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Islington Air Quality Annual Status

Islington Pollution Team



2015 Report

For: GLA

Completed by: Fanos Santis, Pollution Officer

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This report provides a detailed overview of air quality in the London Borough of Islington and the actions we have undertaken to reduce air pollution during 2015. It has been produced to meet the requirements of the London Local Air Quality Management statutory process¹.



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¹ LLAQM Policy and Technical Guidance 2016 (LLAQM.TG(16)). www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs

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Abbreviations

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

Table A. Summary of National Air Quality Standards and Objectives

| Pollutant | Objective (UK) | Averaging Period | Date¹ |
|------------------------------------|--|-------------------------|-------------------------|
| Nitrogen dioxide - NO ₂ | 200 $\mu\text{g m}^{-3}$ not to be exceeded more than 18 times a year | 1-hour mean | 31 Dec 2005 |
| | 40 $\mu\text{g m}^{-3}$ | Annual mean | 31 Dec 2005 |
| Particles - PM ₁₀ | 50 $\mu\text{g m}^{-3}$ not to be exceeded more than 35 times a year | 24-hour mean | 31 Dec 2004 |
| | 40 $\mu\text{g m}^{-3}$ | Annual mean | 31 Dec 2004 |
| Particles - PM _{2.5} | 25 $\mu\text{g m}^{-3}$ | Annual mean | 2020 |
| | Target of 15% reduction in concentration at urban background locations | 3 year mean | Between 2010 and 2020 |
| Sulphur Dioxide (SO ₂) | 266 $\mu\text{g m}^{-3}$ not to be exceeded more than 35 times a year | 15 minute mean | 31 Dec 2005 |
| | 350 $\mu\text{g m}^{-3}$ not to be exceeded more than 24 times a year | 1 hour mean | 31 Dec 2004 |
| | 125 $\mu\text{g m}^{-3}$ not to be exceeded more than 3 times a year | 24 hour mean | 31 Dec 2004 |

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

1. Air Quality Monitoring

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2015

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA? | 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 |
|---------|---------------|--------|--------|------------------|----------|--|--|------------------|--|----------------------|
| IS6 | Arsenal | 531328 | 186067 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ , PM ₁₀ | TEOM |
| IS2 | Holloway Road | 530650 | 185750 | Roadside | Y | 1m | 3m | 3m | CO, NO ₂ , PM ₁₀ | TEOM |

Table C. Details of Non-Automatic Monitoring Sites for 2015

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA? | 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) |
|-----------------|---------------------------------|--------|--------|------------------|----------|--|--|------------------|----------------------|--|
| BIS005/03 | Caledonian Road | 530721 | 183584 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| BIS005/02 | Roseberry Avenue | 531336 | 182599 | | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| BIS005/06 | City Road | 532566 | 182736 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| BIS005/07 | Old Street | 532577 | 182429 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| BIS005/08 | Highbury Corner | 531669 | 184743 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| BIS005/09 | Balls Pond Road | 532820 | 184822 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| BIS005/11 | Holloway Road | 531034 | 185349 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| BIS005/13 | Junction Road | 529204 | 186093 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| IS005/01DT 1 | Archway Close | 529396 | 186848 | Roadside | Y | 0.5m | 0.5m | 2.5m | NO ₂ | N |
| Hol 1 | Holloway Road | 530650 | 185750 | Roadside | Y | 1m | 3m | 3m | NO ₂ | Y |
| Hol 2 | Holloway Road | 530650 | 185750 | Roadside | Y | 1m | 3m | 3m | NO ₂ | Y |
| Hol 3 | Holloway Road | 530650 | 185750 | Roadside | Y | 1m | 3m | 3m | NO ₂ | Y |
| BIS005/04 | Percy Circus | 530901 | 182855 | | Y | 1m | N/A | 2.5m | NO ₂ | N |
| BIS005/05 | Myddleton Square | 531317 | 182998 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| BIS005/01 | Arran Walk | 532303 | 184460 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| IS005/03 | Sotheby Road | 532252 | 185983 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| BIS005/10 | Highbury Fields | 531755 | 185454 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| BIS005/12 | Lady Margaret Rd | 529325 | 185813 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| IS005/02 | Zoffany Park | 529881 | 187022 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| BIS005/14 | Elthorne Park | 529987 | 187342 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| BIS005/15 | Turle Road | 530469 | 186891 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| IS005/04 | Upper Street (Waterloo Terrace) | 531625 | 184100 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| Bus 1 | Pemberton Gdns | 529521 | 186443 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |
| Bus 2 | Pemberton Gdns | 529618 | 186558 | Urban Background | Y | 1m | N/A | 2.5m | NO ₂ | N |

1.2 Comparison of Monitoring Results with AQOs

The results presented are after adjustments for “annualisation” and for distance to a location of relevant public exposure, the details of which are described in Appendix A.

Table D. Annual Mean NO₂ Ratified and Bias-adjusted Monitoring Results ($\mu\text{g m}^{-3}$)

| Site ID | Site type | Valid data capture for monitoring period % ^a | Valid data capture 2015 % ^b | Annual Mean Concentration ($\mu\text{g m}^{-3}$) | | | | | | |
|-------------|-------------------------------|---|--|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | | | 2009 ^c | 2010 ^c | 2011 ^c | 2012 ^c | 2013 ^c | 2014 ^c | 2015 ^c |
| BIS005/03 | Roadside | | 92 | 53 | 46 | 54 | 50 | 47 | 51 | 58 |
| BIS005/02 | Roadside | | 92 | 70 | 61 | 70 | 58 | 57 | 58 | 62 |
| BIS005/06 | Roadside | | 92 | 64 | 55 | 60 | 52 | 42 | 49 | 53 |
| BIS005/07 | Roadside | | 66 | 72 | 62 | 72 | 65 | 60 | 56 | 65 |
| BIS005/08 | Roadside | | 83 | 73 | 63 | 69 | 60 | 63 | 61 | 67 |
| BIS005/09 | Roadside | | 92 | 68 | 59 | 61 | 53 | 56 | 59 | 64 |
| BIS005/11 | Roadside | | 100 | 61 | 53 | 58 | 57 | 57 | 61 | 65 |
| BIS005/13 | Roadside | | 83 | 58 | 50 | 52 | 45 | 41 | 46 | 53 |
| IS005/01DT1 | Roadside | | 92 | 60 | 52 | 57 | 63 | 51 | 58 | 55 |
| BIS005/04 | Urban Background | | 92 | 45 | 38 | 42 | 40 | 38 | 40 | 45 |
| BIS005/05 | Urban Background | | 100 | 39 | 34 | 39 | 36 | 37 | 39 | 39 |
| BIS005/01 | Urban background (Arran Walk) | | 83 | 35 | 30 | 33 | 32 | 30 | 32 | 39 |
| IS005/03 | Urban background | | 92 | 36 | 31 | 30 | 28 | 32 | 32 | 31 |
| BIS005/10 | Urban Background | | 92 | 35 | 30 | 36 | 33 | 31 | 32 | 33 |
| BIS005/12 | Urban background | | 92 | 46 | 39 | 35 | 34 | 33 | 33 | 35 |
| IS005/02 | Urban Background | | 92 | 36 | 31 | 35 | 31 | 28 | 28 | 33 |
| BIS005/14 | Urban Background | | 100 | 37 | 32 | 34 | 30 | 30 | 30 | 33 |
| BIS005/15 | Urban Background | | 92 | 35 | 30 | 33 | 32 | 30 | 32 | 33 |
| IS005/04 | Urban Background | | 83 | 35 | 30 | 40 | 35 | 34 | 37 | 40 |
| Bus 1 | Urban Background | | 67 | N/A | 50 | 52 | 52 | 48 | 51 | 61 |
| Bus 2 | Urban Background | | 67 | N/A | 36 | 41 | 40 | 38 | 39 | 40 |
| IS2 | Automatic | 95 | 93 | 58 | 59 | 60 | 55 | 54 | 55 | 61 |
| IS6 | Automatic | 95 | 99 | 39 | 37 | 37 | 37 | 40 | N/A | 29 |

Notes: Exceedance of the NO₂ annual mean AQO of 40 $\mu\text{g m}^{-3}$ are shown in **bold**.

NO₂ annual means in excess of 60 $\mu\text{g m}^{-3}$, indicating a potential exceedance of the NO₂ hourly mean AQS objective are shown in bold and underlined.

^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%

Table E. NO₂ Automatic Monitor Results: Comparison with 1-hour Mean Objective

| Site ID | Valid data capture for monitoring period % ^a | Valid data capture 2015 % ^b | Number of Hourly Means > 200 µgm ⁻³ | | | | | | |
|---------|---|--|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | | 2009 ^c | 2010 ^c | 2011 ^c | 2012 ^c | 2013 ^c | 2014 ^c | 2015 ^c |
| IS2 | 95 | 93 | 6 | 8 | 2 | 0 | 3 | 0 | 0 |
| IS6 | 95 | 99 | 3 | 0 | 0 | 1 | 10 | 0 | 0 |

Notes: Exceedance of the NO₂ short term AQO of 200 µgm⁻³ over the permitted 18 days per year 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%

Table F. Annual Mean PM₁₀ Automatic Monitoring Results (µg m⁻³)

| Site ID | Valid data capture for monitoring period % ^a | Valid data capture 2015 % ^b | Annual Mean Concentration (µgm ⁻³) | | | | | | |
|---------|---|--|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | | 2009 ^c | 2010 ^c | 2011 ^c | 2012 ^c | 2013 ^c | 2014 ^c | 2015 ^c |
| IS2 | 95 | 100 | 27 | 27 | 25 | 27 | 27 | 21 | 22 |
| IS6 | 95 | 100 | 20 | 22 | 22 | 24 | 22 | 20 | 19 |

Notes: Exceedance of the PM₁₀ annual mean AQO of 40 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%

Table G. PM₁₀ Automatic Monitor Results: Comparison with 24-Hour Mean Objective

| Site ID | Valid data capture for monitoring period % ^a | Valid data capture 2015 % ^b | Number of Daily Means > 50 µgm ⁻³ | | | | | | |
|---------|---|--|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | | 2009 ^c | 2010 ^c | 2011 ^c | 2012 ^c | 2013 ^c | 2014 ^c | 2015 ^c |
| IS2 | 95 | 100 | 7 | 8 | 25 | 19 | 10 | 6 | 3 |
| IS6 | 92 | 92 | 3 | 5 | 15 | 20 | 7 | 5 | 1 |

Notes: Exceedance of the PM₁₀ 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 90% of a full year, the 90.4th 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%

2. Action to Improve Air Quality

Table H. Commitment to Cleaner Air Borough Criteria

| Theme | Criteria | Achieved (Y/N) | Evidence |
|--------------------------------|--|----------------|---|
| 1. Political leadership | 1.a Pledged to become a Cleaner Air for London Borough (at cabinet level) by taking significant action to improve local air quality and signing up to specific delivery targets. | Y | The local authority has an appointed Executive Member for Environment and Transport, covering air quality within the borough |
| | 1.b Provided an up-to-date Air Quality Action Plan (AQAP), fully incorporated into LIP funding and core strategies. | Y | Islington Council's Air Quality Strategy 2014-2017 is available online at www.islington.gov.uk/airqualitystrategy . It is also incorporated into the council's Transport Strategy, Local Implementation Plan 2011-2031 and is available online at: www.islington.gov.uk/publicrecords/library/Environmental-protection/Business-planning/Plans/2012-2013/(2012-05-30)-LIP_main-document.pdf . The current AQ USA 2015 report is also available online. |
| 2. Taking action | 2.a Taken decisive action to address air pollution, especially where human exposure and vulnerability (e.g. schools, older people, hospitals etc) is highest. | Y, ongoing | Clean Air Schools projects, Cleaner Air Champions projects in association with Sustrans; raising awareness of the impacts of poor air quality through the Air Aware programme. |
| | 2.b Developed plans for business engagement (including optimising deliveries and supply chain), retrofitting public buildings using the RE:FIT framework, integrating no engine idling awareness raising into the work of civil enforcement officers, (etc etc) | Y, ongoing | Providing information to local residents, delivery drivers and commercial premises regarding idling vehicle engines. Freight Consolidation joint project with other local authorities where suppliers deliver to main centre and distributed from there. In 2016 this is to be expanded to businesses |
| | 2.c Integrated transport and air quality, including by improving traffic flows on borough roads to reduce stop/start conditions | Y, ongoing | Revamping the Archway Gyrotory System by making part of it pedestrian only; other gyrotory systems being considered are Highbury Corner and Old Street. Have a tri-borough LEN interventions project in discussion; local areas to be designated as electric vehicles only, pedestrians only, ULEV loading-servicing areas. |
| | 2.d Made additional resources available to improve local air quality, including by pooling its collective resources (s106 funding, LIPs, parking revenue, etc). | Y | Have had additional funding from section 106 and LIP funding to promote City Fringe Zero Emissions Network and Archway ZEN, with business engaged. A Car Free Day has been set for the 22 nd September around the Islington Green Area, involving local school and will also provide lung capacity tests for children. |
| 3. Leading by example | 3.a Invested sufficient resources to complement and drive action from others | Y | 3 x equivalent AQ officers employed to plan, report, advise on issues affecting air quality, including through energy efficiencies at home, increasing the number of charge points in the borough for electric vehicles. |
| | 3.b Maintained an appropriate monitoring network so that air quality impacts within the borough can be properly understood | Y | All existing air monitoring sites are maintained; daily local air quality information provided through the London Air Quality Network website. |
| | 3.c Reduced emissions from council operations, | On-going | Boilers to council homes have been replaced; introduction of freight consolidation for deliveries; |

| | | | | |
|---|------------|--|---|--|
| | | including from buildings, vehicles and all activities. | | some council vehicles have been replaced with hybrid vehicles and electric cars. All refuse trucks to be eventually replaced with trucks with less polluting engines. |
| | 3.d | Adopted a procurement code which reduces emissions from its own and its suppliers activities, including from buildings and vehicles operated by and on their behalf (e.g. rubbish trucks). | Y | 10% of council refuse vehicles have been changed to current standards; rest of the fleet to be upgraded by April 2017 |
| 4. Using the planning system | 4.a | Fully implemented the Mayor's policies relating to air quality neutral, combined heat and power and biomass. | Y | All approved planning applications are considered based on the council's Local Plan and Core Strategy that takes into account matters/development that will affect climate change |
| | 4.b | Collected s106 from new developments to ensure air quality neutral development, where possible | Y | S106 money is collected to employ Construction Impact Monitoring Officers that try and ensure where possible that the development is as near to neutral in terms of air quality as possible. Plant and mobile machinery are checked against NRMM and information provided for portable generators and other plant and equipment. |
| | 4.c | Provided additional enforcement of construction and demolition guidance, with regular checks on medium and high risk building sites. | Y | Staff visit sites on a regular basis to ensure compliance and action taken, either in terms of s61 or s60 CoPA 1974 notices. |
| 5. Integrating air quality into the public health system | 5 | Included air quality in the borough's Health and Wellbeing Strategy and/or the Joint Strategic Needs Assessment | Y | The council's Health and Wellbeing Strategy is a joint Health and Wellbeing Strategy with the local NHS Trust and includes air quality as a key theme. It can be found at www.islington.gov.uk/publicrecords/library/Environmental-protection/Information/Factsheets/2012-2013/(2013-01-31)-Air-Quality-Factsheet.pdf |
| 6. Informing the public | 6.a | Raised awareness about air quality locally | Y | London Borough of Islington are linked to airTEXT app promoting information on local air quality. The council is also part of the London Air Quality Network that provides up to date information on air quality on a local and London-wide basis. |

2.1 Air Quality Action Plan Progress

Table K provides a brief summary of the London Borough of Islington progress against the Air Quality Action Plan, showing progress made this year. New projects which commenced in 2015 are shown at the bottom of the table.

Table I. Progress on Actions of Islington's Air Quality Strategy 2014-2017

| Lobbying the Mayor of London | | |
|---|-----------------|--|
| Action | Progress | Further information |
| the introduction of low emission and alternatively fuelled taxis, together with enforcement of emission standards | On-going | The Mayor announced funding to support zero emission taxis of £65m. It is expected that these vehicles will be available from 2018 in advance of the ULEZ implementation. |
| Commit to undertake independent, real-world testing of Euro 6 vehicles in 2014/15 to assess whether this is a suitable benchmark for diesel vehicles in the ULEZ | On-going | No commitment received but research conducted by the International Council on Clean Transportation is now available showing that Euro 6 does not perform as well as is claimed. |
| Consider an earlier implementation date for the ULEZ and undertake an options appraisal to outline the cost and benefits of different approaches including widening out from the current congestion charge zone. | On-going | The new Mayor for London has issued a consultation survey and is currently on-going. The proposals are to introduce the ULEZ earlier (2018) and to expand it to the North and South Circular Roads, with the possibility of extended the ULEZ to the M25 |
| Ensure all buses operating from the Holloway garage are hybrids or New Bus for London standard (NB4L) | On-going | It is proposed that all buses are to comply with the ULEZ by 2019 |
| To apply the next phase of the low emission zone (LEZ) to all buses and coaches. | On-going | Currently consulting on all buses, coaches and lorries to be compliant with Euro VI to the LEZ by 2020. |
| Give a long term commitment to funding to boroughs for air quality initiatives, projects and improvements | On-going | TfL provide LIPs funding ; DEFRA and GLA provide funding for improvements to Air Quality |
| Review junctions at Old Street, Highbury Corner and Archway with priority given to improvements that will create an environment which is conducive to active travel and protects our residents from exposure to poor air quality. | On-going | All have been reviewed and works to Archway Gyratory improvements are underway. Consultation on Highbury Corner is being undertaken and Old Street junction will also be considered by TfL. |
| <u>Transport</u> | | |
| <u>Encouraging changes in driver behaviour</u> | | |
| Minimise traffic speeds | Complete | Islington became London's first 20 mph borough in March 2013 and signage has been placed on borough roads to inform drivers. A stop and advise campaign was held with the support of Islington police to inform drivers and the limit has been actively enforced by the police since 7th October 2014. |
| Renew Islington's Bronze FORS (Freight Operators Recognition Scheme). Achieve Silver FORS accreditation | April 2016 | Bronze accreditation was achieved in December 2015. The council fleet are currently working towards achieving a better 'operating licence' (government requirement) that will assist in meeting requirements for Silver accreditation. The FORS team are booked to come back and assess the council for their Silver level accreditation in September 2016. If the council pass the assessment, confirmation should be received by October 2016. |
| Continue to renew the council's fleet over the next 3 years to | April 2017 | A review of the fleet is being conducted to identify which vehicles may be operated as electric or ultra- |

| | | |
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| replace vehicles with the cleanest, affordable technology. | | low emission. A feasibility study for the use of CNG fuelled refuse trucks and installation of a compressed natural gas (CNG) re-fuelling station has been completed. |
| Review the infrastructure of electric vehicle charging points across the borough. | On-going | The policy has been changed to include the installation of electric vehicle charge points across the borough. |
| School travel plans will be updated to include air quality awareness raising measures and actions to reduce emissions and exposure | 2017 | 52 School Travel Plans were approved in 2016. Theatre in education programme is on-going. Topics covered : sustainable travel, active travel and air quality. Participation of Walk to School Week; promotion of bike week. All schools are supported to include air quality initiatives in their travel plans. |
| Undertake a targeted campaign to encourage active travel working together with local schools. | 2017 | The council is currently working with Hackney and Haringey on a joint school's engagement programme to encourage active travel and raise awareness of poor air quality around the Finsbury Park area. Ambler, Pakeman and Grafton Primary schools are part of the project and an event to showcase the work across the three boroughs is planned for Spring 2017. A flyer has been produced: Save the Air, Walk There for Grafton Primary School Walking Zone. |
| Participate in the "Breathe Better Together" (BBT) campaign for London | Event launch in June 2014-On-going | The programme launch event took place on January 30th 2015. An "action days" have occurred since and information has been provided to raise awareness of the issue and allow residents to take precautionary measures to protect their health and change their behaviour to lessen emissions. |
| Reducing emissions from idling vehicles | | |
| Undertake an anti-idling campaign that will include the following; - Webpage update - Signage - Targeted hotspot enforcement - Dashboard notices - Campaign day - Targeted campaign outside schools. | On-going | The council webpage has been updated to provide specific advice on the law surrounding idling engines. Volunteers have been selected to carry out the task of informing drivers. A wider group of council officers have also been authorised and trained to issue fixed penalty notices and are deployed to get compliance. Reminder stickers have been produced and placed on the dashboard of every council vehicle. Awareness raising campaigns took place during July 2014 and September and more are planned for this summer and autumn. The September campaign was targeted at schools and was repeated to coincide with the new academic year. To date, no fixed penalty notices have been issued as all drivers have switched off their engines when asked to do so. Anti-idling campaign with 11 other boroughs has been earmarked for 2016, tackling idling drivers across the borough and including other situations, not just around schools. |
| Low emission zone feasibility study | | |
| Commission a source apportionment study to inform the Air Quality Strategy and check that the actions are correct. | Completed | The study was received and determined that the actions agreed in the Strategy remain relevant but more needs to be done to reduce emissions from buses and cars, and diesel vehicles. We are currently working with Hackney and Tower Hamlets with that aim. |
| Conduct a study into the validity and feasibility of having an Islington low emission zone or extending the boundary of the ULEZ. This will include a review into the most suitable location, legal implications, enforcement strategy and effect on residents. | Completed | The new London Mayor is consulting on the extension of the ULEZ now. |
| Reducing personal car use | | |
| Review car clubs agreements to prioritise low emission vehicles | On-going | The council is reviewing the contract arrangements with its Car Club provider to explore ways to introduce low emission vehicles, including electric vehicles into their fleet during 2015. Council has 200 |

| | | |
|---|---------------------|---|
| | | car club vehicles in the borough. |
| Reducing emissions from taxis | | |
| Review taxi services operating in the borough to create a green ranking scheme | On-going | Funding from the DEFRA has been secured for a joint project with Hackney Council to review mini-cab operators and establish which are currently performing well in terms of reduced emissions. Operators will be supported to make changes to their fleet, including using electric vehicles. It is proposed to install electric charge points next to taxi ranks |
| Publish best practice guidance for mini-cab drivers and operators, working with mini-cab offices to encourage greening of their fleet as well as providing guidance on efficient driving in order to reduce fuel consumption and emissions. | On-going | A best practice guide is being written and will be distributed to minicab operators. Installation for rapid EV charge has been delayed. |
| Emission-based parking surcharges | | |
| Continue tiered parking permit charge based on emissions | March 2015 | The parking permit structure has changed in 2015 adding a surcharge for diesel vehicles, with exemptions for businesses, to support the findings of our study that diesel emissions need to be reduced. Every cars' permit has a weighting-factor depending on engine type, size, age, CO2 emissions etc. |
| Work with Transport for London (TfL) and partners in developing and responding to TfL's Ultra Low Emission Zone (ULEZ). | On-going | The council believes the ULEZ should strive to prioritise alternative fuels such as electric and CNG. A response was submitted but the ULEZ scheme is to be implemented in September 2020 with no change to the proposal consulted on and no encouragement within in it to use alternative fuels. Consultation is in progress. |
| Review deliveries to council buildings and consolidate to reduce vehicle traffic and emissions. | In place – on-going | The council has diverted delivery of stationary and cleaning supplies to the London Boroughs Consolidation Centre (LBCC) reducing delivery days from five to three per week. The scheme is now to be extended to local businesses (2016) |
| Planning & Development | | |
| <u>Determining the impacts of new developments on air quality</u> | | |
| Require all new developments to submit air quality impact assessments to meet an "air quality neutral" standard | On-going | All new major developments in Islington are now required to submit air quality impact assessments. They are required to meet the GLA air quality neutral standard and protection measures for those developments that seek to introduce new receptors into areas of existing poor air quality. All planning applications that may have an impact on local air quality are reviewed by the pollution team as part of the consultation process. |
| Reducing emissions at construction sites | | |
| Update Islington's Code of Construction Practice to include further requirements for reducing local air pollution, monitoring criteria and best practice transport strategy. | On-going | Draft documents are still currently being developed and are due to be published. |
| Develop a contractor's guide for reducing local air pollution. | On-going | Draft documents are still currently being developed and are due to be published. |
| Require all developers to meet the highest feasible level of BREEAM (Building Research Establishment Environmental Assessment Methodology) and all major developments to meet the code for sustainable homes level 4/5. | Ongoing | Islington's local validation requirements for planning include the need to meet the highest level of BREEAM and the code for sustainable homes. |
| <u>Energy Usage</u> | | |
| Cleaner energy | | |
| Provide advice on use of non-combustion renewable energy technologies to developers to ensure compliance with carbon | On-going | The energy strategies produced by developers are now reviewed by the pollution team to ensure the best available technology is used. |

| | | |
|--|----------------|--|
| reduction targets, minimising emissions. | | |
| Continue grant scheme to enable F & G rated boilers to be replaced with energy efficient A-rated boilers | On-going | The scheme has now complete with in excess of 850 boilers replaced. Have now boiler cash back scheme for private sector. |
| Expand the Bunhill Heat and Power Network to utilise other heat sources. | Ongoing | The potential for heat networks has been reviewed across the borough and twelve opportunity areas have been identified, including the Bunhill network. The review also identified the potential and scale of secondary, 'waste heat' sources. Bunhill 1 is currently being expanded to source waste heat from electrical transformers and the London Underground. Feasibility is also recently complete into the opportunity to source heat for the network from a data centre and the canal. This is currently being built. |
| <u>Providing advice on energy saving and fuel use</u> | | |
| Provide advice services to residents. | On-going | Our telephone advice service dealt with over 6300 calls from Islington residents in 2015/16. Over 2,200 vulnerable Islington residents were offered a range of services including AirText. |
| <u>Businesses</u> | | |
| <u>Environmental impact Assessment for procurement</u> | | |
| Incorporate Air Quality considerations in to the EIA for procurement to ensure that improving local air quality is considered by our suppliers. | On-going | The council's EIA is under review and air quality considerations are being drafted. Further discussions with procurement are scheduled later in 2016. |
| <u>Business Engagement Programme</u> | | |
| Work with businesses on the "City Air" initiative in our hotspots, assisting them to improve local air quality by reviewing operations such as deliveries, building management and energy use. | Completed | Businesses engaged through ZEN at Old Street and Archway Gyrotory systems |
| Work with neighbouring boroughs to extend existing programmes such as the Zero Emission Network (ZEN) to improve air quality at the borough boundaries | On-going | Working in collaboration with Hackney Council, 220 businesses in Islington around the Bunhill area have signed up to the ZEN and actions carried out have included electric vehicle trials, use of zero emission taxis, cargo bike trials and use of car clubs. Eco-Audits have been conducted to give advice on how emissions from energy use can be reduced. The ZEN businesses are now being invited to join the freight consolidation scheme. The model will be extended to the Archway end of the borough. |
| <u>Air quality awareness raising initiatives</u> | | |
| <u>Raise awareness regarding personal exposure</u> | | |
| Undertake a source apportionment study to identify the most polluting sources in the borough | Completed 2014 | The report is now available on the council's website. |
| Undertake joint working with Camden Council and the joint public health team to advise residents on local air quality, health impacts and actions individuals can take to reduce exposure. | On-going | This project was completed ahead of schedule in September 2014. The Air Aware programme and associated toolkit was created, comprising pollution concentration maps, information for residents and health professionals, and activities for children. Training sessions have been held for front line professionals in the use of the toolkit. Presentations and stalls have been given at a number of events through summer 2014 and at GP Surgeries and Health Centres. The programme for surgeries and health centres was especially well received and funding is currently being sought to continue it until April 2016. |
| Hold an annual car free event. | Annually | The Cally Festival was held in June 2015 |
| Develop Air Quality Champions for Islington to work with officers | April 2015 and | We have recruited 17 AQ champions from across Islington. They have assisted with providing |

| | | |
|---|------------------------------|---|
| to implement measures to improve local areas and reduce emissions. | on-going | information about AirText to local pharmacies so they can cascade to people collecting medication for illnesses that affected by poor air quality, developing an energy advice information pack, creating green spaces for cleaner air and delivering the Air Aware programme during the summer |
| <u>Provision of air quality information</u> | | |
| Continue to lead the London wide AirText service and promote to residents. | Ongoing | This continues and the AirText service is now promoted through the Mayor's Breathe Better Together campaign. |
| Participate in the Breathe Better Together campaign for London. | From early 2015 and on-going | The campaign aims to increase awareness of air quality issues. The campaign launched in January 2015, we have had 2 "action days" to date where information and advice has been provided to residents. |
| <u>Public Realm</u> | | |
| Increase cycle parking around the borough, particularly in shopping areas and on housing estates. | Ongoing to March 2017 | 52 new cycle parking spaces have been installed to date. |
| Map and advertise safer walking and cycling routes. | On-going | Clean Air walking routes have been mapped and are available on the council's website. A printed version of this map will be produced later in 2015. Clean Walking Routes have been mapped with local schools. |
| Promote walking through the Islington Joint Strategic Needs Assessment to tackle physical inactivity and obesity. | Complete | The 2014 Joint Strategic Needs Assessment provided a focus on physical activity and detailed programmes and services that are available to tackle obesity. |
| 500 trees to be planted across the borough in 2013/14 | Complete | Action completed with a further 480 trees planted in 2014/15. |
| Introduce more species of plants and trees that assist in improving air quality. | September 2015 | Research into species that have a positive impact on local air quality has been completed and options for planting are now being explored. |
| Ensure that contractors undertaking works to the highway use best practice to avoid adding to local air pollution. | On-going | An update to the Code of Construction Practice, which is issued to contractors and enforced by Public Protection, will be launched, setting out expected methods of working. |
| Work with TfL to ensure that all new road improvements are considerate of walking and cycling and create safer, cleaner spaces for active travel. | Ongoing | Planned improvements to the junctions at Archway are underway and consideration to Highbury Corner and Old Street are in progress which create safer environments for active travel whilst improving air quality. |
| Work with the Canal and River Trust to reduce pollutant concentrations around Regents Canal by changes to mooring rules, launching best practice guidance for boaters and using enforcement actions where non-compliance continues. | October 2015- On-going | New mooring rules are in place for part of the canal. Wood burning will no longer permitted except for kindling. An action plan has been developed with residents to address issues affecting air quality along the canal and its environs. Electric charging points to be installed at the moorings. |
| <u>Cleaner Air Borough</u> | | |
| Participate in the GLA's Cleaner Air Borough initiative and obtain a kite mark demonstrating Islington's commitment to improving air quality. | December 2016 | The GLA have not as yet confirmed the scheme. |

3. Planning Update and Other New Sources of Emissions

Currently compiling information with colleagues from planning for inclusion in next year's submission and will update the GLA later.

Islington has worked with Hackney and Tower Hamlets on the Zero Emissions Network scheme designed to improve air quality and business efficiency in the area covered by Bunhill and its borders with Clerkenwell and The Angel.

3.1 New or significantly changed industrial or other sources

No new sources identified

Appendix A Details of Monitoring Site QA/QC

A.1 Automatic Monitoring Sites

Routine calibrations are carried out by King's College London once every two weeks. King's also carries out ad hoc visits to investigate faults.

QA/QC audits are carried out twice per year by the National Physical Laboratory (NPL) who have UKAS accreditation to carry out this work. In addition to fulfilling the recommendations of LAQM TG16, NPL audits meet the testing requirements for air quality measurement methods stipulated in the CEN standards (e.g. NO₂ and NO_x: EN 14211:2005) which are specified for compliance with the EU ambient air quality directive (2008/50/EC).

We are not aware of any issues to be highlighted.

PM₁₀ Monitoring Adjustment

The Council's two automatic monitoring sites measure Particulate Matter by TEOM. The finalised TEOM data is corrected using the Volatile Correction Model, as recommended in Defra's LAQM TG16.

A.2 Diffusion Tube Quality Assurance / Quality Control

Details of QA/QC for diffusion tubes should include:–

- The laboratory supplying and analysing the tubes are Lambeth Scientific Services; Inter-comparison field no. NPL002 and LGC no AR0375
- The Preparation method used is 50:50 TEM/Acetone
- The sample preparation is based on Practical Guidance
- Results of laboratory precision (tube precision and WASP) results:

The results were found to be 'Satisfactory and Acceptable' (AIR PT Scheme, 2014-2016)

- Bias adjustment factor from the database available on the LAQM Support Website at:

The Bias Adjustment Factor is 1, the version of the database used is 06/16.

- For comparison of the diffusion tubes with the reference method in a co-location study see tables J and K
- The bias adjustment factor being applied to the annual means is 1.24
- This came from local co-location in Holloway Road, site ID IS2

Information on QA/QC for diffusion tubes can be found on the LAQM website at <http://laqm.defra.gov.uk/diffusion-tubes/diffusion-tubes.html>

Bias adjustment factors can be found for the previous years 2009-2015 in Table N.

Table J. Precision and Accuracy for Lambeth Scientific Services Quality Control

| Diffusion Tubes Measurements | | | | | | | | | | Automatic Method | | Data Quality Check | |
|------------------------------|--------------------------|------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------|-----------------------|-------------------------------------|-------------------|------------------|---------------------------|-----------------------------|------------------------------|
| Period | Start Date dd/mm/yyyy | End Date dd/mm/yyyy | Tube 1 $\mu\text{g m}^{-3}$ | Tube 2 $\mu\text{g m}^{-3}$ | Tube 3 $\mu\text{g m}^{-3}$ | Triplicate Mean | Standard Deviation | Coefficient of Variation (CV) | 95% CI of mean | Period Mean | Data Capture (% DC) | Tubes Precision Check | Automatic Monitor Data |
| 1 | 07/01/2015 | 04/02/2015 | 88.3 | 88.8 | 92.0 | 90 | 2.0 | 2 | 5.0 | 82.2417 | 96.50427668 | Good | Good |
| 2 | 04/02/2015 | 04/03/2015 | 104.1 | 102.3 | 102.6 | 103 | 1.0 | 1 | 2.4 | 77.81356 | 96.28114541 | Good | Good |
| 3 | 04/03/2015 | 01/04/2015 | 95.7 | 96.9 | 96.2 | 96 | 0.6 | 1 | 1.5 | 73.42986 | 97.65712161 | Good | Good |
| 4 | 01/04/2015 | 29/04/2015 | 109.1 | 107.3 | 106.4 | 108 | 1.4 | 1 | 3.4 | 78.93535 | 94.16139829 | Good | Good |
| 5 | 29/04/2015 | 27/05/2015 | 105.0 | 106.3 | 103.7 | 105 | 1.3 | 1 | 3.2 | 73 | 95.57456303 | Good | Good |
| 6 | 27/05/2015 | 01/07/2015 | 99.2 | 101.9 | 100.0 | 100 | 1.4 | 1 | 3.4 | 88 | 97.53049688 | Good | Good |
| 7 | 01/07/2015 | 29/07/2015 | 100.6 | 102.9 | 104.6 | 103 | 2.0 | 2 | 5.0 | 97 | 96.39271104 | Good | Good |
| 8 | 29/07/2015 | 26/08/2015 | 97.7 | 98.3 | 96.9 | 98 | 0.7 | 1 | 1.7 | 79 | 93.97545556 | Good | Good |
| 9 | 26/08/2015 | 30/09/2015 | 89.0 | 88.5 | 90.1 | 89 | 0.8 | 1 | 2.0 | 84 | 97.70901517 | Good | Good |
| 10 | 30/09/2015 | 28/10/2015 | 85.7 | 83.6 | 81.0 | 83 | 2.4 | 3 | 5.8 | 72 | 97.61993306 | Good | Good |
| 11 | 28/10/2015 | 02/12/2015 | 90.8 | 91.4 | 88.9 | 90 | 1.3 | 1 | 3.2 | 84.70537 | 97.61762954 | Good | Good |
| 12 | 02/12/2015 | 06/01/2016 | 91.4 | 89.9 | 93.3 | 92 | 1.7 | 2 | 4.2 | 82.58764 | 97.26190476 | Good | Good |
| 13 | | | | | | | | | | | | | |

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

| | |
|---|-----------------------------------|
| Site Name/ ID: | Marylebone Road |
| Accuracy (with 95% confidence interval) without periods with CV larger than 20% | |
| Bias calculated using 12 periods of data | |
| Bias factor A | 0.84 (0.79 - 0.9) |
| Bias B | 19% (11% - 27%) |
| Diffusion Tubes Mean: | 96 $\mu\text{g m}^{-3}$ |
| Mean CV (Precision): | 1 |
| Automatic Mean: | 81 $\mu\text{g m}^{-3}$ |
| Data Capture for periods used: | 97% |
| Adjusted Tubes Mean: | 81 (76 - 87) $\mu\text{g m}^{-3}$ |

Precision 12 out of 12 periods have a CV smaller than 20%

| | |
|---|-----------------------------------|
| Accuracy (with 95% confidence interval) WITH ALL DATA | |
| Bias calculated using 12 periods of data | |
| Bias factor A | 0.84 (0.79 - 0.9) |
| Bias B | 19% (11% - 27%) |
| Diffusion Tubes Mean: | 96 $\mu\text{g m}^{-3}$ |
| Mean CV (Precision): | 1 |
| Automatic Mean: | 81 $\mu\text{g m}^{-3}$ |
| Data Capture for periods used: | 97% |
| Adjusted Tubes Mean: | 81 (76 - 87) $\mu\text{g m}^{-3}$ |

Overall survey --> Good precision, Good Overall DC (Check average CV & DC from Accuracy calculations)

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Table K. Precision and Accuracy of Triplicate Tube for Co-location Study at Holloway Road

| Diffusion Tubes Measurements | | | | | | | | | | Automatic Method | | Data Quality Check | |
|------------------------------|--------------------------|------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------|-----------------------|-------------------------------------|-------------------|------------------|---------------------------|-----------------------------|------------------------------|
| Period | Start Date dd/mm/yyyy | End Date dd/mm/yyyy | Tube 1 $\mu\text{g m}^{-3}$ | Tube 2 $\mu\text{g m}^{-3}$ | Tube 3 $\mu\text{g m}^{-3}$ | Triplicate Mean | Standard Deviation | Coefficient of Variation (CV) | 95% CI of mean | Period Mean | Data Capture (% DC) | Tubes Precision Check | Automatic Monitor Data |
| 1 | 07/01/2015 | 12/02/2015 | 46.0 | 38.0 | | 42 | 5.7 | 13 | 50.8 | 71.7 | 65 | Good | Good |
| 2 | 12/02/2015 | 12/03/2015 | 33.0 | 40.0 | 43.0 | 39 | 5.1 | 13 | 12.7 | 79 | 97 | Good | Good |
| 3 | 12/03/2015 | 16/04/2015 | | | | | | | | 61.9 | 100 | Good | Good |
| 4 | 16/04/2015 | 13/05/2015 | 51.0 | 47.0 | 54.0 | 51 | 3.5 | 7 | 8.7 | 50.3 | 100 | Good | Good |
| 5 | 13/05/2015 | 11/06/2015 | 35.0 | 50.0 | 45.0 | 43 | 7.6 | 18 | 19.0 | 60 | 100 | Good | Good |
| 6 | 11/06/2015 | 10/07/2015 | 53.0 | 51.0 | 41.0 | 50 | 9.0 | 18 | 22.4 | 56 | 99 | Good | Good |
| 7 | 10/07/2015 | 31/07/2015 | 47.0 | 46.0 | 48.0 | 47 | 1.0 | 2 | 2.5 | 57 | 100 | Good | Good |
| 8 | 31/07/2015 | 15/09/2015 | 49.0 | 42.0 | 31.0 | 41 | 9.1 | 22 | 22.5 | 56 | 92 | Poor Precision | Good |
| 9 | 15/09/2015 | 16/10/2015 | 64.0 | 58.0 | 60.0 | 61 | 3.1 | 5 | 7.6 | 64 | 100 | Good | Good |
| 10 | 16/10/2015 | 15/11/2015 | 52.0 | 62.0 | 42.0 | 52 | 10.0 | 19 | 24.8 | 55 | 100 | Good | Good |
| 11 | 15/11/2015 | 13/12/2015 | 50.0 | 59.0 | 51.0 | 53 | 4.9 | 9 | 12.3 | 63 | 100 | Good | Good |
| 12 | 13/12/2015 | 17/01/2016 | 51.0 | 52.0 | 49.0 | 51 | 1.5 | 3 | 3.8 | 60.4 | 98 | Good | Good |
| 13 | | | | | | | | | | | | | |

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

| | |
|---|-----------------------------------|
| Site Name/ ID: | |
| Accuracy (with 95% confidence interval) without periods with CV larger than 20% | |
| Bias calculated using 9 periods of data | |
| Bias factor A | 1.23 (1.08 - 1.44) |
| Bias B | -19% (-31% - -7%) |
| Diffusion Tubes Mean: | 50 $\mu\text{g m}^{-3}$ |
| Mean CV (Precision): | 10 caution |
| Automatic Mean: | 61 $\mu\text{g m}^{-3}$ |
| Data Capture for periods used: | 99% |
| Adjusted Tubes Mean: | 61 (54 - 71) $\mu\text{g m}^{-3}$ |

Precision 10 out of 11 periods have a CV smaller than 20%

| | |
|---|-----------------------------------|
| Accuracy (with 95% confidence interval) WITH ALL DATA | |
| Bias calculated using 10 periods of data | |
| Bias factor A | 1.24 (1.1 - 1.44) |
| Bias B | -20% (-30% - -9%) |
| Diffusion Tubes Mean: | 49 $\mu\text{g m}^{-3}$ |
| Mean CV (Precision): | 12 caution |
| Automatic Mean: | 61 $\mu\text{g m}^{-3}$ |
| Data Capture for periods used: | 99% |
| Adjusted Tubes Mean: | 60 (54 - 70) $\mu\text{g m}^{-3}$ |

Overall survey --> Good precision, Good Overall DC (Check average CV & DC from Accuracy calculations)

Jaume Targa, for AEA
Version 04 - February 2011

Factor from Local Co-location Studies (if available)

The Bias adjustment factor for the co-location study site is 1.24. Please refer to Table K for further details.

The co-location questionnaire will be completed in due course.

Discussion of Choice of Factor to Use

A local bias adjustment factor was used; we considered this location to be one of the most polluted thoroughfares in the London Borough of Islington. We do not have any industrial premises in the borough.

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

No data capture was less than 75%.

Table L. Short-Term to Long-Term Monitoring Data Adjustment

| Site | Site Type | Annual Mean ($\mu\text{g}/\text{m}^3$) | Period Mean ($\mu\text{g}/\text{m}^3$) | Ratio |
|----------------|-----------|--|--|-------|
| N/A | N/A | N/A | N/A | N/A |
| Average | | | | N/A |

Distance Adjustment

Not Applicable

Appendix B Full Monthly Diffusion Tube Results for 2015

Table M. NO₂ Diffusion Tube Results – 12 month results 2015

| Site ID | Valid data capture for monitoring period % ^a | Valid data capture 2015 % ^b | Annual Mean NO ₂ | | | | | | | | | | | | | Annual mean – raw data ^c | Annual mean – bias adjusted ^c |
|--------------|---|--|-----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|-------------------------------------|--|
| | | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | | | |
| BIS005/03 | | 92 | 43 | 42 | XX | 46 | 36 | 37 | 37 | 53 | 64 | 64 | 52 | 44 | 47.1 | 58 | |
| BIS005/02 | | 92 | 46 | 33 | XX | 58 | 43 | 65 | 51 | 53 | 63 | 39 | 53 | 49 | 50.3 | 62 | |
| BIS005/06 | | 92 | 37 | 42 | XX | 47 | 24 | 47 | 40 | 49 | 56 | 44 | 45 | 43 | 43.1 | 53 | |
| BIS005/07 | | 67 | 43 | 40 | XX | 67 | 45 | 63 | 43 | XX | 72 | XX | XX | 47 | 52.5 | 65 | |
| BIS005/08 | | 83 | 47 | 68 | XX | XX | 42 | 47 | 52 | 49 | 64 | 66 | 62 | 46 | 54.3 | 67 | |
| BIS005/09 | | 92 | 47 | 47 | XX | 58 | 48 | 64 | 44 | 53 | 62 | 51 | 53 | 44 | 51.9 | 64 | |
| BIS005/11 | | 100 | 43 | 49 | 34 | 62 | 42 | 50 | 53 | 53 | 74 | 63 | 61 | 47 | 52.6 | 65 | |
| BIS005/13 | | 83 | 41 | 46 | 40 | 43 | XX | XX | 33 | 37 | 58 | 49 | 45 | 37 | 42.9 | 53 | |
| IS005/01D T1 | | 92 | 42 | XX | 60 | 39 | 33 | 23 | 51 | 43 | 57 | 40 | 55 | 45 | 44.4 | 55 | |
| BIS005/04 | | 92 | 30 | 38 | XX | 37 | 31 | 33 | 35 | 32 | 40 | 36 | 49 | 41 | 36.5 | 45 | |
| BIS005/05 | | 100 | 30 | 31 | 33 | 25 | 26 | 32 | 24 | 31 | 42 | 34 | 37 | 35 | 31.7 | 39 | |
| BIS005/01 | | 83 | 31 | 21 | XX | 28 | 21 | 61 | 22 | 28 | 37 | 31 | 33 | XX | 31.3 | 39 | |
| IS005/03 | | 92 | 26 | 28 | XX | 26 | 23 | 15 | 19 | 25 | 26 | 26 | 30 | 28 | 24.7 | 31 | |
| BIS005/10 | | 92 | 30 | 29 | XX | 21 | 20 | 21 | 22 | 24 | 34 | 32 | 33 | 31 | 27 | 33 | |
| BIS005/12 | | 92 | 31 | 31 | XX | 25 | 15 | 23 | 24 | 26 | 39 | 32 | 35 | 32 | 28.5 | 35 | |
| IS005/02 | | 92 | 27 | 33 | 28 | 20 | 15 | 22 | 22 | 27 | 38 | XX | 31 | 29 | 26.5 | 33 | |
| BIS005/14 | | 100 | 26 | 29 | 28 | 26 | 18 | 23 | 23 | 20 | 36 | 31 | 30 | 27 | 26.4 | 33 | |
| BIS005/15 | | 92 | 25 | 28 | XX | 24 | 17 | 22 | 24 | 26 | 36 | 32 | 30 | 31 | 26.8 | 33 | |
| IS005/04 | | 83 | XX | 40 | 32 | 26 | 23 | XX | 23 | 28 | 42 | 33 | 39 | 39 | 32.5 | 40 | |
| Bus 1 | | 67 | 42 | 52 | 45 | 54 | 43 | 49 | 56 | Xx | 51 | Xx | Xx | Xx | 49 | 61 | |
| Bus 2 | | 67 | 30 | 40 | Xx | 35 | 25 | 31 | 27 | 31 | 40 | Xx | Xx | Xx | 32.4 | 40 | |

Exceedance of the NO₂ 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%

Table N. NO₂ Diffusion Tube Results (2009 – 2015) Site ID

| Site ID | Site Type | Site Name | Within AQMA? | Annual mean concentration (adjusted for bias) µg/m ³ | | | | | | |
|---------|------------------|-----------------------|--------------|---|--------------------------------------|-----------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| | | | | 2009 (Bias Adjustment Factor = 0.86) | 2010 (Bias Adjustment Factor = 0.86) | 2011 (Bias Adjustment Factor = 1) | 2012 (Bias Adjustment Factor = 0.83) | 2013 (Bias Adjustment Factor = 0.8) | 2014 (Bias Adjustment Factor = 0.87) | 2015 (Bias Adjustment Factor = 1.24) |
| BIS/03 | Roadside | Caledonian Road | Y | 46 | 46 | 54 | 50 | 47 | 51 | 58 |
| BIS/02 | Roadside | Rosebery Avenue | Y | 61 | 61 | 70 | 58 | 57 | 58 | 62 |
| BIS/06 | Roadside | City Road | Y | 55 | 55 | 60 | 52 | 42 | 49 | 53 |
| BIS/07 | Roadside | Old Street | Y | 62 | 62 | 72 | 65 | 60 | 56 | 65 |
| BIS/08 | Roadside | Highbury Corner | Y | 63 | 63 | 69 | 60 | 63 | 61 | 67 |
| BIS/09 | Roadside | Balls Pond Road | Y | 59 | 59 | 61 | 53 | 56 | 59 | 64 |
| BIS/11 | Roadside | Holloway Road | Y | 53 | 53 | 58 | 57 | 57 | 61 | 65 |
| BIS/13 | Roadside | Junction Road | Y | 50 | 50 | 52 | 45 | 41 | 46 | 53 |
| BIS/01 | Roadside | Archway Close | Y | 52 | 52 | 57 | 63 | 51 | 58 | 55 |
| BIS/04 | Urban Background | Percy Circus | Y | 38 | 38 | 42 | 40 | 38 | 40 | 45 |
| BIS/05 | Urban Background | Myddleton Square | Y | 34 | 34 | 39 | 36 | 37 | 39 | 39 |
| BIS/01 | Urban Background | Arran Walk | Y | 30 | 30 | 33 | 32 | 30 | 32 | 39 |
| BIS/03 | Urban Background | Sotheby Road | Y | 31 | 31 | 30 | 28 | 32 | 32 | 31 |
| BIS/10 | Urban Background | Highbury Fields | Y | 30 | 30 | 36 | 33 | 31 | 32 | 33 |
| BIS/12 | Urban Background | Lady Margaret Road | Y | 39 | 39 | 35 | 34 | 33 | 33 | 35 |
| BIS/02 | Urban Background | Zoffany Park | Y | 31 | 31 | 35 | 31 | 28 | 28 | 33 |
| BIS/14 | Urban Background | Elthorne Road | Y | 32 | 32 | 34 | 30 | 30 | 30 | 33 |
| BIS/15 | Urban Background | Turle Road | Y | 30 | 30 | 33 | 32 | 30 | 32 | 33 |
| BIS/04 | Urban Background | Upper Street | Y | 30 | 30 | 40 | 35 | 34 | 37 | 40 |
| Bus 1 | Urban Background | Bus Garage entrance | Y | 50 | 50 | 52 | 52 | 48 | 51 | 61 |
| Bus 2 | Urban Background | Bus Garage playground | Y | 36 | 36 | 41 | 40 | 38 | 39 | 40 |

References

Islington Air Quality Progress Report and Updated Screening Assessments 2009-2015
Islington Air Quality Strategy 2014-2017
Islington's Transport Strategy and Local Implementation Plan 2011-2031
Lambeth Scientific Services Bias Factor AEA 2015 Field Inter-comparisons
Local Air Quality Management, Technical Guidance LAQM. TG (09). DEFRA 2009