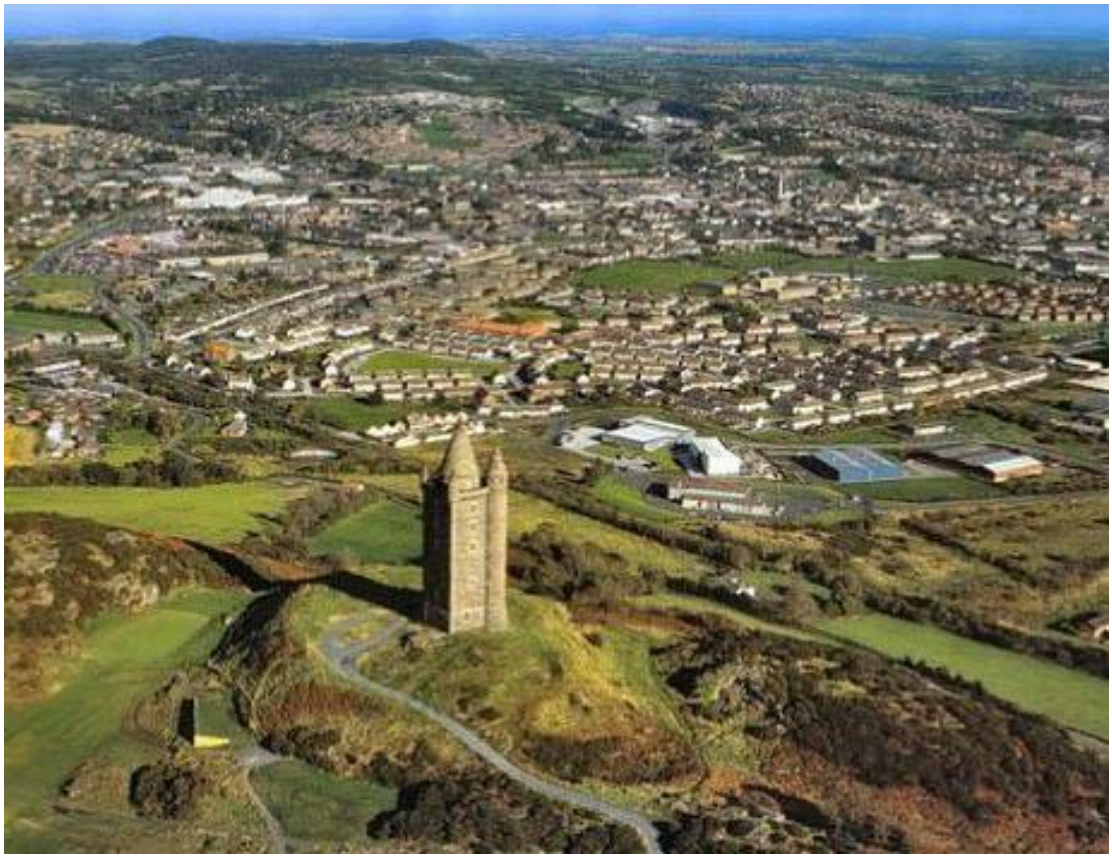
# Ards and North Down Borough Council

## 2025 Air Quality Progress Report

In fulfillment of Environment (Northern Ireland) Order 2002
Local Air Quality Management
June 2025



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|---|---|
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| **Date** | June 2025 |

# Executive Summary

The Air Quality Strategy has established the framework for air quality management in the UK. Local Authorities have a duty under the Environment Act 1995 and subsequent regulations to review and assess air quality in their areas on a periodic basis to identify all areas where the air quality objectives are being or are likely to be exceeded. A phased approach has been adopted for the review and assessment process so that the level of assessment undertaken is commensurate with the risk of an exceedance of an air quality objective.

An updating and screening assessment (USA) is required to be prepared every three years by all local authorities in the UK. The last updating and screening assessment of air quality was undertaken in 2024.

This report is the 2025 progress report for Ards and North Down Borough Council (ANDBC) and has been completed using the recommended template. The assessment is fully compliant with the applicable policy and technical guidance. This report identified no exceedances of the Air Quality Strategy objectives for 2024 for any of the pollutants assessed with relevant exposure, planning applications have been examined by ANDBC Environmental Health, Protection and Development Department to determine if an air quality impact assessment is required.

$NO_2$ levels due to vehicle emissions remain the main source of concern within ANDBC, it is a popular residential area due to the easy commute to Belfast city centre. The automatic monitoring site in Holywood is position on the A2 Bangor to Belfast main route to the city centre, where the highest traffic flow is recorded within the Borough. The $NO_2$ results showed a reduction in emissions in 2020 and 2021, likely to have been a result of the lower traffic flows due to the COVID pandemic, levels have increased slightly in 2022, but in 2024 still remain lower than the pre-pandemic levels, possibly due to changes in working patterns and the growing popularity of low emission vehicles, the trend over the past 5 years show no significant change in the $NO_2$ results which have remained below the objective at all monitoring locations. Two new $NO_2$ monitoring sites were established in 2024, the Portaferry Road in Newtownards and Donaghadee Town Centre where traffic can become congested with relevant exposure.

Monitoring will continue in 2025 on the A2 main arterial route into Belfast City and hot spots around the Borough where traffic congestion is common at rush hour. The

large housing development in the Movilla area of Newtownards is now established and new phases have commenced, a new link road has commenced to improve traffic flows when building work is completed, this will join with a new housing development on the Bangor Road which commenced in 2024, during the planning process these and other smaller housing developments were examined by the Environmental Department and were found to have no significant impact on Air Quality. Ards & North Down Borough Council are actively working towards improving Air Quality within the Borough, there are plans to extend existing coastal Green Ways and construct new cycle and pedestrian routes that connect with the Belfast cycle route and the City Centre, also giving easy access to the new Belfast Rapid Transport System from Dundonald, Translink are also planning to develop a new 450 space Park & Ride in Newtownards on the lands of the former council leisure centre. ANDBC launched a new initiative in 2019 in primary schools “Engine off Prevent the Cough”, educating pupils and parents to the harmful emissions from vehicles with the emphasis on idling engines outside schools, this remains available to schools and has been extended to public carparks to educate drivers.

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# 1 Introduction

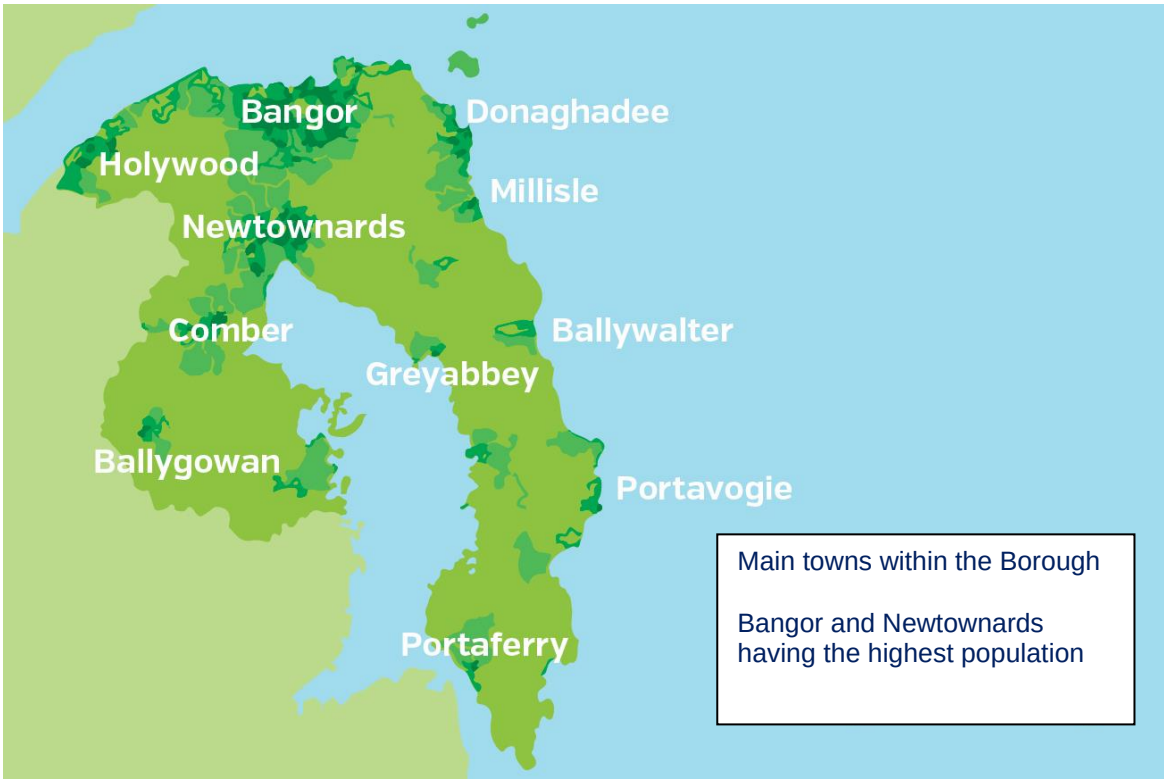
## 1.1 Description of Local Authority Area

Ards and North Down Borough Council is one of 11 councils in Northern Ireland, with a population of 162,714. The Borough is of mixed urban and rural character situated east of Belfast City and the two largest towns Bangor and Newtownards are popular residential areas due to the ease of commute to Belfast City. It is an area of outstanding natural beauty and special scientific interest bounded by over 100 miles of coastline and the prevailing wind direction is south-westerly.

Air Quality in ANDBC is generally good as there is good ventilation from sea breezes. There are few industrial processes in the area that are significantly detrimental to air quality and heavy fuel oil is not widely used for heat generation, solid fuel is still very popular as a secondary fuel. However, there are a number of very busy trunk roads in the area and four main arterial routes into Belfast, the busiest being the A2 commuter route from Bangor to Belfast with approximate average daily traffic flows of over 44,000 vehicle movements per day at Holywood, this remains the main area of concern with relation to Air Quality, for Nitrogen Dioxide and $PM_{10}$. Several monitoring sites are located at relevant exposure along this main arterial route to Belfast. Other sites are located at congested points throughout Newtownards, Bangor, Comber and Donaghadee town centers. All present monitoring within the Borough indicates that the objectives in the air quality strategy are not currently being exceeded at relevant exposure.

**Figure 1.1 Map of Ards and North Down Borough Council within Northern Ireland**


**Figure 1.2 Ards and North Down Borough Council area**



## 1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in the Environment (Northern Ireland) Order 2002, the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 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 the air quality objectives are likely to be achieved. Where exceedances are considered likely, the local authority must then 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.

For Local Authorities in Northern Ireland, Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the LAQM process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedance of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately and not wait until the next round of Review and Assessment.

## 1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in Northern Ireland** are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre µg/$m^3$ (milligrams per cubic metre, mg/$m^3$ for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

## Table 1.1 – Air Quality Objectives included in Regulations for the purpose of LAQM in Northern Ireland

| Pollutant | Air Quality Objective | | Date to be achieved by |
|---|---|---|---|
| | Concentration | Measured as | |
| **Benzene** | 16.25 µg/m$^3$ | Running annual mean | 31.12.2003 |
| | 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 |
| **Carbon monoxide** | 10 mg/m$^3$ | Running 8-hour mean | 31.12.2003 |
| **Lead** | 0.50 µg/m$^3$ | Annual mean | 31.12.2004 |
| | 0.25 µg/m$^3$ | Annual mean | 31.12.2008 |
| **Nitrogen dioxide** | 200 µg/m$^3$ not to be exceeded more than 18 times a year | 1-hour mean | 31.12.2005 |
| | 40 µg/m$^3$ | Annual mean | 31.12.2005 |
| **Particulate matter ($PM_{10}$) (gravimetric)** | 50 µg/m$^3$, not to be exceeded more than 35 times a year | 24-hour mean | 31.12.2004 |
| | 40 µg/m$^3$ | Annual mean | 31.12.2004 |
| **Sulphur dioxide** | 350 µg/m$^3$, not to be exceeded more than 24 times a year | 1-hour mean | 31.12.2004 |
| | 125 µg/m$^3$, not to be exceeded more than 3 times a year | 24-hour mean | 31.12.2004 |
| | 266 µg/m$^3$, not to be exceeded more than 35 times a year | 15-minute mean | 31.12.2005 |

## 1.4 Summary of Previous Review and Assessments

Local authorities in Northern Ireland amalgamated on 1st April 2015 creating 11 new councils, the following reports have been submitted by ANDBC since the amalgamation.

| | |
|---|---|
| 2015 Update and Screening Assessment | All sites were below the air quality objective |
| 2016 Progress report | All sites were below the air quality objective |
| 2017 Progress report | All sites were below the air quality objective |
| 2018 Update and Screening Assessment | All sites were below the air quality objective |
| 2019 Progress report | All sites were below the air quality objective |
| 2020 Progress report | All sites were below the air quality objective |
| 2021 Update and Screening Assessment | All sites were below the air quality objective |
| 2022 Progress report | All sites were below the air quality objective |
| 2023 Progress report | All sites were below the air quality objective |
| 2024 Update and Screening Assessment | All sites were below the air quality objective |

# 2 New Monitoring Data

## 2.1 Summary of Monitoring Undertaken

### 2.1.1 Automatic Monitoring Sites

ANDBC has one automatic monitoring site on the A2 in Holywood, monitoring $NO_2$ and $PM_{10}$ and $PM_{2.5}$. Manual calibrations are carried out by the Local Air Quality officer. Air Quality Data Management (AQDM) are employed to ratify and validate the data. A specialist engineer is employed to service and maintain the site as required. Results and correction factors are detailed in Appendix A.

In 2024 a co-location study for the $NO_2$ diffusion tubes was also carried out at this site. Results from this study were submitted to the March 2025 national data base.

Results and correction factors are detailed in Appendix A.

**Figure 2.1 Position of the automatic air monitoring site within ANDBC**

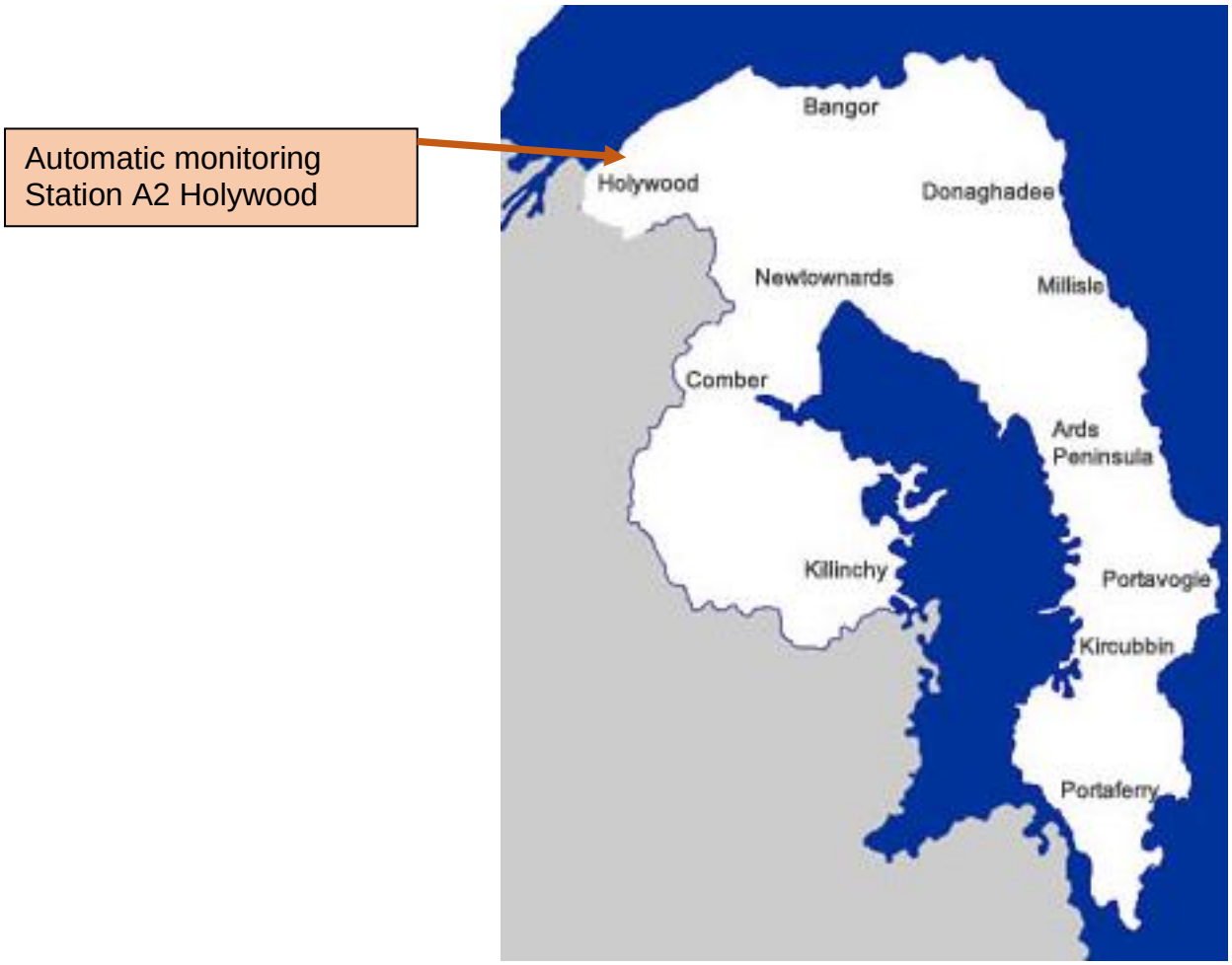


**Figure 2.2 Position of Automatic Monitoring Site on the A2 Holywood**

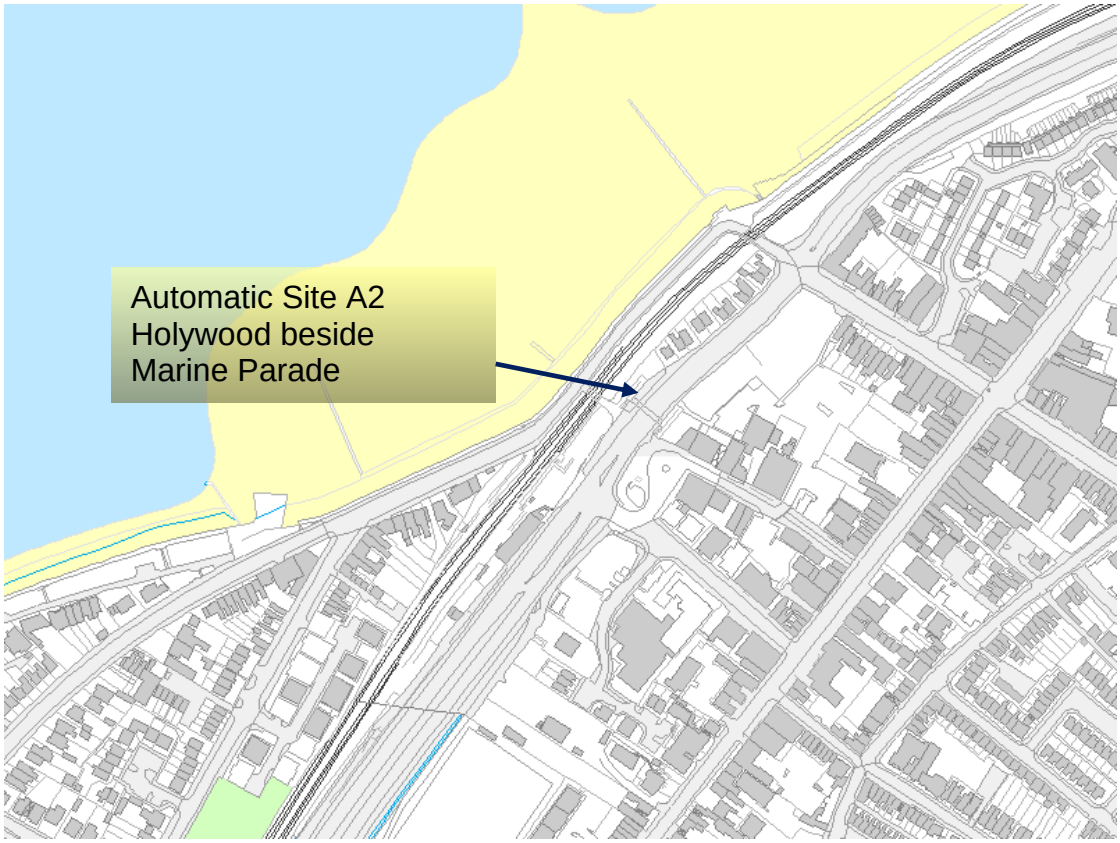



**Figure 2.3 Aerial photo of Automatic Monitoring Station A2 Holywood**

**Table 2.1 – Details of Automatic Monitoring Sites**

| **Site Name** | **Site Type** | **Irish Grid Reference** | **Irish Grid Reference** | **Inlet Height (m)** | **Pollutants Monitored** | **In AQMA?** | **Monitoring Technique** | **Relevant Exposure ?** (Y/N with distance (m) from monitoring site to relevant exposure) | **Distance to Kerb of Nearest Road (m)** (N/A if not applicable) | **Does this Location Represent Worst-Case Exposure?** |
|---|---|---|---|---|---|---|---|---|---|---|
| Marine Parade Holywood A2 | Roadside | X339481 | Y379328 | 2 | $PM_{10}$, $PM_{2.5}$<br>$NO_2$ | N | FIDAS 200<br>Chemiluminescence | YES 30m | 4.6M | YES |

### 2.1.2 Non-Automatic Monitoring Sites

In 2024 ANDBC had 15 $NO_2$ diffusion tube sites. Seven are positioned along the A2 main arterial route into Belfast from Bangor at roadside and on one on the facade of the closest dwelling to the roadside, four of these sites are located at the Holywood junction where traffic flows are at their highest and there are a number of roadside residential properties. The remainder of the tubes are at relevant exposure at various hotspots where there is traffic congestion at rush hour in Newtownards, Bangor, Comber, Donaghadee and Holywood, and where further development has been planned. A decision was made to in 2023 to cease monitoring at the Outer Ring Bangor, as the results for $NO_2$ at these locations remained well below the objective, these tubes in 2024 were moved to new positions, the Portaferry Road in Newtownards, and Donaghadee Town centre within the borough that have relevant exposure, and where traffic can be extremely heavy at times.

A co-location study is carried out at the automatic site in Holywood, the results of the co-located study were submitted into the national data base and included in the March 2025 data sheet. It has not been possible to determine a trend from the diffusion tube studies for the past five years (See Fig. 2.16), in 2020 there was a significant reduction at all the $NO_2$ sites, however this was during the COVID 19 pandemic, during lockdown the traffic flows on all the main routes in the Borough leading to Belfast City centre were greatly reduced, results have remained lower than the pre COVID levels, possibly due to changes in working patterns and the increased popularity of low emission vehicles.

The $NO_2$ diffusion tubes were supplied and analysed by Gradko Environmental.

The bias adjustment factor from the co-location study is **0.69.**, this was calculated using the R&A support precision and accuracy spread sheet. A decision was made to apply the national figure of **0.84** as this is the average of a number of studies and deemed to be a more realistic figure.

Details of the QA/QC for the diffusion tubes and the reason for the use of the bias adjustment factor can be found in Appendix A

Below are maps of the diffusion tube sites.

**Figure 2.4 Map(s) of Non-Automatic Monitoring Sites**

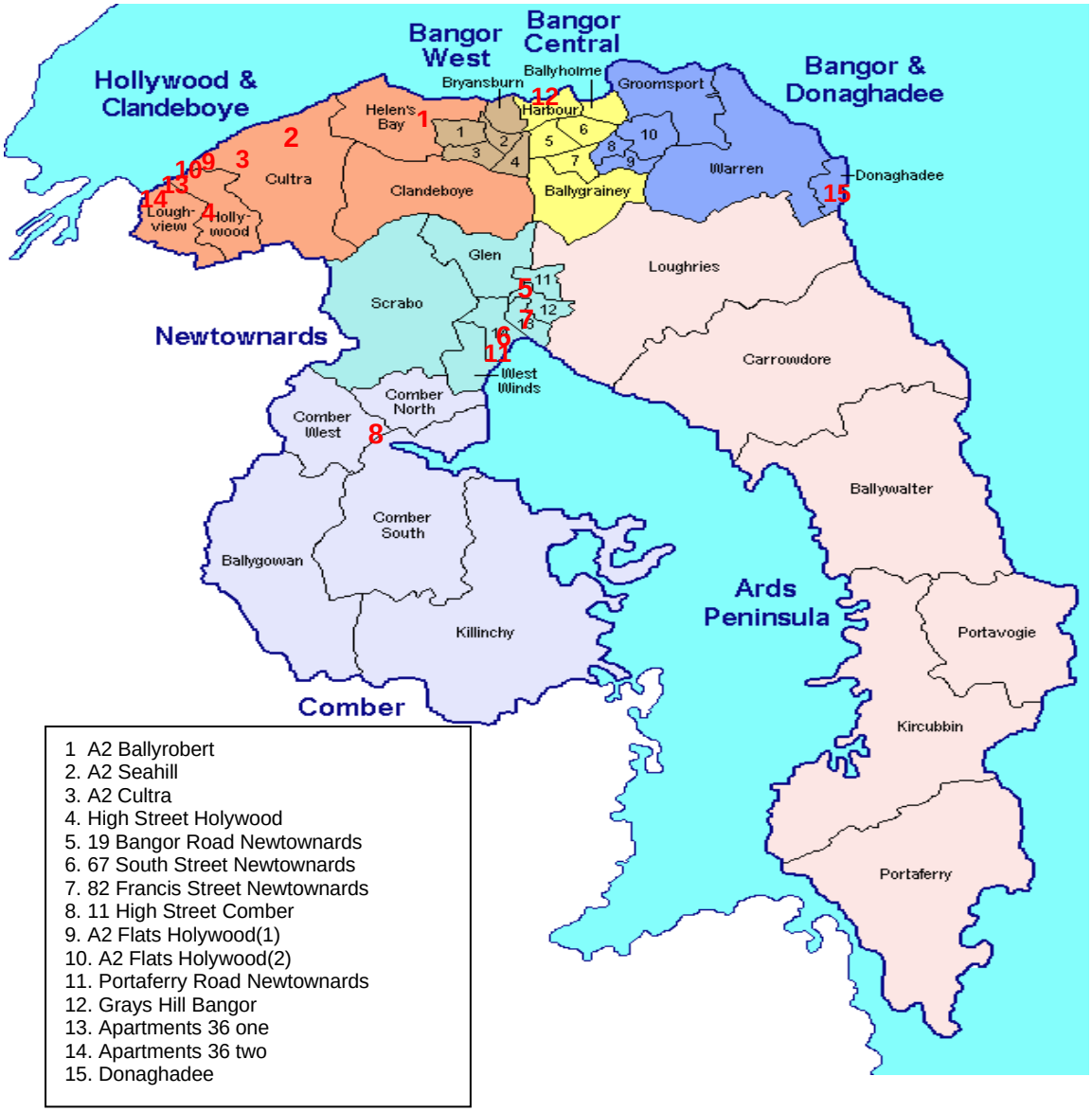


**Figure 2.5 Position of Diffusion tube sites 5-7 in Newtownards**

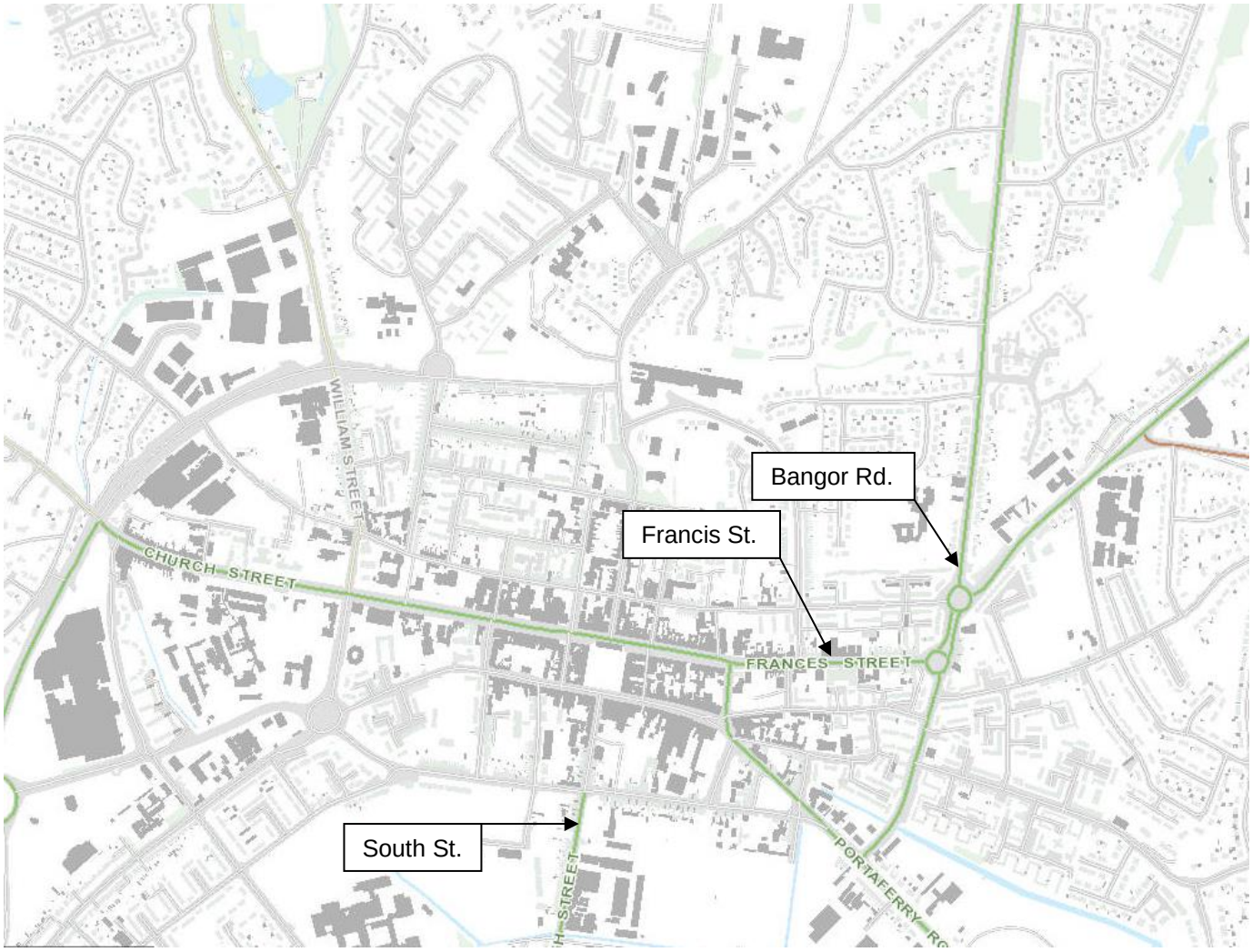
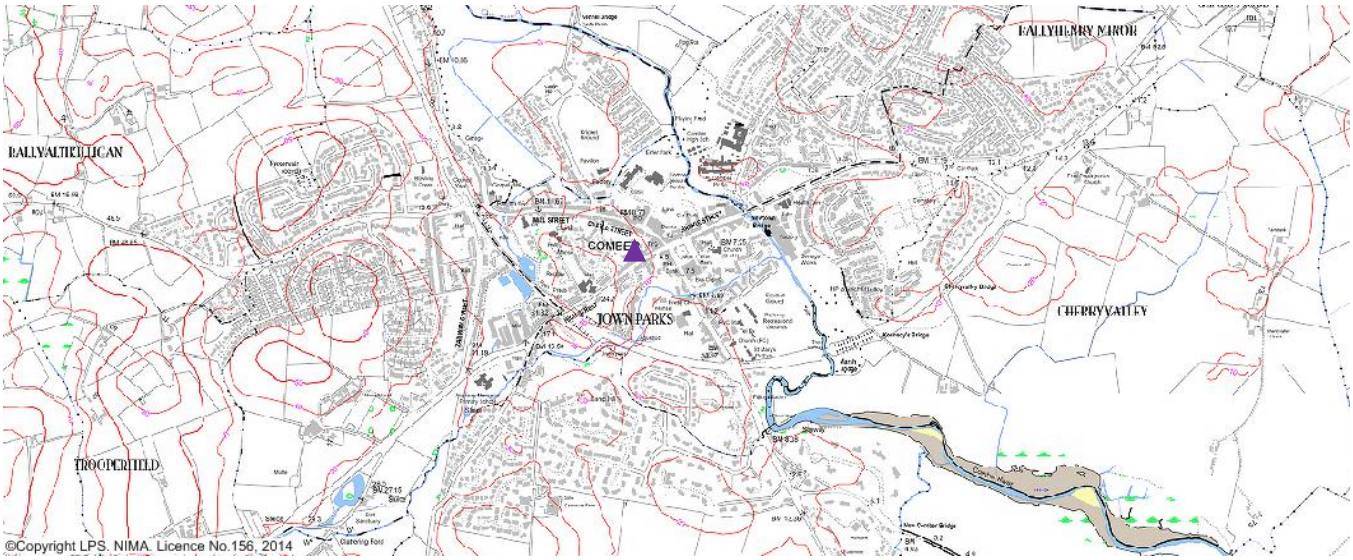
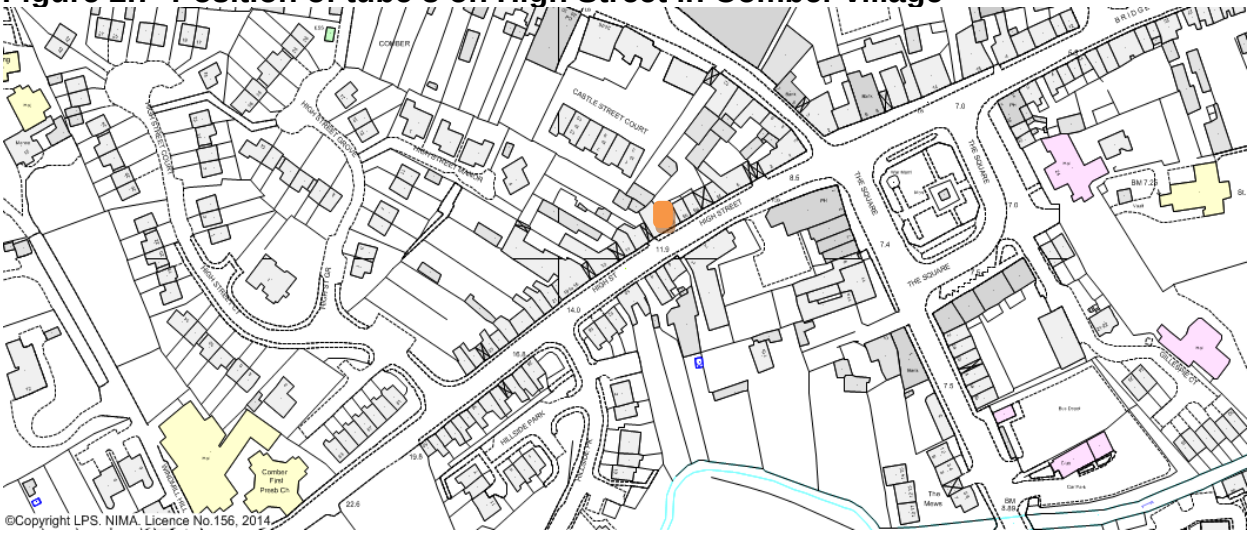



**Figure 2.6 Position of tube 8 in Comber village**




▲ Position of diffusion tube in Comber Village Centre

**Figure 2.7 Position of tube 8 on High Street in Comber village**




Position of diffusion tube 8 - High Street Comber

**Figure 2.8 Position of tubes 1-4,9,10,13,14 on and near A2**

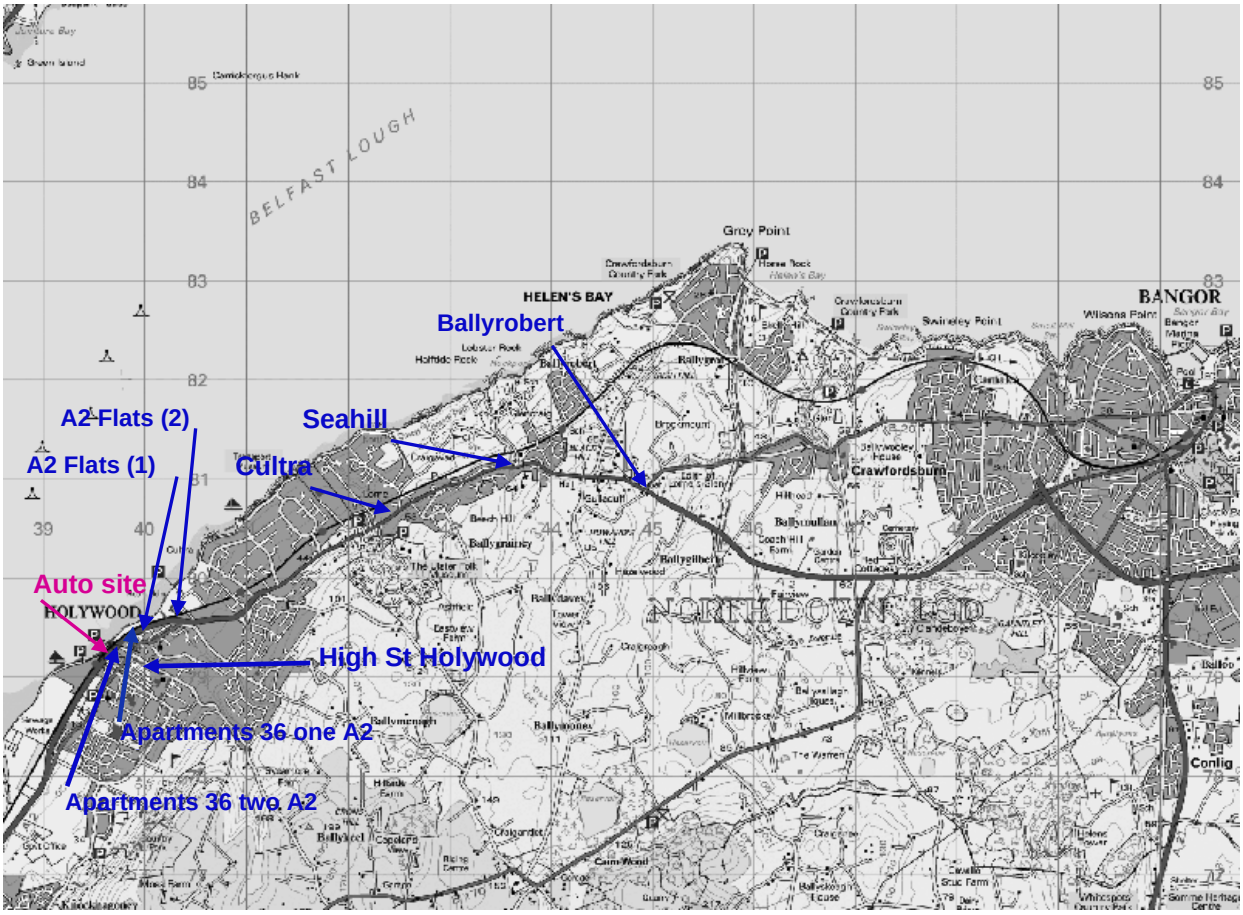
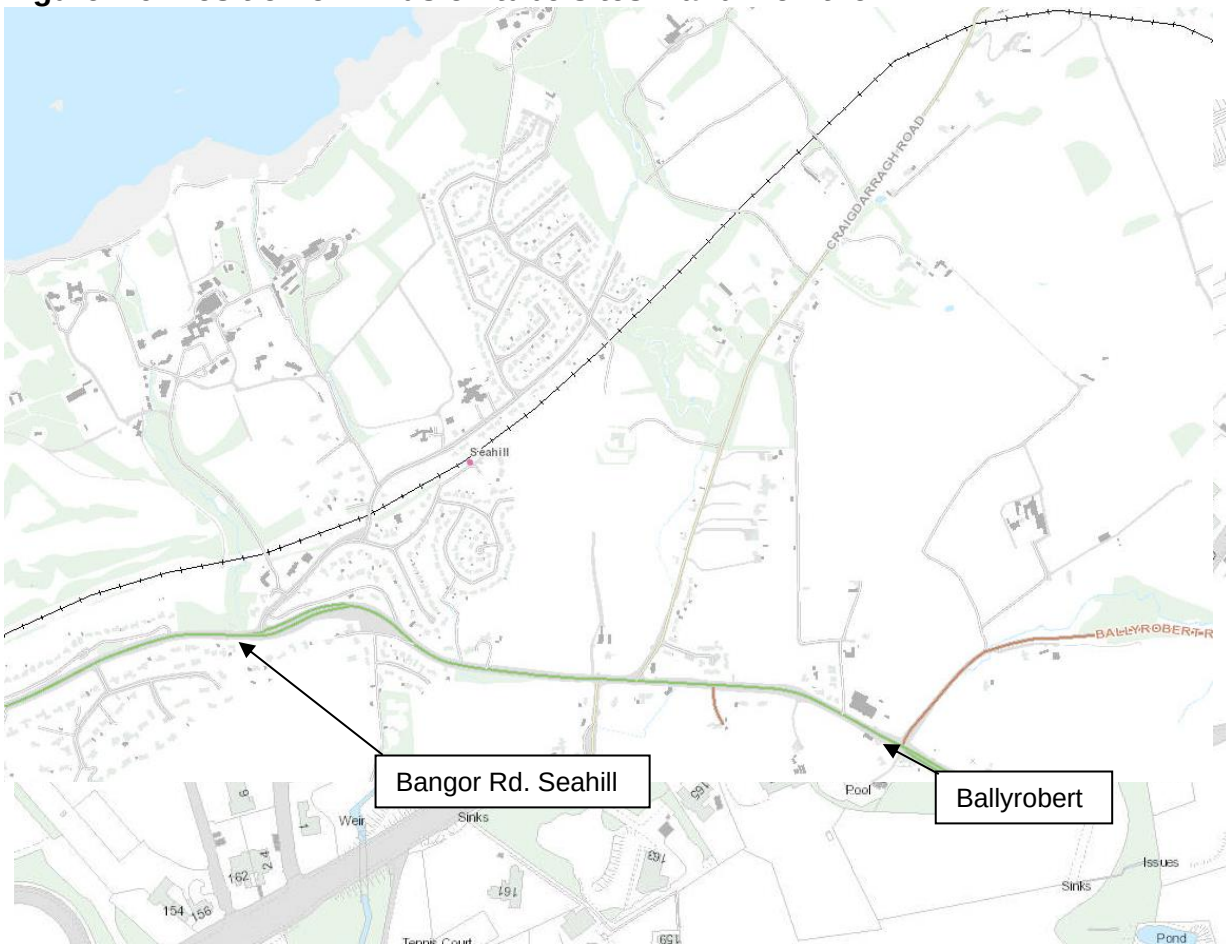


**Figure 2.9 Position of Diffusion tube sites 1 and 2 on the A2**




**Figures 2.10 Position of Diffusion tube sites 4,9,10,13 and 14 on the A2 Holywood (Shore Road junction).**

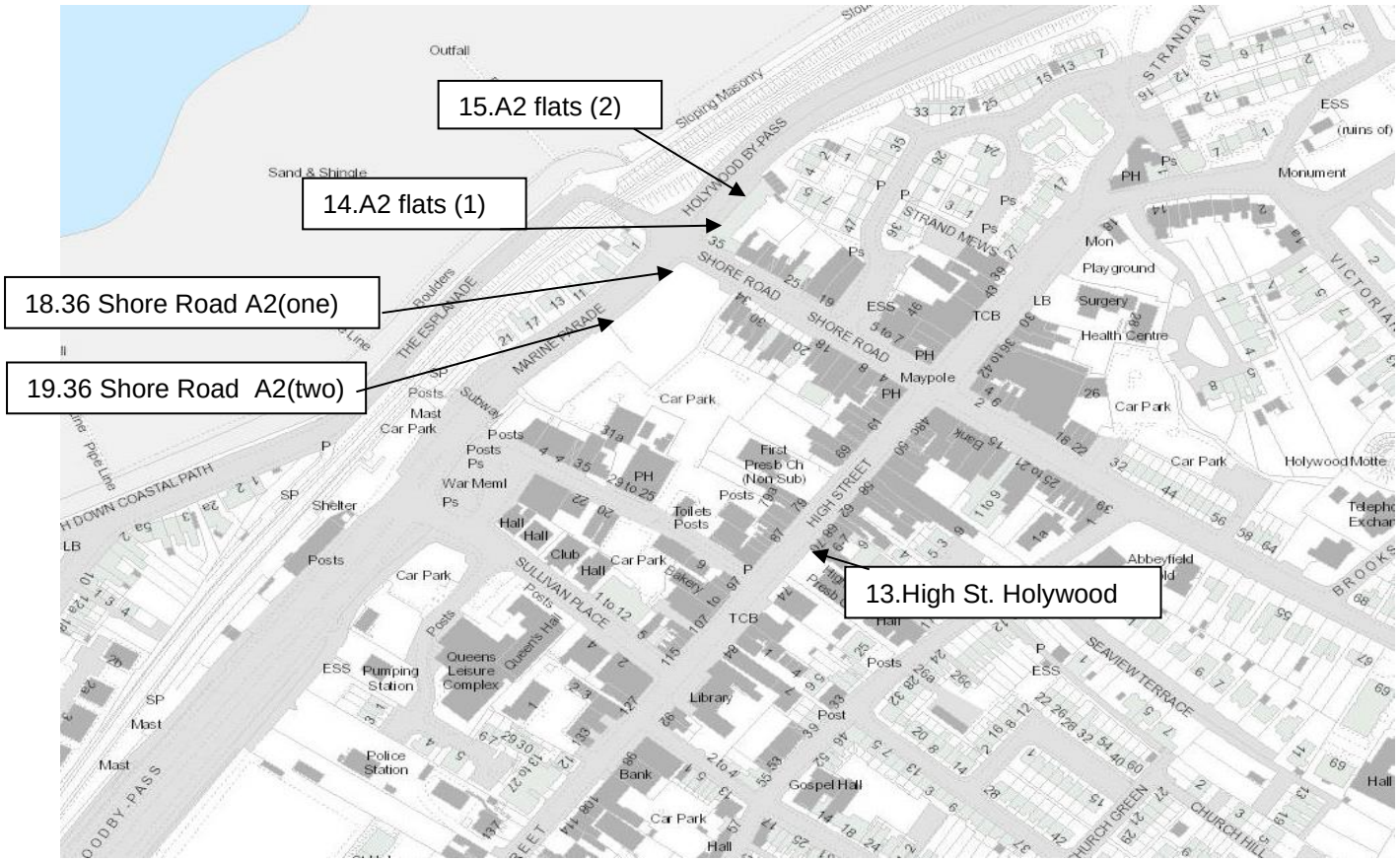
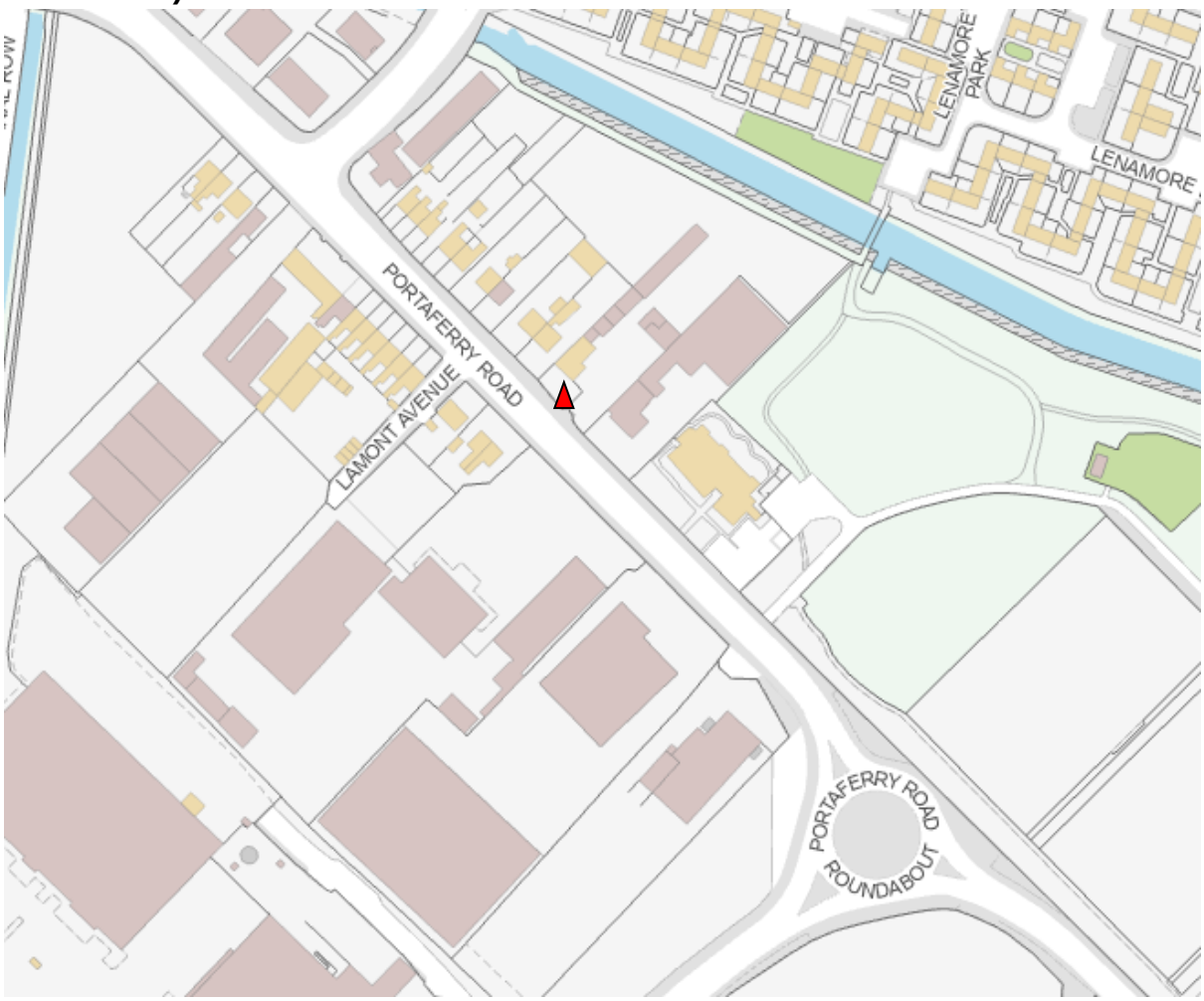


**Figure 2.11 Holywood junction pictured from A2**


**Tubes 9, 10 A2 flats Holywood** **Tubes 13, 14 at apartments 36 Shore Road A2**

**Figure 2.12 Position of Diffusion tube site 11, Portaferry Road Newtownards (new in 2024)**

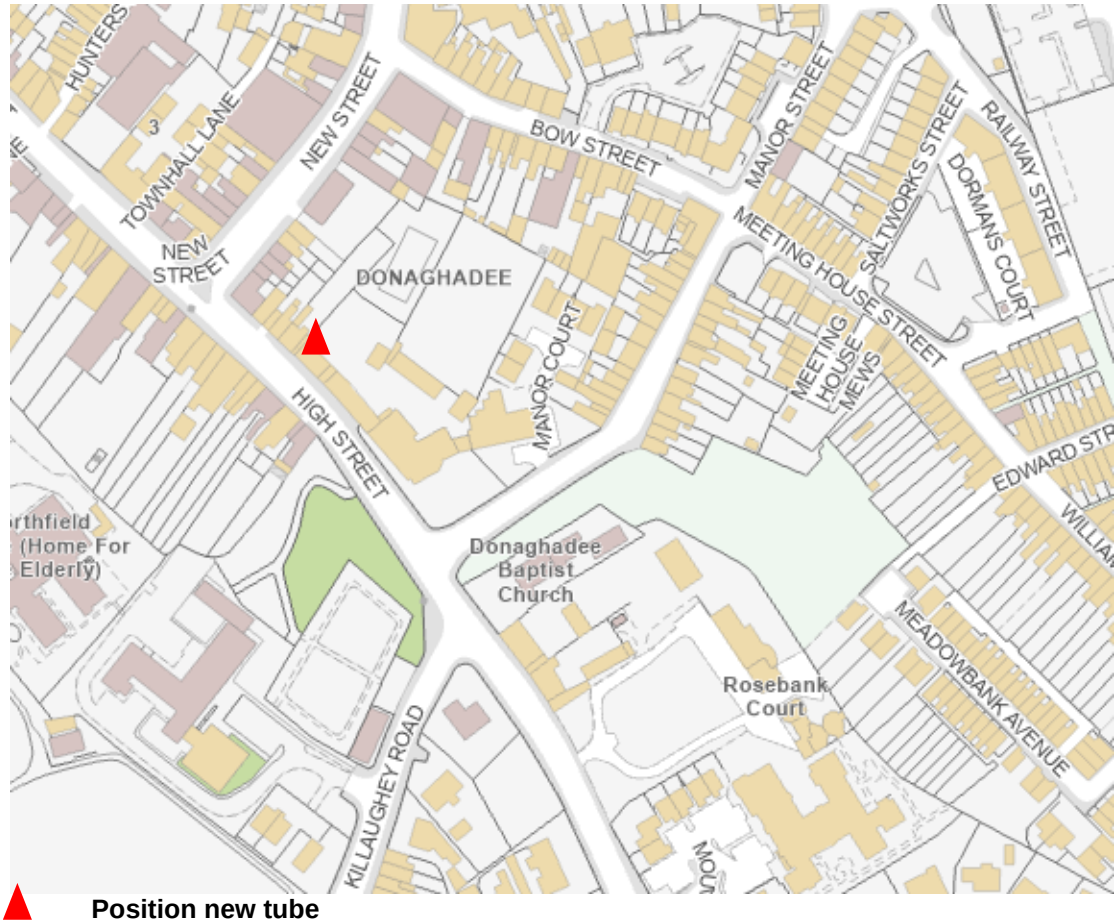



**Position of tube**

**Figure 2.13 Position of Diffusion tube site 12 at 17 Grays Hill Bangor**


▲ **Position of tube**

**Figure 2.14 Position of Diffusion tube site 15 Donaghadee (new 2024)**




▲ **Position new tube**

**Table 2.2 – Details of Non- Automatic Monitoring Sites**

| Site ID | Site Name | Site Type | X OS Grid Reference (Irish Grid) | Y OS Grid Reference (Irish Grid) | Site Height (m) | Pollutants Monitored | In AQMA? | Is Monitoring Co-located with a Continuous Analyser (Y/N) | Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure) | Distance to Kerb of Nearest Road (m) (N/A if not applicable) | Does this Location Represent Worst-Case Exposure? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | A2 Ballyrobert | Roadside | 345002 | 380823 | 2 | $NO_2$ | No | No | Y (<1m) | 3m | Y |
| **2** | A2 Seahill | Roadside | 343545 | 381102 | 2 | $NO_2$ | No | No | Y (<1m) | 10m | Y |
| **3** | A2 Station Rd Cultra roadside | Roadside | 342461 | 380656 | 2 | $NO_2$ | No | No | Y (5m) | 1.3m | Y |
| **4** | High Street Holywood | Roadside | 339785 | 379119 | 2.5 | $NO_2$ | No | No | Y (20m) | 1.5 | Y |
| **5** | 19 Bangor Rd Newtownards | Roadside | 349687 | 374267 | 2.5 | $NO_2$ | No | No | Y (1.5m) | 1.5m | Y |
| **6** | 67 South St. Newtownards (b) | Roadside | 348238 | 373590 | 2.5 | $NO_2$ | No | No | Y (0.5m) | 1.5m | Y |
| **7** | 82 Frances St. Newtownards | Roadside | 349324 | 369201 | 2 | $NO_2$ | No | No | Y (0.5) | 1.5m | Y |
| **8** | 11 High St Comber | Roadside | 345827 | 369201 | 2.5 | $NO_2$ | No | No | Y (0.5) | 1.5m | Y |
| **9** | A2 Flats Holywood(1) | Roadside | 339756 | 379330 | 2 | $NO_2$ | No | No | Y (0.5m) | 2.9m | Y |
| **10** | A2 Flats Holywood(1) | Roadside | 339774 | 379351 | 2 | $NO_2$ | No | No | Y (0.5m) | 2.9m | Y |

| Site ID | Site Name | Site Type | X OS Grid Reference (Irish Grid) | Y OS Grid Reference (Irish Grid) | Site Height (m) | Pollutants Monitored | In AQMA? | Is Monitoring Co-located with a Continuous Analyser (Y/N) | Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure) | Distance to Kerb of Nearest Road (m) (N/A if not applicable) | Does this Location Represent Worst-Case Exposure? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **11** | Portaferry Road | Roadside | 349481 | 373726 | 2 | $NO_2$ | No | No | Y (2m) | 8m | Y |
| **12** | Grays Hill Bangor | Roadside | 350195 | 381781 | 2 | $NO_2$ | No | No | Y (11m) | 2m | Y |
| **13** | Apartment 36 A2 one | Roadside | 339729 | 379277 | 2 | $NO_2$ | No | No | Y (5.1) | 2.9m | Y |
| **14** | Apartment 36 A2 two | Roadside | 339691 | 379264 | 2 | $NO_2$ | No | No | Y (5.1) | 2.9m | Y |
| **15** | Donaghadee | Roadside | 359133 | 379813 | 2 | $NO_2$ | No | No | Y (0) | 10m | Y |

The sites in green commenced in 2024

## 2.2 Comparison of Monitoring Results with Air Quality Objectives

No exceedances of the AQS objectives have been identified from the monitoring data collected since the last Update and Screening Assessment. All monitored pollutant concentrations have been below their respective air quality objective limits at relevant exposure. In the following section results are presented for $NO_2$ at the automatic and diffusion tube sites and compared with the objective.

### 2.2.1 Nitrogen Dioxide ($NO_2$)

In the following section results are presented for $NO_2$ at the automatic and diffusion tube sites and compared with the objective.

All sites meet the objective at relevant exposure.

#### Automatic Monitoring Data

Table 2.3 presents the annual mean concentrations of $NO_2$ determined at the automatic site in 2024 from the hourly measurements.

**Table 2.3 – Results of Automatic Monitoring for $NO_2$: Comparison with Annual Mean Objective**

| Site ID | X OS Grid Ref | Y OS Grid Ref | Site Type | Valid Data Capture for Monitoring Period % [a] | Valid Data Capture 2024 % [b] | Annual Mean Concentration (µg/m$^3$) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2020* [c] | 2021* [c] | 2022* [c] | 2023* [c] | 2024 [c] |
| A2 Holywood | X339481 | Y379328 | Roadside | 99 | 99 | 20 | 22 | 22 | 20.5 | 19.4 |

**In bold**, exceedance of the $NO_2$ annual mean AQS objective of 40µg/m$^3$

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

[b] i.e. 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” as in Boxes 7.9 and 7.10 of LAQM.TG22, if valid data capture is less than 75%

* Annual mean concentrations for previous years are optional

**Figure 2.15 – Trends in Annual Mean $NO_2$ Concentrations Measured at Automatic Monitoring Sites**

Results have been consistent since installation of the automatic station; any variation was most probably due to climatic conditions pre the COVID pandemic when levels reduced and have remained constant since the COVID restrictions eased and traffic flows increased again although a reduction is still evident. There have been no exceedances of the hourly mean.

**Table 2.4 – Results of Automatic Monitoring for $NO_2$: Comparison with 1-hour Mean Objective**

| Site ID | Site Type | Within AQMA? | Valid Data Capture for Monitoring Period % [a] | Valid Data Capture 2024 % [b] | Number of Hourly Means > 200µg/m$^3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2020* [c] | 2021* [c] | 2022* [c] | 2023* [c] | 2024 [c] |
| A2 Holywood | Roadside | NO | N/A | 99 | 0 | 0 | 0 | 0 | 0 |

**In bold**, exceedance of the $NO_2$ hourly mean AQS objective (200µg/m$^3$ – not to be exceeded more than 18 times per year)

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

[b] i.e. 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] If the data capture for full calendar year is less than 85%, include the 99.8$^{th}$ percentile of hourly means in brackets

* Number of exceedances for previous years is optional

## Diffusion Tube Monitoring Data

Results of the $NO_2$ diffusion tube sites, situated within the borough are shown below in Table 2.5.

They are sited in accordance with the technical guidance LAQM.TG 22

A diffusion tube co-location study in 2024 was carried out at the Holywood automatic site, the results of this study were submitted into the national data base, the 2024 local bias was **0.69,** as in previous years a decision has been made to apply the national bias adjustment factor of **0.84,** as this is based on a number of studies and therefore deemed to be a more realistic figure.

The A2 Holywood junction continues to be a source of concern as this is where the highest traffic flows can normally be found on this main arterial route to the City Centre, at this roadside location there are two large residential apartment blocks situated roadside, there are four diffusion tubes positioned here, all the A2 roadside sites have been distance calculated to the nearest relevant exposure. The $NO_2$ results from automatic real time monitor positioned across from the diffusion tube sites at this Holywood junction are lower, 19.4ug/$m^3$ annual mean, however its location benefits from sea breezes as the diffusion tubes at the apartment blocks are sheltered, a picture of these sites can be found in figures 2.10 and 2.11, due to a date error the March results were not available. Results reduced in 2020 due to the reduced traffic flows during the COVID pandemic they have not returned to pre-pandemic levels most probably due to the change in working patterns and a larger number of low emission vehicles.

Details of the QA/QC for the diffusion tubes and the reason for the use of the bias adjustment factor **0.84** can be found in Appendix A

Trends for the 15 diffusion tube sites within the Council area are shown in figure 2.16

## Table 2.5 – Annual Results Summary

| DT ID | X OS Grid Ref (Irish Grid) | Y OS Grid Ref (Irish Grid) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual Mean: Raw Data | Annual Mean: Annualised and Bias Adjusted <(0.84)> | Annual Mean: Distance Corrected to Nearest Exposure | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A2 Ballyrobert** | 345002 | 380823 | 28.6 | 24.8 | | 27.7 | 33.0 | 27.8 | 26.1 | 21.7 | 27.2 | 23.2 | 28.6 | 23.4 | 26.3 | 22.1 | N/A | |
| **A2 Seahill** | 343545 | 381102 | 14.4 | 10.9 | | 10.9 | 12.5 | 11.1 | 11.2 | 9.5 | 11.6 | 10.9 | 13.7 | 12.3 | 11.7 | 9.8 | | |
| **A2 Station Rd Cultra roadside** | 342461 | 380656 | 42.0 | 31.8 | | 34.1 | 37.7 | 29.3 | 30.9 | 37.2 | 28.6 | 39.0 | 39.5 | 35.8 | 35.1 | 29.5 | | |
| **High Street Holywood** | 339785 | 379119 | 26.0 | 22.0 | | 20.0 | 22.5 | 14.6 | 15.4 | 16.2 | 21.1 | 20.7 | 24.7 | 22.1 | 20.4 | 17.1 | | |
| **19 Bangor Rd Newtownards** | 349687 | 374267 | 31.1 | 25.7 | | 25.5 | 26.5 | 22.4 | 21.4 | 20.1 | 24.5 | 25.1 | 29.2 | 30.0 | 25.5 | 21.5 | | |
| **67 South St. Newtownards (b)** | 348238 | 373590 | 31.6 | 29.0 | | 24.8 | 23.9 | 23.6 | 20.6 | 18.7 | 25.7 | 24.1 | 28.4 | 30.2 | 25.5 | 21.4 | | |
| **82 Frances St. Newtownards** | 349324 | 369201 | 23.3 | 20.9 | | 18.4 | 18.4 | 15.8 | 13.0 | 13.3 | 20.2 | 18.0 | 22.2 | 23.1 | 18.8 | 15.8 | | |
| **11 High St Comber** | 345827 | 369201 | 32.7 | 28.7 | | 28.3 | | 26.6 | 19.8 | 21.3 | 30.8 | 26.1 | 31.9 | 27.0 | 27.2 | 22.8 | | |
| **A2 Flats Holywood(1)** | 339756 | 379330 | 32.5 | 31.6 | | 29.4 | 36.4 | | 27.1 | 29.9 | 19.6 | 34.6 | 32.1 | 30.1 | 30.5 | 25.6 | | |
| **A2 Flats Holywood(2)** | 339774 | 379351 | 37.1 | 36.1 | | 25.9 | | 21.2 | 21.4 | 31.3 | 24.5 | 32.5 | 35.4 | 34.9 | 30.2 | 25.4 | | |
| **Portaferry Road Newtownards** | 349481 | 373726 | 25.1 | 21.6 | | 18.7 | 21.4 | 18.3 | 15.1 | 18.9 | 20.0 | 21.3 | 23.7 | 24.9 | 20.9 | 17.5 | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grays Hill Bangor** | 350195 | 381781 | 22.6 | 20.7 | | 15.5 | 16.7 | 13.7 | 13.5 | 11.6 | 17.8 | 17.8 | 18.2 | 19.6 | 17.1 | 14.3 | | |
| **Apartment 36 A2 one** | 339729 | 379277 | 39.1 | | | 35.4 | 43.5 | 25.0 | 25.5 | 32.5 | 33.5 | 36.4 | 35.5 | 34.8 | 34.1 | 28.6 | | |
| **Apartment 36 A2 two** | 339691 | 379264 | 37.5 | 38.1 | | 35.8 | 36.8 | 18.6 | 32.3 | 24.3 | 39.5 | 27.7 | 32.1 | 29.7 | 31.7 | 26.6 | | |
| **Donaghadee** | 359133 | 379813 | 17.5 | 17.7 | | 20.3 | 27.0 | 17.5 | 17.3 | 15.4 | 21.8 | 17.4 | 19.4 | | 19.0 | 15.9 | | |

These sites were new in 2024

**In bold**, exceedance of the $NO_2$ annual mean AQS objective of 40µg/$m^3$

Underlined, annual mean > 60µg/$m^3$, indicating a potential exceedance of the $NO_2$ hourly mean AQS objective

[a] Means should be "annualised" as in Boxes 7.9 and 7.10 of LAQM.TG22, if full calendar year data capture is less than 75%

[b] If an exceedance is measured at a monitoring site not representative of public exposure, $NO_2$ concentration at the nearest relevant exposure should be estimated based on the "$NO_2$ fall-off with distance" calculator (http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html), and results should be discussed in a specific section. The procedure is also explained in paragraphs 7.77 to 7.79 of LAQM.TG22.

## Table 2.6 – Results of $NO_2$ Diffusion Tubes (2020 to 2024)

| Site ID | Site Type | Within AQMA? | Annual Mean Concentration (µg/m$^3$) - Adjusted for Bias [a] | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2020 (Bias Adjustment Factor = 0.81) | 2021 (Bias Adjustment Factor = 0.84) | 2022 (Bias Adjustment Factor = 0.83) | 2023 (Bias Adjustment Factor = 0.81) | 2024 (Bias Adjustment Factor = 0.84) |
| A2 Ballyrobert | Kerbside | N | 19 | 23 | 22 | 22 | 22.1 |
| A2 Seahill | Roadside | N | 9 | 15 | 10 | 9 | 9.8 |
| A2 Station Rd Cultra | Kerbside | N | 26 | 29 | 34 | 30 | 29.5 |
| High Street Holywood | Kerbside | N | 17 | 21 | 19 | 19 | 17.1 |
| 19 Bangor Rd Newtownards | Kerbside | N | 22 | 23 | 23 | 22 | 21.5 |
| 67 South St. Newtownards (b) | Kerbside | N | 19 | 22 | 22 | 21 | 21.4 |
| 82 Frances St. Newtownards | Kerbside | N | 18 | 21 | 20 | 17 | 15.8 |
| 11 High St Comber | Kerbside | N | 24 | 22 | 25 | 24 | 22.8 |
| A2 Flats (1) Holywood | Kerbside | N | 24 | 28 | 26 | 28 | 25.6 |
| A2 Flats (2) Holywood | Kerbside | N | 24 | 25 | 28 | 26 | 25.4 |
| Portaferry Road Newtownards | Kerbside | N | | | | | 17.5 |

| Site ID | Site Type | Within AQMA? | Annual Mean Concentration (µg/m$^3$) - Adjusted for Bias [a] | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2020 (Bias Adjustment Factor = 0.81) | 2021 (Bias Adjustment Factor = 0.84) | 2022 (Bias Adjustment Factor = 0.83) | 2023 (Bias Adjustment Factor = 0.81) | 2024 (Bias Adjustment Factor = 0.84) |
| Grays Hill Bangor | Kerbside | N | 15 | 17 | 17 | 15 | 14.3 |
| Apartment 36 shore Road A2 one | Kerbside | N | 29 | 30 | 32 | 28 | 28.6 |
| Apartment 36 Shore Road A2 two | Kerbside | N | 25 | 30 | 32 | 32 | 26.6 |
| Donaghadee | Kerbside | N | | | | | 15.9 |

These sites were new in 2024

**In bold**, exceedance of the $NO_2$ annual mean AQS objective of 40µg/m$^3$

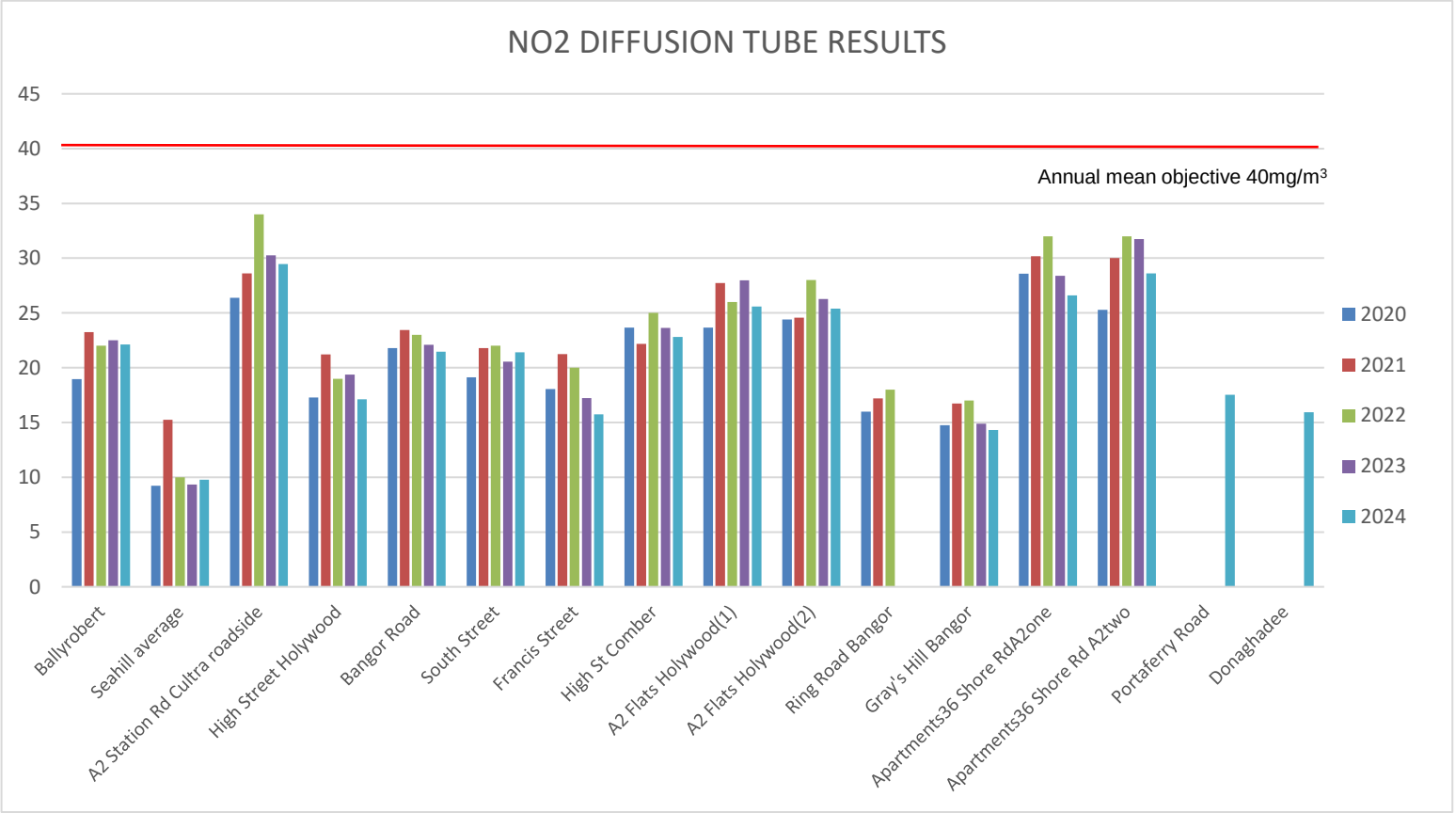
Underlined, annual mean > 60µg/m$^3$, indicating a potential exceedance of the $NO_2$ hourly mean AQS objective

[a] Means should be "annualised" as in Boxes 7.9 and 7.10 of LAQM.TG22, if full calendar year data capture is less than 75%

[b] If an exceedance is measured at a monitoring site not representative of public exposure, $NO_2$ concentration at the nearest relevant exposure should be estimated based on the "$NO_2$ fall-off with distance" calculator (http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html), and results should be discussed in a specific section. The procedure is also explained in paragraphs 7.77 to 7.79 of LAQM.TG22.

**Figure 2.16 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites**

$NO_2$ diffusion tube results have remained consistent any annual variation is more likely to be as a result of climatic conditions rather than changes in emissions, in 2020 due to the reduced traffic flows during the COVID pandemic results were lower than previous years, a continued change in working patterns has resulted in $NO_2$ levels remaining lower than pre-pandemic.



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

Automatic monitoring of $PM_{10}$ were recorded at the Holywood site using a FIDAS 200 instrument also measuring $PM_{2.5}$ , the results are ratified and adjusted accordingly by AQDM, the data management company.

Summaries of this data, with regard to annual and hourly mean objectives, are presented below.

Results continued in 2024 to be below the air quality objective. AQDM were contracted to carry out the QA/QC for the site and ratify the data. ESU1 were employed to service and maintain the site. Summaries of this data, regarding annual and hourly mean objectives, are presented below.

The data was downloaded onto the NI Air Quality web site, providing real-time data, and advice on expected levels of air pollution. www.airqualityni.co.uk

Reports from the ratified data and the QA/QC applied can be found in appendix A.

**Table 2.7 – Results of Automatic Monitoring for $PM_{10}$: Comparison with Annual Mean Objective**

| Site ID | Site Type | Within AQMA? | Valid Data Capture for monitoring Period %[a] | Valid Data Capture 2024 %[b] | Confirm Gravimetric Equivalent (Y or NA) | Annual Mean Concentration μg/m³ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2020* [c] | 2021* [c] | 2022* [c] | 2023* [c] | 2024 [c] |
| A2 Holywood | Roadside | N | N/A | 99.1 | Y | 14 | 12 | 13 | 12 | 12 |

**In bold**, exceedance of the $PM_{10}$ annual mean AQS objective of 40µg/m³

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

[b] i.e. 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" as in Boxes 7.9 and 7.10 of LAQM.TG22, if valid data capture is less than 75%

* Annual mean concentrations for previous years are optional

### Table 2.8 – Results of Automatic Monitoring for $PM_{10}$: Comparison with 24-hour Mean Objective

| Site ID | Site Type | Within AQMA? | Valid Data Capture for monitoring Period %[a] | Valid Data Capture 2024 %[b] | Confirm Gravimetric Equivalent | Number of Daily Means > 50µg/m$^3$ | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2020* [c] | 2021* [c] | 2022* [c] | 2023* [c] | 2024 [c] |
| A2 Holywood | Roadside | N | N/A | 99.1% | Y | 0 | 0 | 0 | 0 | 0 |

**In bold**, exceedance of the $PM_{10}$ daily mean AQS objective (50µg/m$^3$ – not to be exceeded more than 35 times per year)

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

[b] i.e. 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] if data capture for full calendar year is less than 85%, include the 90.4$^{th}$ percentile of 24-hour means in brackets

* Number of exceedances for previous years is optional

**Figure 2.17 – Trends in Annual Mean $PM_{10}$ Concentrations**

$PM_{10}$ has remained consistently low in Holywood

### 2.2.3 Sulphur Dioxide ($SO_2$)

Ards and North down Borough Council did not carry out any monitoring of $SO_2$ in 2024, no new sites were identified through the planning process and Air Quality Assessments submitted.

### 2.2.4 Benzene

No monitoring of Benzene was carried out in 2024, ANDBC review all planning applications and all air quality assessments received, no major changes have been identified requiring a further assessment of Benzene. ANDBC borders Belfast city Council with the largest population and traffic flows within Northern Ireland, Benzene has been monitored in Belfast since 2002 and remains well below the objective of 3.25 ug/$m^3$

| Site ID | Site type | Within AQMA? Which AQMA? | Valid Data Capture 2023 % | Running annual mean concentrations (µg/$m^3$) | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 2019 | 2020 | 2021 | 2022 | 2023 |
| Belfast Centre (Lombard Street) | Urban Background | N | 100 | 0.44 | 0.37 | 0.39 | 0.38 | 0.42 |

### 2.2.5 Other Pollutants Monitored

Particulate Matter ($PM_{2.5}$)

At the beginning of 2021 a new FIDAS 200 monitoring $PM_{10}$ and $PM_{2.5}$ was installed at the Holywood automatic site, the annual mean results for $PM_{2.5}$ in 2024 were 6.7 ug/m3 with 99% data capture, below the UK limit value of 20 ug/$m^3$

### 2.2.6 Summary of Compliance with AQS Objectives

Ards and North Down Borough Council has examined the results from monitoring in the Borough. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

# 3 New Local Developments

Ards and North Down Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area resulting in exceedances of the Air Quality Objectives.

Ards and North Down Borough council confirms that all the following have been considered:

- **Road traffic sources**
- **Other transport sources**
- **Industrial sources**
- **Commercial and domestic sources**
- **New developments with fugitive or uncontrolled sources.**

## 3.1 Road Traffic Sources

ANDBC can confirm they have considered

- Narrow congested streets with residential properties close to the kerb.
- Busy streets where people may spend one hour or more close to traffic.
- Roads with a high flow of buses and/or HGVs.
- Junctions.
- New roads constructed or proposed since the last Updating and Screening Assessment.
- Roads with significantly changed traffic flows.
- Bus or coach stations

The Environmental Health Department has commented on planning applications where an air quality impact assessment may be necessary, no new road traffic sources where identified.

## 3.2 Other Transport Sources

ANDBC can confirm they have considered

- Airports.
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.
- Locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

Ports for shipping.

The Environmental Health Department comments on all planning applications where the air quality impact is assessed, no new other transport sources where identified.

## 3.3 Industrial Sources

ANDBC can confirm they have considered the following

- **Industrial installations:** new or proposed installations for which an air quality assessment has been carried out.
- **Industrial installations:** existing installations where emissions have increased substantially or new relevant exposure has been introduced.
- **Industrial installations:** new or significantly changed installations with no previous air quality assessment.
- Major fuel storage depots storing petrol.
- Petrol stations.

Poultry farms.

The Environmental Health Department comments on planning applications where an Air Quality Impact Assessment (AQIA) may be necessary, no applications required further action in relation to Air Quality.

## 3.4 Commercial and Domestic Sources

ANDBC can confirm they have considered the following

- Biomass combustion plant – individual installations.

- Areas where the combined impact of several biomass combustion sources may be relevant.
- Areas where domestic solid fuel burning may be relevant.

Combined Heat and Power (CHP) plant.

The Environmental Health Department comments on planning applications where an Air Quality Impact Assessment (AQIA) may be necessary, no applications required further action in relation to Air Quality.

## 3.5 New Developments with Fugitive or Uncontrolled Sources

ANDBC can confirm they have considered the following

- Landfill sites.
- Quarries.
- Unmade haulage roads on industrial sites.
- Waste transfer stations, etc.

The Environmental Health Department comments on planning applications where an Air Quality Impact Assessment (AQIA) may be necessary, no applications required further action in relation to Air Quality.

# 4 Local / Regional Air Quality Strategy

ANDBC does not have a local Air Quality Strategy, however within the Local Development Plan presently being established improving Air Quality is an objective.

# 5 Planning Applications

A number of planning applications were examined by the Environmental Department requiring, no issues were identified in relation to Air Quality.

# 6 Conclusions and Proposed Actions

## 6.1 Conclusions from New Monitoring Data

No monitoring sites at relevant exposure within the Council Area have shown exceedances of the air quality objectives. The $NO_2$ diffusion tube sites on the A2, the main arterial route to Belfast City, remain the highest monitored levels within the Borough however these are below the annual mean objective of 40ug/$m^{3,}$ with the maximum annual mean recorded 29.5ug/$m^3$ . Since the reduction in $NO_2$ during the COVID restrictions in 2020, probably due to new working patterns established and the growing popularity of cleaner vehicles, monitored results have not increased significantly showing a general trend in Air Quality improvement. The automatic real time $NO_2$ monitor positioned across from the Holywood junction on the A2, results are much lower than other diffusion tube sites on this road, however its location benefits from sea breezes as the diffusion tubes are positioned at more sheltered locations with relevant exposure.

No new sites were identified in 2024 through the planning process, however two new sites were identified due to local knowledge of traffic congestion at these locations the Portaferry Road in Newtownards and Donaghadee Town centre.

## 6.2 Conclusions relating to New Local Developments

There are no new local developments that will require more detailed consideration in the next Updating and Screening Assessment.

## 6.3 Proposed Actions

This 2025 Progress Report for Ards and North Down Borough Council has identified there is no need to proceed to a detailed assessment for any of the pollutants. Ards and North Down Borough is focused upon improving air quality as a whole, therefore all existing monitoring sites shall continue in 2025 to help determine if a trend in reduction in $NO_2$ can be established.

Ards and North Down Borough Council initiated a no idling outside schools campaign launched in 2019, this remains available to schools and was extended to council carparks to help educate the public on the effects of vehicle emissions a picture may be found in the Appendices.

# 7 References

TG (2022) Part IV of the Environment Act 1995 as amended by the Environment Act 2021.
Environment (Northern Ireland) Order 2002 Part III

# Appendices

## Appendix A: Quality Assurance / Quality Control (QA/QC) Data

### QA/QC Data of automatic sites

Ards and North Down Borough Council commissioned AQDM Technology to provide the QA/QC of the automatic measurements of $NO_2$ and $PM_{10}$ and $PM_{2.5}$ for the A2 Holywood site. Local authority staff act as the local site operator and visit the site on a weekly basis carrying out any manual calibration or filter changes required.

ESU1 were employed to service and maintain the analyser.

**Automatic station reports produced by data management company**

# Air Quality Report

## Produced by AQDM on behalf of North Down
## NORTH DOWN HOLYWOOD A2 2024

**Fully ratified by AQDM to the LAQM TG22 standards using the AURN methodology**

### Site Environment and Description

Marine Highway

**ROADSIDE** Map Photo Dashboard

### Statistical Summary Report

This 2024 report contains all the statistics required for the LAQM reporting.

The full results and statistics are available from the Air Quality in Northern Ireland website https://www.airqualityni.co.uk.

### Gravimetric $PM_{2.5}$

The Gravimetric $PM_{2.5}$ is the FIDAS $PM_{2.5}$ / 1.06

### Daily Air Quality Index (DAQI)

The table below shows the duration within the bands of the Daily Air Quality Index (DAQI).
The DAQI was introduced by Defra in January 2012 and revised April 2013.

| DAQI Pollutant | Moderate | High | Very High |
|---|---|---|---|
| Nitrogen Dioxide | 0 hours | 0 | 0 |
| $PM_{10}$ Particulate Matter | 0 days | 0 | 0 |
| $PM_{2.5}$ Particulate Matter | 0 days | 0 | 0 |

### Air Quality Exceedances of the AQS Objectives

**$NO_2$ - annual data capture was 99.0 %**

The annual mean was 19.4 µg $m^{-3}$ which did not exceed the 40 µg $m^{-3}$ Objective.

The maximum hourly mean was 92.2 µg $m^{-3}$ so there were no exceedances of the $NO_2$ hourly limit of 200 µg $m^{-3}$. There is an annual allowance of 18 hours so the Objective was not exceeded.

**Gravimetric $PM_{10}$ - annual data capture was 99.1 %**

The annual mean was 12.0 µg $m^{-3}$ which did not exceed the 40 µg $m^{-3}$ Objective.

# Air Quality Report

## NORTH DOWN HOLYWOOD A2 2024

### Air Quality Statistics

| Pollutant | $NO_2$ | NO | $NO_X$ | Grav $PM_{10}$+ | Grav $PM_{2.5}$~ | $PM_1$$ |
|---|---|---|---|---|---|---|
| Number Very High # | 0 | - | - | 0 | 0 | - |
| Number High # | 0 | - | - | 0 | 0 | - |
| Number Moderate # | 0 | - | - | 0 | 0 | - |
| Number Low # | 8700 | - | - | 362 | 361 | - |
| Maximum 15-min mean | 108.4 µg $m^{-3}$ | 242.4 µg $m^{-3}$ | 460.7 µg $m^{-3}$ | - µg $m^{-3}$ | - µg $m^{-3}$ | 170.5 µg $m^{-3}$ |
| Maximum hourly mean | 92.2 µg $m^{-3}$ | 212.0 µg $m^{-3}$ | 391.1 µg $m^{-3}$ | 106.9 µg $m^{-3}$ | 97.5 µg $m^{-3}$ | 100.1 µg $m^{-3}$ |
| Maximum running 8-hr mean | 70.4 µg $m^{-3}$ | 143.4 µg $m^{-3}$ | 282.1 µg $m^{-3}$ | 81.9 µg $m^{-3}$ | 74.5 µg $m^{-3}$ | 76.6 µg $m^{-3}$ |
| Maximum running 24-hr mean | 55.3 µg $m^{-3}$ | 95.7 µg $m^{-3}$ | 197.3 µg $m^{-3}$ | 40.9 µg $m^{-3}$ | 36.2 µg $m^{-3}$ | 36.8 µg $m^{-3}$ |
| Maximum daily mean | 50.2 µg $m^{-3}$ | 80.8 µg $m^{-3}$ | 166.6 µg $m^{-3}$ | 37.4 µg $m^{-3}$ | 32.9 µg $m^{-3}$ | 33.4 µg $m^{-3}$ |
| Average | 19.4 µg $m^{-3}$ | 14.1 µg $m^{-3}$ | 41.0 µg $m^{-3}$ | 12.0 µg $m^{-3}$ | 6.7 µg $m^{-3}$ | 5.0 µg $m^{-3}$ |
| Data capture | 99.0 % | 99.0 % | 99.0 % | 99.1 % | 99.0 % | 98.7 % |

# Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013
+ Gravimetric $PM_{10}$ as measured by a FIDAS instrument using 1 gravimetric factor
~ Gravimetric $PM_{2.5}$ as measured by a FIDAS instrument using 0.94 gravimetric factor
$ $PM_1$ as measured by a FIDAS instrument
Mass units for the gases are at 20'C and 1013mb
$NO_X$ mass units are $NO_X$ as $NO_2$ µg $m^{-3}$

### Air Quality Exceedances

| Pollutant | Air Quality Regulations (Northern Ireland) 2003 | Max Conc | Number | Days | Allowed | Exceeded |
|---|---|---|---|---|---|---|
| Nitrogen Dioxide | Annual mean > 40 µg $m^{-3}$ | 19.4 µg $m^{-3}$ | 0 | - | - | No |
| Nitrogen Dioxide | Hourly mean > 200 µg $m^{-3}$ | 92.2 µg $m^{-3}$ | 0 | 0 | 18 hours | No |
| $PM_{10}$ Particulate Matter (Gravimetric) | Annual mean > 40 µg $m^{-3}$ | 12.0 µg $m^{-3}$ | 0 | - | - | No |
| $PM_{10}$ Particulate Matter (Gravimetric) | Daily mean > 50 µg $m^{-3}$ | 37.4 µg $m^{-3}$ | 0 | 0 | 35 days | No |
| $PM_{2.5}$ Particulate Matter (Gravimetric) | Annual mean > 20 µg $m^{-3}$ | 6.7 µg $m^{-3}$ | 0 | - | - | No |

# Air Quality Report

## NORTH DOWN HOLYWOOD A2 2024

### Monthly Data Captures %

| Pollutant | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen Dioxide | 100.0 | 100.0 | 99.6 | 100.0 | 100.0 | 100.0 | 99.9 | 99.9 | 89.2 | 99.9 | 100.0 | 100.0 |
| Grav $PM_{10}$ | 100.0 | 100.0 | 99.9 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 89.3 | 100.0 | 100.0 | 100.0 |
| Grav $PM_{2.5}$ | 100.0 | 100.0 | 99.9 | 100.0 | 100.0 | 99.6 | 99.9 | 99.1 | 89.3 | 100.0 | 100.0 | 100.0 |
| $PM_1$ | 100.0 | 100.0 | 99.9 | 100.0 | 100.0 | 99.6 | 99.9 | 96.0 | 89.3 | 100.0 | 100.0 | 100.0 |

### Monthly Means

| Pollutant | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nitrogen Dioxide µg $m^{-3}$ | 25.3 | 25.6 | 19.2 | 17.0 | 17.4 | 13.0 | 14.6 | 15.1 | 16.6 | 23.4 | 25.8 | 20.2 |
| Grav $PM_{10}$ µg $m^{-3}$ | 13.0 | 12.8 | 13.7 | 10.3 | 15.2 | 10.5 | 8.1 | 11.7 | 11.9 | 11.7 | 14.5 | 10.1 |
| Grav $PM_{2.5}$ µg $m^{-3}$ | 7.2 | 7.1 | 8.2 | 5.1 | 9.2 | 5.6 | 4.4 | 6.7 | 6.3 | 6.1 | 9.1 | 5.6 |
| $PM_1$ µg $m^{-3}$ | 5.3 | 5.2 | 6.3 | 3.2 | 7.5 | 4.0 | 3.1 | 4.9 | 4.6 | 4.1 | 7.6 | 4.1 |

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http://www.UKAirQuality.net

AQDM
Air Quality Data Management

Air Quality Data Management (AQDM)
23rd January 2025

## QA/QC of Diffusion Tube Monitoring

In 2024 the $NO_2$ tubes were prepared and supplied by Gradko International Limited, using the preparation method 20%TEA/Water.

## Diffusion Tube Bias Adjustment Factors

### Factor from Local Co-location Studies

A co-location study was carried out at the Holywood site and the data submitted to the national data base https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/
The local bias adjustment figure was **0.69.**
A copy of the June 2025 National bias adjustment spread sheet can be found below:

**National Diffusion Tube Bias Adjustment Factor Spreadsheet** — Spreadsheet Version Number: 04/25

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2025
LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

| Step 1: | Step 2: | Step 3: | Step 4: |
|---|---|---|---|
| Select the Laboratory that Analyses Your Tubes from the Drop-Down List | Select a Preparation Method from the Drop-Down List | Select a Year from the Drop-Down List | Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[2] shown in blue at the foot of the final column. |
| If a laboratory is not shown, we have no data for this laboratory. | If a preparation method is not shown, we have no data for this method at this laboratory. | If a year is not shown, we have no data[2] | If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953 |

| Analysed By[1] | Method (To undo your selection, choose (All) from the pop-up list) | Year[2] (To undo your selection, choose (All)) | Site Type | Local Authority | Length of Study (months) | Diffusion Tube Mean Conc. (Dm) (µg/m³) | Automatic Monitor Mean Conc. (Cm) (µg/m³) | Bias (B) | Tube Precision[5] | Bias Adjustment Factor (A) (Cm/Dm) |
|---|---|---|---|---|---|---|---|---|---|---|
| Gradko | 20% TEA in water | 2024 | UV | Belfast City Council | 10 | 24 | 20 | 19.9% | G | **0.83** |
| Gradko | 20% TEA in water | 2024 | R | Belfast City Council | 12 | 43 | 34 | 28.8% | G | **0.78** |
| Gradko | 20% TEA in water | 2024 | R | Belfast City Council | 12 | 24 | 21 | 13.9% | G | **0.88** |
| Gradko | 20% TEA in water | 2024 | R | Belfast City Council | 12 | 34 | 27 | 25.5% | G | **0.80** |
| Gradko | 20% TEA in water | 2024 | R | Blackburn With Darwen Bc | 12 | 22 | 17 | 32.9% | G | **0.75** |
| Gradko | 20% TEA in water | 2024 | R | Bath & North East Somerset | 12 | 25 | 20 | 22.6% | G | **0.82** |
| Gradko | 20% TEA in water | 2024 | R | Cambridge City Council | 12 | 19 | 15 | 28.5% | G | **0.78** |
| Gradko | 20% TEA in water | 2024 | UB | Plymouth City Council | 12 | 16 | 14 | 13.8% | G | **0.88** |
| Gradko | 20% TEA in water | 2024 | R | Plymouth City Council | 12 | 31 | 23 | 33.4% | S | **0.75** |
| Gradko | 20% TEA in water | 2024 | R | Monmouthshire County Council | 12 | 29 | 24 | 19.4% | G | **0.84** |
| Gradko | 20% TEA in water | 2024 | KS | Marylebone Road Intercomparison | 11 | 41 | 36 | 16.1% | G | **0.86** |
| Gradko | 20% TEA in water | 2024 | R | Lisburn & Castlereagh City Council | 12 | 24 | 19 | 27.8% | G | **0.78** |
| Gradko | 20% TEA in water | 2024 | R | Ards And North Down Borough Council | 11 | 28 | 20 | 44.5% | G | **0.69** |
| Gradko | 20% TEA in water | 2024 | R | Eastleigh Borough Council | 12 | 29 | 24 | 20.3% | G | **0.83** |
| Gradko | 20% TEA in water | 2024 | UB | Eastleigh Borough Council | 12 | 19 | 17 | 12.4% | G | **0.89** |
| Gradko | 20% TEA in water | 2024 | R | Eastleigh Borough Council | 12 | 19 | 17 | 12.0% | G | **0.89** |
| Gradko | 20% TEA in water | 2024 | R | Gateshead Council | 12 | 20 | 18 | 13.9% | G | **0.88** |
| Gradko | 20% TEA in water | 2024 | R | Gateshead Council | 11 | 20 | 17 | 19.7% | G | **0.84** |
| Gradko | 20% TEA in water | 2024 | R | Gateshead Council | 12 | 24 | 20 | 21.7% | G | **0.82** |
| Gradko | 20% TEA in water | 2024 | R | Gateshead Council | 12 | 27 | 23 | 19.0% | G | **0.84** |
| Gradko | 20% TEA in water | 2024 | R | Gateshead Council | 12 | 28 | 30 | -6.0% | G | **1.06** |
| Gradko | 20% TEA in water | 2024 | R | Brighton & Hove City Council | 11 | 34 | 27 | 26.3% | G | **0.79** |
| Gradko | 20% TEA in water | 2024 | R | Liverpool City Council | 12 | 34 | 25 | 35.7% | G | **0.74** |
| Gradko | 20% TEA in water | 2024 | KS | Liverpool City Council | 10 | 52 | 47 | 10.2% | G | **0.91** |
| Gradko | 20% TEA in water | 2024 | R | Nottingham City Council | 10 | 29 | 26 | 12.2% | G | **0.89** |
| Gradko | 20% TEA in water | 2024 | R | Wychavon District Council | 10 | 29 | 26 | 14.7% | G | **0.87** |
| Gradko | 20% TEA in water | 2024 | R | Worcestershire | 12 | 12 | 12 | -3.4% | G | **1.04** |
| Gradko | 20% TEA in water | 2024 | | **Overall Factor[3] (27 studies)** | | | | **Use** | | **0.84** |

## Decision to use the bias adjustment factor 0.84

The results of the local co-location study at the Holywood site were submitted to the national data base, the Holywood local bias adjustment factor was calculated at **0.69,** this co-location study is on one of the main arterial routes into Belfast City centre. Ards

and North Down Borough Council has confidence in the data from the automatic site, with 99% data capture.
The June 2025 national bias adjustment figure for Gradko in 2024 is **0.84.**
A decision was made to apply the national figure of **0.84** as 27 studies were included in this and therefore deemed to be a more realistic figure.

**Picture of the new No Idling initiative posters**