# East Dunbartonshire Council

Annual Progress Report 2024

Bureau Veritas

June 2024

# Document Control Sheet

| Identification | |
|---|---|
| **Client** | East Dunbartonshire Council |
| **Document Title** | East Dunbartonshire Council – 2024 Annual Progress Report |
| **Bureau Veritas Ref No.** | AIR22017300 |

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|---|---|---|
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| Configuration | | | | |
|---|---|---|---|---|
| **Version** | **Date** | **Author** | **Reason for Issue/Summary of Changes** | **Status** |
| v1.0 | 26/06/2024 | J Mistry | - | Draft |
| v2.0 | 28/06/2024 | J Mistry | Amended Client Comments | Issue |

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East Dunbartonshire Council

# Annual Progress Report (APR)

2024 Air Quality Annual Progress Report (APR) for East Dunbartonshire Council

In fulfilment of Part IV of the Environment Act 1995, as amended by the Environment Act 2021

Local Air Quality Management

(June, 2024)

| Information | East Dunbartonshire Council Details |
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| **Report Reference Number** | 2024 APR |
| **Date** | June 2024 |

# Executive Summary: Air Quality in Our Area

## Air Quality in East Dunbartonshire

This report is the 2024 Annual Progress Report undertaken in accordance with East Dunbartonshire Council's statutory obligation under the National Air Quality Strategy.

The report considers measured pollutant concentrations across East Dunbartonshire for the calendar year of 2023 and considers the potential for exceedances of the air quality objectives.

In East Dunbartonshire, the main pollutants of concern are $NO_2$, $PM_{10}$ and $PM_{2.5}$ and the source of pollutant is mainly due to the volume of traffic and congestion. Across East Dunbartonshire, traffic flows have returned to pre pandemic levels however, pollutant levels remain satisfactory.

East Dunbartonshire Council has four continuous automatic analysers; one in Bishopbriggs, one in Bearsden, one in Kirkintilloch and one in Milngavie. Pollutant levels can be viewed via the Council web page or Scottish Air Quality website.

All automatic monitoring stations reports $NO_2$, $PM_{10}$ and $PM_{2.5}$ compliance with both the annual and 24-hour AQS objectives continuing to be maintained.

During 2023, all passive monitoring locations were compliant with the $NO_2$ AQS objective of 40 µg/m$^3$; all 30 sites reported a decrease in comparison to 2022. There were no site that reported a concentration within 10% of the annual mean $NO_2$ AQS objective of 40 µg/m$^3$ within East Dunbartonshire.

No diffusion tube monitoring sites reported an annual mean $NO_2$ concentration greater than 60µg/m$^3$, therefore in accordance with LAQM.TG(22) it is therefore not likely that there have been any exceedances of the 1-hour $NO_2$ AQS objective in these areas. Additionally, the automatic monitoring stations located in East Dunbartonshire all reported concentrations below the 1-hour $NO_2$ AQS objective of 200 µg/m$^3$.

## Actions to Improve Air Quality

East Dunbartonshire has a successful iBike programme operated in partnership with Sustrans Scotland. The iBike officers work intensely across local schools delivering practical lessons on active travel embedded within the school curriculum. This includes learning to cycle sessions, bike skills sessions, led rides, led walks, bike maintenance sessions, bike clubs etc. This encourages younger people to travel more actively, and evidence shows that iBike schools tend to have higher levels of active travel on average than non-iBike schools.

Numerous programmes of tree and wild flower planting have been undertaken throughout the Council area, as evidence suggests that a layering effect of hedgerow or shrubs; trees and meadows is effective in trapping airborne particulate matter.

The East Dunbartonshire Council AQMA in Bearsden was revoked in 2022, leaving only the Kirkintilloch Road AQMA at Bishopbriggs in place. The Kirkintilloch Road AQMA will remain in place despite no breaches having occurred for several years, primarily due to planned infrastructure and development changes over the coming years. The Air Quality Action Plan (AQAP) for the Kirkintilloch Road AQMA is currently being updated, with the majority of measures having been achieved.

## Local Priorities and Challenges

Our priority in the coming year is to ensure the smooth running of our monitoring network to gain as accurate a picture as possible of air quality levels across East Dunbartonshire. Complaints concerning smoke and smell associated with wood burning stoves remain a challenge and have possibly been exacerbated due to the increase over recent years of people working from home and being more aware of what is going on in their neighbourhood. There has also been an increase in the number of complaints concerning bonfires, chimneys, fire pits and BBQs.

## How to Get Involved

Further information on air quality in East Dunbartonshire can be found on the Council website Pollution page. You can visit the Scottish Air Quality website https://www.scottishairquality.scot/ and view live air quality data in East Dunbartonshire. You can register for text and email alerts when air quality is forecast to be poor for the day ahead and can visit the Education pages and involve your children and family – all on the same

link which also offers a free app for iPhone and Android for keeping you updated about air pollution in Scotland.

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# 1 Local Air Quality Management

This report provides an overview of air quality in East Dunbartonshire during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Progress Report (APR) summarises the work being undertaken by East Dunbartonshire to improve air quality and any progress that has been made.

**Table 1.1 – Summary of Air Quality Objectives in Scotland**

| Pollutant | Air Quality Objective Concentration | Air Quality Objective Measured as | Date to be Achieved by |
|---|---|---|---|
| Nitrogen dioxide ($NO_2$) | 200 µg/m$^3$ not to be exceeded more than 18 times a year | 1-hour mean | 31.12.2005 |
| Nitrogen dioxide ($NO_2$) | 40 µg/m$^3$ | Annual mean | 31.12.2005 |
| Particulate Matter ($PM_{10}$) | 50 µg/m$^3$, not to be exceeded more than 7 times a year | 24-hour mean | 31.12.2010 |
| Particulate Matter ($PM_{10}$) | 18 µg/m$^3$ | Annual mean | 31.12.2010 |
| Particulate Matter ($PM_{2.5}$) | 10 µg/m$^3$ | Annual mean | 31.12.2021 |
| Sulphur dioxide ($SO_2$) | 350 µg/m$^3$, not to be exceeded more than 24 times a year | 1-hour mean | 31.12.2004 |
| Sulphur dioxide ($SO_2$) | 125 µg/m$^3$, not to be exceeded more than 3 times a year | 24-hour mean | 31.12.2004 |
| Sulphur dioxide ($SO_2$) | 266 µg/m$^3$, not to be exceeded more than 35 times a year | 15-minute mean | 31.12.2005 |
| Benzene | 3.25 µg/m$^3$ | Running annual mean | 31.12.2010 |
| 1,3 Butadiene | 2.25 µg/m$^3$ | Running annual mean | 31.12.2003 |

| Pollutant | Air Quality Objective Concentration | Air Quality Objective Measured as | Date to be Achieved by |
|---|---|---|---|
| Carbon Monoxide | 10.0 mg/m$^3$ | Running 8-Hour mean | 31.12.2003 |

# 2 Actions to Improve Air Quality

## 2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare, publish and implement an Air Quality Action Plan (AQAP) within the shortest possible time and no later than 12 months of the date of AQMA Designation Order. The AQAP must set out measures the local authority intends to put in place in pursuit of the objectives within the shortest possible time. Measures should be provided with milestones and a final date for completion. The action plan itself should have a timescale for completion and for revocation of the AQMA. Where measures to reduce air pollution may require a longer timescale an action plan shall be reviewed and republished within five years of initial publication and then five-yearly thereafter.

A summary of AQMAs declared by East Dunbartonshire Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at AQMA webpage.

**Table 2.1 – Declared Air Quality Management Areas**

| AQMA Name | Pollutants and Air Quality Objectives | City / Town | Description | Action Plan |
|---|---|---|---|---|
| Kirkintilloch Road AQMA | $NO_2$ Annual Mean<br><br>$PM_{10}$ Annual Mean | Bishop briggs | The designated area incorporates a 60metre wide corridor along the A803 Kirkintilloch Road, Bishopbriggs bordered on the South by the Council's boundary with Glasgow City and by a line 30 metres to the North of Cadder Roundabout. | The Bishopbriggs Air Quality Action Plan is outdated, and an update is due shortly. The majority of previously identified measures have been achieved and objective levels met. |

## 2.2 Cleaner Air for Scotland 2

Cleaner Air for Scotland 2 – Towards a Better Place for Everyone (CAFS2) is Scotland's second air quality strategy. CAFS2 sets out how the Scottish Government and its partner organisations propose to further reduce air pollution to protect human health and fulfil Scotland's legal responsibilities over the period 2021 – 2026. CAFS2 was published in July 2021 and replaces Cleaner Air for Scotland – The Road to a Healthier Future (CAFS), which was published in 2015. CAFS2 aims to achieve the ambitious vision for Scotland "to have the best air quality in Europe". A series of actions across a range of policy areas are outlined, a summary of which is available on the Scottish Government's website.

Progress by East Dunbartonshire Council against relevant actions for which local authorities are the lead delivery bodies within this strategy is demonstrated below.

### 2.2.1 Placemaking – Plans and Policies

Local authorities with support from the Scottish Government will assess how effectively air quality is embedded in plans, policies, City Deals and other initiatives, and more generally in cross departmental working, identifying and addressing evidence, skills, awareness and operational gaps.

Air Quality is embedded in the East Dunbartonshire Council Local Development Plan with specific policy on addressing air quality through planning applications and accompanying Air Quality Planning Guidance. The Strategic Environmental Assessment (SEA) process also includes the East Dunbartonshire Council LAQM Annual Progress Report 2023 assessment of impact on air quality. SEA Officers assess every Council plan and policy, and air quality impact assessment is part of the process.

### 2.2.2 Transport – Low Emission Zones

Local authorities working with Transport Scotland and SEPA will look at opportunities to promote zero-carbon city centres within the existing Low Emission Zones (LEZs) structure.

Local authorities working with Transport Scotland and SEPA will look at opportunities to promote zero-carbon city centres within the existing LEZs structure.

East Dunbartonshire Council has no LEZs established within the Local Authority area. East Dunbartonshire Council decided to take no further action at this stage on introducing LEZs as there are currently no exceedances of any of the air quality objectives across the East Dunbartonshire area.

### 2.2.3 Other Monitoring Activities

Two mobile air quality “Zephyr” monitoring systems were deployed during 2023 to gather data in the Bishopbriggs and Lenzie areas. One was deployed to monitor air quality in response to a complaint, while the second was deployed to monitor air quality in the vicinity of Bishopbriggs Academy.

To date both monitors have indicated no significant air quality concerns at either location, the monitors are likely to be moved to alternative monitoring locations in 2024.

## 2.3 Implementation of Air Quality Action Plan(s) and/or measures to address air quality

The Bishopbriggs Air Quality Action Plan (2009) is outdated and is currently being reviewed. While the air quality in the Kirkintilloch Road AQMA has been compliant with all legal objectives since 2013, significant proposed changes to infrastructure along the A803

corridor may alter or disrupt the validity of air quality monitoring in the area over the coming years. As a result, the AQMA will be retained at least until works are completed, which is expected by 2027.

There are a number of other Council policies that impact significantly upon improving air quality throughout East Dunbartonshire, including the newly adopted Local Development Plan, Active Travel Strategy, Local Transport Strategy and forthcoming Climate Action Plan.

## Table 2.2 – Progress on Measures to Improve Air Quality

| Measure No. | Measure | Category | Expected/Actual Completion year | Measure Status | Funding Status | Key Milestones | Progress | Barriers to implementation |
|---|---|---|---|---|---|---|---|---|
| 1 | Maintain contact with Scottish Govt re adoption of national air quality measures | Policy guidance and development control | Ongoing | In progress | Annual funding via Scottish Government LAQM Grant | National objectives met for air quality throughout East Dunbartonshire | $NO_2$, $PM_{10}$ and $PM_{2.5}$. monitored at all four sites | - |
| 2 | Promote air quality with planning and transport strategies and other Council Plans | Policy guidance and development control | Ongoing | In progress | Partially funded via developer contributions | Local development plan LDP2 was adopted November 2022 .<br><br>Local Transport Strategy 2020-2025 is in effect. | LDP2 in place.<br><br>Early preparation work being undertaken for LDP3.<br><br>Local Development Plan 2 \| East Dunbartonshire Council<br><br>The Active Travel Strategy 2023-2030 aims to accelerate the modal shift towards zero-carbon travel. Active Travel Strategy 2023-30: Evidence Summary and Approach \| East Dunbartonshire Council<br><br>Local Transport Strategy 2020-2025 in place | - |

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| | | | | | | | Local Transport Strategy \| East Dunbartonshire Council . | |
| 3 | Intelligent traffic management systems | Traffic Management | 2027 | In progress | A803 Fully funded via City Deal<br><br>A81 - Partially funded via developer contributions | Work on Mova 8 in Bearsden complete in 2018<br><br>A81 - Partially funded via developer contributions | Work on Canniesburn Toll Improvement Project in progress, providing signals on the junction to improve traffic flow and enhanced pedestrian and cycling options.<br><br>Canniesburn Toll Improvement Project \| East Dunbartonshire Council<br><br>Westerhill Development Road has progressed with the preferred design option now being confirmed. Westerhill Development Road \| East Dunbartonshire Council This new road will provide an alternative route and divert traffic away from | City deal projects subject to funding being available following submission of business cases to Glasgow City Region |

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| | | | | | | | the AQMA in Bishopbriggs.<br><br>Additional traffic management systems may be implemented as part of further improvement works on A803 corridor at the Kirkintilloch Road AQMA. Consultations on the potential alterations are underway. City Deal Latest News \| East Dunbartonshire Council | |
| 4 | Parking Controls | Traffic Management | Ongoing | In progress | Not externally funded | - | Charges introduced in council car parks throughout Kirkintilloch, Bishopbriggs, Bearsden and Milngavie. | - |
| 5 | Mitigation of emissions from developments within and around the AQMA | Policy guidance and development control | Ongoing | In progress | Partially funded via developer contributions. | Air quality objectives met within AQMA | Regular review and updating of LDP and LTS takes account of policies consistent with air quality objectives. Mitigation includes active, sustainable travel measures. | Significant future development in close proximity to Kirkintilloch Road AQMA as part of City Deal funding requires monitoring to ensure continued compliance with air quality objectives |

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| | | | | | | | Included as planning condition as part of application consultation process | |
| 6 | Air quality planning guidance | Policy guidance and development control | Ongoing | In progress | Partially funded via developer contributions | - | Air quality planning guidance adopted 2018 and updated 2022 Planning Guidance \| East Dunbartonshire Council | - |
| 7 | Fleet waste collection | Vehicle fleet efficiency | Completed 2016 | Completed | Not funded | - | Fortnightly fleet waste collection as standard reduces overall vehicle emissions. Introduced in 2016.<br><br>New proposals are in place to further reduce frequency of collections to three weekly, resulting in fewer refuse collection vehicles being required and less overall milage for those remaining. | Any reduction in waste collection frequency is likely to meet stiff opposition from residents. |
| 8 | Council fleet replacement programme | Vehicle fleet efficiency | Ongoing | In progress | Not funded | - | 14 new electric vehicles purchased in 2023 to replace leased vehicles. Overall numbers have reduced | Lack of electric vehicle charging points limits uptake and fleet is currently near capacity. |

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| | | | | | | | slightly from 37 to 31 due to several leased vehicles not having been replaced. | Emphasis on providing improved charging infrastructure continues. Fleet replacement programme aims to reduce fleet size while maximising capacity |
| 9 | Environmental fleet recognition scheme | Vehicle fleet efficiency | Ongoing | In progress | Partially funded by annual Scottish Government Grant | Funding is in place for 2024/2025 | EDC Fleet last assessed at 4* in 2020. Reassessment due 2024<br><br>Approx. 235 members overall of the EDC scheme with 7651 vehicles.<br><br>Funding used to progress scheme within EDC. | Further uptake by private companies required to expand the network. Work is ongoing to promote the scheme throughout the Council area. |
| 10 | Vehicle idling enforcement | Promoting low emission transport | Ongoing | In progress | Partially funded by Annual Scottish Government Vehicle Emissions Grant | - | Funding used to carry out regular patrols around schools at drop off and pick-up times, particularly in winter months, and to conduct awareness raising campaigns in local media to promote drivers to switch off their engines while parked. | Scottish Government guidance remains that drivers be asked to switch off engines, with enforcement only being taken where the driver refuses to do so.<br><br>No fixed penalties issued to date as policy of education is adhered to |

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| | | | | | | | Individual complaints of idling vehicles responded to where possible. | |
| 11 | Management of biomass installations | Promoting low emission plants | Ongoing | In progress | Not funded | - | No biomass being used in new EDC assets. All Council new-build now using CHP and/or air source heat pumps.<br><br>All planning applications involving biomass/ wood burning appliances have an appropriate informative added to ensure appropriate appliances and/or fuels are used.<br><br>New regulations prohibit installation of biomass appliances in most new build developments.<br><br>Reactive investigation work undertaken in response to complaints | Many installations do not currently require planning permission |

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| 12 | Quality bus/bike partnerships | Alternatives to private vehicle use | 2027 | In progress | Externally funded by Transport Scotland | Core paths in Bearsden upgraded 2017/18 | . New links created to provide traffic free link to bus stop on Drymen Road and Bearsden Academy<br><br>Cycle and walking routes will be developed where possible. Further upgrades to core paths in Bearsden due in 2024/25<br><br>Active Travel Strategy 2023 - 2030 will introduce new projects across the authority area with increased opportunities for active travel. | - |
| 13 | Council smart working | Alternatives to private vehicle use | Ongoing | In progress | No funding | Reduced emissions from private vehicles used to attend place of work. | Reduced emissions from private vehicles used to attend place of work and reduced requirement for travel outwith Council area. | - |

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| | | | | | | | Flexible working policy supports home working where appropriate. | |
| 14 | Green travel planning | Alternatives to private vehicle use | Ongoing | In progress | Not currently funded | Pool bike training for staff successfully reintroduced during 2023 | Pool bikes have been available for staff use for several years to facilitate workplace travel between Council offices and leisure use by staff, however there has been a reduction in staff movement over recent years due to working from home.<br><br>In 2023, a new initiative was launched to provide training for staff to use pool bikes and this has seen some success, with further training sessions arranged during 2024. | The use of pool bikes fell to almost zero post pandemic. The predominance of staff working from home and altered habits are likely to blame. |
| 15 | School travel plans | Alternatives to private vehicle use | Ongoing | In progress | Fully funded by Paths for All in 2023 | - | All new build schools within EDC include travel plans as standard | Existing schools require to implement travel plans at local level. Support is given where possible to implement these. |

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| 16 | Air quality awareness raising and education | Public Information | Ongoing | In Progress | Partially funded<br><br>Annual funding by Scottish Government LAQM and Emissions Grants | - | Various public awareness projects already undertaken, including radio adverts and internet advertising.<br><br>Air quality projects in schools being promoted as part of science and maths curriculum | - |
| 17 | Travel plans for large employers | Alternatives to private vehicle use | Ongoing | In Progress | Not funded | - | Strategic development and regeneration team ensure all relevant commercial planning applications have travel plan conditions applied in accordance with current best practice | - |
| 18 | Council pool cars – priority spaces and car sharing | Vehicle fleet efficiency | Ongoing | In progress | Not funded | - | Priority spaces designated for pool cars at all Council buildings<br><br>Car sharing promoted internally, however uptake has diminished post-pandemic | Low uptake of car sharing initiatives post pandemic. |

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| 19 | Vehicle tracking and telematics | Vehicle fleet efficiency | Completed 2022 | Completed | Not funded | 100% of EDC fleet now fitted with tracking. | Master naught vehicle tracking installed in all fleet and pool vehicles | - |
| 20 | Improvements to SPT prioritised bus stops | Promoting travel alternatives | Ongoing | In progress | No funding | Real Time Passenger Information units installed at 18 bus stops in Bearsden and Bishopbriggs | The process of improving SPT bus stops will continue as required and as funding allows | SPT funding has now ceased, with no future funding expected. |
| 21 | Soft measures – Healthy Habits | Promoting travel alternatives | Ongoing | In progress | Fully funded by Paths for all & Transport Scotland in 2023 | - | The Healthy Habits project is ongoing with new initiatives continually developed to encourage local people to walk and cycle more often | Paths for All funding ceased, no future funding expected |
| 22 | Domestic emissions and fuel consumption awareness raising | Domestic solid fuel burning | Ongoing | In progress | Partial funding via Local Education Improvement Programme | - | Support for awareness raising of energy efficient measures by Scottish and UK government | - |
| 23 | Tree and wild flower planting | Public Information | Ongoing | In progress | Partial funding via Buglife – the Invertebrate Conservation Trust | Over 36,000 $m^2$ of wildflower meadow planting, and over 3,500 trees planted | Trees, shrubs and wildflower meadows planted where possible to improve air quality and trap particulate matter. | - |
| 24 | Joint health improvement plan | Public Information | Ongoing | In progress | Not funded | - | The Local Outcomes Improvement Plan aims for the council and the Health & Social Care Partnership to work with local communities and residents in a joint effort to improve | - |

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| | | | | | | | health, address health inequalities and increase awareness of active travel to help mitigate the impact of poor physical and mental health and air quality related health effects on the NHS. (https://www.eastdunbarton.gov.uk/sites/default/files/documents/local_outcomes_improvement_plan_2017-27.pdf) | |
| 25 | Green Infrastructure | Public Information | Ongoing | In progress | Partially funded via developer contributions | - | LDP Supplementary Guidance on Green Infrastructure and Green Network is available online.<br><br>Green Infrastructure and Green Network 2023 \| East Dunbartonshire Council | - |
| 26 | Taxi Licensing | Promoting low emission transport | Ongoing | In progress | Not funded | - | Frequency of testing increased to twice a year for older vehicles. | - |

# 3 Air Quality Monitoring Data and Comparison with Air Quality Objectives

## 3.1 Summary of Monitoring Undertaken

### 3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how local concentrations of the main air pollutants compare with the objectives.

East Dunbartonshire Council undertook automatic (continuous) monitoring at 4 sites during 2023. Table A.1 in Appendix A shows the details of the sites. National monitoring results are available on UKAir.

A major equipment failure at the Bearsden monitoring site resulted in a lack of $NO_2$ data in the latter part of 2023. Funding to facilitate replacement of this equipment has subsequently been granted by the Scottish Government in 2024. In addition, further mechanical failures at several sites over the course of 2023 have resulted in data annualisation being required.

Maps showing the location of the monitoring sites are provided in Appendix D: Maps Showing the Location of Monitoring Sites. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

### 3.1.2 Non-Automatic Monitoring Sites

East Dunbartonshire undertook non-automatic (passive) monitoring of $NO_2$ at 30 sites during 2023, including at four triplicate locations. Table A.2 in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D: Maps Showing the Location of Monitoring Sites. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

## 3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias. Further details on adjustments are provided in Appendix C.

### 3.2.1 Nitrogen Dioxide ($NO_2$)

Table A.3 in Appendix A compares the ratified monitored $NO_2$ annual mean concentrations for the past five years with the air quality objective of 40 µg/m$^3$ at automatic monitoring sites.

Table A.4 in Appendix A compares the adjusted monitored $NO_2$ annual mean concentrations for the past five years with the air quality objective of 40 µg/m$^3$ at non automatic monitoring sites.

For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B.

The automatic monitoring stations located in East Dunbartonshire continues to report compliance with the annual mean $NO_2$ AQS objective.

During 2023 there were no exceedances of the $NO_2$ AQS objective, with all passive monitoring sites recording concentrations well below the objective. From 2022 to 2023, all 30 sites reported decreases in $NO_2$. The maximum $NO_2$ annual mean concentration in 2023 was 18.9 µg/m$^3$, reported at Bearsden 17 which is located along the A81 in Bearsden.

There are no passive monitoring sites where the $NO_2$ annual mean is greater than 60 µg/m$^3$, therefore in accordance with Defra LAQM.TG(22) there are no sites likely to be at risk of exceeding the 1-hour mean AQS objective.

Data capture at one automatic monitoring stations (EDB4) in 2023 had a data capture between 25% and 75%, annualisation was carried out in accordance with LAQM.TG(22), as shown in Table C.2.

The Kirkintilloch Road AQMA continues to report compliance from last year and has maintained 5 years of full compliance. While the air quality in the Kirkintilloch Road AQMA has been complaint with all legal objectives since 2013, significant proposed changes to infrastructure along the A803 corridor may alter or disrupt the validity of air quality monitoring in the area over the coming years. As a result, the AQMA will be retained at least until works are completed, which is expected by 2027.

Table A.5 in Appendix A compares the ratified continuous monitored $NO_2$ hourly mean concentrations for the past five years with the air quality objective of 200µg/m$^3$, not to be exceeded more than 18 times per year

### 3.2.2 Particulate Matter ($PM_{10}$)

Table A.6 in Appendix A compares the ratified and adjusted monitored $PM_{10}$ annual mean concentrations for the past five years with the air quality objective of 18µg/m$^3$.

Table A.7 in Appendix A compares the ratified continuous monitored $PM_{10}$ daily mean concentrations for the past five years with the air quality objective of 50µg/m$^3$, not to be exceeded more than seven times per year.

During 2023, all automatic monitoring sites recorded $PM_{10}$ concentrations well below the 40 µg/m$^3$ $PM_{10}$ AQS objective. There are minor increases and reductions at all monitors since 2022, with an average decrease of 4%. Overall, the annual mean concentration remains relatively stable and consistent over the last five years.

There were no 24-hour mean concentrations in excess of 50µg/m$^3$ in 2023, therefore compliance to the 24-hour AQS objective.

Data capture at two automatic monitoring stations (EDB1 and EDB2) in 2023 had a data capture between 25% and 75%, annualisation was carried out in accordance with LAQM.TG(22), as shown in Table C.3

### 3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.8 in Appendix A compares the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years with the air quality objective of 10µg/m$^3$.

During 2023 all automatic monitoring sites recorded $PM_{2.5}$ concentrations well below the $PM_{2.5}$ AQS target. Out of the four monitoring sites, three recorded minor decreases and one reporting a minor increase. Overall, the annual mean concentrations remains relatively stable and consistent over the last five years.

Data capture at two automatic monitoring stations (EDB1 and EDB2) in 2023 had a data capture between 25% and 75%, annualisation was carried out in accordance with LAQM.TG(22), as shown in Table C.4.

# 4 New Local Developments

East Dunbartonshire Council requests a full air quality impact assessment in line with the East Dunbartonshire Air Quality Planning Guidance where it is considered the application may affect air quality. This also applies to all East Dunbartonshire Council Projects.

## 4.1 Road Traffic Sources

The following new roads and junctions were identified by East Dunbartonshire Council in 2023:

***Roads***

- Kessington Farm Way, Bearsden
- Templehill View, Bearsden
- Crief Avenue, Bearsden.

All of the above roads serve recently constructed housing developments.

***Junction***

- Kessington Farm Way, Bearsden at Inveroran Drive
- Crieff Ave, Bearsden at Birnam Crescent

## 4.2 Other Transport Sources

No new sources of emissions relating to transport were identified by East Dunbartonshire Council in 2023.

## 4.3 Industrial Sources

No new industrial sources were identified by East Dunbartonshire Council in 2023.

## 4.4 Commercial and Domestic Sources

No new commercial or domestic sources were identified by East Dunbartonshire Council in 2023.

## 4.5 New Developments with Fugitive or Uncontrolled Sources

No new sites were identified by East Dunbartonshire Council in 2023.

# 5 Planning Applications

East Dunbartonshire Council requests a full air quality impact assessment in line with the East Dunbartonshire Air Quality Planning Guidance and where it is considered the application may affect air quality.

No major development that would have significant bearing upon air quality were brought forward in 2023, however several developments of interest are ongoing and progressing towards completion including:

- Ongoing development of housing (TP/ED/19/0816) and retail food store (TP/ED/19/0186) in Bishopbriggs.
- Residential housing sites at Fauldhead (TP/ED/21/0365) and Chryston Road (TP/ED/21/0366).
- Retail foodstore (TP/ED/21/0465) at Woodilee Road, Lenzie.
- Subdivision of B&Q to form four retail units (TP/ED/22/0114) at Strathkelvin Retail Park, Bishopbriggs.
- Crematorium (TP/ED/17/0865) at Crosshill Road, Bishopbriggs.

There were 29 planning applications concerning domestic properties which included the installation of wood burning stoves.

# 6 Conclusions and Proposed Actions

## 6.1 Conclusions from New Monitoring Data

The passive $NO_2$ monitoring data from 2023 shows that concentrations at all 30 monitoring locations decreased from 2022 levels, with an average decrease of 22.2%.

Monitored $NO_2$, $PM_{10}$ and $PM_{2.5}$ concentrations at all automatic monitoring stations continue to report annual means well below the AQS annual mean objectives for $NO_2$, $PM_{10}$ and $PM_{2.5}$. In regard to the short term AQS objective for $NO_2$, in which the 200µg/m$^3$ must not be exceeded more than 18 times/year, and the $PM_{10}$ AQS objective whereby there should be no more than 35 24-hour mean concentrations greater than 50µg/m$^3$, there were no exceedances reported in both pollutants in 2023.

## 6.2 Conclusions relating to New Local Developments

Ongoing implementation and development of local strategies, as detailed in Table 2.2, will continue to assist in reducing pollutant concentrations and emissions. The Council also continues to request air quality assessments for new planning applications where relevant, to ensure that there is no significant degradation of air quality or that no new sensitive receptors are being introduced into areas of existing poor air quality.

## 6.3 Proposed Actions

East Dunbartonshire Council will continue to actively monitor $NO_2$ concentrations, reviewing the diffusion tube network where necessary.

It is not the intention to revoke the Kirkintilloch Road AQMA at this stage due to the extensive proposed redevelopment of Bishopbriggs in line with City Deal funding including an aspiration to complete phase 5 of the Bishopbriggs Relief Road (now referred to as Westerhill Development Road). It is anticipated that during construction over several years, local air quality data may be unreliable.

Implementation of the Action Plan measures where funding allows. The next Annual Progress Report will be submitted in 2025.

# Appendix A: Monitoring Results

**Table A.1 – Details of Automatic Monitoring Sites**

| Site ID | Site Name | Site Type | X OS Grid Ref | Y OS Grid Ref | Pollutants Monitored | In AQMA? Which AQMA? | Monitoring Technique | Distance to Relevant Exposure (m) (1) | Distance to kerb of nearest road (m) (2) | Inlet Height (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| EDB1 | Bishopbriggs | Roadside | 260995 | 670130 | $NO_2$, $PM_{10}$ and $PM_{2.5}$ | Yes – AQMA 1 | Chemiluminescent; FIDAS | 5.0 | 2.0 | 2.0 |
| EDB2 | Bearsden | Kerbside | 254269 | 672067 | $NO_2$, $PM_{10}$ and $PM_{2.5}$ | No | Chemiluminescent; FIDAS | <2.0 | 1.0 | 2.0 |
| EDB3 | Kirkintilloch | Kerbside | 265675 | 673516 | $NO_2$, $PM_{10}$ and $PM_{2.5}$ | No | Chemiluminescent; FIDAS | <2.0 | 1.0 | 3 |
| EDB4 | Milngavie | Roadside | 255328 | 674115 | $NO_2$, $PM_{10}$ and $PM_{2.5}$ | No | Chemiluminescent; FIDAS | <40m | 1.0 | 3 |

**Notes:**

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

## Table A.2 – Details of Non-Automatic Monitoring Sites

| Site ID | Site Name | Site Type | X OS Grid Ref | Y OS Grid Ref | Pollutants Monitored | In AQMA? Which AQMA? | Distance to Relevant Exposure (m) (1) | Distance to kerb of nearest road (m) (2) | Tube co-located with a Continuous Analyser? | Tube Height (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Bishopbriggs 6 | Roadside | 261016 | 670198 | $NO_2$ | Yes – Bishopbriggs | 2.0 | 2.0 | No | 2.5 |
| 2 | Bishopbriggs 13 | Roadside | 260549 | 669312 | $NO_2$ | Yes – Bishopbriggs | 5.0 | 2.0 | No | 2.4 |
| 3 | Bishopbriggs 14 | Roadside | 260995 | 670130 | $NO_2$ | Yes – Bishopbriggs | 42.0 | 2.0 | Yes | 1.8 |
| 4 | Bishopbriggs 14 B | Roadside | 260995 | 670130 | $NO_2$ | Yes – Bishopbriggs | 42.0 | 2.0 | Yes | 1.8 |
| 5 | Bishopbriggs 14 C | Roadside | 260995 | 670130 | $NO_2$ | Yes – Bishopbriggs | 42.0 | 2.0 | Yes | 1.8 |
| 6 | Kirkintilloch 15 | Roadside | 265641 | 673497 | $NO_2$ | No | 2.0 | 2.0 | No | 2.8 |
| 7 | Kirkintilloch 16 | Roadside | 265697 | 673524 | $NO_2$ | No | 3.0 | 2.0 | No | 2.4 |
| 8 | Kirkintilloch 17 | Kerbside | 265675 | 673516 | $NO_2$ | No | 3.0 | 1.0 | Yes | 1.9 |
| 9 | Kirkintilloch 17 B | Kerbside | 265675 | 673516 | $NO_2$ | No | 3.0 | 1.0 | Yes | 1.9 |
| 10 | Kirkintilloch 17 C | Kerbside | 265675 | 673516 | $NO_2$ | No | 3.0 | 1.0 | Yes | 1.9 |
| 11 | Bearsden 1 (118 Drymen Rd) | Roadside | 254218 | 672193 | $NO_2$ | No | 3.0 | 2.0 | No | 2.4 |
| 12 | Bearsden 3 (5 Ravelston Rd) | Urban Background | 254655 | 670158 | $NO_2$ | No | 8.0 | 5.0 | No | 2.4 |
| 15 | Bearsden 8 | Roadside | 254275 | 672047 | $NO_2$ | No | 18.0 | 2.0 | No | 1.8 |
| 16 | Bearsden 9 | Roadside | 254751 | 670621 | $NO_2$ | No | 30.0 | 2.0 | No | 1.8 |
| 19 | Bearsden 14 | Roadside | 254877 | 671000 | $NO_2$ | No | 8.0 | 2.0 | No | 2.4 |
| 20 | Bearsden 15 | Roadside | 254898 | 671023 | $NO_2$ | No | 2.0 | 2.0 | No | 2.5 |
| 21 | Bearsden 16 | Kerbside | 254269 | 672067 | $NO_2$ | No | 2.0 | 1.0 | Yes | 1.8 |
| 22 | Bearsden 16 B | Kerbside | 254269 | 672067 | $NO_2$ | No | 2.0 | 1.0 | Yes | 1.8 |
| 23 | Bearsden 16 C | Kerbside | 254269 | 672067 | $NO_2$ | No | 2.0 | 1.0 | Yes | 1.8 |
| 24 | Milngavie 4 | Roadside | 255728 | 674486 | $NO_2$ | No | 5.0 | 2.0 | No | 2.6 |
| 26 | Milngavie 9 | Urban Background | 255331 | 674214 | $NO_2$ | No | 7.0 | 2.0 | No | 2.4 |

| Site ID | Site Name | Site Type | X OS Grid Ref | Y OS Grid Ref | Pollutants Monitored | In AQMA? Which AQMA? | Distance to Relevant Exposure (m) (1) | Distance to kerb of nearest road (m) (2) | Tube co-located with a Continuous Analyser? | Tube Height (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 | Milngavie 10 | Roadside | 255329 | 674114 | $NO_2$ | No | 40.0 | 1.0 | Yes | 2.0 |
| 28 | Milngavie 10 B | Roadside | 255329 | 674114 | $NO_2$ | No | 40.0 | 1.0 | Yes | 2.0 |
| 29 | Milngavie 10 C | Roadside | 255329 | 674114 | $NO_2$ | No | 40.0 | 1.0 | Yes | 2.0 |
| 30 | Bishopbriggs 16 | Roadside | 260580 | 669533 | $NO_2$ | Yes – Bishopbriggs | 2.0 | 2.0 | No | 2.4 |
| 31 | Bishopbriggs 17 | Roadside | 260552 | 669320 | $NO_2$ | Yes – Bishopbriggs | 2.0 | 2.0 | No | 2.0 |
| 32 | Bearsden 17 | Roadside | 254258 | 672077 | $NO_2$ | No | 2.0 | 2.0 | No | 2.6 |
| 33 | Bearsden 18 | Roadside | 254275 | 672069 | $NO_2$ | No | 2.0 | 2.0 | No | 2.4 |
| 34 | Kirkintilloch 18 | Kerbside | 265674 | 673521 | $NO_2$ | No | 2.0 | 2.0 | No | 2.4 |
| 35 | Bishopbriggs 21 | Roadside | 261033 | 669650 | $NO_2$ | No | 6.0 | 2.0 | No | 2.2 |
| 36 | Bishopbriggs 22 | Roadside | 260571 | 669339 | $NO_2$ | Yes – Bishopbriggs | 5.0 | 2.0 | No | 2.3 |
| 37 | Bishopbriggs 23 | Roadside | 260759 | 669999 | $NO_2$ | Yes – Bishopbriggs | 5.0 | 2.0 | No | 2.2 |
| 39 | Bishopbriggs 25 | Urban Background | 260617 | 670338 | $NO_2$ | No | 6.0 | 2.0 | No | 2.4 |
| 40 | Kirkintilloch 19 | Roadside | 265602 | 673583 | $NO_2$ | No | 2.0 | 2.0 | No | 2.5 |
| 44 | Bearsden 19 | Roadside | 255403 | 673236 | $NO_2$ | No | 5.0 | 2.0 | No | 2.2 |
| 48 | Bishopbriggs 26 | Roadside | 262112 | 670517 | $NO_2$ | No | 3.0 | 1.0 | No | 2.4 |
| 49 | Bishopbriggs 30 | Roadside | 262398 | 669436 | $NO_2$ | No | 3.0 | 1.0 | No | 2.4 |
| 50 | Milngavie 13 | Roadside | 255183 | 674409 | $NO_2$ | No | 3.0 | 1.0 | No | 2.4 |

**Notes:**

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).

(2) N/A if not applicable.

**Table A.3 – Annual Mean $NO_2$ Monitoring Results: Automatic Monitoring (µg/m$^3$)**

| Site ID | Site Type | Monitoring Type | Valid Data Capture for Monitoring Period (%) (1) | Valid Data Capture 2023 (%) (2) | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|
| EDB1 | Roadside | Automatic | 99.6 | 99.6 | 26.0 | 20.0 | 16.8* | 16.2* | 16.2 |
| EDB2 | Kerbside | Automatic | 77.8 | 77.8 | 32.0 | 20.0 | 24.3 | 21.9 | 19.7 |
| EDB3 | Kerbside | Automatic | 99.7 | 99.7 | 27.0 | 18.0 | 19.6 | 18.2 | 17.6 |
| EDB4 | Roadside | Automatic | 39.9 | 39.9 | 19.0 | 15.0 | 16.2 | 14.3* | 13.7* |

**Notes:**

Exceedances of the $NO_2$ annual mean objective of 40µg/m$^3$ are shown in bold.

$NO_2$ annual means exceeding 60µg/m$^3$, indicating a potential exceedance of the $NO_2$ 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Annualised means highlighted with (*)

## Table A.4 – Annual Mean $NO_2$ Monitoring Results: Non-Automatic Monitoring (µg/m$^3$)

| Diffusion Tube ID | X OS Grid Ref (Easting) | Y OS Grid Ref (Northing) | Site Type | Valid Data Capture for Monitoring Period (%) [1] | Valid Data Capture 2023 (%) [2] | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 261016 | 670198 | Roadside | 100.0 | 100.0 | 24.1 | 17.8 | 17.1 | 16.6 | 14.0 |
| 2 | 260549 | 669312 | Roadside | 100.0 | 100.0 | 31.5 | 23.3 | 27.6 | 24.0 | 18.4 |
| 3, 4, 5 | 260995 | 670130 | Roadside | 100.0 | 100.0 | 21.8 | 16.5 | 15.0 | 15.9 | 12.4 |
| 6 | 265641 | 673497 | Roadside | 100.0 | 100.0 | 24.4 | 17.3 | 17.9 | 17.5 | 14.8 |
| 7 | 265697 | 673524 | Roadside | 100.0 | 100.0 | 27.6 | 20.3 | 20.6 | 20.5 | 17.3 |
| 8, 9, 10 | 265675 | 673516 | Kerbside | 100.0 | 100.0 | 27.8 | 18.3 | 21.3 | 20.2 | 16.5 |
| 11 | 254218 | 672193 | Roadside | 82.7 | 82.7 | 25.0 | 16.9 | 19.3 | 18.4 | 14.2 |
| 12 | 254655 | 670158 | Urban Background | 100.0 | 100.0 | 17.4 | 11.4 | 12.4 | 11.0 | 8.0 |
| 15 | 254275 | 672047 | Roadside | 100.0 | 100.0 | 27.4 | 20.9 | 22.2 | 20.7 | 16.2 |
| 16 | 254751 | 670621 | Roadside | 100.0 | 100.0 | 23.4 | 17.0 | 17.9 | 15.4 | 12.7 |
| 19 | 254877 | 671000 | Roadside | 100.0 | 100.0 | 27.6 | 21.4 | 22.0 | 24.5 | 16.6 |
| 20 | 254898 | 671023 | Roadside | 100.0 | 100.0 | 28.8 | 22.9 | 19.3 | 19.8 | 15.1 |
| 21, 22, 23 | 254269 | 672067 | Kerbside | 92.3 | 92.3 | 30.6 | 22.5 | 22.8 | 22.6 | 18.2 |
| 24 | 255728 | 674486 | Roadside | 100.0 | 100.0 | 21.7 | 17.7 | 20.9 | 16.7 | 12.1 |
| 26 | 255331 | 674214 | Urban Background | 100.0 | 100.0 | 22.0 | 14.9 | 21.2 | 16.3 | 12.9 |
| 27, 28, 29 | 255329 | 674114 | Roadside | 100.0 | 100.0 | 20.1 | 14.3 | 16.3 | 14.2 | 11.4 |
| 30 | 260580 | 669533 | Roadside | 100.0 | 100.0 | 22.1 | 18.1 | 16.9 | 17.6 | 18.9 |
| 31 | 260552 | 669320 | Roadside | 100.0 | 100.0 | 24.9 | 19.6 | 19.8 | 18.5 | 11.4 |
| 32 | 254258 | 672077 | Roadside | 100.0 | 100.0 | 31.2 | 20.6 | 22.7 | 23.2 | 13.0 |
| 33 | 254275 | 672069 | Roadside | 90.4 | 90.4 | 27.6 | 19.7 | 19.1 | 19.4 | 17.0 |
| 34 | 265674 | 673521 | Kerbside | 100.0 | 100.0 | 23.4 | 16.6 | 16.8 | 17.3 | 13.2 |
| 35 | 261033 | 669650 | Roadside | 100.0 | 100.0 | 14.9 | 12.0 | 12.0 | 12.1 | 7.3 |
| 36 | 260571 | 669339 | Roadside | 100.0 | 100.0 | 29.0 | 23.6 | 24.4 | 22.0 | 17.1 |
| 37 | 260759 | 669999 | Roadside | 100.0 | 100.0 | 27.0 | 21.0 | 19.2 | 21.0 | 14.9 |
| 39 | 260617 | 670338 | Urban Background | 100.0 | 100.0 | 15.4 | 12.7 | 11.4 | 12.0 | 7.9 |
| 40 | 265602 | 673583 | Roadside | 100.0 | 100.0 | 18.2 | 14.0 | 15.4 | 12.8 | 10.6 |
| 44 | 255403 | 673236 | Roadside | 92.3 | 92.3 | 18.5 | 14.2 | 18.0 | 12.5 | 10.9 |
| 48 | 262112 | 670517 | Roadside | 100.0 | 100.0 | 17.2 | 12.5 | 16.1 | 13.2 | 10.7 |
| 49 | 262398 | 669436 | Roadside | 100.0 | 100.0 | 22.5 | 16.7 | 19.2 | 16.3 | 14.6 |

| Diffusion Tube ID | X OS Grid Ref (Easting) | Y OS Grid Ref (Northing) | Site Type | Valid Data Capture for Monitoring Period (%) (1) | Valid Data Capture 2023 (%) (2) | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 255183 | 674409 | Roadside | 100.0 | 100.0 | 18.4 | 14.1 | 15.3 | 13.1 | 10.0 |

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

**Notes:**

Exceedances of the $NO_2$ annual mean objective of 40µg/$m^3$ are shown in bold.

$NO_2$ annual means exceeding 60µg/$m^3$, indicating a potential exceedance of the $NO_2$ 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG(22) if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(4) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(5) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Figure A.1 – Trends in Annual Mean $NO_2$ Concentration in Kirkintilloch Road AQMA**

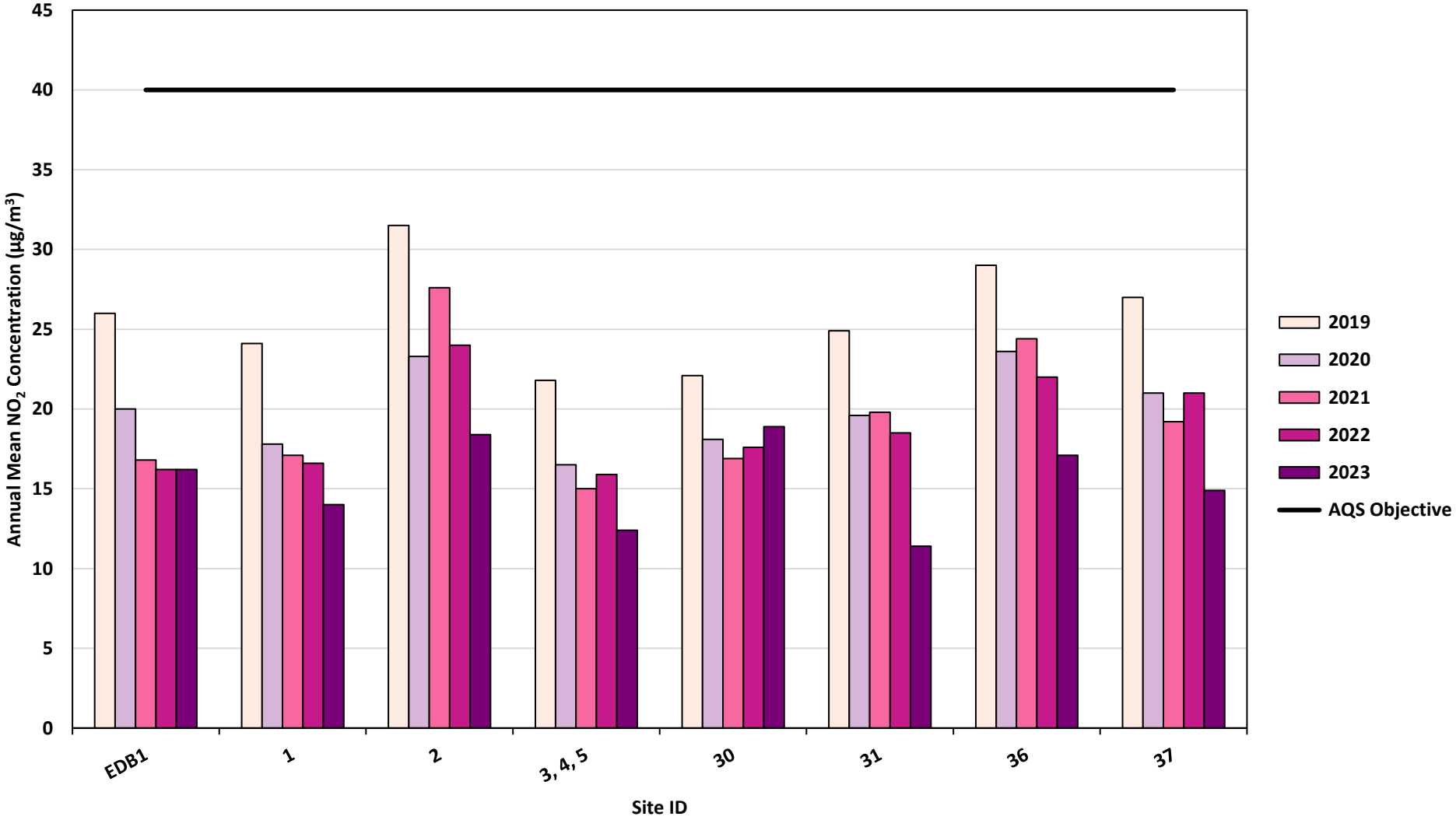


**Figure A.2 – Trends in Annual Mean $NO_2$ Concentration in Bishopbriggs**

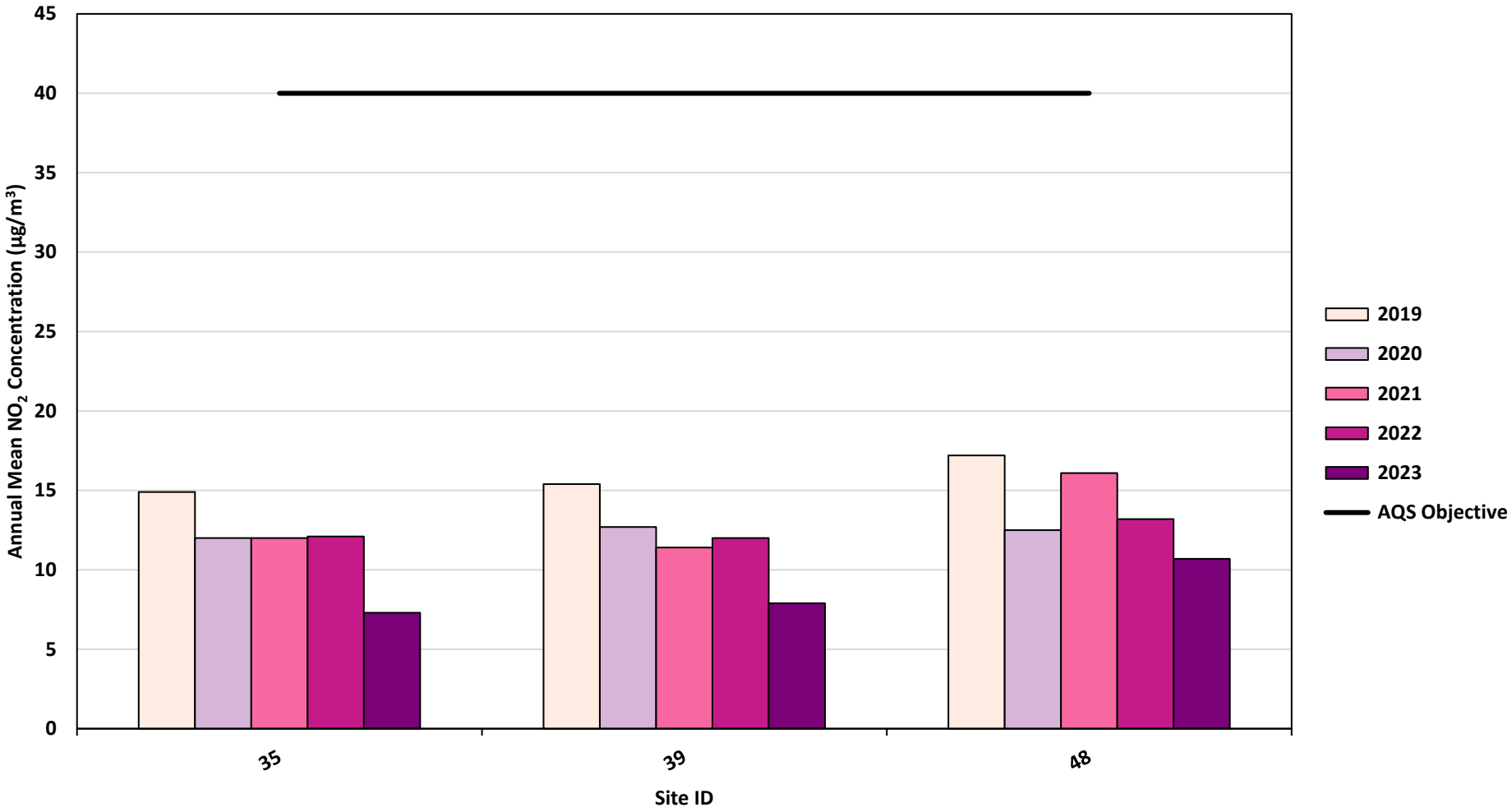


**Figure A.3 – Trends in Annual Mean $NO_2$ Concentration in Kirkintilloch**

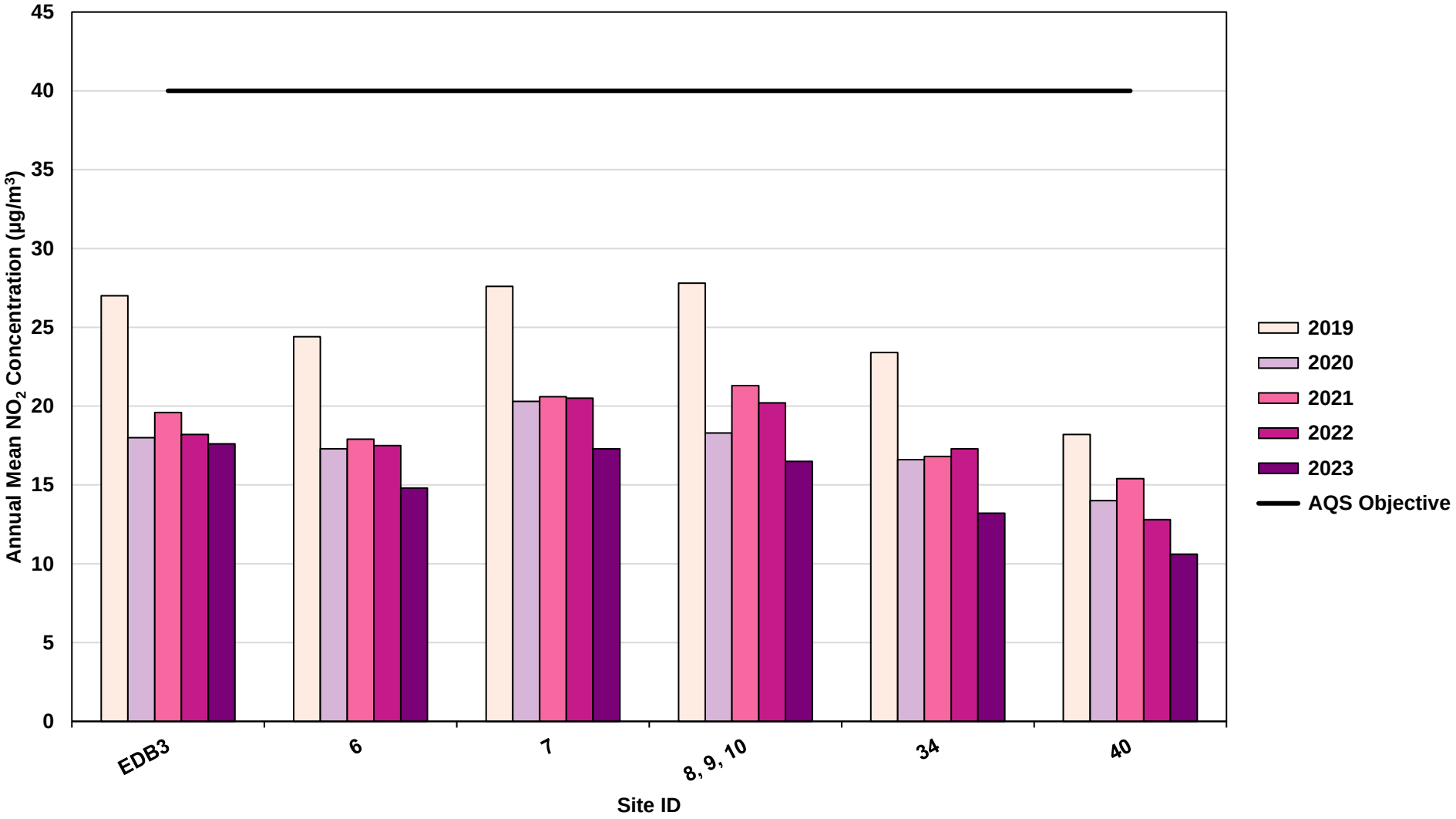


**Figure A.4 – Trends in Annual Mean $NO_2$ Concentration in Bearsden**

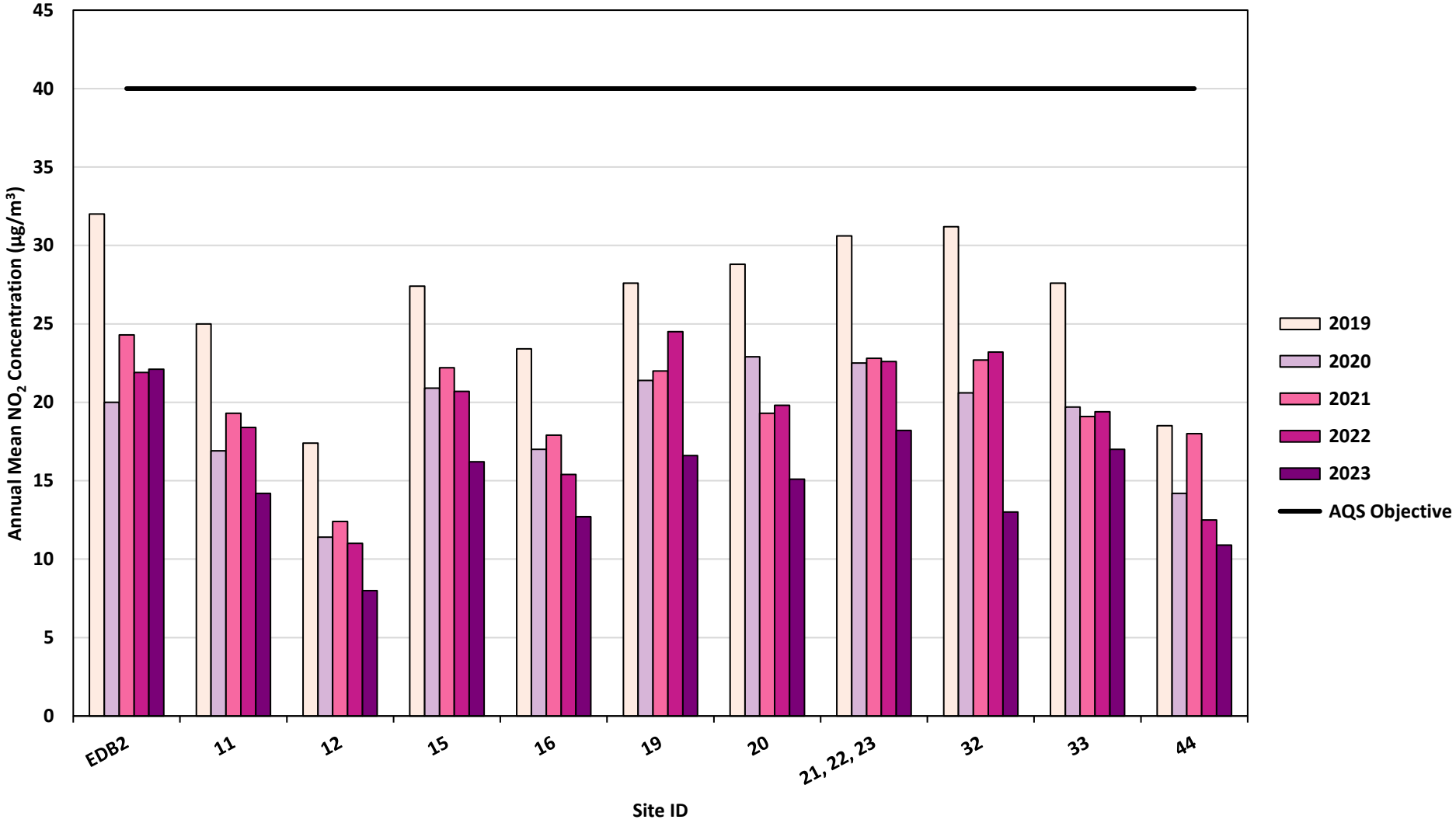


**Figure A.5 – Trends in Annual Mean $NO_2$ Concentration in Milngavie**

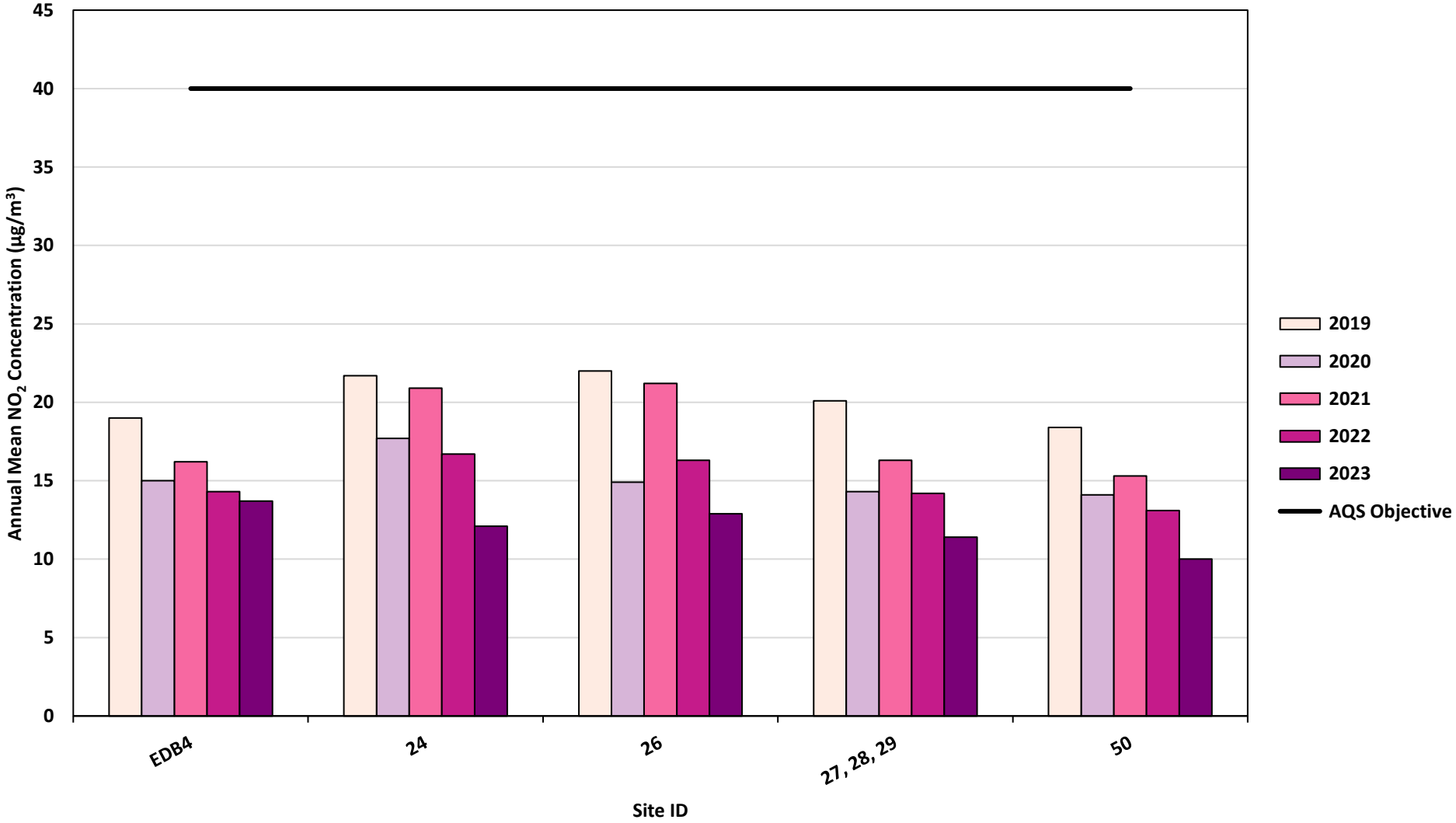


**Figure A.6 – Trends in Annual Mean $NO_2$ Concentration in Auchinairn**

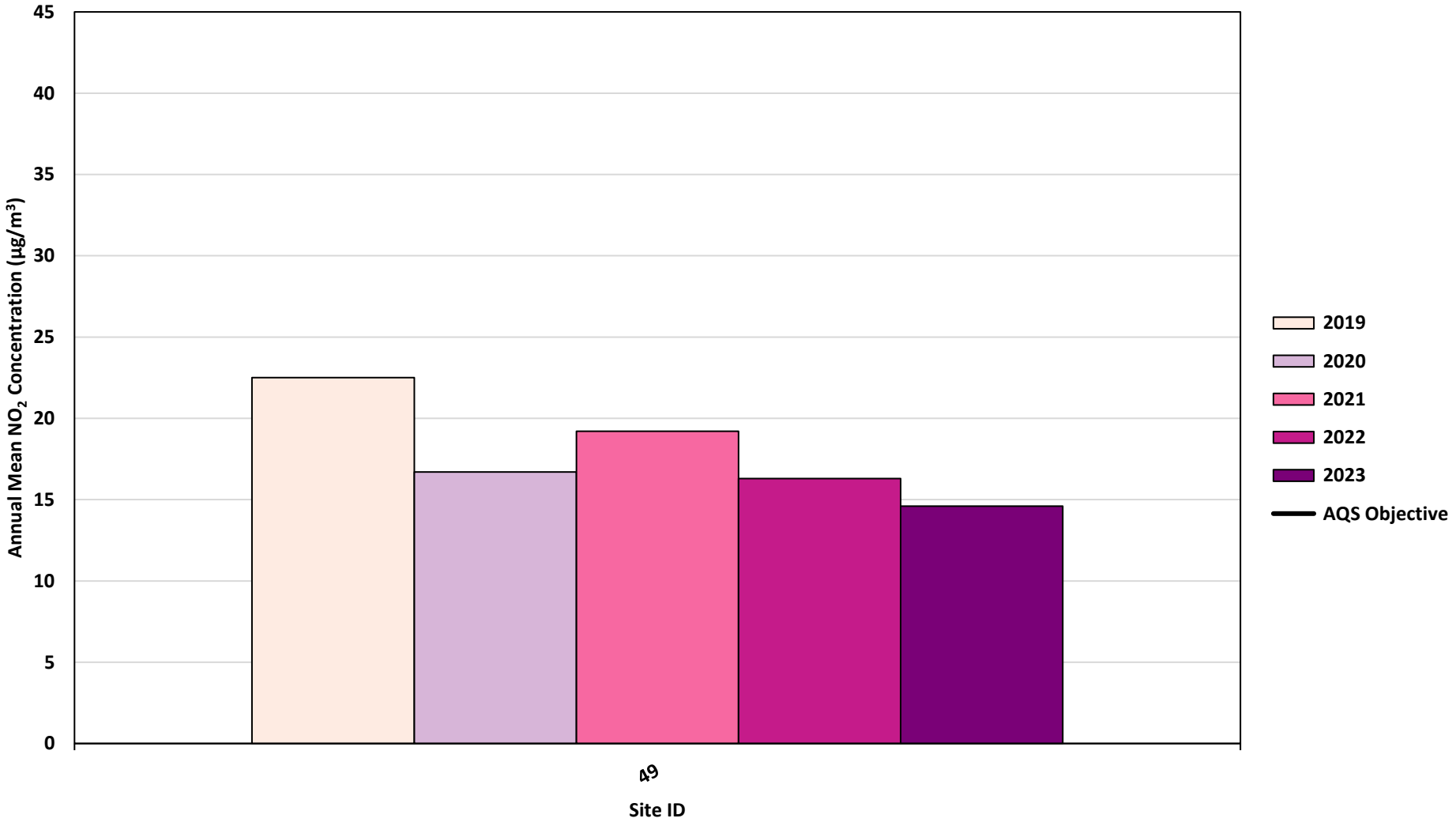


**Table A.5 – 1-Hour Mean $NO_2$ Monitoring Results, Number of 1-Hour Means > 200µg/m$^3$**

| Site ID | Site Type | Monitoring Type | Valid Data Capture for Monitoring Period (%) (1) | Valid Data Capture 2023 (%) (2) | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|
| EDB1 | Roadside | Automatic | 99.6 | 99.6 | 0 | 0 | 0 | 0 (80) | 0 |
| EDB2 | Kerbside | Automatic | 77.8 | 77.8 | 0 | 0 | 0 | 0 | 0 |
| EDB3 | Kerbside | Automatic | 99.7 | 99.7 | 0 | 0 | 0 | 0 | 0 |
| EDB4 | Roadside | Automatic | 39.9 | 39.9 | 0 | 0 | 0 | 0 (80) | 0 (70) |

**Notes:**

Exceedances of the $NO_2$ 1-hour mean objective (200 µg/m$^3$ not to be exceeded more than 18 times/year) are shown in bold.

If the period of valid data is less than 85%, the 99.8$^{th}$ percentile of 1-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Table A.6 – Annual Mean $PM_{10}$ Monitoring Results (µg/m$^3$)**

| Site ID | Site Type | Valid Data Capture for Monitoring Period (%) (1) | Valid Data Capture 2023 (%) (2) | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|
| EDB1 | Roadside | 74.5 | 74.5 | 12 | 10 | 10.2 | 11.4 | 11.5* |
| EDB2 | Kerbside | 68.3 | 68.3 | 11 | 8 | 9.5 | 10.0 | 10.1* |
| EDB3 | Kerbside | 97.6 | 97.6 | 13 | 9 | 10.7 | 10.6 | 9.4 |
| EDB4 | Roadside | 97.1 | 97.1 | 14 | 10 | 8.7 | 9.0 | 8.3 |

**Notes:**

Exceedances of the $PM_{10}$ annual mean objective of 18 µg/m$^3$ are shown in bold.

All means have been “annualised” as per LAQM.TG(22), valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Annualised means highlighted with (*)

**Figure A.7 – Trends in Annual Mean $PM_{10}$ Concentration in East Dunbartonshire**

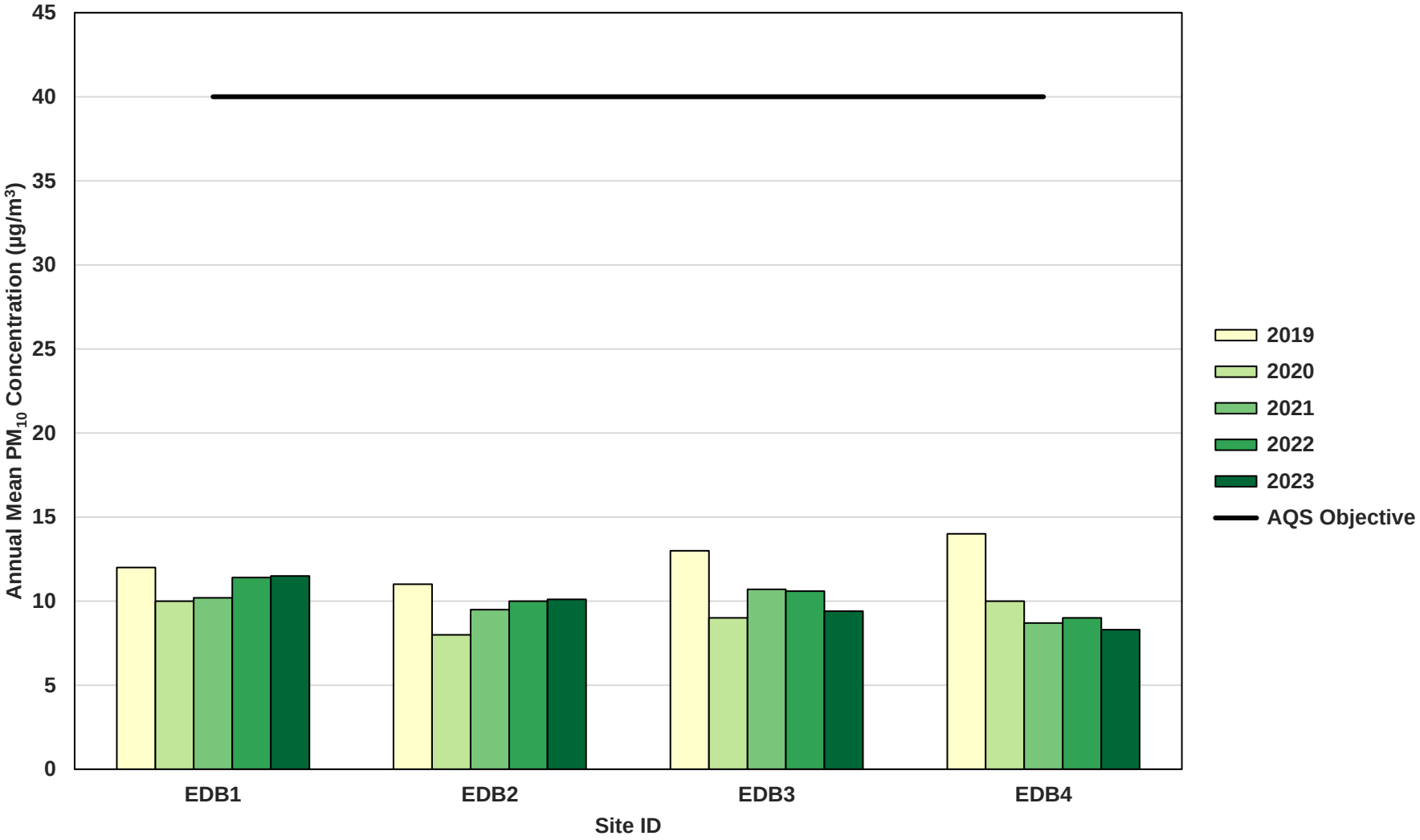


**Table A.7 – 24-Hour Mean $PM_{10}$ Monitoring Results, Number of $PM_{10}$ 24-Hour Means > 50µg/m$^3$**

| Site ID | Site Type | Valid Data Capture for Monitoring Period (%) (1) | Valid Data Capture 2023 (%) (2) | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|
| EDB1 | Roadside | 74.5 | 74.5 | 2 | 0 | 0 | 3 | 0 (26) |
| EDB2 | Kerbside | 68.3 | 68.3 | 2 | 0 | 0 | 2 | 0 (26) |
| EDB3 | Kerbside | 97.6 | 97.6 | 3 | 0 | 0 | 4 | 0 |
| EDB4 | Roadside | 97.1 | 97.1 | 2 | 0 | 0 | 0 | 0 |

**Notes:**

Exceedances of the $PM_{10}$ 24-hour mean objective (50 µg/m$^3$ not to be exceeded more than seven times/year) are shown in bold.

If the period of valid data is less than 85%, the 98.1st percentile of 24-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m$^3$)**

| Site ID | Site Type | Valid Data Capture for Monitoring Period (%) (1) | Valid Data Capture 2023 (%) (2) | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|
| EDB1 | Roadside | 74.5 | 74.5 | 7 | 6 | 5.9 | 6.4 | 6.1* |
| EDB2 | Kerbside | 68.4 | 68.4 | 6 | 5 | 5.2 | 5.5 | 4.9* |
| EDB3 | Kerbside | 97.6 | 97.6 | 5 | 5.4 | 5.7 | 5 | 5.2 |
| EDB4 | Roadside | 97.1 | 97.1 | - | 4 | 4.8 | 4.9 | 4.6 |

**Notes:**

Exceedances of the $PM_{2.5}$ annual mean objective of 10 µg/m$^3$ are shown in bold.

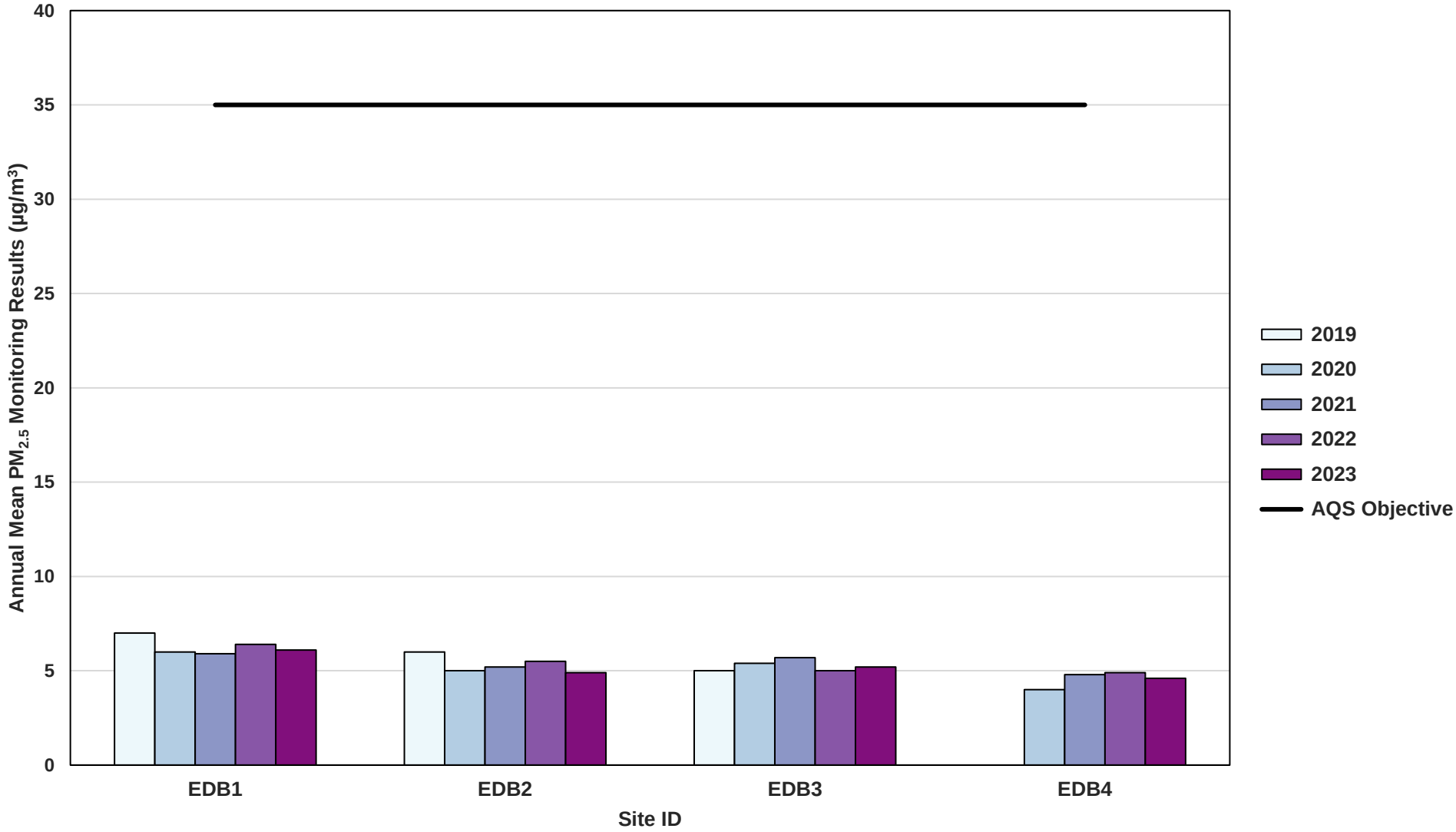
All means have been “annualised” as per LAQM.TG(22), valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Annualised means highlighted with (*)

**Figure A.8 – Trends in Annual Mean $PM_{2.5}$ Concentration in East Dunbartonshire**



# Appendix B: Full Monthly Diffusion Tube Results for 2023

**Table B.1 – $NO_2$ 2023 Monthly Diffusion Tube Results (µg/m$^3$)**

| DT ID | X OS Grid Ref (Easting) | Y OS Grid Ref (Northing) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual Mean: Raw Data | Annual Mean: Annualised and Bias Adjusted (0.89) | Annual Mean: Distance Corrected to Nearest Exposure | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 261016 | 670198 | 20.3 | 26.3 | 22.0 | 18.0 | 13.5 | 8.9 | 11.9 | 15.0 | 13.3 | 7.5 | 20.4 | 11.6 | 15.7 | 14.0 | - | |
| 2 | 260549 | 669312 | 23.9 | 28.5 | 31.6 | 25.2 | 18.9 | 13.6 | 16.7 | 20.1 | 19.5 | 11.1 | 27.5 | 11.8 | 20.7 | 18.4 | - | |
| 3 | 260995 | 670130 | 21.8 | 21.4 | 18.1 | 14.5 | 12.3 | 11.9 | 5.1 | 12.3 | 11.4 | 8.4 | 20.4 | 8.2 | - | - | - | Triplicate Site with 3, 4 and 5 - Annual data provided for 5 only |
| 4 | 260995 | 670130 | 14.4 | 23.2 | 21.0 | 15.0 | 26.3 | 9.0 | 8.6 | 10.7 | 8.5 | 10.1 | 21.0 | 10.6 | - | - | - | Triplicate Site with 3, 4 and 5 - Annual data provided for 5 only |
| 5 | 260995 | 670130 | 14.9 | 18.1 | 20.4 | - | 13.8 | 8.9 | 7.9 | 10.3 | 9.8 | 6.5 | 25.2 | 8.3 | 14.0 | 12.4 | - | Triplicate Site with 3, 4 and 5 - Annual data provided for 5 only |
| 6 | 265641 | 673497 | 21.9 | 22.6 | 23.0 | 17.0 | 19.0 | 10.8 | 11.4 | 15.1 | 10.5 | 13.6 | 21.5 | 12.8 | 16.6 | 14.8 | - | |
| 7 | 265697 | 673524 | 18.9 | 29.3 | 27.6 | 22.2 | 19.3 | 11.1 | 12.8 | 20.0 | 19.2 | 14.2 | 19.4 | | 19.5 | 17.3 | - | |
| 8 | 265675 | 673516 | 19.7 | 30.1 | 26.7 | 21.3 | 17.7 | 14.0 | 14.2 | 14.1 | 13.9 | 12.7 | 15.1 | 13.0 | - | - | - | Triplicate Site with 8, 9 and 10 - Annual data provided for 10 only |
| 9 | 265675 | 673516 | 18.9 | 28.5 | 25.3 | 21.8 | 18.7 | 13.2 | 13.3 | 16.1 | 18.9 | 14.7 | 26.1 | 13.2 | - | - | - | Triplicate Site with 8, 9 and 10 - Annual data provided for 10 only |
| 10 | 265675 | 673516 | 23.1 | 29.6 | 26.2 | 19.8 | 19.7 | 11.9 | 13.8 | 15.3 | 17.1 | 15.1 | 24.9 | 9.8 | 18.5 | 16.5 | - | Triplicate Site with 8, 9 and 10 - Annual data provided for 10 only |
| 11 | 254218 | 672193 | 20.1 | 25.1 | 26.2 | 18.6 | 15.2 | 8.9 | 10.7 | 14.4 | 13.8 | 10.4 | 15.5 | 12.2 | 15.9 | 14.2 | | |
| 12 | 254655 | 670158 | 14.7 | 13.2 | 14.0 | 10.3 | 7.0 | 5.8 | 3.7 | 6.5 | 5.3 | 7.2 | 15.4 | 4.9 | 9.0 | 8.0 | | |
| 15 | 254275 | 672047 | 24.9 | 27.2 | 25.3 | 16.5 | 20.2 | 10.1 | 13.5 | 13.0 | 16.2 | 15.2 | 24.9 | 11.8 | 18.2 | 16.2 | | |
| 16 | 254751 | 670621 | 19.1 | 23.5 | 19.4 | 15.7 | 15.6 | 8.3 | 9.2 | 13.2 | 12.0 | 10.2 | 18.9 | 5.8 | 14.2 | 12.7 | | |
| 19 | 254877 | 671000 | 23.4 | 29.6 | 28.7 | 22.4 | 18.6 | 9.3 | 14.4 | 20.0 | 12.3 | | | 7.3 | 18.6 | 16.6 | | |
| 20 | 254898 | 671023 | 22.5 | 26.1 | 22.5 | 20.3 | 14.6 | 11.4 | 11.4 | 15.7 | 14.7 | 14.2 | 19.1 | 10.5 | 16.9 | 15.1 | | |
| 21 | 254269 | 672067 | 12.8 | 32.1 | 31.0 | 24.2 | 24.1 | 20.0 | 18.5 | 21.3 | 16.7 | 16.1 | 27.3 | 10.9 | - | - | - | Triplicate Site with 21, 22 and 23 - Annual data provided for 23 only |
| 22 | 254269 | 672067 | 20.4 | 34.2 | 30.2 | 22.2 | 24.6 | 23.7 | 15.4 | 18.6 | 14.2 | 16.2 | 25.9 | 10.5 | - | - | - | Triplicate Site with 21, 22 and 23 - Annual data provided for 23 only |
| 23 | 254269 | 672067 | 18.5 | 31.2 | 28.9 | 20.3 | 20.9 | 15.0 | 13.7 | 16.3 | 14.4 | 16.0 | 19.8 | 11.1 | 20.5 | 18.2 | - | Triplicate Site with 21, 22 and 23 - Annual data provided for 23 only |
| 24 | 255728 | 674486 | 27.0 | 20.9 | 19.9 | 15.4 | 12.6 | 5.9 | 9.3 | 9.8 | 14.1 | 7.6 | 12.5 | 8.7 | 13.6 | 12.1 | | |
| 26 | 255331 | 674214 | 16.6 | 23.1 | 13.7 | 17.0 | 16.3 | 9.5 | 11.5 | 15.0 | 12.2 | 6.6 | 17.9 | 14.0 | 14.5 | 12.9 | | |
| 27 | 255329 | 674114 | 15.5 | 18.6 | 16.3 | 14.5 | 11.3 | 11.5 | 7.2 | 10.3 | 11.9 | 6.3 | 20.6 | 8.1 | - | - | - | Triplicate Site with 27, 28 and 29 - Annual data provided for 29 only |
| 28 | 255329 | 674114 | 9.8 | 19.1 | 17.7 | 17.2 | 12.1 | 9.2 | 8.9 | 10.4 | 10.5 | 9.7 | 24.0 | 7.3 | - | - | - | Triplicate Site with 27, 28 and 29 - Annual data provided for 29 only |
| 29 | 255329 | 674114 | 13.7 | 21.5 | 19.3 | 14.7 | 11.8 | 7.7 | 6.4 | 10.2 | 8.4 | 10.8 | 18.7 | 8.0 | 12.8 | 11.4 | - | Triplicate Site with 27, 28 and 29 - Annual data provided for 29 only |
| 30 | 260580 | 669533 | 10.3 | 27.1 | 22.5 | | 14.0 | 12.5 | 7.5 | 12.6 | 14.6 | 13.8 | 16.4 | 9.1 | 14.6 | 13.0 | | |
| 31 | 260552 | 669320 | 22.7 | 28.2 | 24.5 | 17.8 | 17.5 | 10.5 | 8.2 | 14.7 | 14.8 | 13.8 | 17.1 | 7.6 | 16.5 | 14.6 | | |
| 32 | 254258 | 672077 | 16.2 | 33.5 | 33.4 | 27.7 | 24.2 | 24.1 | 13.5 | 17.8 | 17.7 | 19.8 | 18.4 | 8.6 | 21.2 | 18.9 | | |
| 33 | 254275 | 672069 | 17.1 | 28.5 | 23.9 | 18.9 | 22.6 | 16.6 | 15.9 | 19.3 | 14.9 | 18.5 | 21.0 | 11.6 | 19.1 | 17.0 | | |
| 34 | 265674 | 673521 | 16.7 | 23.7 | 20.9 | 15.4 | 17.1 | 8.9 | 10.7 | 12.4 | 14.1 | 12.5 | 19.3 | 5.7 | 14.8 | 13.2 | | |
| 35 | 261033 | 669650 | 12.6 | 16.6 | 14.0 | 7.1 | 8.3 | 5.9 | 2.1 | 12.7 | 6.1 | 6.1 | 1.7 | 5.2 | 8.2 | 7.3 | | |
| 36 | 260571 | 669339 | 24.5 | 29.9 | 24.7 | 22.6 | 20.5 | 13.4 | 10.8 | 20.4 | 18.9 | 15.2 | 21.4 | 8.0 | 19.2 | 17.1 | | |
| 37 | 260759 | 669999 | 22.5 | 28.9 | 25.8 | 17.4 | 15.0 | 10.6 | 10.6 | 14.0 | 15.6 | 13.6 | 18.5 | 8.1 | 16.7 | 14.9 | | |
| 39 | 260617 | 670338 | 11.4 | 13.2 | 15.2 | 11.8 | 7.3 | 3.8 | 3.1 | 3.6 | 6.9 | 8.8 | 14.6 | 6.5 | 8.9 | 7.9 | | |
| 40 | 265602 | 673583 | 16.1 | 19.6 | 18.8 | 14.0 | 11.5 | 10.7 | 6.5 | 8.9 | 8.8 | 10.7 | 9.4 | 8.3 | 11.9 | 10.6 | | |

| DT ID | X OS Grid Ref (Easting) | Y OS Grid Ref (Northing) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual Mean: Raw Data | Annual Mean: Annualised and Bias Adjusted (0.89) | Annual Mean: Distance Corrected to Nearest Exposure | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 255403 | 673236 | 19.4 | 18.4 | 18.6 | 13.1 | 9.2 | 7.4 | 5.6 | 7.3 | 8.9 | 12.4 | 17.5 | 9.3 | 12.3 | 10.9 | - | |
| 48 | 262112 | 670517 | 14.4 | 19.5 | 20.6 | 14.1 | 10.3 | 5.2 | 7.2 | 13.1 | 8.6 | 13.0 | - | 6.4 | 12.0 | 10.7 | - | |
| 49 | 262398 | 669436 | 14.5 | 23.1 | 23.5 | 19.1 | 15.5 | 10.6 | 9.2 | 9.7 | 12.4 | 27.7 | 22.7 | 8.9 | 16.4 | 14.6 | - | |
| 50 | 255183 | 674409 | 10.4 | 16.9 | 21.0 | 13.1 | 10.5 | 7.2 | 6.9 | 9.1 | 6.6 | 11.7 | 13.8 | 7.7 | 11.2 | 10.0 | - | |

☒ **All erroneous data has been removed from the $NO_2$ diffusion tube dataset presented in Table B.1.**

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Local bias adjustment factor used.**

☐ **National bias adjustment factor used.**

☒ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

☒ **East Dunbartonshire Council confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

**Notes:**

Exceedances of the $NO_2$ annual mean objective of 40µg/$m^3$ are shown in **bold**.

$NO_2$ annual means exceeding 60µg/$m^3$, indicating a potential exceedance of the $NO_2$ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

# Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

## New or Changed Sources Identified Within East Dunbartonshire During 2023

East Dunbartonshire Council has not identified any new sources relating to air quality within the reporting year of 2023.

## Additional Air Quality Works Undertaken by East Dunbartonshire During 2023

East Dunbartonshire has not completed any additional works within the reporting year of 2023.

## QA/QC of Diffusion Tube Monitoring

The diffusion tubes are supplied and analysed by Glasgow Scientific Services (GSS) and are prepared using the 20% TEA in water method and in accordance with the procedures set out in the practical guidance. Glasgow Scientific Services (GSS) Laboratory is UKAS accredited for the analysis of Diffusion tubes. Diffusion tube monitoring was undertaken in accordance with the diffusion tube calendar provided by Defra. All results have been bias adjusted and annualised where required.

### Diffusion Tube Annualisation

All diffusion tube monitoring locations within East Dunbartonshire Council recorded data capture of 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

### Diffusion Tube Bias Adjustment Factors

East Dunbartonshire have applied a local bias adjustment factor of 0.89 to the 2023 monitoring data. A summary of bias adjustment factors used by East Dunbartonshire Council over the past five years is presented in Table C.1. One co-location study was undertaken by East Dunbartonshire Council in 2023, this co-location study was utilised given

good data capture to provide a single local bias adjustment factor for 2023 in line with guidance provided within LAQM.TG22 Chapter 7. The local bias adjustment can be seen in Table C.5. In previous years, East Dunbartonshire have used 4 co-location studies, however in 2023 3 of the co-location sites reported poor data capture and poor overall precision therefore have not been used to determine a local bias adjustment. This local bias adjustment factor was applied to all diffusion tube monitoring data undertaken in 2023.

**Table C.1 – Bias Adjustment Factor**

| Year | Local or National | If National, Version of National Spreadsheet | Adjustment Factor |
|---|---|---|---|
| 2023 | Local | - | 0.89 |
| 2022 | Local | - | 0.89 |
| 2021 | Local | - | 0.97 |
| 2020 | Local | - | 0.95 |
| 2019 | Local | - | 0.85 |

### $NO_2$ Fall-off with Distance from the Road

No diffusion tube $NO_2$ monitoring locations within East Dunbartonshire Council required distance correction during 2023.

## QA/QC of Automatic Monitoring

All automatic sites are part of the Scottish Air Quality Programme and are audited twice per year by Ricardo. Servicing, repair and LSO duties are carried out by Acoem UK. Service contracts include six monthly service of instruments, call outs to site for faults and repairs, and the routine replacement of consumables. All data is available in real-time, and regularly scaled and ratified by Ricardo on behalf of the Scottish Government.

### $PM_{10}$ and $PM_{2.5}$ Monitoring Adjustment

The type of $PM_{10}$/$PM_{2.5}$ monitor(s) utilised within East Dunbartonshire Council do not require the application of a correction factor.

### Automatic Monitoring Annualisation

The LAQM.TG(22) states that annualisation is required for any site which has a data capture of less than 75%, but greater than 25%. Three automatic monitoring sites recorded below the acceptable data capture in 2023 for $NO_2$, $PM_{10}$ and $PM_{2.5}$, therefore required annualisation. Annualisation was carried out for the annual mean $NO_2$ at Milngavie (with data capture of 39.9%), $PM_{10}$ at Bearsden and Bishopbriggs (with data captures of 68.3% and 74.5%, respectively) and $PM_{2.5}$ at Bearsden and Bishopbriggs (with data captures of 68.4% and 74.5%, respectively). Four continuous background monitoring locations within a 50 mile radius were selected to annualise the data:

- Glasgow Townhead ($NO_2$, $PM_{10}$, $PM_{2.5}$)
- Edinburgh St Leonards ($NO_2$)
- Bush Estate ($NO_2$); and
- Auchencorth Moss ($PM_{10}$, $PM_{2.5}$)

These continuous background monitoring sites all had >85% data capture in 2023 and therefore could be used for annualisation. Table C.2 – Table C.4 presents the annualisation summary.

### $NO_2$ Fall-off with Distance from the Road

No automatic $NO_2$ monitoring locations within East Dunbartonshire Council required distance correction during 2023.

### Table C.2 – Annualisation Summary for Automatic Monitors for Annual Mean $NO_2$

| Site ID | Annualisation Factor Glasgow Townhead | Annualisation Factor Edinburgh St Leonards | Annualisation Factor Bush Estate | Average Annualisation Factor | Raw Data Annual Mean | Annualised Annual Mean | Comments |
|---|---|---|---|---|---|---|---|
| EDB4 | 0.8 | 0.8 | 0.8 | 0.8 | 17.4 | 13.7 | |

### Table C.3 – Annualisation Summary for Automatic Monitors for Annual Mean $PM_{10}$

| Site ID | Annualisation Factor Glasgow Townhead | Annualisation Factor Edinburgh St Leonards | Annualisation Factor Auchencorth | Average Annualisation Factor | Raw Data Annual Mean | Annualised Annual Mean | Comments |
|---|---|---|---|---|---|---|---|
| EDB1 | 1.11 | 1.11 | 1.19 | 1.14 | 10.1 | 11.5 | |
| EDB2 | 0.94 | 0.98 | 0.93 | 0.95 | 10.7 | 10.1 | |

### Table C.4 – Annualisation Summary for Automatic Monitors for Annual Mean $PM_{2.5}$

| Site ID | Annualisation Factor Glasgow Townhead | Annualisation Factor Edinburgh St Leonards | Annualisation Factor Auchencorth | Average Annualisation Factor | Raw Data Annual Mean | Annualised Annual Mean | Comments |
|---|---|---|---|---|---|---|---|
| EDB1 | 1.11 | 1.13 | 1.19 | 1.14 | 5.3 | 6.1 | |
| EDB2 | 0.95 | 0.98 | 0.92 | 0.95 | 5.2 | 4.9 | |

### Table C.5 – Local Bias Adjustment Calculations

| | Local Bias Adjustment Input |
|---|---|
| **Periods used to calculate bias** | 11 |
| **Bias Factor A** | 0.89 (0.78 - 1.04) |
| **Bias Factor B** | 12% (-4% - 28%) |
| **Diffusion Tube Mean (µg/m$^3$)** | 18.2 |
| **Mean CV (Precision)** | 7.7% |
| **Automatic Mean (µg/m$^3$)** | 16.3 |
| **Data Capture** | 99% |
| **Adjusted Tube Mean (µg/m$^3$)** | 16 (14 - 19) |

Notes:

A single local bias adjustment factor has been used to bias adjust the 2023 diffusion tube results.

# Appendix D: Maps Showing the Location of Monitoring Sites

**Figure D.1 – Map of Monitoring Sites in Bishopbriggs**

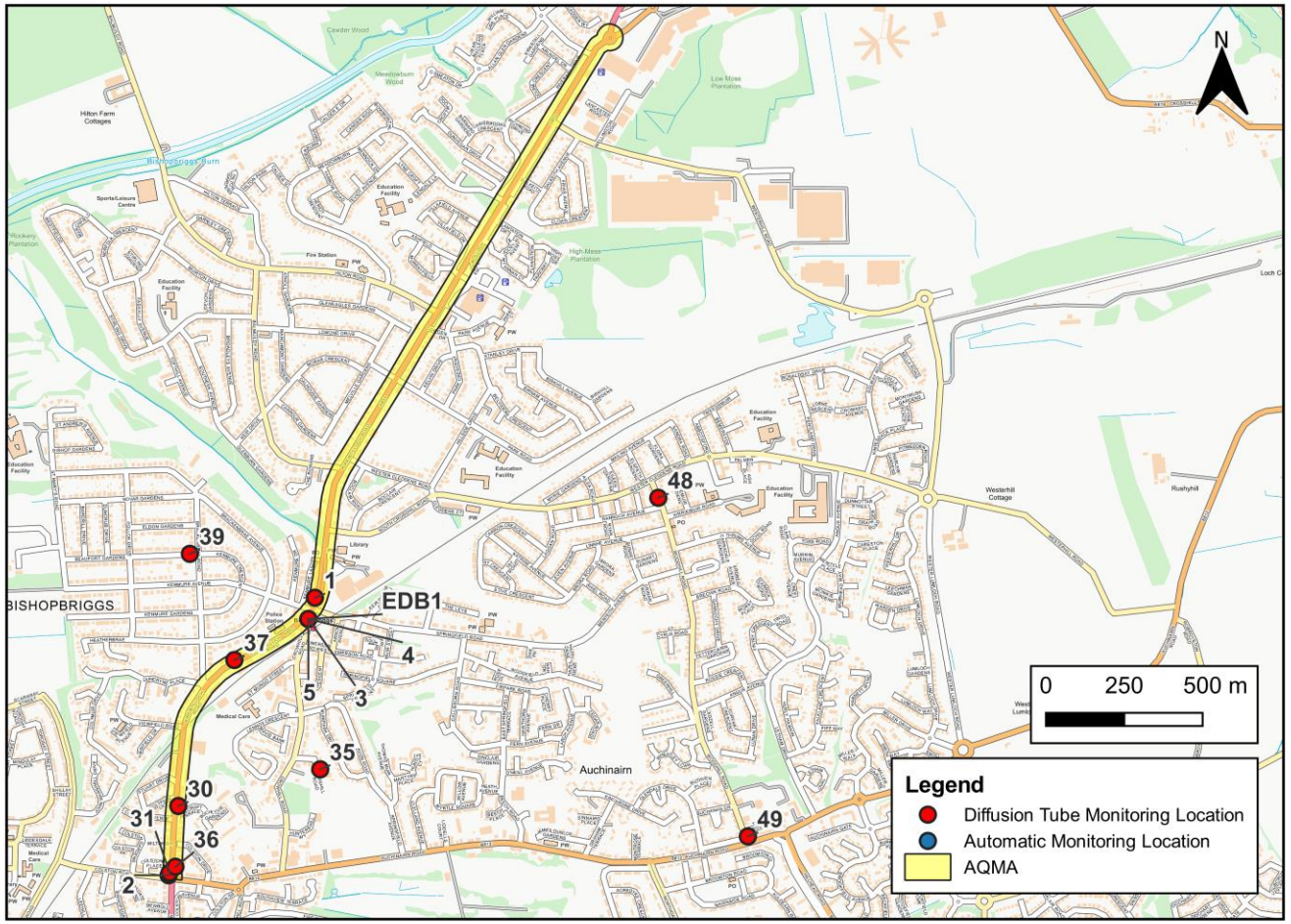


**Figure D.2 – Map of Monitoring Sites in Bearsden**

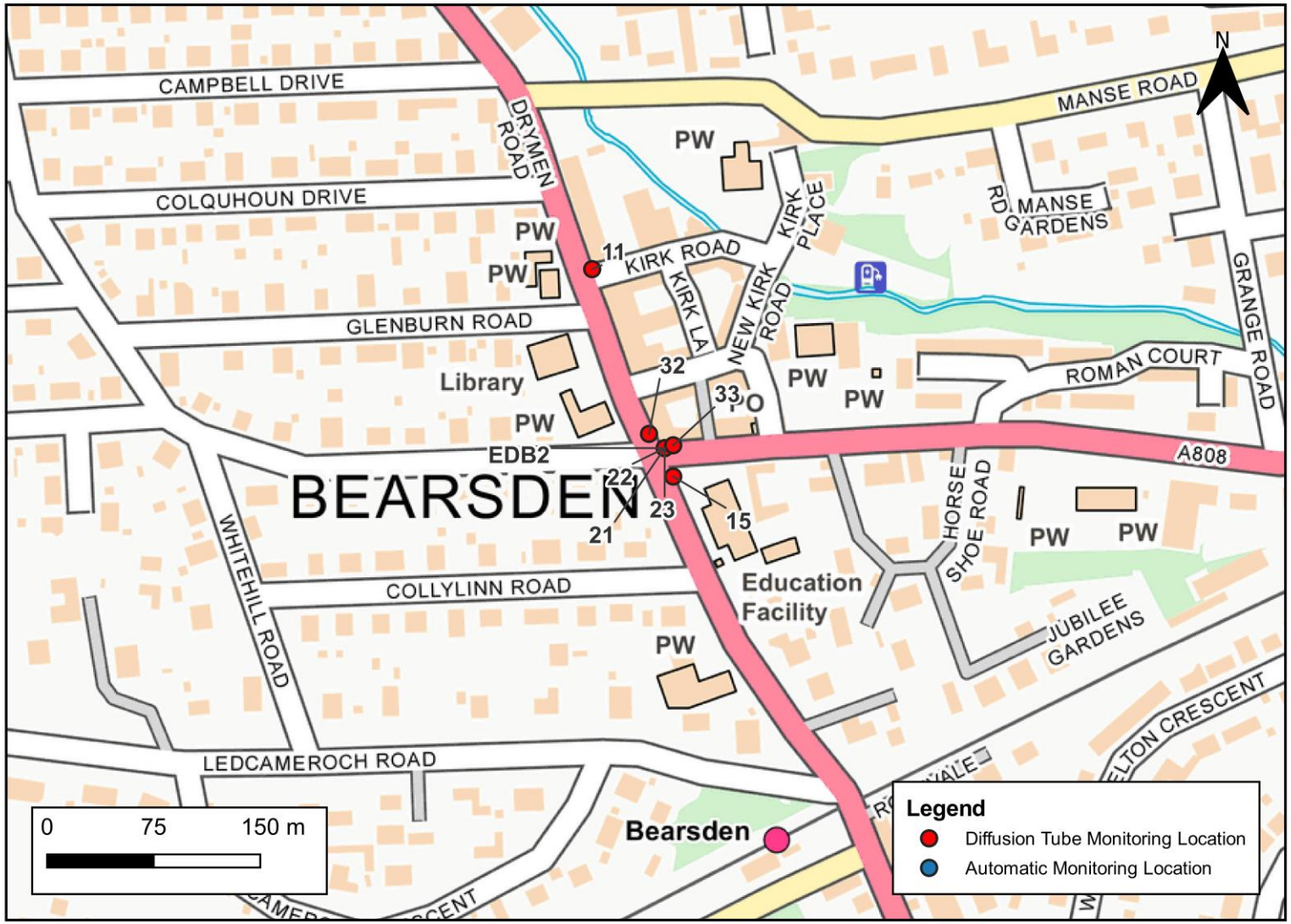


**Figure D.3 – Map of Monitoring Sites in Milngavie**

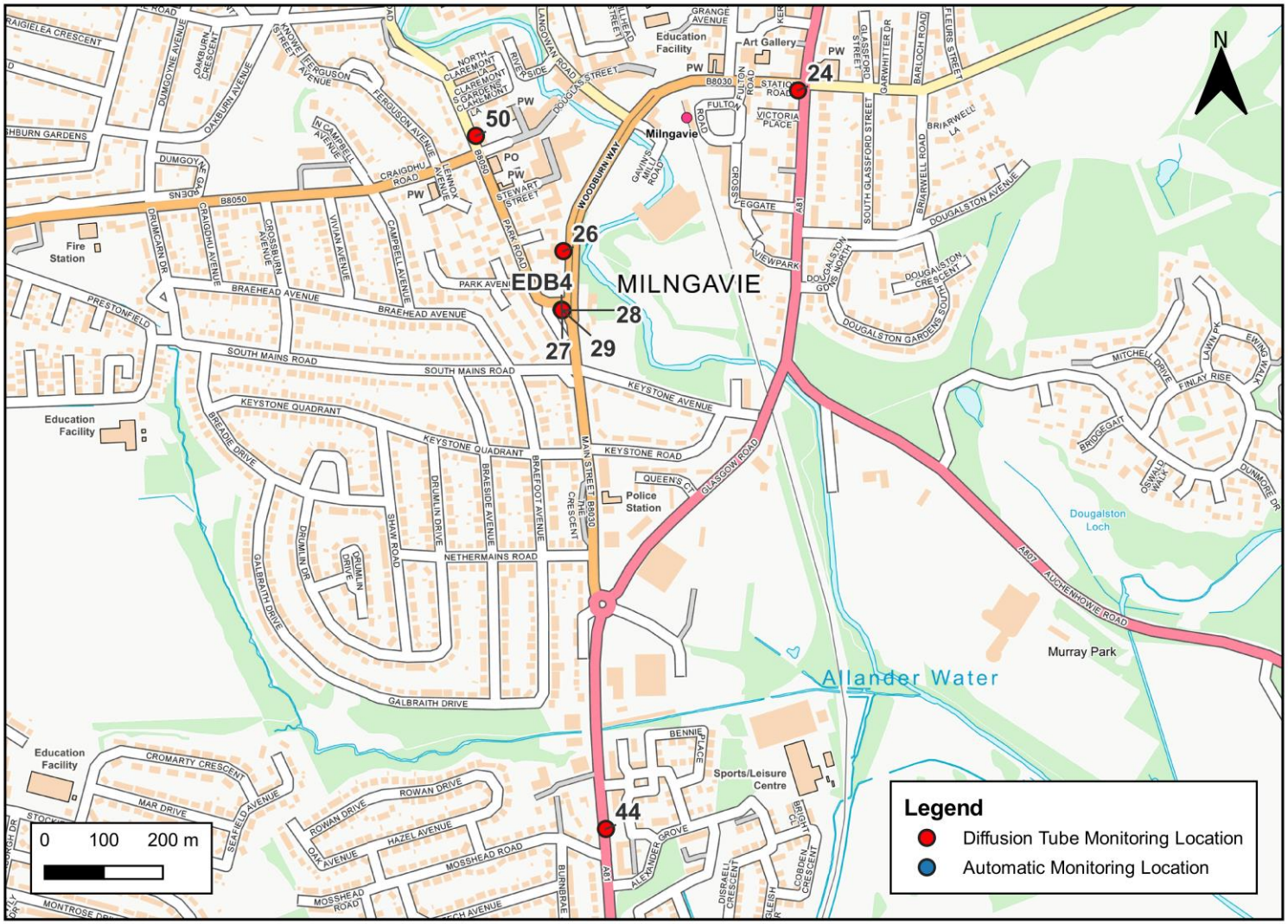


**Figure D.4 – Map of Monitoring Sites in Kirkintilloch**

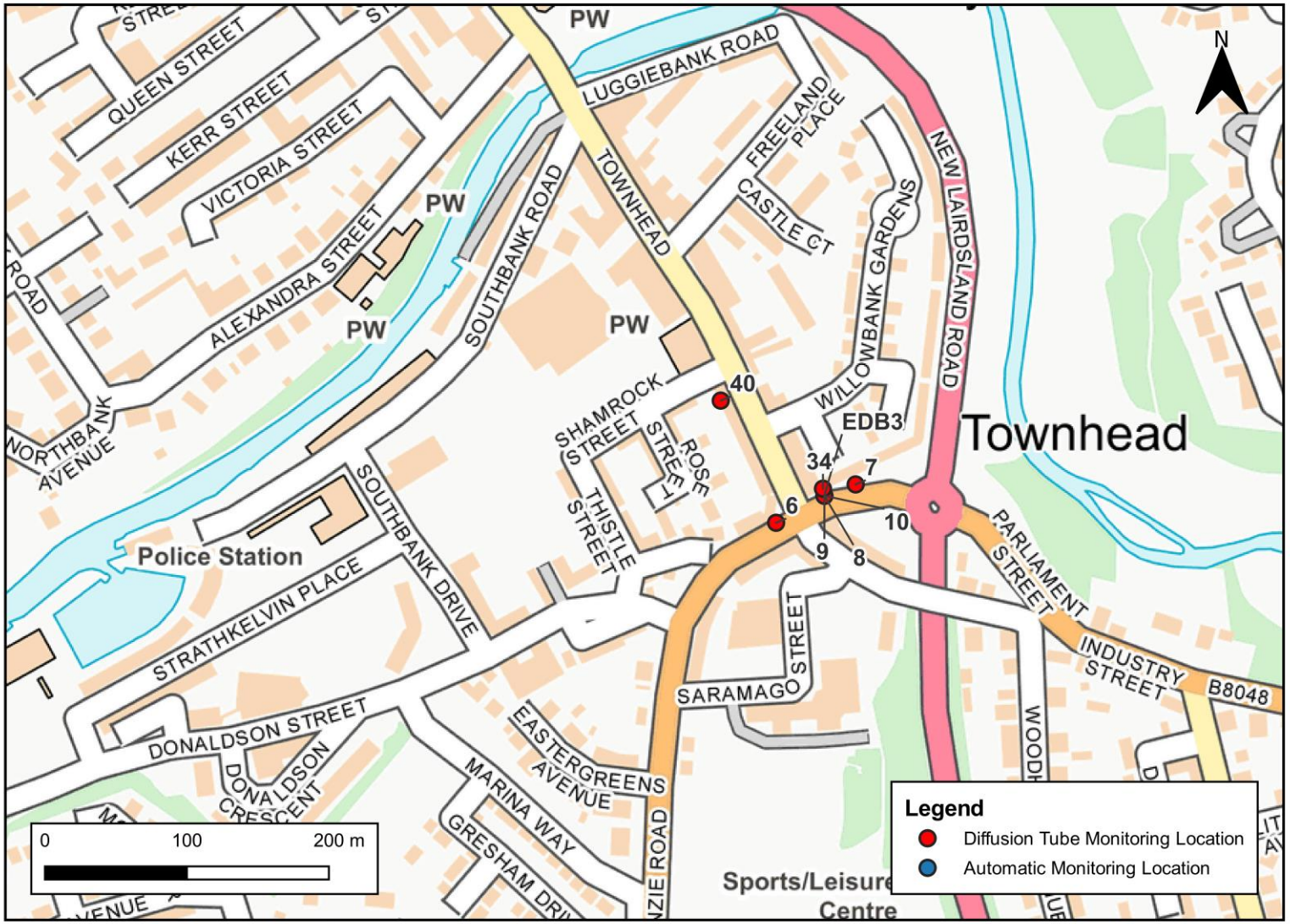
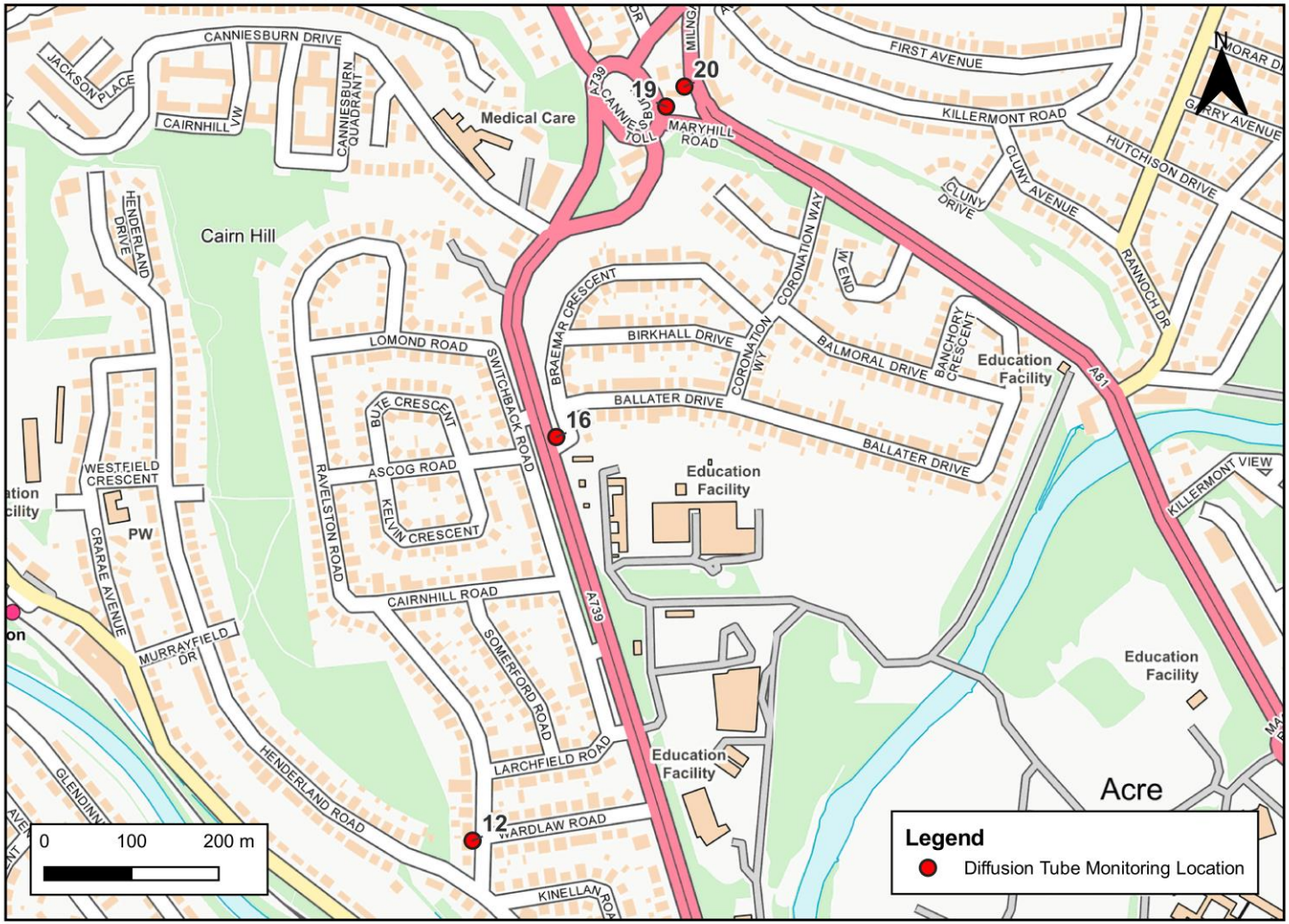


**Figure D.5 – Map of Monitoring Sites in Acre**



# Glossary of Terms

| Abbreviation | Description |
|---|---|
| AQAP | Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA intends to achieve air quality limit values' |
| AQMA | Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives |
| APR | Annual Progress Report |
| AURN | Automatic Urban and Rural Network (UK air quality monitoring network) |
| Defra | Department for Environment, Food and Rural Affairs |
| DMRB | Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England |
| DT | Diffusion Tube |
| FDMS | Filter Dynamics Measurement System |
| LAQM | Local Air Quality Management |
| $NO_2$ | Nitrogen Dioxide |
| $NO_X$ | Nitrogen Oxides |
| $PM_{10}$ | Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less |
| $PM_{2.5}$ | Airborne particulate matter with an aerodynamic diameter of 2.5µm or less |
| QA/QC | Quality Assurance and Quality Control |
| $SO_2$ | Sulphur Dioxide |

# References


- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
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