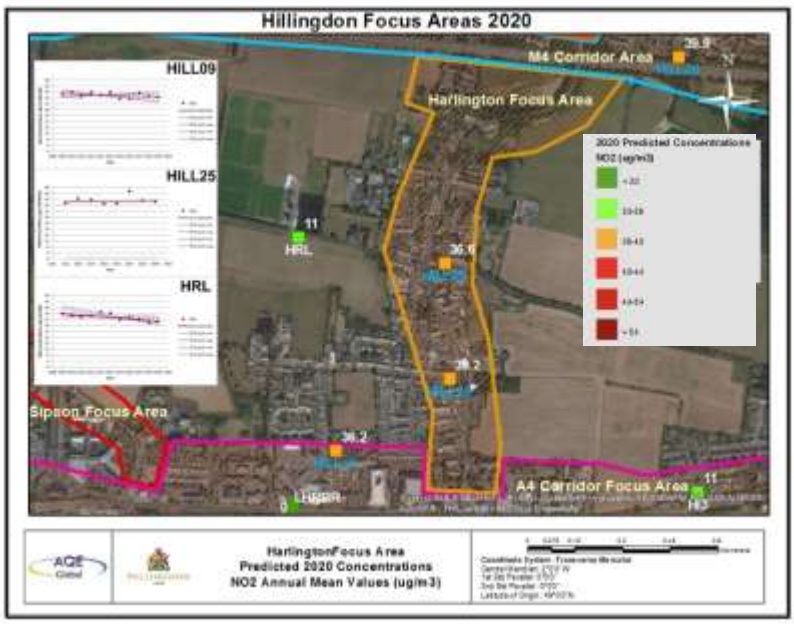


**Figure 28. Harlington Focus Area – predicted 2020 annual mean concentrations assuming BAU.**

### 3.5.7 A4 Corridor Focus Area

Analysis of the temporal and spatial trends within the A4 Corridor Focus Area indicate an overall declining pattern of $NO_2$ concentrations during the 2009-2019 period.

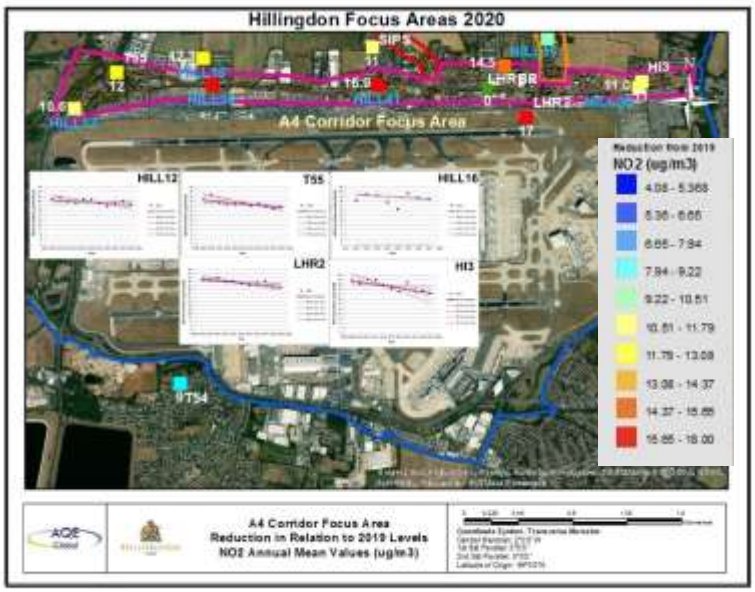


**Figure 29. A4 Corridor Focus Area – reduction in concentration in relation to 2019 levels**

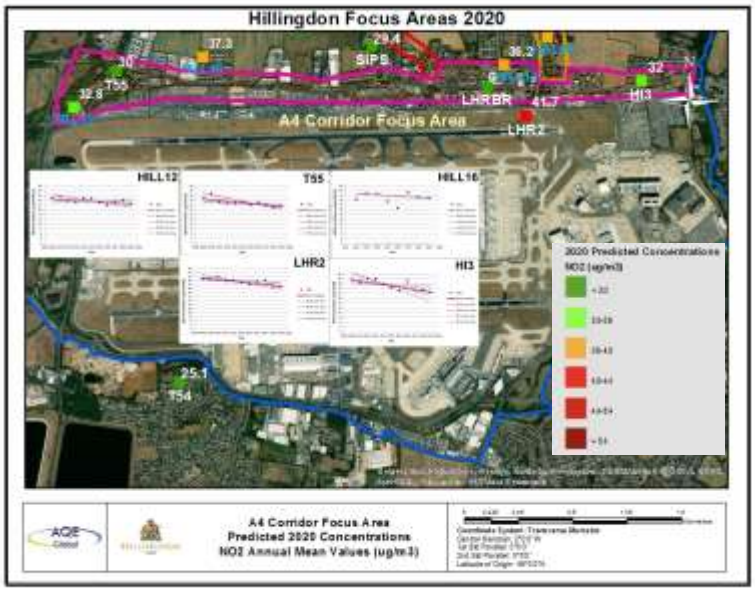


**Figure 30. A4 Corridor Focus Area – predicted 2020 annual mean concentrations assuming BAU.**

## 3.6 Overall Observations

This section reported the reductions in $NO_2$ levels recorded across the Borough in 2020, largely as a result of the major impact on activity levels linked to the response to the COVID pandemic. In 2021 with a national lockdown at the beginning of the year, there is likely to be an ongoing impact into this year as well. However, as restrictions are lifted and activities such as new developments, road vehicle traffic and, especially important for Hillingdon, increased activity at Heathrow Airport returns, concentrations could return to their previous levels as rapidly as they reduced unless interventions are introduced to curb these activities. It would be unwise to reduce effort on the AQAP on the false hope that the air quality improvements experienced over the last year will remain. The Council will therefore continue to implement the measures within the AQAP to ensure the start of the decline in concentrations seen in 2018 and 2019, prior to Covid, are not lost by inactivity on maintaining the pressure to improve air quality.

The analysis shown above demonstrates that this is particularly important in the AQ Focus Areas where pollutant levels are higher. The graphs above show both the $NO_2$ concentration reductions achieved and the predicted 2020 annual mean levels without the influence of COVID, based on the spatial and temporal trends per Focus Area, per monitoring site, over the last ten years of data as well as the predicted trend rate results for monitoring data calculated using Theil–Sen statistical processing procedures.

Some Focus Areas saw larger improvements than others, primarily due to differing prevailing emission sources (aircraft, traffic, industry) differing background levels, and development growth rate, particularly in residential areas.

Overall, it can be observed that, assuming a business-as-usual scenario, the situation within Focus Areas remains of concern. Despite statutory air quality limit values being met in 2020, pollution needs to continue to be monitored and closely managed by the Borough.

# 4 Actions to Improve Air Quality

## 4.1 Background

As already noted, 2020 has been marked by the effects of the COVID-19 pandemic on local air quality which saw activity from sources such as road traffic and the operation of Heathrow Airport fall substantially. The significant reductions registered across all Hillingdon monitoring sites have highlighted the most significant factor in improving air quality: the substantial reduction of road vehicle and the operation of Heathrow Airport both in aircraft and associated road movements.

## 4.2 ASR highlights

In terms of the implementation of the AQAP, whilst some activities were suspended due to COVID-19 restrictions, there have still been actions undertaken to improve air quality and reduce public exposure. The main activities and highlights of the year are presented in the following sub-sections.

### 4.2.1 Air quality around schools

Whilst measures such as no idling workshops and the planned educational packages on air quality were paused, the Council has been able to take forward the pollution barriers at schools project. The provision of pollution barriers does not in itself reduce emissions from the source that causes them e.g. road traffic, but they can be useful where school playgrounds/playing fields have no, or limited protection, from nearby road sources. Given the vulnerability of younger children to air pollution, even where schools are in generally less polluted areas there are benefits to be gained from reducing the exposure of young children to pollution from nearby traffic, during their recreational time.

Using the Mayor's 'Right green infrastructure, right place guideline' report, a project was developed to take forward the provision of screening by means of hedging, trees and green barriers at all schools within the Borough where playing fields and playgrounds were open to emissions from the nearby roads. The schools were prioritised, in terms of timescales for action, based upon the pollution levels reported in the Mayor of London schools and air pollution report (2016 updated results).

As part of an ongoing £200,000 programme the works to date have included the planting of 2,100 hedge plants, 700m of screening and the addition of 75 trees at schools in the borough. Phase 3 of the works will involve the planting of approximately 800 more hedge plants, 35 trees and the installation of 300 metres of privacy screening. This is due for completion in 2021/2022.

The Active Travel fund from TfL enabled the Council to take forward a walk to school project with the offer of walking maps for interested schools. The number of schools involved is now 66 with 11 volunteering to take part in feedback workshops.

The launch of the Big Pedal competition has involved 12 schools signed up to compete to see who can record the greatest number of pupils, staff and parents making active journeys to school.

The Bikeability training programme was paused during full Covid restrictions. However, it restarted from 19th April, with 22 schools booked for cycle training.

### 4.2.2 Tree planting

Hillingdon entered into a strategic partnership in 2020 with 'Trees for Cities' which proposes to provide a variety of community-based tree planting and greening projects to increase engagement and volunteering from local communities to improve existing open spaces and encourage cleaner air. In 2020/2021 over 6,000 trees were planted throughout the Borough.

The Council is currently considering the development of a Tree Strategy. It is anticipated that issues such as choice of location in regard to areas of poor air quality and choice of species in terms of improving local air quality will be an objective of the Strategy. This is supported in the Council's Climate Action Plan, currently out for consultation, which has a key objective to increase the tree canopy across the Borough and "in particular increase tree coverage in areas of poor air quality".

### 4.2.3 Walking and cycling improvements

Some planned measures in town centres and AQ Focus Areas were put on hold in 2020/2021, partly due to Covid restrictions, to staff re-assigned to Covid duties, and to the scaled down provision of the LIP funding for 2021/2022. Using the funds available and a successful bid to the TfL emergency active travel bid improvements, actions were taken across the Borough in terms of providing improvements to the pedestrian and cycling infrastructure. These have included:

- Upgrading of the Grand Union Canal towpath. This is a key pedestrian and cycle route through the Borough linking significant public transport hubs such as the Crossrail stations at Hayes and Harlington and West Drayton plus a link through to Uxbridge, the borough's Metropolitan town centre. In partnership with the Canal and Partnership Trust there is now over 3km of canal towpath upgraded to Quietways standard. The application of the Quietways standard ensures a safer, smoother towpath and the chosen surface has a life expectancy of around 15 years.
- Additional access to the Grand Union Canal at Dawley Road was provided along with cycle lanes along Park Road in Uxbridge and also linking High Street, Ickenham and Long Lane down to Hillingdon Tube station using the emergency active travel fund. This has provided alternatives to the car in key locations in the Borough.
- The LIP money released partway through the year facilitated the following;
    - Consolidation of the disjointed cycle provision on the A4020 Uxbridge Road – between Coldharbour Lane and Grange Way;
    - Cycling parking provision at Deansfield Primary School and Holy Trinity Primary School.

- Upgrade of four footpaths to enhance the pedestrian alternative to the car

### 4.2.4 Cleaner vehicles

The planned fleet management vehicle replacement programme was paused in 2020/2021, but is due to restart in 2021/2022. Eight electric/hybrid vehicles were purchased to be used by staff as pool cars.

Consideration is currently being given for the development of a Borough EV Strategy to include a review of the current EV infrastructure, identification of enhancement opportunities along with a communications strategy for encouraging residents and businesses to explore the benefits of cleaner vehicles. A pilot project is being planned for a potential bid to the On-street Residential Charge Point budget for a residential on-street charging scheme.

### 4.2.5 Building emissions

Work to reduce emissions from council buildings was taken forward with the replacement of 266 individual domestic boilers and 24 communal boilers. The reducing of emissions from Council owned building will be a key objective of the Council's Climate Action Plan. This is currently out for consultation, aimed for adoption in 2021.

### 4.2.6 Regulatory action

The Non-Road Mobile Machinery enforcement regime continued in 2020/2021 with 16 site audits in Hillingdon. There has been an improvement in terms of the number of sites aware of the NRMM regulations and also in those who may have failed to register on the NRMM website but were already found to be using compliant equipment. This suggests the use of specific planning conditions for NRMM plus the site audit regime is having a beneficial impact on this source of emissions. In regard to the enforcement of No Idling, the number of fines issued in 2020/2021 totalled 409, with the majority (305) being in the Heathrow Villages ward.

### 4.2.7 Planning

The Council continues with its robust appraisal of planning apps and the continued push for clean by design developments. The number of planning apps and the improvements requested are in Table K and Appendix C.

The new London Plan has now been published. The Policy SI1 Improving Air Quality gives support to the Council's approach to the assessment of planning applications. Whilst the London Plan and Council's Local Plan policies aim for development to be at least air quality neutral it is recognised (paragraph 9.1.9 of the London Plan) that in some cases this is not sufficient and that further action is needed too mitigate emissions.

This is especially important in the Air Quality Focus Areas (AQFAs) where the Council seeks 'better than Air Quality Neutral' and asks for an Air Quality positive approach. This is confirmed in the Council's AQAP where AQFAs are identified where there is potential public exposure to pollution levels above the limits and where more action is required. The Council applies a pollution damage cost to the uplift in emissions arising from the potential

development and seeks sufficient mitigation from the developer to reduce the additional emissions being brought into the Focus Area. Where the mitigation measures offered are not sufficient the remaining pollution damage costs form the basis of an s106 negotiation to improve air quality in line with the Council's AQAP Action Plan measures 5. This approach is in line with the new London Plan.

### 4.2.8 Planning Appeal

The stance taken by the Council in regard to polluting developments in AQFAs has been supported by a recent Planning Inquiry Appeal Decision. The Council refused the application for an electricity sub-station located in the Hayes Air Quality Focus Area, one reason being the effect of the proposal on air quality in the area of the appeal site.

The Inspector agreed with the Council, and in regard to the impact on local air quality concluded that:

*"the effect of the proposal on air quality is an important consideration in this appeal and that the location of the development within an area of poor air quality is of particular relevance to this decision. Even on the basis of the appellant's assessment the proposal would emit oxides of nitrogen and would not be air quality neutral. (para 45)*

*"The appeal proposal would increase the emissions of oxides of nitrogen in areas of existing poor air quality, in this case the designated AQFA and AQMA. Furthermore, it would not contribute to the aims of Policy DMEI 14 and the designation of the area as an AQMA and AQFA to reduce harmful emissions of oxides of nitrogen in the area. Therefore, the proposal is in conflict with these policies of the development plan. (para 55).*

*"It is clear from the evidence that the development will not be air quality neutral, as even at very low to imperceptible levels described by the appellant, the amount of oxides of nitrogen in the local atmosphere would still be increased by the proposal. Therefore, it would not contribute to the improvement in air quality in the area which is covered by an AQMA and an AQFA. I attach substantial weight to the conflict between the proposal and the policies of the development plan in terms of the effect of the development on air quality in these areas and therefore its effects on the health of the population in these areas. (para 89)*

*"Therefore I consider that the benefits of the proposal in terms of the need for the facility to be located next to a connection to the National Grid, a gas main and close to centres of demand and the neutral effect brought about by the development on the character and appearance of the area, to be outweighed by the effect of the development on local air quality and the conflict with the development plan in this regard." (para 90)*

This is an important decision which has put the location of the development at the heart of the consideration on whether it was deemed acceptable. The Inspector has acknowledged the importance of the designation of the AQMA and the AQFAs. The decision lends significant weight to the designation of the AQMA and the AQFAs and has supported the stringent approach the Council takes in regard to planning.

### 4.2.9 Defra Call for Evidence

The Council has continued to lobby to ensure those whose activities contribute to the AQ problem are properly engaged in terms of delivering the solution for AQ improvements. The Council's response names Highways England, DfT, the Environment Agency and others as AQ Partners in legislation not just consultees, on the grounds that decisions made by those organisations have a material impact on air quality in Hillingdon.

## 4.3 Challenges

### 4.3.1 Covid restrictions

The Council's 2019 ASR noted the gradual improvements in air quality as demonstrated in the monitoring data trend analysis. From the previous trend analysis, some improvements in 2018 and 2019 suggested a slight downward trend attributable perhaps to:

- Actions across London such as the tightening of the standards for the London LEZ and the introduction of a wider ULEZ in London,
- The introduction of a cleaner bus fleet along with specific low emission bus routes and
- Actions employed by each local authority in London under their air quality action plans.

Whether these trends would have continued into 2020 and beyond and at what rate of improvement is now difficult to firmly identify. The analysis in Section 3 has attempted to demonstrate this by included an estimate of what the results may have been in 2020 in terms of predicting a pollution level from the trend analysis, and compared this with the reductions in pollution at each point as actually monitored in 2020.

The reductions in concentrations across the Borough in 2020 have ranged from 4.1 $ug.m^{-3}$ to 18 $ug.m^{-3}$ dependent upon location. These reductions are substantial. The overall impact is that no monitoring location in the Borough reported exceedances of the air quality standard for $NO_2$ during 2020.

Analysis across the Borough has shown a distinct pattern. In places such as those around Heathrow Airport the reductions in concentration are the highest, suggesting that the airport and its associated activities are perhaps the most dominant source of emission in these areas.

The challenge will be to see whether the benefits in reduced pollution levels from the reduced activity, as demonstrated in the data, can be maintained, whilst the country attempts to increase activity in order to recover from the economic impacts of the covid restrictions.

### 4.3.2 Pollution and Ella

The focus on the need to raise awareness of pollution, and in particular PM, has been elevated with the reported death of a young girl in London. In 2013, 9 year old Ella Adoo-Kissi-Debrah, died. Ella lived very close to the South Circular Road, a busy main road with high levels of pollution. Ella frequently walked along or across it. The original inquest into the cause of her death named two major factors:

- Acute respiratory failure
- Severe reactive bronchial spasm (asthma)

Following a campaign by her mother the Inquest decision was quashed and new evidence on the impacts of air pollution on health called before a second Inquest.

The Coroner recognised that whilst Ella had a very unusual form of asthma and couldn't rule for certain that her death would not have occurred if the pollution levels had been slightly lower, it was clear that exposure to air pollution was a contributory factor. On the 16th December 2020 the second Inquest recorded the medical cause of death as:

- Acute respiratory failure;

- Severe asthma;
- Air pollution exposure.

In the conclusions the Coroner made reference to the various reports over many years which had all pointed to the danger of long term pollution exposure with evidence to show a causal relationship but that there was a disconnect between the link between air pollution and health which had not permeated to clinicians. Ella's mother, Mrs Adoo-Kissi-Debrah had not been informed that air pollution may be a factor.

On the 21st April 2021 the Coroner issued a Future Prevention of Death report. This has identified three areas of concern, with actions allocated to responsible bodies:

1. The national limits for PM are set too high: Government needs to address this in legislation. To be addressed by the Central Government Departments (Defra, DfT and DHSC)
2. Greater awareness of sources of pollution would help individuals reduce their personal exposure. Awareness needs to be addressed by national as well as local government. This is likely to require greater PM monitoring capacity. To be addressed by the Central Government Departments, the Mayor of London and the LB Lewisham (where Ella lived).
3. Adverse effects are not being sufficiently communicated to patients and their carers. This leads to a recommendation to address this at three levels, under-graduate, post graduate, and professional guidance such as NICE. This is to be addressed by the professional organisations responsible for the communication at each level.

The named bodies are due to respond by 17th June.

The Mayor of London may wish to ensure that the raised awareness campaign covers all London Boroughs and that additional capacity for PM monitoring is rolled out London-wide.

Hillingdon Council Air Quality and Public Health teams had an initial meeting (11th February) to discuss the issue and the way forward and also attended the GLA workshop focused on the Inquest and its implications. A further meeting is planned following the release of the Future Prevention of Deaths report. The PH team has suggested GPs are key. Initial thoughts are that a pan London approach would be more effective to draw up consistent information, to deliver webinars/workshops to medical practitioners with consistent presentations and to identify a mechanism to ensure the GPs delivered the message to the right people. A second important part will be the delivery of information to the general public for example, ensuring everyone has access to information such as.

- an interactive pollution map available for people to explore their own area/where they work/how they commute in terms of pollution levels.
- Provide for the plotting of low pollution walking and cycling routes;
- Provision of this information via apps for when people are out and can make decisions "on the hoof".

With the heightened awareness of the impact of pollution on health , compounded by the recommendations of the Prevention of Future Deaths report in the case of the death of Ella, these reductions in pollution levels have the potential to be beneficial for the health of the communities in the Borough, especially those whose health could affected by air pollution.

### 4.3.3 HS2 construction

Construction work has now started on HS2 within Hillingdon. The route starts at London Euston, and tunnels for 13 miles to surface into Hillingdon at South Ruislip. The train line then travels over-ground following the Chiltern Line west toward Breakspear Road South. Between Breakspear Road South and Harvil Road, HS2 will be in a cut-and-cover tunnel called Copthall Tunnel. The route will then form the UK's longest viaduct to cross the Colne Valley, and continue in tunnel below the M25 and the Chilterns in Buckinghamshire.

HS2 have undertaken early vegetation clearing works across the borough so that its construction contractors can commence earthworks. As such nearly all areas along the route are potential sources of dust nuisance, so the construction contractors are required to apply several measures to reduce dust pollution, such as using dust management measures and monitoring PM along the route. HS2 has established several diffusion tubes for $NO_2$ along the lorry routes serving the construction activities (data for these sites are shown in Table 5). Agreement has been reached on the number of HGVs allowed to access the site. As an additional measure to reduce the number of heavy vehicles on the local roads, HS2 are using two large scale conveyors to move tunnel spoil to both the northern and southern placement areas. The nature of this equipment demonstrates the massive scale of HS2 construction activity.

**Table 5. Diffusion tube results for $NO_2$ from the HS2 lorry routes. Units: ug.m$^{-3}$.**

| Reference | Location | 2018 | 2019 | 2020* |
|---|---|---|---|---|
| HS2-000020BPL | Warren Road sign post on corner of Swakeleys Road and Warren Road | 41.3 | 37.6 | 37.0 |
| HS2-000020BQN | Lamp post on Park Road | 50.1 | 44.5 | 37.0 |
| HS2-000020BPN | Lamp post on B467 | 31.0 | 31.0 | 31.0 |
| HS2-000020BPK | Lamp post in crescent off Swakeleys Road | 35.8 | 34.9 | 33.0 |

* raw data, requiring appropriate adjustment

### 4.3.4 Revised WHO Air Quality Guidelines

The World Health Organisation is expected to release updated guidelines on air quality exposure for the first time in nearly 20 years. It is expected that there will be a significant reduction in the guidelines, which may in turn influence the setting of new post-Brexit air quality limit values in the UK through the Environment Bill. creating both a challenge for the Council in seeking to meet tighter limits, and opportunity for improving public health in the Borough through increased recognition that even (historically) very low levels of pollution are damaging to health.

## 4.4 Opportunities

Hillingdon's Climate Action Plan represents an opportunity to reduce emissions from the Council's activities, both in relation to the Council's own operations and actions aimed at businesses and communities. There are strong links between air pollutant and greenhouse gas (GHG) emissions as both share, to a significant extent, similar sources through the combustion of solid fuels. This represents an opportunity to lock in benefits such as the move to cleaner vehicle technology and transport modes. To maximise these benefits the Council will need to consider the effectiveness of air pollution measures on GHG control and vice-versa.

It is clear that the aviation industry has been impacted heavily by the impact of Covid. It is unclear how the long the recovery period will be, or if the previous levels of air travel will return in the future. This may be particularly the case for business travel as the impact of virtual technology has had the chance for its potential to be realised. Whilst Heathrow Airport has an important role to play in Hillingdon in terms of the economic benefits for the communities and businesses, it is also a substantial source of emissions. With the future of aviation unclear, the Council will continue to press Government to review the Airports National Policy Statement and remove expansion of Heathrow as a policy option.

Information gathered on changes in air quality over 2020 and reported above has been extremely useful for demonstrating the key sources of pollution and the extent to which measures could reduce concentrations. The benefits from reduced activity and how these can be locked in, whilst the country recovers from the restrictions imposed by Covid, needs to be further explored to help design additional cost-efficient measures for reducing pollutant exposure.

As already noted, the revised WHO Air Quality Guidelines due to be released in July 2021 are expected to highlight the benefits of further reductions in pollution levels. Awareness of the impact of pollution on health has already been heightened by the recommendations of the Prevention of Future Deaths report in the case of the death of Ella Aloo-Kissi-Debrah. Recognition of the increased vulnerability of some members of society to poor air quality is long overdue. Together, these provide added impetus for further actions to clean the air.

## 4.5 Air Quality Action Plan Progress

Table J summarises progress against each measure for the original action plan in the reporting year (2020). The column headed 'Progress' provides an indication of the status of each measure, as follows:

- **Complete**: Measures for which objectives have been met and further action is not required. Few measures will fall into this category during the life of the AQAP, as most will need monitoring and enhancement for some time to come.
- **Ongoing**: Measures which are fully in place but require continuing action. Examples include providing access to information on public transport, the implementation of school travel plans and annual reporting on progress with the action plan.
- **In progress**: A small number of measures that are not fully implemented but for which the council believes that additional resource or interest from external organisations would be of benefit.

- **Yet to start**: Measures for which resources have yet to be identified.
- **Stopped**: This would include measures that were concluded following the receipt of information after the development of the AQAP to not warrant implementation, with resource better spent elsewhere.

Specific progress in the reporting year is also documented in this column. The column headed 'Further information' provides additional details on the overall implementation of each measure.

It will be noted that many actions are described as 'ongoing', indicating that they are factored into the routine working of the Council. Continued action in these areas will of course be dependent on continued funding.

**Table J. Delivery of Air Quality Action Plan Measures. Progress in 2020 identified through use of bold font.**

| | Action | Progress | Further information |
|---|---|---|---|
| 1a | Maintaining and where possible expanding monitoring network | **Ongoing**. Current automatic network is maintained, additional automatic monitor brought into the network November 2019 by Heathrow Airport Ltd, located on the Bath Road, data will be available for 2020 reporting. Full review of diffusion tube monitoring network to ensure appropriate coverage across the borough including in AQ Focus Areas. New monitoring network in place July 2019. **New automatic station on Bath Road in place, however, interruption of power supply due to Covid restrictions has paused the use of the monitoring station. Diffusion tube network all in place, full set of results for 2020.** | Output//target/KPI - 2019 review of monitoring complete<br><br>**The Breathe London project will give the opportunity for individuals, community groups, schools etc to "buy in" to the network and obtain their own low costs sensors. Launch is expected summer 2021**. |
| 1b | Fulfilling other statutory duties including regulation of industrial sources | **Ongoing**, the regulation of industrial processes is undertaken by a contractor, any requirement for enforcement action is referred back to the Council. **Regulatory duties are fully up to date.** | |
| 2 | Ensuring emissions from construction are minimised | **Ongoing** via planning, 100% of all planning applications in 2019/2020 included the construction dust condition;<br>Two complaints arising from commercial construction sites, resolved following site visits. **44 investigations of dust and emissions, all resolved.** | |
| 3 | Ensuring enforcement of Non-Road Mobile Machinery (NRMM) air quality policies (addresses emissions from e.g. building sites regarding cranes, generators, etc.) | **Ongoing**, via planning, 100% of all planning applications in 2019/2020 included the NRMM condition; | Audits undertaken |

| | Action | Progress | Further information |
|---|---|---|---|
| | | Audits undertaken by Cleaner Construction for London on behalf of the Council (MAQF project);<br>34 site audits undertaken of which 10 were self compliant, 15 worked towards and achieved compliance and 6 sites failed and were reported non compliant. Of the 6 non-compliant the reason was failure to register on the NRMM website, the remaining 2 did not adhere to the timescale for removal of non-compliant equipment.<br>**NRMM report highlights that 16 site audits were undertaken. Of these only 1 was registered as non-compliant. The non compliance was due to an admin issue, lack of registration on the NRMM data base, the plant present on-site was all compliant** | |
| 4 | Reducing emissions from CHP | **Ongoing** and enforced by planning condition where applicable | There is very little CHP in Hillingdon |
| 5 | Enforce Air Quality Neutral (AQN) policy with more stringent application of mitigation required in the Hillingdon Focus Areas | Local Plan part 2 adopted January 2020, the air quality policy states developments must be "at least air quality neutral" (AQN);<br>**Ongoing** action via planning. AQN assessments requested on 100% of all planning applications in 2019/2020;<br>**Pollution damage cost calculations have been performed where appropriate and s106 was sought and secured where relevant,**<br>**S106 ring fenced in the legal documentation as "towards initiatives to improve air quality in the Authority's area".** | See Table K and Appendix C for more detail on planning applications<br><br>**The new London Plan has acknowledged that in certain areas AQN is not sufficient.** |
| 6 | Ensuring adequate, appropriate, and well-located green space and infrastructure is included in new developments. | Via planning regime, specific green infrastructure barriers and green buffers are sought in areas where residential and amenity spaces are in proximity to busy roads, this is extended to footpaths and cycle pathways in | Specific planning condition to be used seeking a green infrastructure scheme designed to protect public exposure. |

| | Action | Progress | Further information |
|---|---|---|---|
| | | association with the development in relevant cases. | Consideration is given to a 5-10% reduction in the associated pollution damage cost where bespoke pollution green infrastructure schemes are presented. |
| 7 | Raise awareness that Hillingdon is a declared Smoke Control Zone along with Council enforcement powers for non-compliance through an article in Hillingdon People magazine and distribution of point of sale posters/leaflets to fuel suppliers | Awareness campaign enhanced by specific information in the Hillingdon People magazine Sept/Oct 2019). This included information on what it means to live in a smoke control zone, the smoke control area regulations and signposting to information on compliant fuels and appliance. The magazine has a circulation of 113,000 individual households with an additional 4,000 for distribution via libraries, leisure centres and other Council establishments.<br>The Council offers every resident a free garden waste collection service, this aims to reduce the need for garden bonfires. In 2019 825 tonnes of garden and kitchen waste were collected.<br>Construction sites are regulated via the planning regime which ensures bonfires on sites are not permitted.<br>**In 2020/2021, the Council has continued to use social media throughout the pandemic in regards to the use of wood burning stoves and bonfires;**<br>**Hillingdon is a member of the GLA Wood Burning working group. The Group will consider the use of comms material to alert businesses and also the training of enforcement officers.**<br>**There were 382 investigations undertaken including smoke/odour/fumes and bonfires. 100% have been investigated and resolved.** | The advice has been flagged regularly since the Covid 19 lockdown using the Council's social media updates to ask residents to avoid using wood burning stoves or lighting bonfires especially in these current times.<br><br>There were 255 investigations undertaken including smoke/odour/fumes and bonfire emissions, unfortunately the data capture does not allow for further breakdown. Over 77% of these have been resolved, the remainder are awaiting further details. |

| | Action | Progress | Further information |
|---|---|---|---|
| 8 | Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:NEW and RE:FIT and through borough carbon offset funds. | A total of 210 boilers were replaced in 2019/20 financial year.<br>An additional 14 boilers were replaced across 6 communal locations;<br>706 fire doors were replaced;<br>All relevant developments are subject to a condition securing the installation of energy sources which are compliant with the Mayor's Sustainable Design and Construction SPG<br>**In 2020/2021 the scheme has addressed 24 communal boilers and 266 domestic boilers.** | All new boilers conform to the GLA requirements in terms of emissions.<br><br>The implementation of the Climate Strategy will ensure continued reductions in emissions from these sources are prioritised. |
| 9 | Master planning and redevelopment areas aligned with Air Quality Positive and Healthy Streets approaches | Healthy Streets approaches are included in all relevant LIP projects;<br>Relevant planning applications, especially in Air Quality Focus Areas, are requested to have an air quality positive approach<br>2020/2021<br>**This is anticipated for release in 2021. The London plan indicates its use for larger Masterplan developments. The Council will continue to apply an air quality positive approach to all relevant developments within Air Quality Focus Areas.** | The early release of Air Quality Positive guidance would help local authorities enforce this more consistently. |
| 10 | Public Health department taking shared responsibility for borough air quality issues and implementation of Air Quality Action Plans | Air quality and health have been incorporated into the Hillingdon Improvement Programme for regular updates on actions.<br>**In 2020/21, there was an internal PH/AQ meeting following the report on the inquest into the death of Ella Adoo-Kissi-Debrah. Council staff also attended the GLA Workshop into the implications of her death, held on 18/03/21.** | **Hillingdon Asthma Friendly Schools update- given the current COVID 19 situation this will need to be reported next year.** |
| 11a | Development of promotional tool for use at business engagement opportunities to raise awareness of initiatives to increase active travel and improve air quality | The MAQF bid for the west London Cluster group to develop a promotional tool for business engagement was unsuccessful; | |

| | Action | Progress | Further information |
|---|---|---|---|
| 11b | If MAQF bid unsuccessful, seek funding for development of Hillingdon-specific promotional tool and business engagement action plan | The funding for a Hillingdon specific business engagement tool will be considered in 2020/2021;<br>All council town centre redevelopment schemes include consultation with local businesses, this will be investigated as a means of promoting the use of low and zero emission technologies;<br>The Council has introduced a Targeted Problem Solving Group working with partners including the Police, Fire Brigade, TfL, Housing associations and a range of Council departments. There is a rolling programme of events at community hubs utilising supermarkets and community halls to engage with residents and local businesses.<br>Information on air quality such as no idling and airtext has been included in the programme for dissemination at these events. Going forward, the Programme will incorporate a 'health focus' by engaging with medical centres and PH teams.<br>**In 2020/2021 this programme has been paused in 2020/2021 due to COVID-19.** | The Targeted Problem Solving events engaged directly with 2258 people in the programme 2019/2020 |
| 12 | Supporting a direct alerts service such as AirText and promotion and dissemination of high pollution alert services | Raising awareness of AirTEXT was enhanced by a specific campaign in the Hillingdon People magazine. The magazine has a circulation of 113,000 individual households with an additional 4,000 for distribution via libraries, leisure centres and other Council establishments.<br>The data below is for the 8 month period April 2019 - November 2019. There are currently 176 members signed up in Hillingdon a total of 3551alerts were sent out, the majority of these via email and text. There has been an increase | The Action Plan target is for a 10% increase in members there has been a 7% increase in an eight month period which would roughly equate to a 10% increase if pro-rated for a year. |

| | Action | Progress | Further information |
|---|---|---|---|
| | | of 12 new subscribers in this eight month period, an increase of around 7%.<br>**178 subscribers in total in 2020, 5 more since the end of 2019. Total of 17 days of pollution alerts in the year which required 3,673 alerts to be sent out to Hillingdon subscribers.**<br>**Ella Aloo-Kissi-Debrah inquest has highlighted the requirement for there to be provision of appropriate data to the general public, in particular, those vulnerable to the impacts of air pollution.**<br>**Mayor of London alerts on pollution incidences are sent to schools, GPs and care homes.** | |
| 13 | Encourage schools to join the TfL STARS accredited travel planning programme | **All schools were alerted to the No Idling webinairs;**<br>**All schools have been alerted to the London Schools Pollution helpdesk. The Travel team have encouraged the use of the site in linking the activities to the individual school travel plans to help towards STARS accreditation.**<br>**A total of 63 schools have received walking maps for the school and local area, the maps are displayed at each school entrance, with 11 schools expressing an interest for follow up workshops.**<br>**The bikeability projects were all put on hold but have re-started April 19th with 22 schools booked in for training by the end of July.**<br>**To coincide with Earth Day and the consultation on the Hillingdon Draft Climate Action Plan, a climate change competition was launched to all schools.** | |

| | Action | Progress | Further information |
|---|---|---|---|
| | | **Launch of the Big Pedal – schools compete to see who can record the greatest numbers of pupils, staff and parents making active journeys to school. To date 12 schools have signed up.** | |
| 14 | Air quality in and around schools - the introduction of a prioritised programme for schools in Focus Areas and/or close to busy roads for exposure reduction measures, active travel promotion and raising awareness education programmes | The target to identify a further five schools in 2019/2020 for pollution exposure reduction measures in terms of pollution barriers has been met;<br>The remainder of schools in the borough with playing areas close to busy roads have been identified and a programme of implementation of green barrier will be rolled out over the next 2 years;<br>A trial has been undertaken of the delivery of an air quality and active travel education package. A further 10 schools were identified to receive this within this school year, however delivery has been impacted by lockdown and school closures;<br>**For 2020/2021, the provision of pollution barriers at all relevant schools is nearing completion. Since the commencement of works there has been over 1800 hedges planted, 70 trees and over 500m of privacy screening across multiple schools.**<br>**All schools were alerted to the No Idling webinairs made available by the MAQF Project Officer.**<br>Active travel at all schools is recorded under Action measure 13 | Some of these have been completed, others have been impacted by lockdown and will be prioritised once lifted.<br><br>The mayor's green infrastructure to protect people guidance has been used in determining species choice and appropriate planting schemes. |
| 15 | Council procurement policies to promote use of cleaner vehicle technologies via contract tendering process | All council contracts stipulate FORS registered and a minimum of EuroV1/6. The specific inclusion of low/zero emissions technologies will be investigated in 2020/2021 | |
| 16 | Inclusion of opportunities in new developments and current town centre and transport | See 11b | |

| | Action | Progress | Further information |
|---|---|---|---|
| | improvement workstreams to reduce emissions from deliveries to local businesses and residents | Planning conditions stipulate the requirement for Delivery and Servicing plans to be a minimum of FORS silver award. This includes the requirement to report on fuel usage and emissions of CO2, NOx and PM emissions plus a policy to actively reduce fuel consumption and minimise their environmental impact. | The requirement for delivery and servicing plans to aim for achievement of gold award within a agreed timescale will be considered for developments in Air Quality Focus Areas. |
| 17 | Reducing emissions from council fleets | The council fleet replacement programme included the upgrade of 77 specialist vehicles to Euro V1. These all meet the ULEZ standard.<br><br>Permission is currently being sought for the purchase of eight pool cars which will be low/zero emission technology.<br><br>Electric equipment for the green spaces teams is being trialled, estimations of the fuel savings and emission benefits in terms of local air quality are being calculated for use in the business case for procurement if the equipment proves reliable.<br>**The main fleet replacement programme was paused in 2020/2021, due to restart in 2021/2022.**<br>**The following vehicles were purchased in 2020/2021**<br>**3 x fully electric pool cars**<br>**5 self charging hybrid pool cars.** | |
| 18 | Green Infrastructure | The Council tree planting scheme has been enhanced with the tree scheme from the Mayor of London (77 trees) and Trees for Cities (5,000 trees), plus a Council-led 5,000 free trees for residents and community groups. | **In 2021 the Council will develop a Tree Strategy for the borough.**<br>**It is anticipated this will include actions to meet the Climate Action Plan objectives which includes to increase the tree canopy across the borough and in particular** |

| | Action | Progress | Further information |
|---|---|---|---|
| | | Amenity areas such as parks, where they are well-used and close to busy roads, are being investigated for the inclusion of hedging to act as a pollution barrier. The first project has been taken forward in Ruislip.<br>**A total of 6,250 trees were planted in 2020/2021.** | **increase tree coverage in areas of poor air quality.** |
| 19 | Implementation of actions to improve air quality in the Hillingdon Air Quality Focus Areas to identify short, medium, long term solutions for measures to implement to improve air quality | The first two Air Quality Focus Area (Hayes and Long Lane) studies have been completed. The recommendations are being considered for implementation in a phased approach starting in 2020/2021 providing funding is available.<br>**The Covid 19 pandemic and the pause in release of LIP funds has delayed the rollout of the implementation of several schemes. The West Drayton/Yiewsley Focus Area study has been completed, the Harlington Focus Area study has been scoped and due for completion on the release of funding.** | Whilst the potential solutions have been identified, substantial funding will be required to see the projects through to full implementation. A phased approach will be taken starting with recommendations for the areas within the Focus Areas where the pollution levels are the highest. |
| 20 | Ensuring that Transport and Air Quality policies and projects are integrated via the implementation of the Healthy Streets in LIP projects | The Oak Farm residential area has been subject to a successful, residents- led Healthy Streets Transport Study. The outcome is a series of recommendations which would allow the Oak Farm area to be characterised by the ten Healthy Streets indicators. Implementation will be taken forward in phases via the LIP.<br>**Implementation of this action in 2020/2021 has been impacted by COVID restrictions.** | The Oak Farm area is in close proximity to the A40/Long Lane Air Quality Focus Area;<br>The recommendations outlined for this Focus Area in action 19 will further enhance this residential area. |
| 21 | Discouraging unnecessary idling by taxis and other vehicles | <u>MAQF No idling project</u><br>Two events were successfully held in Hillingdon. They involved over 600 children and engaged with 77 drivers.<br><u>Hillingdon specific actions</u><br>No Idling signage is in place at every school in the borough and in identified hotspots. | Five schools have been identified for 2020/2021, arrangements are currently postponed until lockdown restrictions are lifted. |

| | Action | Progress | Further information |
|---|---|---|---|
| | | Camera enforcement is in place on the School Keep Clear zigzag lines, 2,781 fines were issued from May 2019-31st January 2020 across the schools in the borough.<br>The Council has continued with enforcement of idling vehicles across the borough, the total number of fines issued was 1,029.<br>2020/2021 | |

| Row Labels | Sum of count |
|---|---|
| Botwell | 15 |
| Ruislip | 9 |
| Hayes | 2 |
| Heathrow Villages | 305 |
| Hillingdon East | 1 |
| Ickenham | 1 |
| Northwood | 3 |
| Pinkwell | 1 |
| Ruislip | 2 |
| South Ruislip | 10 |
| Townfield | 3 |
| Uxbridge North | 31 |
| Uxbridge South | 13 |
| Uxbridge South | 4 |
| West drayton | 7 |
| (blank) | 2 |
| Grand Total | 409 |
| | |

| | Action | Progress | Further information |
|---|---|---|---|
| 22 | Regular temporary car free days | The council is trialling a school street scheme following concerns over road safety issues in a congested area near the school. This started in January 2020 but is temporarily postponed due to lockdown. | |
| 23 | Using parking policy to reduce pollution emissions | Investigation of this issue has been postponed until 2020/2021 | |
| 24a | Installation of Ultra-low Emissions Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid electric charging points and hydrogen refuelling stations) | The Council is currently undergoing procurement processes for a new service provider for the EV network. When complete, all of the Council network will be audited.<br>With the introduction of EV pool cars additional infrastructure will be considered for the staff council car parks.<br>**In 2020/2021, the Council has started the process to procure a contract for the review of all EVCP in council car parks and take forward a pilot project to look at on-street residential charging.** | Waiting for info on the rapid charger |
| 25a | Provision of infrastructure to support walking and cycling | Taken forward by the LIP programmes including the Grand Union Canal Quietways link between Hayes and Cranford Park. This will give residents in Hayes a pedestrian/cycle route choice to access Cranford Park.<br>**2020/2021**<br>**In terms of schemes, continued implementation of the Canal Towpath upgrade, there is now over 3km of towpath Quietway standard.**<br>**Using emergency Active travel fund:**<br>**Provision of access to the canal at Dawley Road;**<br>**Cycle lanes on Park Road, Uxbridge and High Street, Ickenham / Long Lane down to Hillingdon Station.**<br>**With the partial LIP funds made available:** | ○ |

| | Action | Progress | Further information |
|---|---|---|---|
| | | • **Consolidated the disjointed cycle provision on the A4020 Uxbrigde Road**<br>• **Cycling parking provision at Deansfield Primary School and Holy Trinity Primary School.**<br>• **Upgrade to four footpaths in key locations**<br>**Provision of walking maps project to schools in the borough, current number of schools engaged 66** | |
| 25b | Air Quality Focus Area studies, Healthy Neighbourhoods schemes, Town Centre schemes will all include the identification of opportunities for increased walking and cycling | Four schemes in Hayes End, Uxbridge, Hayes and Springfield Road have been completed in 2019/2020. All schemes have prioritised the requirement for increased walking and cycling alongside improvements to public realm.<br>The Ruislip Healthy Neighbourhood bid is currently being evaluated by TfL.<br>**Majority of action paused in 2020/2021 by COVID-19 pandemic and withdrawal of LIP funding. Harlington Focus Area study scoped for completion next year.** | |
| 26 | Continue to work in partnership with TfL to prioritise actions required to improve local air quality in Hillingdon | There have been successful joint operations with TfL in regard to no idling, especially around Heathrow Villages. The Council enforcement officers issue fines for no idling offences and the TfL staff audit the paperwork to ensure the minicab is properly licensed.<br>The Council will engage with TfL in regard to the implementation of recommendations of the Air Quality Focus Area studies as both are impacted by access to and the operation of TfL roads eg the Hayes Bypass for North Hyde Road and the A40 for Long lane.<br>**For 2020/2021, air quality was brought to the attention of the TfL Commissioner in a meeting with the Borough Leader.** | |

| | Action | Progress | Further information |
|---|---|---|---|
| | | **Partnership working was requested for the AQFAs in the Borough where the operation of the TfL road network impacts on specific roads and or junctions.**<br>**In addition, as highlighted in the Mayor's Air Quality in London 2016-2020 report, the impact of Low Emission Bus routes has a significant impact on air quality. At Putney High Street, annual mean $NO_2$ concentrations have reduced by 45% and exceedances of the hourly mean limit have reduced by 99% since 2016. Potential bus routes for Hillingdon include**<br>• **A4 Bath Road;**<br>• **Hayes Town Centre;**<br>• **Uxbridge Road – continuation of the current Low Emission Route through to Uxbridge** | |
| 27 | Continue to work in partnership with Heathrow Airport Limited (HAL), seeking clear strategy and framework to: Reduce airport related traffic; Mitigate adverse air quality impacts associated with on-airport operations | **Air quality meetings currently paused due to COVID-19 pandemic** | |
| 28 | Continue to work in partnership with Highways England to ensure effective mitigation of arising air quality impacts on the local communities | Regular updates are provided in regard to the progress of the M4 Smart Motorway scheme. The Council has offered access to the data from air quality monitoring undertaken by the Council in close proximity to the M4. This will help the HE evaluate the project in regard to the impacts on air quality.<br>**Response to DEFRA Call for Evidence in 2020/2021 that HE should be defined as Air Quality Partners.** | |

| | Action | Progress | Further information |
|---|---|---|---|
| 29 | Continue to work in partnership with HS2 Ltd to ensure effective mitigation of any arising air quality impacts on the local communities relating to HS2 construction activities | Monitoring sites for dust around construction sites in Hillingdon are being installed. Progress and monitoring data will be updated via the ASR system.<br>**For 2020/2021, air quality monitoring by HS2 included in the monitoring section of this report.** | |
| 30 | Continue to work in partnership with neighbouring authorities to ensure collaboration on air quality where it will benefit the local communities | The West London cluster group was unsuccessful in its bid to the MAQF in regard to the development of a business engagement tool.<br>The group will continue to meet periodically to take forward joint actions and share best practice.<br>**Regular Teams meetings are scheduled for 2021/2022.** | |

# 5 Planning Update and Other New Sources of Emissions

## 5.1 Planning applications relevant to air quality

Planning applications that have relevance to air quality are routinely assessed by the Council. Table K provides information on the total numbers of applications assessed. Further information on these applications is provided in Appendix C.

**Table K. Planning Requirements Met by Planning Applications in London Borough of Hillingdon in 2020.**

| Action | Number |
|---|---|
| a) Number of planning applications where an air quality impact assessment was performed | 43 |
| b) Number of planning applications required to monitor for construction dust | 0 |
| c) Number of CHPs/Biomass boilers refused on air quality grounds | 0 |
| d) Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions | 0 |
| e) Number of developments required to install Ultra-Low $NO_x$ boilers | 22 |
| f) Number of developments where an AQ Neutral building and/or transport assessments undertaken | 43 |
| g) Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation | 29 |
| h) Number of planning applications with S106 agreements including other requirements to improve air quality | 43 |
| i) Number of planning applications with CIL payments that include a contribution to improve air quality | |
| j) Number of conditions related to Non-Road Mobile Machinery included. | 42<br><br>NRMM audits undertaken by Cleaner Construction for London on behalf of the Council (see Action 3, Table J) |

## 5.2 New or significantly changed industrial or other sources

No new sources have been identified, but the potential further development of Heathrow is noted. The Council continues to monitor progress on this issue. For Part B industrial processes 1 permit has been revoked and 2 have been surrendered. All Part B permitting continues to be enforced by the Council.

# Appendix A Details of Monitoring Site QA/QC

## A.1 Automatic Monitoring Sites

Automatic monitors within Hillingdon are operated as part of the Borough monitoring network, the Heathrow Airport monitoring network and Defra's AURN. Data have been provided and ratified by Ricardo-AEA following the national procedure guidance and standards.

All TEOM data have been converted to gravimetric equivalent using the VCM method and BAM data have been corrected by applying a factor of 0.833 following the TG16 method. All data are reported at US standard temperature and pressure (25°C, 1 atmosphere).

## A.2 Diffusion Tube Quality Assurance / Quality Control

Hillingdon uses Gradko International for their diffusion tube analysis. These are prepared using the 50% TEA in acetone method. The bias adjustment factor for Gradko in 2020 (as per March 2021 issue), obtained from the national bias adjustment spreadsheet (based on 14 studies) is 0.82. However, LBH chose sites with GOOD precision only as well as background and roadsides only (11 studies) as these are the site types in their area of jurisdiction, resulting on the application of a national bias adjustment of 0.84. Gradko International follows the procedures set out in the Practical Guidance.

## A.3 Adjustments to the Ratified Monitoring Data

Where data capture is less than 75% of a full calendar year (less than 9 months), the means have been "annualised" using the methodology outlined in LLAQM.TG(19) before being compared to annual mean objectives. Dates and data adjustment factors are shown in the following tables for the continuous monitoring sites LHRBR (London Heathrow Bath Road) and HIL4 (London Harmondsworth Osiris).

**Table M1. Dates for Period Mean Short-Term to Long-Term Monitoring Data Adjustment for LHRBR**

| Start Date | End Date |
|---|---|
| *23/03/2020* | *31/12/2020* |

**Table M2. Dates for Period Mean Short-Term to Long-Term Monitoring Data Adjustment for HIL4**

| Month | Start Date | End Date |
|---|---|---|
| *Mar-Jul* | *01/03/2020* | *08/07/2020* |
| *Aug-Sep* | *16/08/2020* | *16/09/2020* |

### Table M3. Annualisation Factor for LHRBR - $NO_2$

| | Background Site (AM) | Background Site (PM) | | |
|---|---|---|---|---|
| from 23/03/2020 to 31/12/2020 | Annual Mean (2020) | Period Mean (2020) | | Ratio Am/Pm |
| Enfield - Prince of Wales School | 18.2 | 17.7 | | 1.03 |
| Harrow - Stanmore | 15.4 | 14.9 | | 1.03 |
| Kensington and Chelsea - North Ken | 20.6 | 19.5 | | 1.05 |
| Wandsworth Town Hall | 30.0 | 29.2 | | 1.03 |
| Windsor and Maidenhead - Aldebury Road | 12.8 | 11.9 | | 1.08 |
| | | | AVERAGE | **1.04** |

### Table M4. Annualisation Factor for LHRBR – $PM_{10}$

| | Background Site (AM) | Background Site (PM) | | |
|---|---|---|---|---|
| from 23/03/2020 to 31/12/2020 | Annual Mean (2020) | Period Mean (2020) | | Ratio Am/Pm |
| London Harlington | 13.6 | 14.2 | | 0.96 |
| London N. Kensington | 13.3 | 13.5 | | 0.98 |
| London Teddington Bushy Park | 13.1 | 13.5 | | 0.97 |
| London Bloomsbury | 16.0 | 16.5 | | 0.97 |
| London Honor Oak Park | 13.8 | 14.4 | | 0.96 |
| | | | AVERAGE | **0.97** |

### Table M5. Annualisation Factor for LHRBR – $PM_{2.5}$

| | Background Site (AM) | Background Site (PM) | | |
|---|---|---|---|---|
| from 23/03/2020 to 31/12/2020 | Annual Mean (2020) | Period Mean (2020) | | Ratio Am/Pm |
| London Harlington | 7.9 | 8.1 | | 0.98 |
| London N. Kensington | 8.1 | 8.1 | | 0.99 |
| London Teddington Bushy Park | 7.8 | 7.8 | | 0.99 |
| London Bloomsbury | 9.3 | 9.7 | | 0.96 |
| London Westminster | 11.4 | 11.7 | | 0.97 |
| London Honor Oak Park | 8.7 | 9.0 | | 0.97 |
| | | | AVERAGE | **0.98** |

## Table M6. Annualisation Factor for HIL4 – $PM_{10}$

| | Background Site (AM) | Background Site (PM) | | |
|---|---|---|---|---|
| **from 01/03/2020 to 08/07/2020** | **Annual Mean (2020)** | **Period Mean (2020)** | | **Ratio Am/Pm** |
| London Harlington | 13.6 | 15.8 | | 0.86 |
| London N. Kensington | 13.3 | 14.4 | | 0.92 |
| London Teddington Bushy Park | 13.1 | 15.2 | | 0.86 |
| London Bloomsbury | 16.0 | 17.0 | | 0.94 |
| London Honor Oak Park | 13.8 | 14.6 | | 0.95 |
| | | | AVERAGE | **0.91** |
| | **Background Site (AM)** | **Background Site (PM)** | | |
| **from 16/08/2020 to 16/09/2020** | **Annual Mean (2020)** | **Period Mean (2020)** | | **Ratio Am/Pm** |
| London Harlington | 13.6 | 11.9 | | 1.14 |
| London N. Kensington | 13.3 | 11.5 | | 1.15 |
| London Teddington Bushy Park | 13.1 | 11.1 | | 1.17 |
| London Bloomsbury | 16.0 | 13.2 | | 1.21 |
| London Honor Oak Park | 13.8 | 12.3 | | 1.12 |
| | | | AVERAGE | **1.16** |
| | | | **OVERALL FACTOR** | **1.05** |

## Table M7. Annualisation Factor for HIL4 – $PM_{2.5}$

| | Background Site (AM) | Background Site (PM) | | |
|---|---|---|---|---|
| **from 01/03/2020 to 08/07/2020** | **Annual Mean (2020)** | **Period Mean (2020)** | | **Ratio Am/Pm** |
| London Harlington | 7.9 | 8.8 | | 0.90 |
| London N. Kensington | 8.1 | 8.7 | | 0.93 |
| London Teddington Bushy Park | 7.8 | 8.6 | | 0.90 |
| London Bloomsbury | 9.3 | 10.2 | | 0.91 |
| London Honor Oak Park | 8.7 | 9.1 | | 0.96 |
| London Westminster | 11.4 | 11.9 | | 0.95 |
| | | | AVERAGE | **0.93** |
| | **Background Site (AM)** | **Background Site (PM)** | | |
| **from 16/08/2020 to 16/09/2020** | **Annual Mean (2020)** | **Period Mean (2020)** | | **Ratio Am/Pm** |
| London Harlington | 7.9 | 6.5 | | 1.22 |
| London N. Kensington | 8.1 | 6.5 | | 1.24 |
| London Teddington Bushy Park | 7.8 | 5.8 | | 1.34 |
| London Bloomsbury | 9.3 | 5.4 | | 1.73 |
| London Honor Oak Park | 8.7 | 7.1 | | 1.23 |
| London Westminster | 11.4 | 10.2 | | 1.12 |
| | | | AVERAGE | **1.31** |
| | | | **OVERALL FACTOR** | **1.12** |

## A.4 Distance Adjustment

Where an exceedance is measured at a monitoring site that is not representative of public exposure, it is recommended to use the procedure specified in LLAQM.TG(19) to estimate the concentration at the nearest receptor. This process was followed in this report and concentrations reported accordingly for one site. However, the value reported should be used with extreme caution and observed only for illustrative or indicative purposes. Figure 31 presents the location of the new continuous monitor (LHRBR) in relation to relevant exposure and Table N presents the calculations undertaken.

**Table N. Calculations undertaken to calculate the likely concentration at the nearest public exposure receptor. Caution on the use of the value reported applies**

| ID | Cb | Cy | Dz is the distance from the kerb (m) at which concentrations are to be predicted (Dz) | Distance from Monitor to kerb of nearest road (Dy) | Cz |
|---|---|---|---|---|---|
| LHRBR | 39.5 | 44.5 | 140 | 6 | 39.5 |

Cz is the total predicted concentration (µg/m3) at distance Dz;
Cy is the total measured concentration (µg/m3) at distance Dy;
Cb is the background concentration (µg/m3);
Dy is the distance from the kerb at which concentrations were measured; and
Dz is the distance from the kerb (m) at which concentrations are to be predicted.
Ln(D) is the natural log of the number D.
CZ = ((Cy-Cb) / (-0.5476 x Ln(Dy) + 2.7171)) x (-0.5476*Ln(Dz)+2.7171) + Cb


**Figure 31. Location of continuous monitor (LHRBR) in relation to public exposure.**

# Appendix B Full Monthly Diffusion Tube Results for 2020

**Table O. $NO_2$ Diffusion Tube Results – London Borough of Hillingdon**

| Site ID | Valid data capture for monitoring period % [a] | Valid data capture 2020 % [b] | Annual Mean $NO_2$ | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual mean – raw data [c] | Annual mean – annualised and bias adjusted [cd] |
| HILL01 | 83.3 | 83.3 | 35.8 | 36.8 | 29.9 | 25.0 | missing | 29.4 | 19.2 | 26.7 | missing | 32.3 | 37.6 | 33.0 | 30.6 | 25.6 |
| HILL02 | 83.3 | 83.3 | 45.0 | 33.0 | 35.7 | 30.8 | missing | 28.9 | 24.8 | 39.4 | missing | 34.1 | 40.2 | 33.6 | 34.5 | 28.9 |
| HILL03 | 75.0 | 75.0 | 38.7 | missing | 33.8 | 28.5 | missing | 24.0 | 23.3 | 32.2 | missing | 32.6 | 44.8 | 33.6 | 32.4 | 27.1 |
| HILL03 | 75.0 | 75.0 | 39.8 | missing | 31.9 | 27.7 | missing | 20.2 | 22.3 | 32.8 | missing | 27.2 | 40.7 | 35.4 | 30.9 | 25.9 |
| HILL03 | 75.0 | 75.0 | 37.4 | missing | 33.3 | 28.4 | missing | 24.9 | 21.5 | 33.0 | missing | 32.2 | 43.8 | 36.6 | 32.4 | 27.1 |
| HILL04 | 75.0 | 75.0 | 33.4 | 23.8 | 24.6 | missing | missing | 28.1 | 16.3 | 25.6 | missing | 23.3 | 38.2 | 29.3 | 26.9 | 22.6 |
| HILL05 | 83.3 | 83.3 | 43.7 | 36.9 | 30.6 | 27.2 | missing | 26.2 | 21.6 | 28.0 | missing | 31.0 | 45.9 | 36.6 | 32.7 | 27.4 |
| HILL06 | 83.3 | 83.3 | 49.0 | 44.2 | 36.3 | 21.7 | missing | 19.1 | 30.9 | 35.6 | missing | 42.2 | 49.2 | 41.5 | 37.0 | 30.9 |
| HILL07 | 83.3 | 83.3 | 43.1 | 38.5 | 36.7 | 26.9 | missing | 20.0 | 22.8 | 31.7 | missing | 31.6 | 48.1 | 36.6 | 33.6 | 28.1 |
| HILL08 | 83.3 | 83.3 | 35.0 | 33.7 | 32.6 | 24.5 | missing | 20.2 | 16.3 | 22.7 | missing | 29.5 | 43.3 | 29.6 | 28.7 | 24.1 |
| HILL09 | 75.0 | 75.0 | 42.4 | missing | 30.6 | 21.5 | missing | 16.0 | 18.9 | 24.2 | missing | 26.7 | 41.8 | 34.2 | 28.5 | 23.8 |
| HILL10 | 83.3 | 83.3 | 48.4 | 28.1 | 37.0 | 21.9 | missing | 18.9 | 18.5 | 23.1 | missing | 32.6 | 37.9 | 34.6 | 30.1 | 25.2 |
| HILL11 | 83.3 | 83.3 | 32.3 | 30.8 | 25.3 | 20.0 | missing | 19.3 | 15.7 | 19.6 | missing | 24.2 | 31.3 | 24.3 | 24.3 | 20.3 |
| HILL12 | 83.3 | 83.3 | 36.1 | 31.8 | 28.9 | 23.1 | missing | 13.0 | 17.5 | 24.4 | missing | 24.1 | 38.6 | 30.0 | 26.7 | 22.4 |
| HILL13 | 83.3 | 83.3 | 29.8 | 24.5 | 24.1 | 21.4 | missing | 17.4 | 14.3 | 21.6 | missing | 24.8 | 32.9 | 27.1 | 23.8 | 19.9 |
| HILL14 | 83.3 | 83.3 | 23.9 | 16.2 | 16.6 | 15.0 | missing | 21.5 | 9.5 | 14.7 | missing | 16.7 | 26.9 | 24.2 | 18.5 | 15.5 |
| HILL15 | 83.3 | 83.3 | 32.7 | 17.7 | 23.1 | 20.8 | missing | 19.0 | 14.6 | 21.0 | missing | 23.5 | 36.3 | 29.5 | 23.8 | 19.9 |
| HILL16 | 83.3 | 83.3 | 39.8 | 34.5 | 32.5 | 23.1 | missing | 27.1 | 20.2 | 24.3 | missing | 30.7 | 38.7 | 32.4 | 30.3 | 25.4 |
| HILL17 | 83.3 | 83.3 | 39.3 | 33.7 | 29.2 | 23.1 | missing | 25.1 | 15.9 | 21.0 | missing | 31.0 | 45.2 | 32.1 | 29.6 | 24.7 |
| HILL18 | 83.3 | 83.3 | 49.1 | 41.9 | 34.4 | 29.5 | missing | 32.6 | 21.7 | 29.7 | missing | 36.0 | 48.7 | 33.9 | 35.7 | 29.9 |
| HILL19 | 83.3 | 83.3 | 43.7 | 34.9 | 28.6 | 27.2 | missing | 23.3 | 23.2 | 30.3 | missing | 31.9 | 45.6 | 34.9 | 32.3 | 27.1 |
| HILL20 | 83.3 | 83.3 | 44.7 | 43.4 | 38.5 | 27.6 | missing | 28.4 | 27.3 | 35.6 | missing | 40.1 | 50.7 | 41.4 | 37.8 | 31.6 |
| HILL21 | 75.0 | 75.0 | missing | 30.3 | 30.4 | 23.0 | missing | 21.5 | 16.6 | 24.7 | missing | 27.9 | 41.7 | 35.2 | 27.9 | 23.4 |
| HILL22 | 83.3 | 83.3 | 47.9 | 38.6 | 39.1 | 29.5 | missing | 27.1 | 27.7 | 38.5 | missing | 37.2 | 47.2 | 41.5 | 37.4 | 31.3 |

| Site ID | Valid data capture for monitoring period % [a] | Valid data capture 2020 % [b] | Annual Mean $NO_2$ | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual mean – raw data [c] | Annual mean – annualised and bias adjusted [cd] |
| HILL23 | 75.0 | 75.0 | 32.7 | 22.5 | 27.9 | 25.9 | missing | missing | 18.1 | 25.0 | missing | 25.7 | 34.7 | 25.2 | 26.4 | 22.1 |
| HILL24 | 83.3 | 83.3 | 40.3 | 26.4 | 33.6 | 28.3 | missing | 26.3 | 23.9 | 33.2 | missing | 34.5 | 48.8 | 34.7 | 33.0 | 27.6 |
| HILL25 | 83.3 | 83.3 | 49.2 | 43.9 | 36.6 | 24.5 | missing | 20.5 | 19.4 | 24.2 | missing | 36.0 | 44.4 | 39.8 | 33.8 | 28.3 |
| HILL26 | 83.3 | 83.3 | 52.0 | 48.5 | 35.6 | 24.5 | missing | 15.9 | 21.5 | 29.3 | missing | 31.7 | 43.1 | 34.3 | 33.6 | 28.2 |
| HILL27 | 83.3 | 83.3 | 42.7 | 32.1 | 32.5 | 24.6 | missing | 19.3 | 16.8 | 23.4 | missing | 29.2 | 42.6 | 29.4 | 29.3 | 24.5 |
| HILL28 | 83.3 | 83.3 | 38.8 | 31.9 | 28.5 | 20.2 | missing | 15.5 | 15.5 | 22.9 | missing | 29.8 | 41.6 | 30.5 | 27.5 | 23.0 |
| HILL29 | 83.3 | 83.3 | 38.1 | 34.7 | 29.3 | 21.5 | missing | 23.5 | 16.7 | 22.5 | missing | 25.6 | 40.0 | 30.8 | 28.3 | 23.7 |
| HILL30 | 75.0 | 75.0 | 32.0 | 24.7 | 23.6 | 17.7 | missing | 34.7 | 13.1 | 18.8 | missing | 22.3 | missing | 27.8 | 23.8 | 20.0 |
| HILL31 | 83.3 | 83.3 | 37.0 | 31.1 | 28.1 | 21.2 | missing | 25.7 | 14.9 | 25.1 | missing | 31.7 | 40.6 | 34.6 | 29.0 | 24.3 |
| HILL32 | 83.3 | 83.3 | 50.3 | 43.5 | 41.8 | 32.9 | missing | 24.3 | 29.4 | 41.7 | missing | 42.0 | 38.7 | 43.1 | 38.8 | 32.5 |
| HILL33 | 83.3 | 83.3 | 48.6 | 36.2 | 34.0 | 22.7 | missing | 25.3 | 26.5 | 32.9 | missing | 34.6 | 46.1 | 39.8 | 34.7 | 29.0 |
| HILL34 | 75.0 | 75.0 | 42.2 | 30.6 | 29.0 | 24.3 | missing | 31.0 | 18.5 | 27.8 | missing | missing | 43.3 | 35.9 | 31.4 | 26.3 |
| HILL35 | 83.3 | 83.3 | 46.0 | 33.5 | 33.3 | 32.3 | missing | 27.0 | 21.4 | 31.1 | missing | 34.6 | 45.5 | 40.2 | 34.5 | 28.9 |
| HILL36 | 83.3 | 83.3 | 39.4 | 31.2 | 36.7 | 27.0 | missing | 25.7 | 24.7 | 34.9 | missing | 32.2 | 43.6 | 40.1 | 33.5 | 28.1 |
| HILL37 | 75.0 | 75.0 | 43.0 | 34.2 | missing | 26.3 | missing | 25.1 | 23.8 | 34.1 | missing | 36.6 | 42.9 | 36.5 | 33.6 | 28.1 |
| HILL38 | 75.0 | 75.0 | 54.1 | 54.1 | 40.9 | 30.5 | missing | missing | 24.6 | 27.4 | missing | 37.5 | 48.6 | 37.4 | 39.4 | 33.0 |
| HILL39 | 83.3 | 83.3 | 43.3 | 42.4 | 41.7 | 31.6 | missing | 25.1 | 20.3 | 27.9 | missing | 34.9 | 45.3 | 36.0 | 34.8 | 29.2 |
| HILL40 | 83.3 | 83.3 | 37.5 | 33.4 | 29.1 | 22.2 | missing | 32.0 | 15.1 | 22.7 | missing | 25.3 | 35.4 | 29.1 | 28.2 | 23.6 |
| HILL41 | 83.3 | 83.3 | 54.9 | 54.3 | 45.9 | 30.6 | missing | 27.6 | 22.2 | 29.4 | missing | 32.5 | 46.3 | 35.7 | 37.9 | 31.8 |
| HILL42 | 83.3 | 83.3 | 42.6 | 40.4 | 38.2 | 27.5 | missing | 36.6 | 22.1 | 22.7 | missing | 34.5 | 42.9 | 37.5 | 34.5 | 28.9 |
| HILL43 | 83.3 | 83.3 | 43.9 | 38.5 | 34.7 | 25.5 | missing | 28.8 | 24.5 | 32.9 | missing | 35.7 | 44.1 | 39.0 | 34.8 | 29.1 |
| HILL44 | 83.3 | 83.3 | 49.1 | 45.5 | 40.9 | 36.9 | missing | 28.9 | 26.7 | 36.7 | missing | 35.7 | 48.1 | 40.2 | 38.9 | 32.6 |

N/A = means period outside the monitoring survey
Missing = means diffusion tube deployed but missing = no data
N/D = means diffusion tube not deployed
D = means diffusion tube discontinued
Exceedance of the $NO_2$ annual mean AQO of 40 µg $m^{-3}$ are shown in **bold**.
[a] Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
[b] Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%
[d] National bias adjustment of 0.89 was applied to the data

# Appendix C Details of planning applications for 2020/2021 by Focus Area

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
|---|---|---|---|---|
| **HAYES FOCUS AREA** | | | | |
| **Planning Ref** | **73785/APP/2018/3115** | | | **NO** |
| LAND OFF HAREFIELD ROAD UXBRIDGE UB8 1JS<br>Redevelopment of the site for a gas-powered electricity generator and related infrastructure | 11 engines operating for 2000 hours per annum and emitting NOx at 0.87g/s per engine, result in total emissions of 68.9 tonnes per annum. This would equate to a Damage Cost of £609,181 based on Defra's new 2018 base year spreadsheet. | LBH wish to see a situation where emissions have been abated as much as technologically possible and therefore no damage cost derived contributions would be required. The performance of the modular system proposed makes it disproportionately expensive to modify to incorporate SCR or similar technology. | Refusal - The application is within Hayes Focus Area and its total annual emissions are difficult to mitigate being likely to generate air quality impact in an area where air quality is known to be poor. The proposed development is likely to adversely impact upon the implementation of LBH air quality action plan which aims to significantly reduce air pollution in the Hayes Focus Area. The above is against NPPF policy. | |
| **Planning Ref** | **1331/APP/2019/2314** | | | **NO** |
| FORMER NESTLE FACTORY NESTLES AVENUE HAYES<br>Development of 4 no. new buildings comprising residential units (in addition to those approved under planning permission ref: 1331/APP/2017/1883), a basement extension to Block B, flexible commercial uses (Class E) and associated landscaping, access, car parking and other | The originally proposed development (1331/APP/2017/1883) was not air quality neutral and the additional units proposed are also not air quality neutral for transport emissions for the land uses proposed. | Therefore, the additional pollutant emissions generated by the additional units proposed need to be mitigated. BH requires new developments to incorporate air quality positive design measures from the outset and suitable mitigation measures to reduce pollution, especially in areas where the air quality is already poor (LBH Air | As standard LBH practice, the level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach. The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.<br>The level of mitigation required associated with the additional traffic emissions resulting from the additional number of residential units in relation to the granted number of dwellings (1331/APP/2017/1883) is £50,527.<br>Therefore, a section 106 agreement with the LAP of £50,527 is to be paid for<br>Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
|---|---|---|---|---|
| engineering works. The plans show a development of 913 residential units (totalling 1,473 units involving a net additional uplift of 84 units from that permitted by planning permission ref: 1331/APP/2017/1883 (as amended)), amendments to Blocks B, C, F3, F4, H, and 206 sq.m of commercial floorspace. | | Quality Local Action Plan 2019-2024), namely Focus Areas. Furthermore, policy DMEI 14 of the London Borough of Hillingdon Local Plan (part 2), requires active contribution towards the continued improvement of air quality, especially within the Air Quality Management Area. | that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>In addition, two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage construction emissions as required by the Mayor of London. | |
| **Planning Ref** | **75111/APP/2020/1955** | | | **NO** |
| Land at Bulls Bridge Industrial Estate NORTH HYDE GARDENS HAYES UB3<br>4QQ<br>Site clearance and preparation, including the demolition of remaining buildings, and the redevelopment of the site to provide: a new data centre (Use Class B8), two MV Energy Centres (including stand-by generation plant and gas storage), a HV Sub-Station, a visitor reception centre, plant, the creation of a new footpath and cycleway link to the canal towpath, | The operation of the proposed gas fired backup generators will result in 664.0 kg/year of NOx which will add to current exceedances of the nitrogen dioxide annual mean limit value within this sensitive area. In addition, vehicle emissions are likely to range from 139 to 63 kg/year for NOx and 8.5 to 6.9 kg/year for PM2.5 over the first ten years of the lifetime of the proposal. | As per the London Plan and LBH Local Action Plan, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the reduction of emissions in these sensitive areas. | Therefore, section 106 agreement with the LAP of £109,159 is to be paid for Hillingdon to address the air pollution emissions associated with the proposed development. As per standard practice, the required amount will be used to continue to deliver LBH air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>In addition, Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
|---|---|---|---|---|
| works to the highway, car parking, cycle parking, associated infrastructure, enclosures and necessary physical security systems, hard and soft landscaping (including works to the River Crane) and ancillary uses, as well as associated external works. | | | | |
| **Planning Ref** | **74089/APP/2020/3305** | | | **NO** |
| LAND OFF HAYES END ROAD HAYES END ROAD HAYES UB4 8EH Demolition of existing buildings and redevelopment of the site to provide a building of 5 storeys with flexible commercial floorspace (Class E) at ground floor and residential units (Use Class C3) at ground and upper floors, with associated residential amenity space, landscaping, car and cycle parking, refuse storage and access. Detailed Description: 29 residential units comprising 15 x 1-bedroom, 8 x 2-bedroom and 6 x 3 bedroom. | The proposed development is not air quality neutral for transport emissions for the C3 use proposed. | LBH requires new developments to incorporate air quality positive design measures from the outset and suitable mitigation measures to reduce pollution, especially in areas where the air quality is already poor (LBH Air Quality Local Action Plan 2019-2024), namely Focus Areas. Furthermore, policy DMEI 14 of London Borough of Hillingdon Local Plan (part 2), requires active contribution towards the continued improvement of air quality, especially within the Air Quality Management Area. Finally, the London Plan requires development to be air quality positive specially | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach. The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality.<br>The level of mitigation required to the proposed development for traffic emissions is £32,037.<br>Once all deductions were applied, the remaining value of mitigation due is £27,231. Flat rate deductions applied are as follow: Travel Plan (10%), Green Sustainable Measures (5%).<br>Therefore, a section 106 agreement with the LAP of £27,231 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>In addition, two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage construction emissions as required by the Mayor of London. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
|---|---|---|---|---|
| | | within focus areas, actively contributing to reduce pollutant emissions to the atmosphere. | | |
| **Planning Ref** | **18948/APP/2020/2551** | | | **YES** |
| HARLINGTON SCHOOL PINKWELL LANE HAYES UB3 1PB<br>Demolition of existing buildings and construction of a new 8FE school including public library, Sixth form classrooms, new NP/ASD/SRP department, adult education classrooms, outdoor and indoor sport and recreation facilities, and associated landscaping and refuse stores/collection points. | The proposal falls in the land use class D1 (Premises for education and Public libraries or reading rooms) and will increase traffic flows in the M4 Corridor Focus Area, Hayes Focus Area and Harlington Focus Area, due to its catchment area of influence | As per the LBH LAP and London Plan, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the reduction of emissions in these sensitive areas. | In order to achieve an air quality positive status, the level of mitigation required is £79,446. Given the level of effort considered in the proposed Travel Plan, a reduction of 15% was applied to the total mitigation value. In addition, further reductions of 5% for green measures and 20% for contribution to long term multi modal shift strategic measures have been equally used.<br>The agreed mitigation measures also include full commitment to implement the Mayors School Toolkit which amount to a further reduction of 60% of the level of mitigation required. The implementation of feasible measures from the Mayor's kit to improve air quality around schools is to be secured by the condition Air Pollution Mitigation Strategy below.<br>In addition, two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **51175/APP/2020/2543** | | | **NO** |
| STANFORD HOUSE, 9 NESTLES AVENUE HAYES<br>Demolition of existing buildings and redevelopment to provide a building up to 11 storeys comprising residential accommodation, associated landscaping, access, car parking and cycle parking.<br>Detailed description: To | The proposal is not air quality neutral in terms of traffic emissions. | As per the LBH LAP and London Plan, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the reduction of emissions in these sensitive areas | A section 106 agreement with the LAP of £107,829 to be paid for Hillingdon to address the resulting increase in air pollution emissions associated with this additional proposed development. As per standard practice, the required amount will be used to continue to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
|---|---|---|---|---|
| provide 103 residential units (59 x 1-bed, 32 x 2-bed and 12 x 3-bed). | | | | |
| **Planning Ref** | **27189/APP/2020/2181** | | | **NO** |
| KEITH HOUSE NORTH HYDE ROAD HAYES UB3 4PU<br>Demolition of the existing retail warehouse and re-development of the Site to provide a mixed-use development comprising 150 residential units (Use Class C3) and flexible commercial floorspace (Use Class B1b/B1c), within two development blocks, with associated amenity areas, landscaping, car parking and all ancillary and enabling works. | The proposal is not air quality neutral in terms of traffic emissions. | As per the London Plan Intent to Publish (December 2019) and LBH Air Quality Action Plan 2019-2024, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the reduction of emissions in these sensitive areas | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach. The proposed mitigation measures associated with the operation of the development have been evaluated and a suitable emission reduction level calculated. It is noted that the lifetime of the proposed development is likely to be approximately 60 years.<br>The level of mitigation required to the proposed development for traffic emissions is £144,291.<br>The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.<br>Once all deductions were applied, the remaining value of mitigation due is £242,552. Flat rate deductions applied are as follow: Travel Plan (10%) Green Measures (5%) Strategic Multi-Modal Shift (5%).<br>Therefore, a section 106 agreement with the LAP of £115,433 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |
| **Planning Ref** | **58758/APP/2019/3517** | | | **NO** |
| AIRVIEW BUSINESS CENTRE CLAYTON ROAD HAYES UB3 1AN<br>Demolition of existing buildings, site clearance and redevelopment to | The site is located within an area identified by London Borough of Hillingdon as experiencing elevated pollutant concentrations with high density of population being | As per the London Plan and London Borough of Hillingdon Local Action Plan, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the | The level of mitigation required to the proposed development for traffic emissions is £265, 378. When no quantification is possible, a flat rate discount is applied. Once all deductions were applied, the remaining value of mitigation due is £172,496. Flat rate deductions applied are as follow: Travel Plan (15%) Green Measures (5%)<br>Strategic Multi-Modal Shift (15%). | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| provide a mixed-use scheme, including 398 residential units, 308 sqm (GEA) B1/A3 retail (cafe) use, 768 sqm (GEA) B1 employment use, together with 187 car parking spaces and 754 cycle parking spaces, public open space, hard and soft landscaping, refuse and recycling facilities, and public and private amenity space | exposed to hazardous levels – the application site falls within the Hayes Focus Area. Developments within this area have the potential to introduce future users to an existing area of poor air quality, as well as to cause potential impacts at sensitive receptor locations within the vicinity during the construction and operational phases. The proposed development, due to its size and location, will add to current exceedances of the nitrogen dioxide annual mean limit value within this sensitive area as a result of both traffic and energy production emissions. The proposed development is not neutral for transport emissions. In addition, the proposal has not offered suitable mitigation measures that in a quantifiable manner would | reduction of emissions in these sensitive areas | Therefore, a section 106 agreement with the LAP of £172,496 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels, assuming no local network congestion would be exacerbated by the proposal.<br><br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | demonstrate the exceeding traffic emissions would be removed. | | | |
| **Planning Ref** | **73955/APP/2020/139** | | | **NO** |
| CROWN TRADING CENTRE CLAYTON ROAD HAYES<br>Demolition of existing buildings for residential-led mixed use development comprising buildings between 3 and 11 storeys to provide residential units (Use Class C3) and ground floor employment floorspace (Use Class B1) with associated access and car and cycle parking, landscape and amenity areas and associated servicing. Comprising 407 residential units (Use Class C3) (188 x 1-bed, 144 x 2-beds, 71 x 3-beds and 4 x 4-beds) and 1175 sq.m of employment floorspace (Use Class B1) at ground floor with associated access and car parking for 203 vehicles and cycle parking, landscape and amenity areas and associated servicing. | It is noted that the impact on local air quality of nitrogen dioxide emissions associated with energy production includes a diesel fired backup generator that will contribute to the annual emission load into the atmosphere, even if operating for a few hours per year, given its highly polluting nature.<br>In addition, the proposal is not air quality neutral in terms of traffic emissions | As per the London Plan and LBH Air Quality Action Plan 2019-2024, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the reduction of emissions in these sensitive areas. | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach. The proposed mitigation measures associated with the operation of the development contained in the Air Quality Report and the contributions sought by LBH Highways have been evaluated and a suitable emission reduction level calculated. It is noted that the lifetime of the proposed development is likely to be approximately 60 years. The level of mitigation required to the proposed development for traffic emissions is £385, 429 and for the energy centre emissions (including 50 hours minimum of operation of the diesel backup generator) is £21, 710. This amounts to a total level of mitigation required of £407, 139.<br>The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.<br>Once all deductions were applied, the remaining value of mitigation due is £242,552. Flat rate deductions applied are as follow: Travel Plan (15%) Green Measures (5%) Strategic Multi-Modal Shift (15%).<br>Therefore, a section 106 agreement with the LAP of £242,552 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |
| **Planning Ref** | **1331/APP/2019/2314** | | | **NO** |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| FORMER NESTLE FACTORY NESTLES AVENUE HAYES Development of 4no. new buildings comprising residential units (in addition to those approved under planning permission ref: 1331/APP/2017/1883), a basement extension to Block B, flexible commercial uses (including but not limited to use classes A1/A3/A4/B1/D1/D2) and associated landscaping, access, car parking and other engineering works. The plans show a development of 917 residential units (totalling 1,474 units involving a net additional uplift of 88 units from that permitted by planning permission ref: 1331/APP/2017/1833), amendments to Blocks B, C, F3, F4, H, and 232sqm of commercial floorspace. | The proposal seeks to add a further 88 residential units to the permitted 917 residential units by planning permission ref: 1331/APP/2017/1833, and 232sqm of commercial floorspace. This additional increase in the number of residential dwellings in the Hayes Focus Area will result in a net increase of transport 172.7 kg/year of NOx which will add to current exceedances of the nitrogen dioxide annual mean limit value within this sensitive area and 9.9 kg/year of PM2.5 emissions.<br><br>In addition, the applicant has not submitted the air quality neutral assessment as per the Mayor's requirement. However, to support the process, LBH has undertaken the calculations and the proposal is not air | As per the London Plan, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the reduction of emissions in these sensitive areas. It is noted that LBH has not included building emissions associated with a likely increase in energy provision to the neutral assessment calculations as the applicant has not provided the required information | Therefore, an additional section 106 agreement with the LAP of £72,283 will have to be paid for Hillingdon to address the resulting increase in air pollution emissions associated with this additional proposed development. As per standard practice, the required amount will be used to continue to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | quality neutral in terms of traffic emissions | | | |
| **Planning Ref** | **12795/APP/2019/3828** | | | **NO** |
| MURRAY ENGINEERING (HAYES) LTD<br>SILVERDALE ROAD<br>HAYES UB3 3BN<br>Demolition of the existing building (Use Class B1) and the erection of a 6 storey building to provide 26 (16 x 1 bed, 7 x 2 bed and 3 x 3 bed) residential units (Use Class C3) and commercial floor space at ground floor level (Use Class B1) including the excavation of a basement to provide 13 car parking spaces and 36 cycle parking spaces with associated works | As per the London Plan and London Borough of Hillingdon Local Action Plan, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, contributing to the reduction of emissions in these sensitive areas. The proposed development is not neutral for transport emissions.<br><br>In addition, the proposal has not offered suitable mitigation measures that in a quantifiable manner would demonstrate the exceeding traffic emissions would be removed. | | Therefore, a section 106 agreement with the LAP of £20,036 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels, assuming no local network congestion would be exacerbated by the proposal.<br>In addition, an Air Quality condition is required to manage the construction fleet as per Mayor requirements | |
| **Planning Ref** | **73955/APP/2020/139** | | | **NO** |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| CROWN TRADING CENTRE CLAYTON ROAD HAYES<br>Demolition of existing buildings for residential-led mixed use development comprising buildings between 3 and 11 storeys to provide residential units (Use Class C3) and ground floor employment floorspace (Use Class B1) with associated access and car and cycle parking, landscape and amenity areas and associated servicing. Details: Comprising 407 residential units (Use Class C3) (188 x 1 bed, 144 x 2 beds, 71 x 3 beds and 4 x 4 beds) and 1175 sqm of employment floorspace (Use Class B1) at ground floor with associated access and car parking for 203 vehicles and cycle parking, landscape and amenity areas and associated servicing. | It is noted that the impact on local air quality of nitrogen dioxide emissions associated with energy production was not assessed as part of the air quality assessment submitted to support the planning application | LBH Highways comments on the traffic impacts of the proposal reveal that there will be an exacerbation of congestion at the road network affected by the vehicular movements associated with the operational phase of the proposed development. Congested traffic emits significantly higher loads of pollution levels due to idling and stop start emissions. As per LBH Highways reported concerns, the highway/transport related consequences of the residentially dominant 514 residential proposal with a commercial component will impose added and unreasonable traffic burden on the local road network (namely the Hillingdon Circus signalled junction which currently operates at and beyond workable capacity) with resulting hazardous impacts on local air quality and public health. In addition, as reported above, the proposal is not air quality neutral, as required by the | This is contrary to Policy EM8 of the Development Plan (2012) and emerging Local Plan Part 2 Development Plan Policy DMEI 14, the London Plan, and the National Planning Policy Framework (2019).<br><br>Refusal on air quality and public health grounds and absence of suitable mitigation measures is therefore recommended.<br><br>As the application site is within an Air Quality Management Area and to reduce the impact on air quality in accordance with policy EM8 of the Local Plan: Part 1 (November 2012), policy DMEI 14 of the London Borough of Hillingdon Local Plan (part 2), London Plan Policy 7.14, and paragraph 170 of the National Planning Policy Framework (2019). | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | | London Plan, and no suitable mitigation measures were offered by the applicant, as required by the National Planning Policy Framework (2019). | | |
| **Planning Ref** | **61202/APP/2019/3510** | | | **NO** |
| T C M HOUSE NEWPORT ROAD HAYES<br>Demolition of three existing buildings (Use Classes B1(a) and B1(c)) and erection of a four-storey residential hostel building (Sui Generis) containing 28 units, comprising 12 x 1-bedroom, 8 x 2-bedroom and 8 x 3-bedroom dwellings with associated car parking, landscaping and children's play area. | The proposal is not air quality neutral for transport. It is noted that the proposal will have a CHP unit but due to model/size of the plant not being available, the emissions of the unit were not reported. | Therefore, the Air Quality report will need to be updated to include assessment of point source emissions and a complete air quality neutral assessment for both transport and CHP emissions. That version of the report is required to support the full planning application and update the total damage cost S106 value due for air quality. | Therefore, a section 106 agreement with the LAP of minimum £24,277 is to be paid to contribute to Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **59872/APP/2019/3852** | | | **NO** |
| 1 VINYL SQUARE, THE OLD VINYL FACTORY BLYTH ROAD HAYES UB3 1HA<br>Redevelopment of the site to provide a mixed-use development comprising 134 residential units (C3 Use Class) and ground floor commercial floorspace (flexible A1/A2/A3/A5/B1 Use Class), with associated car | The proposal is not air quality neutral | A Travel Plan is to be finalised and delivered with targets of reducing traffic by at least 10% achieved, secured by a bond. In this context, a discount of 10% of the total damage cost can be applied (to be confirmed by transport colleagues regarding suitability of the travel plan proposed). | Therefore, a section 106 agreement with the LAP of £104,565 is to be paid to contribute to Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| parking, cycle parking and landscaping. | | | | |
| **Planning Ref** | **73238/APP/2018/1145** | | | **NO** |
| LAND AT 3, 233-236 NESTLES AVENUE HAYES UB3 4SB Demolition of existing buildings, site clearance and redevelopment to provide a mixed-use scheme, including 457 residential units, 264 sqm (GEA) A1 retail use, 229 sqm (GEA) A3 cafe use and 2,273 sqm (GEA) B1 office, together with 237 car parking spaces and 1,070 cycle parking spaces, hard and soft landscaping, refuse and recycling facilities, and public and private amenity space. | The proposed development is not neutral for transport emissions. | Damage cost S106 required to contribute to the delivery of LBH LAP | The proposal has offered a certain level of mitigation in a quantifiable manner and that has been deducted from the total damage cost for the proposal. A damage cost has been applied in terms of the increased pollution emissions from the associated transport (1.6tonnes N0x/year), where quantification has been possible this has been applied, this includes;<br>· 10% reduction from full effective implementation of the Travel Plan;<br>· Developer contribution quantification from the Bulls Bridge improvements to ease congestion;<br>· Quantification of new bus route (assumed hybrid)<br>· Additional 5 % reductions for sustainable transport measures, if fully secured via indicated highways and transport s106 agreements.<br><br>The remainder, 0.94 tonnes NOx/annum are to be abated / offset through implementation of LBH Local Action Plan so that the exceeding traffic emissions can be removed.<br>Therefore, a section 106 agreement with the LAP of £ £161,299 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |
| **Planning Ref** | **13338/APP/2019/2414** | | | **NO** |
| 29-31 SHEPISTON LANE HAYES UB3 1LJ Demolition of existing buildings and erection of 3 storey plus basement 97-bedroom hotel (Use Class | The proposed development is not neutral for transport emissions. In addition, the proposal has not offered suitable | Damage cost S106 required to contribute to the delivery of LBH LAP | Therefore, a section 106 agreement with the LAP of £58,994 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels, assuming no local network congestion would be exacerbated by the proposal. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| C1), together with soft and hard landscaping, servicing, cycle storage, car parking and refuse and recycling facilities | mitigation measures that in a quantifiable manner would demonstrate the exceeding traffic emissions would be removed | | Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **58758/APP/2019/3517** | | | **NO** |
| AIRVIEW BUSINESS CENTRE CLAYTON ROAD HAYES UB3 1AN Demolition of existing buildings, site clearance and redevelopment to provide a mixed-use scheme, including 398 residential units, 308 sqm (GEA) B1/A3 retail (cafe) use, 768 sqm (GEA) B1 employment use, together with 187 car parking spaces and 754 cycle parking spaces, public open space, hard and soft landscaping, refuse and recycling facilities, and public and private amenity space | The proposed development is not neutral for transport emissions.<br><br>In addition, the proposal has not offered suitable mitigation measures that in a quantifiable manner would demonstrate the exceeding traffic emissions would be removed. | Damage cost S106 required to contribute to the delivery of LBH LAP<br><br>Should an exacerbation of congestion at the road network affected by the vehicular movements associated with the operational phase of the proposed development be observed, there will be further resulting hazardous impacts on local air quality and public health and an updated calculation of the damage cost value will need to be issued. | Therefore, a section 106 agreement with the LAP of £173,899 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels, assuming no local network congestion would be exacerbated by the proposal.<br><br>The above is subject to revision once LBH Highways comments on the traffic impacts of the proposal are issued.<br><br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **71737/APP/2019/1979** | | | **NO** |
| GETHCELN HOUSE DAWLEY ROAD HAYES Proposed demolition of existing office and warehouse/workshops and erection of one flexible use class B1(c)/B2/B8 building | 1) the proposal is not air quality neutral for transport emissions.<br>2) the proposed development is within a Focus Area. | Proposals are required to improve air quality within Focus Areas.<br><br>Damage cost S106 required to contribute to the delivery of LBH LAP | Therefore, a section 106 agreement with the LAP of £13,000 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduces human exposure to nitrogen dioxide levels. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| comprising 3 units with associated access and parking | | | Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |
| **WEST DRAYTON/YIEWSLEY FOCUS AREA** | | | | |
| **Planning Ref** | **39207/APP/2020/2188** | | | **NO** |
| GSK, STOCKLEY PARK IRON BRIDGE ROAD WEST DRAYTON Redevelopment of the site to provide two industrial units providing industrial floorspace (Use Class B1c/B2/B8) and ancillary offices together with associated parking, access arrangements, landscaping and infrastructure. | The Transport Assessment submitted to support the planning application has established that the proposed development (use Classes B1c/B2/B8) is envisaged to generate 1695 two-way daily vehicular trips that are forecasted to include 857 HGVs, two-way movements over the course of a typical day. This equates to 50.6% movements associated with HGVs. | Damage cost S106 required to contribute to the delivery of LBH LAP | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach. The level of mitigation required to the proposed development for traffic emissions is £361,738.<br>The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.<br>Once all deductions were applied, the remaining value of mitigation due is £206,032.<br>Flat rate deductions applied are as follow: Travel Plan (15%) Green Measures (5%) Strategic Multi-Modal Shift (15%).<br>Therefore, a section 106 agreement with the LAP of £235,129 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>Two Air Quality Conditions were required – Travel Plan with Specific Air Quality Actions and to manage the construction fleet as per Mayor requirements | |
| **Planning Ref** | **68663/APP/2020/705** | | | **NO** |
| 217 HIGH STREET YIEWSLEY UB7 7GN Erection of 5 and 6 storey buildings to provide a D1 Health Facility (approximately 10,000sqft) and 233 residential apartments with associated | The proposal is not air quality neutral in terms of traffic emissions. | As per the London Plan and LBH Air Quality Action Plan 2019-2024, developments need to be neutral as minimum and contribute actively to reduce pollution in Focus Areas, | The level of mitigation required to the proposed development for traffic emissions is £111,340.<br>The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.<br>Once all deductions were applied, the remaining value of mitigation due is £77,938. Flat rate deductions applied are as follow: Travel Plan | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| parking, communal podium garden, landscaping, pedestrian and cycle canal link and external works following the demolition of the existing buildings (Amended Scheme) | | contributing to the reduction of emissions in these sensitive areas | (10%), Green Measures (5%), and contribution to long term LBH strategic projects (15%).<br>Therefore, a section 106 agreement with the LAP of £77,938 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>Two Air Quality Conditions were required – Air Quality Emission and Exposure Mitigation Plan and to manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **35810/APP/2020/187** | | | **NO** |
| TAVISTOCK WORKS TAVISTOCK ROAD YIEWSLEY<br>Redevelopment of the site to include the demolition of the existing building (Use Class B1a) and the erection of a 7-storey building and a basement to provide residential units (Use Class C3) and associated works. The plans show: Redevelopment of the site to provide 34 residential units (11 x 1-bed, 15 x 2-bed and 8 x 3-bed), 34 cycle parking spaces, 28 car parking spaces and 685 sq.m of private and communal amenity spaces with associated landscaping and works. | The proposed development is not neutral for transport emissions and as such, it is not 'air quality neutral' in terms of the London Plan requirements.<br><br>In addition, the proposal has not offered suitable mitigation measures that in a quantifiable manner would demonstrate the exceeding traffic emissions would be removed. It is noted that the applicant quite helpfully has calculated the damage cost | Damage cost S106 required to contribute to the delivery of LBH LAP | Therefore, a section 106 agreement with the LAP of £31,232 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels, assuming no local network congestion would be exacerbated by the proposal (this is subject to Highways views, if congestion is exacerbated the damage cost is to be updated).<br><br>Two Air Quality conditions are required to develop and implement an Emission Mitigation Strategy and manage the construction fleet as per Mayor requirements | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | associated with the proposal | | | |
| **A40 SWAKELEYS ROAD FOCUS AREA** | | | | |
| **Planning Ref** | **30255/APP/2020/2413** | | | **YES** |
| 79 SWAKELEYS ROAD ICKENHAM<br>Erection of a two-storey building with habitable roofspace to consist of 6 x 2-bed and 2 x 1-bed self contained flats with parking and amenity space involving demolition of existing dwelling | The proposed development is located within LBH Air Quality Management Area and within the A40/Swakeleys Focus Area | Damage cost S106 required to contribute to the delivery of LBH LAP | A section 106 agreement with the LAP of £3,668 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |
| **UXBRIDGE ROAD FOCUS AREA** | | | | |
| **Planning Ref** | **75956/APP/2020/3400** | | | **YES** |
| Land Rear of 800 UXBRIDGE ROAD HAYES UB4 0RS<br>Proposal<br>Outline planning consent for the redevelopment of the existing car park, comprising of the construction of a new residential building to provide 19 units, associated access, parking, refuse and cycle provision | Assuming a residential parking level of 19 spaces as reported in the Transport Assessment, the proposed development is air quality neutral for transport emissions for the C3 use proposed.<br>The proposed development is not air quality neutral when all the 43 parking spaces proposed are considered<br>There is no sufficient information on both | LBH requires new developments to incorporate air quality positive design measures from the outset and suitable mitigation measures to reduce pollution, especially in areas where the air quality is already poor (LBH Air Quality Local Action Plan 2019-2024), namely Focus Areas. Furthermore, policy DMEI 14 of the London Borough of Hillingdon Local Plan (part 2), requires active contribution | The likely level of mitigation required to the proposed development for traffic emissions is £19,751, assuming only 19 parking spaces.<br>At the detailed stage, if no suitable mitigation is offered, a section 106 agreement with the LAP of that amount or the amount deemed at that stage is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | total emission levels associated with the operation of the proposed site and mitigation measures for the required reductions to improve local air quality. | towards the continued improvement of air quality, especially within the Air Quality Management Area. Finally, the London Plan requires development to be air quality positive specially within focus areas, actively contributing to reduce pollutant emissions to the atmosphere. | | |
| **Planning Ref** | **73298/APP/2020/1194** | | | **YES** |
| LAND TO THE EAST SIDE OF NEWPORT ROAD HAYES UB4 8JX RE-CONSULTATION ON AMENDED PLANS FOR: Demolition of existing buildings (Use Class B1a) and redevelopment of the site to provide a new building up to 4 storeys comprising 24 residential units (Use Class C3) and associated landscaping, amenity space, car parking, cycle parking, access and refuse. Detailed Description: 14 x 1 bedroom, 8 x 2 bedroom and 2 x 3 bedroom | The proposed development is located within the Uxbridge Road Focus Area bringing additional air pollutant emissions which will add to current likely exceedances. | As per the LBH LAP and new London Plan, developments need to be neutral as minimum and positive in Focus Areas, contributing to the reduction of emissions in these sensitive zones. | A section 106 agreement with the LAP of £14,420 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| **Planning Ref** | **62106/APP/2020/3031** | | | **YES** |
| FORMER TARA KINDERGARTEN CROSS ROAD UXBRIDGE UB8 2UQ<br>Proposed demolition of the existing building providing administrative accommodation associated with a children's day nursery use and construction of a mixed-use, residential-led development. This will comprise 25 affordable residential apartments (Use Class C3) with a proposed flexible community use (Use Class E/F.1 /F.2) on the ground floor, and associated landscape works and parking. | The proposed development is located within the Uxbridge Road Focus Area bringing additional air pollutant emissions which will add to current likely exceedances. | As per the LBH LAP and new London Plan, developments need to be neutral as minimum and positive in Focus Areas, contributing to the reduction of emissions in these sensitive zones | A section 106 agreement with the LAP of £20,373 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Three Air Quality conditions are required to develop and implement a Travel Plan, an Exposure Reduction Strategy including a Green Wall Implementation, and manage the construction fleet as per Mayor requirements. | |
| **A40/SOUTH RUISLIP FOCUS AREA** | | | | |
| **Planning Ref** | **67708/APP/2020/1568** | | | **NO** |
| UNIT 4, VICTORIA RETAIL PARK, CROWN ROAD RUISLIP HA4 0AF<br>Proposal Change of Use of Unit 4 from B8 (storage & distribution) to B1c (light industrial), B2 (general industrial) or B8 (storage & distribution) uses. | The Transport Assessment submitted to support the planning application has established that B8 uses vary considerably in terms of the volume of traffic they generate and the proportion of HGVs | As per the LBH LAP and new London Plan, developments need to be neutral as minimum and positive in Focus Areas, contributing to the reduction of emissions in these sensitive zones | Therefore, a section 106 agreement with the LAP of £269,799 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br>It is noted that E and B2 uses were considered in the damage cost calculations, assuming only 447 vehicles would be emitting NOx pollution to the atmosphere as a result of the operation of the proposed development. This can be a significant underestimation of the damage | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | relative to light vehicles. The site itself might realistically be expected to generate between approximately 198 and 1,411 two-way movements over the course of a typical day. Between 15% and 35% of these movements are likely to be associated with HGVs. | | on local air quality since B8 use would generate up to 1,411 vehicle daily movements instead.<br><br>Two Air Quality conditions are required to develop and implement a Travel Plan, and manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **4058/APP/2020/2213** | | | **N/A** |
| HILLINGDON HOSPITAL PIELD HEATH ROAD HILLINGDON UB8 3NN Installation of a permanent containerised low voltage diesel driven standby generator, together with associated fuel tank and boundary fencing. | there is no information on the technical specifications of the diesel generator the proposal refers to.<br><br>Therefore, in order to be able to evaluate the proposal, LBH will require the applicant submits the technical specification sheets of the diesel generator including the emission rates for NOx and PM10 in g/s. | As per the LBH LAP and new London Plan, developments need to be neutral as minimum and positive in Focus Areas, contributing to the reduction of emissions in these sensitive zones | ***Awaiting information*** | |
| **Planning Ref** | **11891/APP/2020/20** | | | **NO** |
| BOURNE COURT SITE BOURNE COURT RUISLIP | Whereas there is no air quality report submitted to support the planning | in the absence of substantiated evidence that new residents will not be | Therefore, a section 106 agreement with the LAP of £ £75,436 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| Outline planning application for the redevelopment of the site to provide 98 residential units in a single block, including access, car and cycle parking, refuse storage and amenity space, with landscape matters reserved. | application, the LBH has undertaken the required calculations, and the proposed development is not air quality neutral for transport, which is a requirement of the London Plan. | exposed to hazardous levels of pollution, the development should demonstrate appropriate mitigation measures to ensure the future occupiers are protected in compliance with DME1 14, in particular, Part Bii | to pollution levels, assuming no local network congestion would be exacerbated by the proposal.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission and Exposure Reduction Strategy and manage the construction fleet as per Mayor requirements | |
| **Planning Ref** | **74214/APP/2020/3417** | | | **YES** |
| UNIT 6 THE RUNWAY RUISLIP HA4 6SE<br>Two storey front and first floor side extension and change of use from offices to 5 x studio flats with associated car parking, cycle and refuse storage | None | None | Given the extremely small size of the proposed development, it is likely it would originate no more than 10 additional vehicles onto the local network. Therefore, the proposal is air quality neutral and there are no material considerations nor constrains in terms of air quality. | |
| **OSSIE GARVIN FOCUS AREA** | | | | |
| **Planning Ref** | **46378/APP/2019/2970** | | | **NO** |
| WEST LONDON FILM STUDIOS SPRINGFIELD ROAD HAYES UB4 0RG<br>Development of land north of playing pitches to provide an extension to West London Film Studios comprising construction of new sound stages, workshops and office accommodation, entrance structures and reception | For a 'Standard Day', the project's Transport Consultant has calculated that the development will generate 177 Annual Average Daily Traffic (AADT) flows. For the 'Busiest Day', the proposed | A Travel Plan is to be submitted and delivered with targets of reducing traffic by at least 10% achieved, secured by a bond. In this context, a discount of 10% of the total damage cost has been applied. Finally, a further 5% discount was applied to account for likely emission reductions (non- | Assuming a 'Standard Day', the proposal originates transport emissions at an equivalent damage cost of £111,950 for a standard day scenario. This is an underestimation of the total emissions as it does not account for the busiest days occurring throughout the year.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| and security offices, creation of new vehicular and pedestrian accesses from Springfield Road, with associated car parking, landscaping and the provision of an ecological enhancement area/landscaped buffer zone | development will add 323 AADT to the local network. | quantifiable) associated with implementation of cycle parking. Should these reductions not be agreed with LBH, the total damage cost remains. | | |
| **A4 CORRIDOR FOCUS AREA** | | | | |
| **Planning Ref** | **35805/APP/2020/3289** | | | **NO** |
| 1 & 1A BATH ROAD HEATHROW TW6 2AA Proposal Outline planning application for the demolition of existing buildings and erection of a six storey 237-bedroom hotel (Use Class C1) (landscaping reserved for subsequent approval). | Over the 15-hour day both the existing and proposed land use result in between 313 to 491 vehicle trips per day. The total hotel weekday daily trip rate is 2.073 vehicle trips per bedroom. Using C3 as a proxy to calculate the air quality neutral status, the proposed development is not air quality neutral for transport emissions. | As per the LBH LAP and new London Plan, developments need to be neutral as minimum and positive in Focus Areas, contributing to the reduction of emissions in these sensitive zones | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach.<br>The level of mitigation required to the proposed development for traffic emissions is £153,399.<br>The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.<br>Once all deductions were applied, the remaining value of mitigation due is £130,389. Flat rate deductions applied are as follow: Travel Plan (10%) and Green Measures (5%).<br>Therefore, a section 106 agreement with the LAP of £130,389 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | | | Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |
| **NORTHWOOD EAST FOCUS AREA** | | | | |
| **Planning Ref** | **63833/APP/2020/1280** | | | **YES** |
| 54A-64A THE BROADWAY JOEL STREET NORTHWOOD HA6 1PA<br>Two storey rear extension and conversion and extension of roof space to habitable use to include 3 side dormers and conversion from 6 x 3 bed flats to 4 x 2 bed, 8 x 1 bed flats and 3 studios and alterations to parking area. | There is no air quality report nor transport assessment submitted to support the planning application | Focus areas are defined as locations where pollution levels are already high and there is relevant public exposure in a high population density, with current measures not being sufficient to improve air quality. In such circumstances LBH has a requirement to put in place additional actions to improve air quality and therefore the damage cost, wherever applicable, is calculated on total development emissions. | As the proposed development is within a Focus Area, it is required that a damage cost contribution is paid to LBH in the measure of the total emissions resulting from the proposed development. a section 106 agreement with the LAP of £ £3,196 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>One Air Quality condition was required to manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **50613/APP/2020/1371** | | | **YES** |
| Seymour House 30-38 CHESTER ROAD NORTHWOOD<br>Erection of 29-bed residential care home (Use Class C2) on land at No. 30-32 Chester Road and proposed rear infill extension to No. 34 Chester Road. | Analysis of the air quality report submitted to support the planning application has indicated that the proposed development is air quality neutral. In addition, the occupiers of the proposed residential care home are exposed to safe levels of air | | Therefore, no constrains are identified in terms of air quality and no mitigation measures are required in this instance.<br><br>One Air Quality condition was required to manage the construction fleet as per Mayor requirements. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | quality, with values ranging from 25 to 28 μg/m$^3$ within and in the vicinity of the application site, well below the limit value set to protect human health (40 μg/m$^3$) | | | |
| **RUISLIP TOWN CENTRE FOCUS AREA** | | | | |
| **Planning Ref** | **75568/APP/2020/1432** | | | **YES** |
| 1-6 STATION PARADE ICKENHAM ROAD RUISLIP HA4 7DL Demolition of the existing building and the erection of a 5-storey building to provide 22 residential units (13 x 1 bedroom, 7 x 2 bedroom and 2 x 3 bedroom) with associated car parking, refuse, landscaping and associated works. | Whereas the impact of the proposed development on local air quality is likely to be of only 12 AADT, and hence of minimal significance, there is a risk of introducing the new residents to hazardous levels of pollution (please see map attached). The predicted concentrations shown in the air quality report submitted to support the planning application indicate that there were exceedances of the Air Quality Objectives set to safeguard human health at the proposed ground level. Annual mean NO2 concentration are | Based on the results of the dispersion modelling assessment, the site requires the implementation of mitigation techniques to protect future site users from poor air quality from elevated NO2 concentrations across the ground floor levels. The location therefore would only be considered suitable for the proposed end-use with the inclusion of mitigation methods at ground floor level to protect future users from poor air quality. Mechanical ventilation is to be provided for all ground floor residential units at the proposed development. In addition, NOx filtration units | A section 106 agreement with the LAP of £1,993 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission and Exposure Reduction Strategy and manage the construction fleet as per Mayor requirements | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | therefore classified as APEC B and C where refusal on air quality grounds is possible, according to the London Councils Air Quality Planning Guidance. | should be installed and maintained at all ventilation inlets to ensure a clean supply of air to all ground floor units. | | |
| **UXBRIDGE FOCUS AREA** | | | | |
| **Planning Ref** | **74891/APP/2020/1614** | | | **NO** |
| BARTON BUILDINGS, UXBRIDGE INDUSTRIAL ESTATE ARUNDEL ROAD UXBRIDGE UB8 2SN Demolition of the existing buildings and redevelopment of the site to provide two industrial units (Use Class B1, B2 and B8 ). | The design and access statement submitted to support a full planning application refers to the demolition of the existing mixed-use industrial buildings and the creation of 2no. new larger units, continuing with the same use class of B1, B2 & B8.<br>It is noted that whereas B8 use is the worst-case scenario in terms of impacts on local air quality given the fleet composition and movements associated with this use, the calculations undertaken used B1 use and hence the air quality neutral results are not conservative. | According to the London Plan and LBH LAP development is to be air quality as minimum and be air quality positive, with development actively contributing to reduce emissions into the atmosphere and reduce impacts on local air quality, particularly at sensitive locations. | Therefore, a section 106 agreement with the LAP of £104,425 is to be paid to contribute to Hillingdon to deliver its air quality local action plan in Uxbridge Focus Area sensitive locations. In the instance the applicant has made Highways contributions which can be quantifiable in terms of emission reductions, the equivalent damage cost value can be deducted. This exercise if applicable it to be done in consultation with LBH. It is noted that the value due is likely to be underestimated as only a 10% HGV composition was assumed in the calculations.<br>Usually the % of HGVs at B1, B2 and B8 uses can go up to 50 or 60%.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | The proposal is not air quality neutral for transport and no information on the energy production for the site is provided. | | | |
| **Planning Ref** | **73298/APP/2020/1194** | | | **YES** |
| LAND TO THE EAST SIDE OF NEWPORT ROAD HAYES UB4 8JX RE-CONSULTATION ON AMENDED PLANS FOR: Demolition of existing buildings (Use Class B1a) and redevelopment of the site to provide a new building up to 4 storeys comprising 24 residential units (Use Class C3) and associated landscaping, amenity space, car parking, cycle parking, access and refuse. Detailed Description: 14 x 1 bedroom, 8 x 2 bedroom and 2 x 3 bedroom | | As per the new London Plan and LBH LAP, developments need to be neutral as minimum and positive in Focus Areas, contributing to the reduction of emissions in these sensitive locations. | Therefore, a section 106 agreement with the LAP of £14,420 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement a Travel Plan, and manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **72722/APP/2019/347** | | | **NO** |
| 25-30 BAKERS ROAD UXBRIDGE UB8 1RG Demolition of existing buildings and redevelopment to provide a new hotel and retail unit, along with refurbishment of part of the existing car park | The proposed development is not air quality neutral for transport emissions, contributing to current exceedances of the nitrogen dioxide annual mean limit value | | A section 106 agreement with the LAP of £122,856 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels, assuming no local network congestion would be exacerbated by the proposal. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| and service area (amended plans 06/04/20) | within this sensitive area. In addition, the proposal has not offered suitable mitigation measures that in a quantifiable manner would demonstrate the exceeding traffic emissions would be removed. | | Two Air Quality conditions are required to develop and implement a Mitigation of Emissions and Exposure Reduction Plan and manage the construction fleet as per Mayor requirements | |
| **Planning Ref** | **532/APP/2020/3198** | | | **YES** |
| BRUNEL UNIVERSITY KINGSTON LANE HILLINGDON UB8 3PH Construction of a new research building and an infill building which includes the partial redevelopment of an existing building for research purposes together with associated substation, two bin stores, car parking, access and landscaping | Analysis of the Air Quality report submitted to support the planning application indicates that the proposed development is not anticipated to result in a change in AADT flows of more than 73 per day or significantly affect average speeds on the local road network. However, given the additional emissions likely to impact the Uxbridge Focus Area, active contribution to the improvement of air quality in the affected area is required. | A Travel Plan is to be submitted and delivered with targets of reducing traffic by at least 10% achieved, secured by a bond. | Total traffic emissions considered equate to a total of £34, 388. Assuming the Travel plan is implemented a discount of 10% of the total damage cost has been applied. Finally, a further 5% discount was applied to account for likely emission reductions (non-quantifiable) associated with implementation of proposed green measures. Should these reductions not be agreed with LBH, the total damage cost of £34, 388 remains.<br><br>A section 106 agreement with the LAP of £29,229 is to be paid to contribute to Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |

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| **Planning Ref** | **16299/APP/2020/3313** | | | **NO** |
| LAND OFF HAREFIELD ROAD UXBRIDGE UB8 1JS<br>Comprehensive redevelopment of the site comprising demolition of existing buildings to provide residential care accommodation (Use Class C2), cafe and nursery (Use Class E) in buildings up to 8 storeys, car parking, landscaping and associated works. Detailed Description: 194 units (66x1 bed units, 123x2 bed units and 5x3 bed) together with integrated nursing care and associated communal and support services including ancillary communal, care and well-being facilities including a restaurant, cafe/bar and wellness centre/gym and a 313 sq.m children's nursery. | Using trip generation rates reported in the Transport Assessment per land used proposed, the proposed development is not air quality neutral for transport emissions for the C2 and D1 uses proposed. | LBH requires new developments to incorporate air quality positive design measures from the outset and suitable mitigation measures to reduce pollution, especially in areas where the air quality is already poor (LBH Air Quality Local Action Plan 2019-2024), namely Focus Areas. | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach.<br>The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate discount is applied.<br>The level of mitigation required to the proposed development for traffic emissions is £95,591.<br>Once all deductions were applied, the remaining value of mitigation due is £81,252.<br>Flat rate deductions applied are as follow: Travel Plan (10%).<br>The level of mitigation required due to the proposed diesel backup generator emissions is £17,362, assuming the diesel backup generator will operate in average 100hours per annum.<br>Therefore, a section 106 agreement with the LAP of £98,615 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |
| **Planning Ref** | **74089/APP/2020/3305** | | | **NO** |
| AND OFF HAYES END ROAD HAYES END ROAD HAYES UB4 8EH<br>Demolition of existing buildings and | Using trip generation rates reported in the Transport Assessment, the proposed development is not air quality neutral for | LBH requires new developments to incorporate air quality positive design measures from the outset and suitable mitigation | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach. The mitigation measures proposed were evaluated in terms of likely emission reductions onto local air quality. Wherever quantifiable, these are calculated and subtracted from the overall value due. When no quantification is possible, a flat rate | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| redevelopment of the site to provide a building of 5 storeys with flexible commercial floorspace (Class E) at ground floor and residential units (Use Class C3) at ground and upper floors, with associated residential amenity space, landscaping, car and cycle parking, refuse storage and access. Detailed Description: 29 residential units comprising 15 x 1-bedroom, 8 x 2-bedroom and 6 x 3-bedroom. | transport emissions for the C3 use proposed. | measures to reduce pollution, especially in areas where the air quality is already poor (LBH Air Quality Local Action Plan 2019-2024), namely Focus Areas. | discount is applied. The level of mitigation required to the proposed development for traffic emissions is £32,037.<br>Once all deductions were applied, the remaining value of mitigation due is £27,231. Flat rate deductions applied are as follow: Travel Plan (10%), Green Sustainable Measures (5%).<br>Therefore, a section 106 agreement with the LAP of £27,231 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |
| **OUTSIDE FOCUS AREAS** | | | | |
| **Planning Ref** | **5039/APP/2020/1339** | | | **YES** |
| LIDL FOODSTORE VICTORIA ROAD RUISLIP HA4 0JJ<br>The demolition of a non-food retail unit and the extension and reconfiguration of the car park | The proposed development is not located within a Focus Area and has a relatively small impact on local air quality. The proposed development could result in an increase of 16 two-way vehicular trips in the weekday morning peak hour and an increase of 15 two-way vehicular trips in the weekday evening | However, whereas there are no constrains in terms of local air quality, the proposed development is within and Air Quality Management Area and active improvement of local air quality is required. | Therefore, an additional electric vehicle rapid charging unit is asked of the applicant in association with the extension of the car park. Whilst this is below the 5% standard for number of spaces, the provision of a rapid charging unit is considered to provide greater benefit than an increased number of slower chargers. | |

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| | peak hour. During the Saturday peak hour, the development could result in a decrease of four two way vehicular trips .It is therefore considered that the above increases in vehicular trips are minimal and would not result in a detrimental impact to local air quality. | | | |
| **Planning Ref** | **71486/APP/2020/1369** | | | **YES** |
| AND EAST OF BROADMEAD ROAD & SOUTH OF ARCON WAY BROADMEAD ROAD NORTHOLT Construction of a new single storey 80 Place SEND School together with associated landscaping, play areas, boundary treatments and car parking. | The proposed development is not within a Focus Area and has a trip generation of 66 two-way vehicle trips during both the school opening and closing time periods. The proposed development will include provision for 48 car parking spaces and it is anticipated that there would be a maximum of 10 vehicle movements a day, resulting from staff working in the proposed building. As such, potential air quality impacts | However, given the possible impact on existing focus areas due to inherent vehicle movements and traffic distribution associated with the operation of the school, an Air Quality condition is required to develop and implement a Low Emission Strategy | Two Air Quality conditions are required to develop and implement a Low Emission Strategy and manage the construction fleet as per Mayor requirements. | |

| Name, Location & Proposal description | Air Quality Issues in AQ Assessment | LA Requirements | Planning Conditions Text/S106 Agreements/ Status/Outcome | Neutral |
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| | associated with operational phase road vehicle exhaust emissions are predicted to have an insignificant effect. | | | |
| **Planning Ref** | **73281/APP/2020/1171** | | | **NO** |
| STOCKLEY COUNTRY PARK AND RECREATION GROUND CHESTNUT AVENUE YIEWSLEY<br>Remediation of football pitches and recreational land using imported materials recycled through a temporary soil management area (SMA). | | | The level of mitigation required associated with the operation phase of the proposed development is calculated using Defra's Damage Cost Approach.<br>The level of mitigation required to the proposed development for traffic emissions is £89,392.<br>Therefore, a section 106 agreement with the LAP of £89,392 is to be paid for Hillingdon to deliver its air quality local action plan and or implement specific measures on/along the road network affected by the proposal that reduce vehicle emissions and or reduce human exposure to pollution levels.<br><br>Two Air Quality conditions are required to develop and implement a Travel Plan for the Operation of the Recreation Grounds and manage the construction fleet as per Mayor requirements. | |

N/A – Not Available due to lack of air quality report or sufficient information