



Lisburn & Castlereagh City Council

2025 Air Quality Progress Report

In fulfillment of Environment (Northern Ireland) Order
2002

Local Air Quality Management

February 2026



Lisburn & Castlereagh City Council

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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 with two interim progress reports. The last updating and screening assessment of air quality was undertaken in 2024, this is the 2025 progress report for Lisburn and Castlereagh City Council (LCCC) and has been completed using the recommended template. The report is fully compliant with the applicable policy and technical guidance.

This report identified no exceedances with relevant exposure, of the Air Quality Strategy objectives during 2024 for any of the pollutants assessed. NO₂ levels due to vehicle emissions is still the main source of concern within Lisburn & Castlereagh City Council (LCCC), as it has several main commuter belts into Belfast City centre. The real-time analyser with good data capture and accurate results showed a decrease of NO₂ in 2020 due to reduced traffic during the pandemic, these have remained consistently lower than pre-COVID results, probably due to a change in working patterns and the popularity of cleaner vehicles, this is also true for the NO₂ tubes within the AQMA. The Rapid Transport System completed in 2018 and passing through the AQMA in Dundonald remains a popular method of transport to the city centre, the Park & Ride in Dundonald returned in 2024 to pre COVID usage and can be found at full capacity most days, contributing to the reduction of vehicle emissions in this area.

LCCC 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, resources remained available for participating schools in 2024. The Blaris Greenway walking and cycling path

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completed in 2020 is now established and links Sprucefield Shopping Centre with the Lisburn city centre, encouraging cycling and walking, and an alternative method of accessing the city centre with parking facilities constructed at Blaris Road.

Monitoring continued within the AQMA and throughout the Council area using NO₂ tubes to ascertain further trends. In 2024 the AQMA within Dundonald remained in place, a continuing trend and consistent reduction of NO₂ has now been established, a detailed assessment was completed and submitted in 2025 and has now been accepted by DAERA, LCCC will now move forward with revoking the AQMA in Dundonald.

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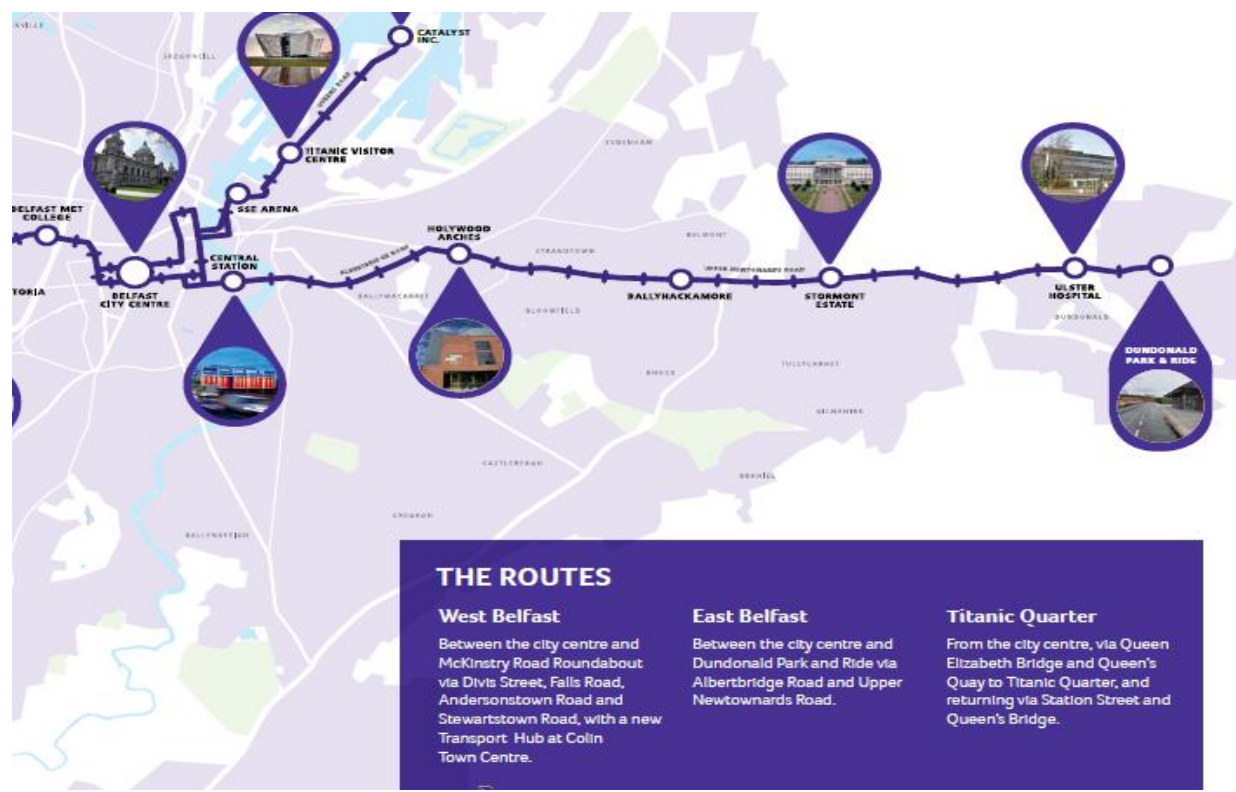
1.1 Description of Local Authority Area

LCCC has a population of 149,100 and an area of approximately 200 square miles. The area is of urban rural character and the predominant wind direction is from the Southwest. It is bounded by a number of other council areas and has the largest boundary with Belfast City Council. This has made LCCC a very popular residential area due to the ease of the commute to Belfast City Centre. There are several main arterial routes into Belfast City centre through LCCC, and the Council was located within Belfast Metropolitan Transport plan. (www.infrastructure-ni.gov.uk/publications/belfast-metropolitan-transport-plan). Dundonald to the East fell within the New Belfast Rapid transport network, this was completed in September 2018, introducing a designated bus lane through Dundonald Village into Belfast City and a new hybrid Glider Bus. The network is now established as a popular source of transport to the city centre from the Park & Ride facility in Dundonald. Road transport remains the main source of air pollution, however solid fuel use as a secondary fuel is still quite common in the Lisburn area.

Figure 1.1 Map showing position of LCCC within Northern Ireland



Figure 1.2 Map of the Rapid transport route (glider bus) from Dundonald





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 or not

the air quality objectives are likely to be achieved. Where exceedences 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 exceedence 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 microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences 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 (PM₁₀) (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

LCCC is one of 11 councils in Northern Ireland, following the amalgamation of local authorities in 2015. The following reports have previously been submitted and can be found on the DAERA website [District Council Reports - Northern Ireland Air \(airqualityni.co.uk\)](https://airqualityni.co.uk)

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 – stated intention on revoking AQMA

Figure 1.3 – Map of AQMA Location within LCCC

AQMA No's 2,6,10,1,5,7 Normandy Court Dundonald BT16 2LA

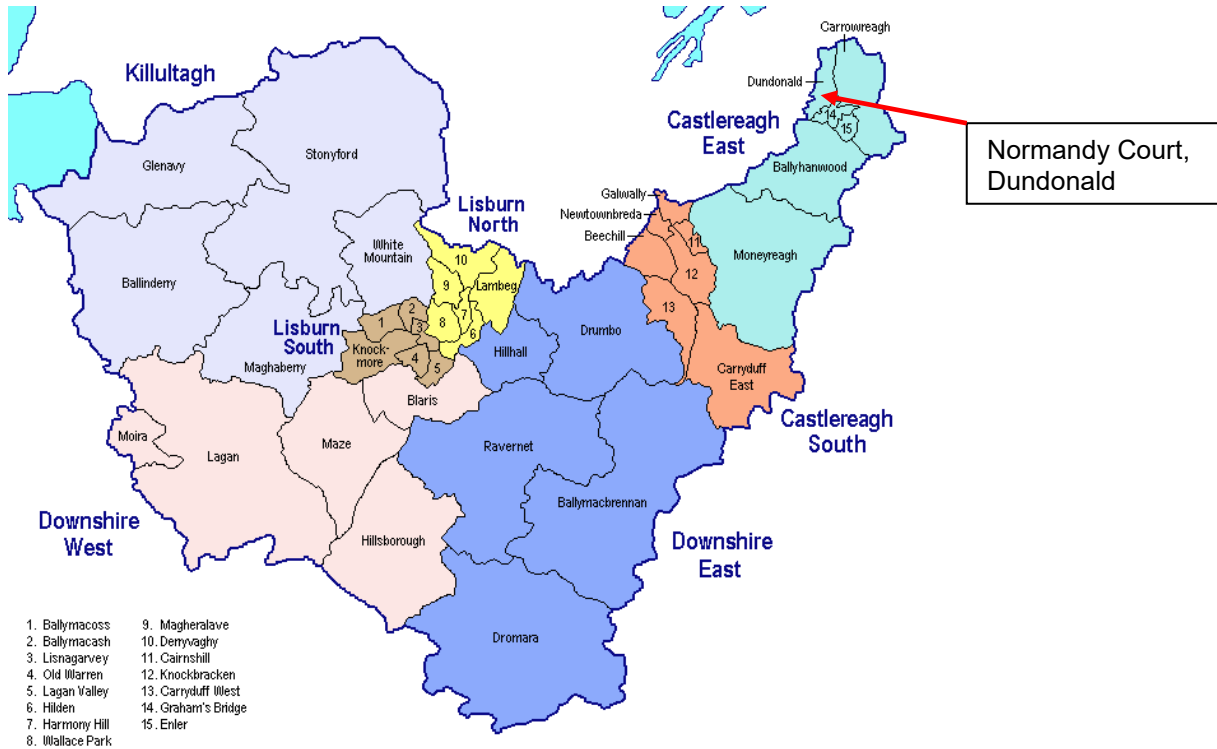
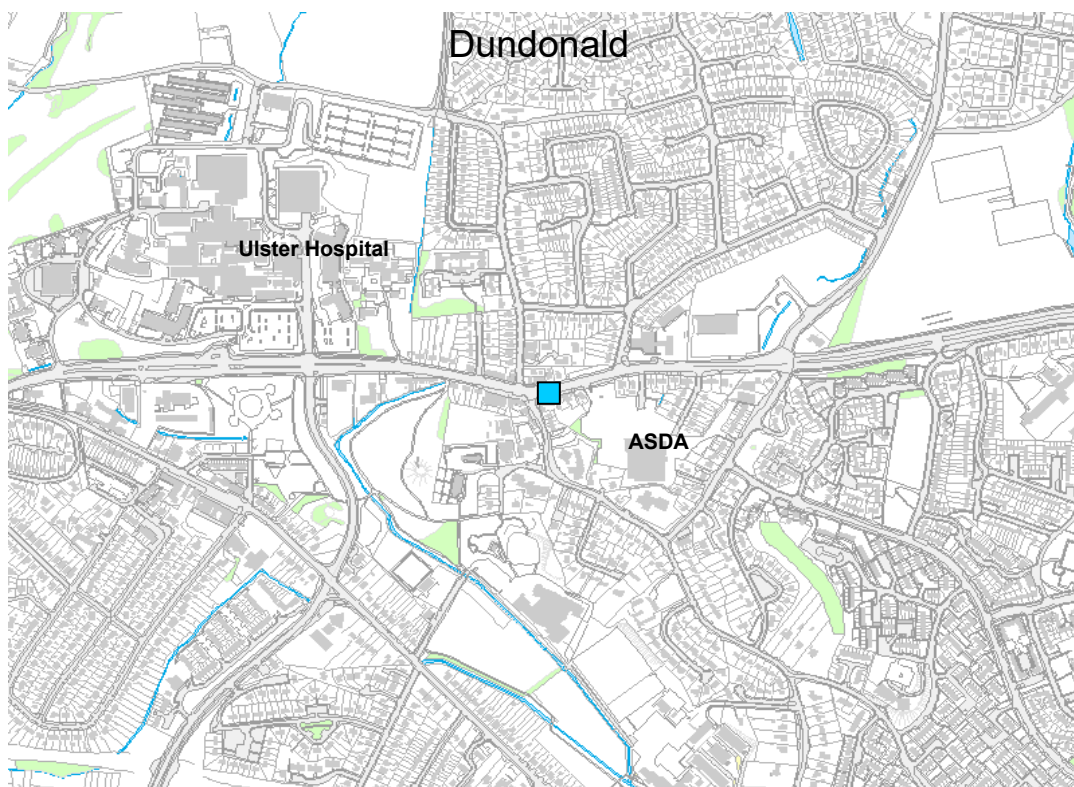
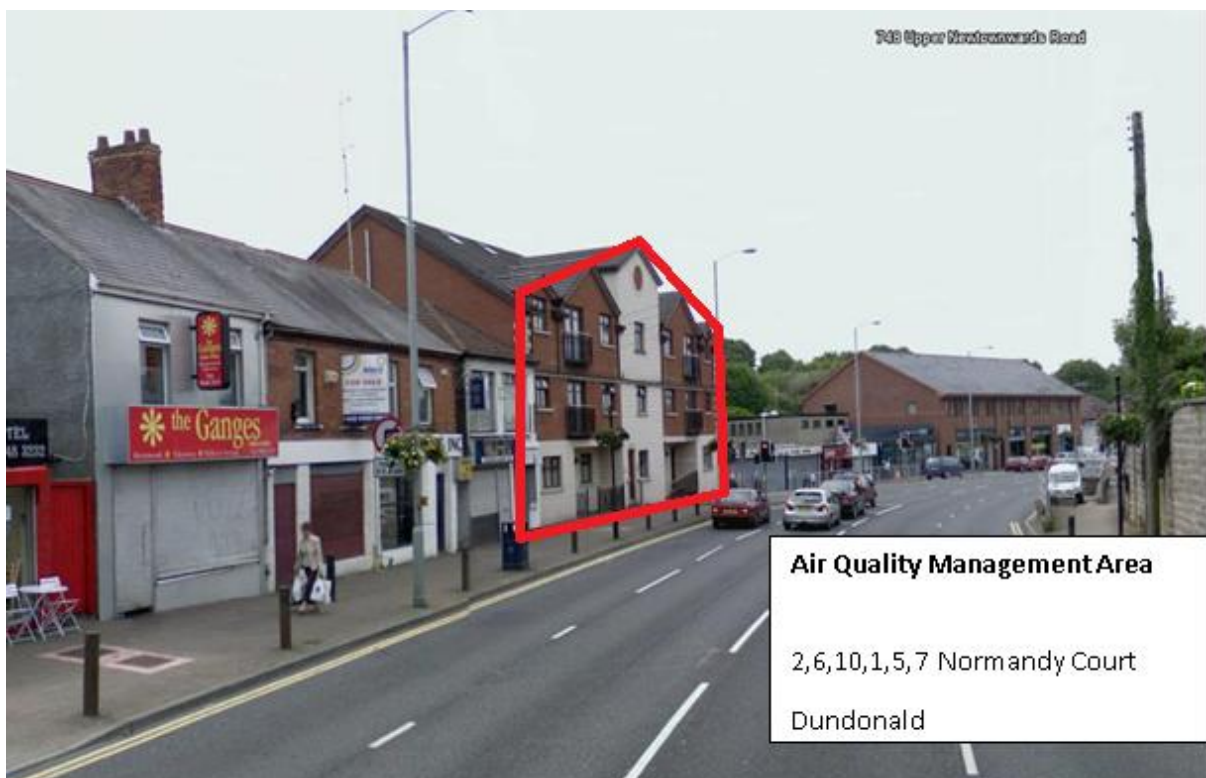


Figure 1.4 Map showing position of AQMA in Dundonald Village



■ Normandy Court A20 Upper Newtownards Road, Dundonald

Figure 1.5 Ariel photograph showing position of AQMA in Dundonald Village



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

LCCC has two automatic monitoring sites.

Kilmakee Activity Centre Seymour Hill

Measuring SO₂ and PM₁₀, PM_{2.5} this site also houses a Defra network PAH, black carbon and TOMPS monitor, extending the UK network into Northern Ireland. at this location, as it meets the requirements for the AURN specifications

Dundonald

Measuring NO_x using a chemiluminescence analyser, this site is within 30m of the AQMA. A co-location study for the NO₂ diffusion tubes is also carried out at this site. Results from this study were submitted to the national data base for 2025 to be included in the March results. The available data is included in this report. Manual calibrations are carried out every two weeks 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 sites as required. The 2024 results and correction factors are detailed in Appendix A.

Map(s) of Automatic Monitoring Sites

Figure 2.1 - Position of Automatic monitoring sites within LCCC

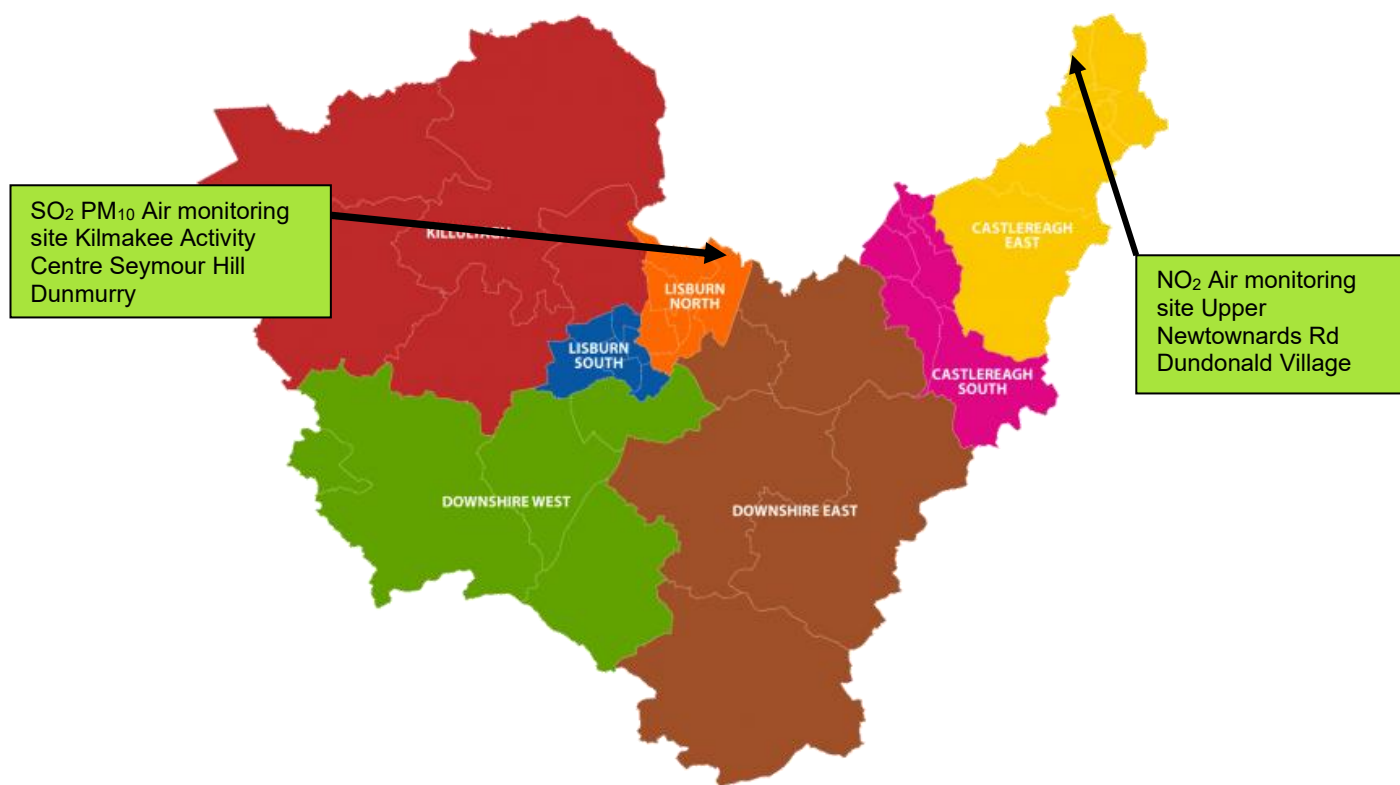


Figure 2.2 Position of Air monitoring site in Seymour Hill

▲ Kilmakee Activity Centre Seymour Hill

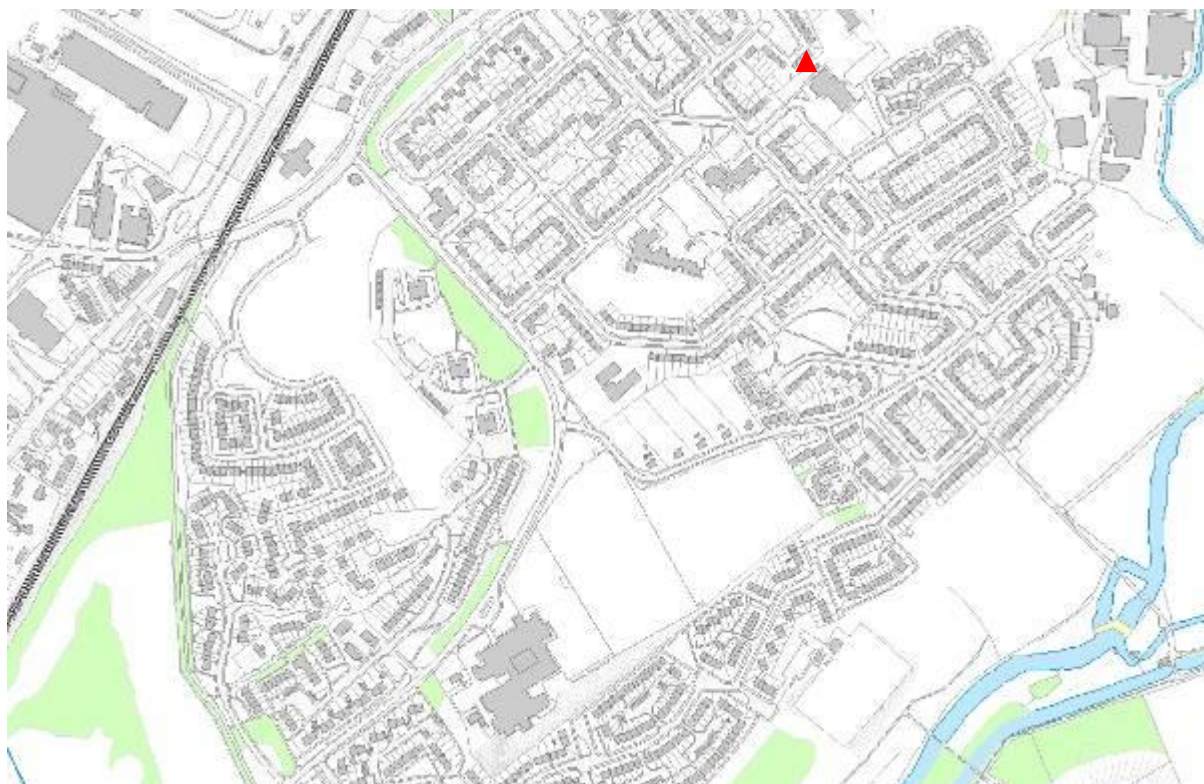


Figure 2.3 Position of Automatic Monitoring Site at Kilmakee Activity Centre

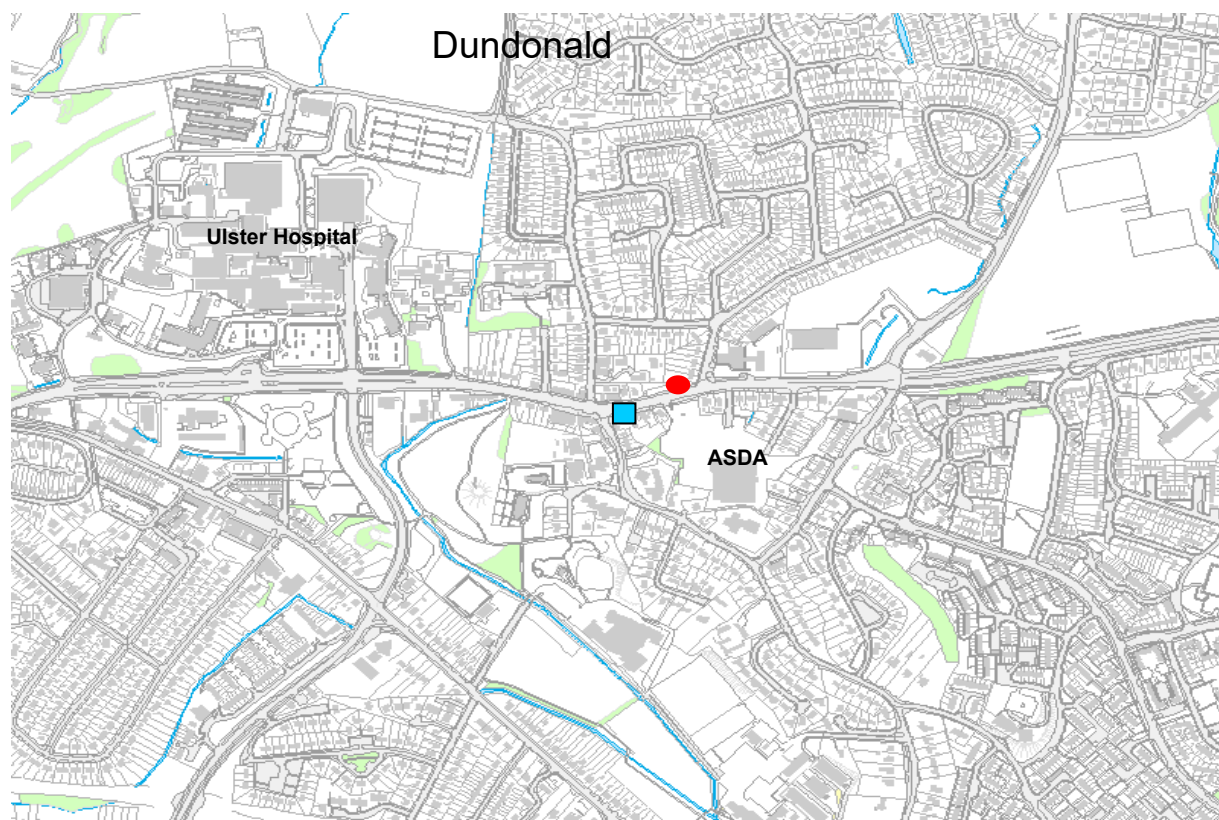


■ Air monitoring station

Figure 2.4 Picture of Automatic Monitoring Stations at Kilmakee Activity Centre



Figure 2.5 Position of automatic monitoring site in Dundonald Village



● Automatic monitoring site

■ AQMA

Figure 2.6 Picture of Automatic Monitoring Station in Dundonald Village



Table 2.1 – Details of Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Reference	Y OS 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?
Kilmakee Activity Centre	Urban Background	140855	523898	2.5	PM ₁₀ , PM _{2.5} SO ₂	NO	FIDAS 200 UV Analyser	YES 10m	N/A	YES
Dundonald Village	Roadside	154412	528818	2.5	NOX	NO	Chemiluminescence	YES 22m	3M	YES (30m from AQMA)

2.1.2 Non-Automatic Monitoring Sites

In 2024 LCCC had 25 passive monitoring NO₂ diffusion tubes, at 18 roadside and background sites and a co-location study at the automatic station in Dundonald. Most are positioned along the main arterial routes into Belfast, there are triplicate tubes at the co-location site in Dundonald and to enable more accurate results triplicate tubes are also positioned on the façade of Normandy Court within the AQMA and the Newtownbreda Road site where the highest results have been recorded within the council area

The triplicate tubes (1) on the façade of Normandy Court had to be relocated as LCCC no longer had permission to have them attached to the property. It was preferable to keep them on the façade, however, no other suitable site was obtained and rather than lose valuable data the tubes were relocated to the nearest post (1a, kerbside) two meters from the façade in January 2023.

Results from the co-location study at the automatic station in Dundonald, were submitted into the national data base

The diffusion tube studies for the past five years do not show any particular trends outside of the AQMA (See Fig. 2.18)

The NO₂ diffusion tubes were supplied and analysed by Gradko Environmental. The bias adjustment factor from the co-location study is **0.78**. ,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 showing the locations of the diffusion tube sites in 2024.

Figure 2.7 – Map(s) of Non-Automatic Monitoring Sites
Distribution of NO₂ diffusion tubes within Council area

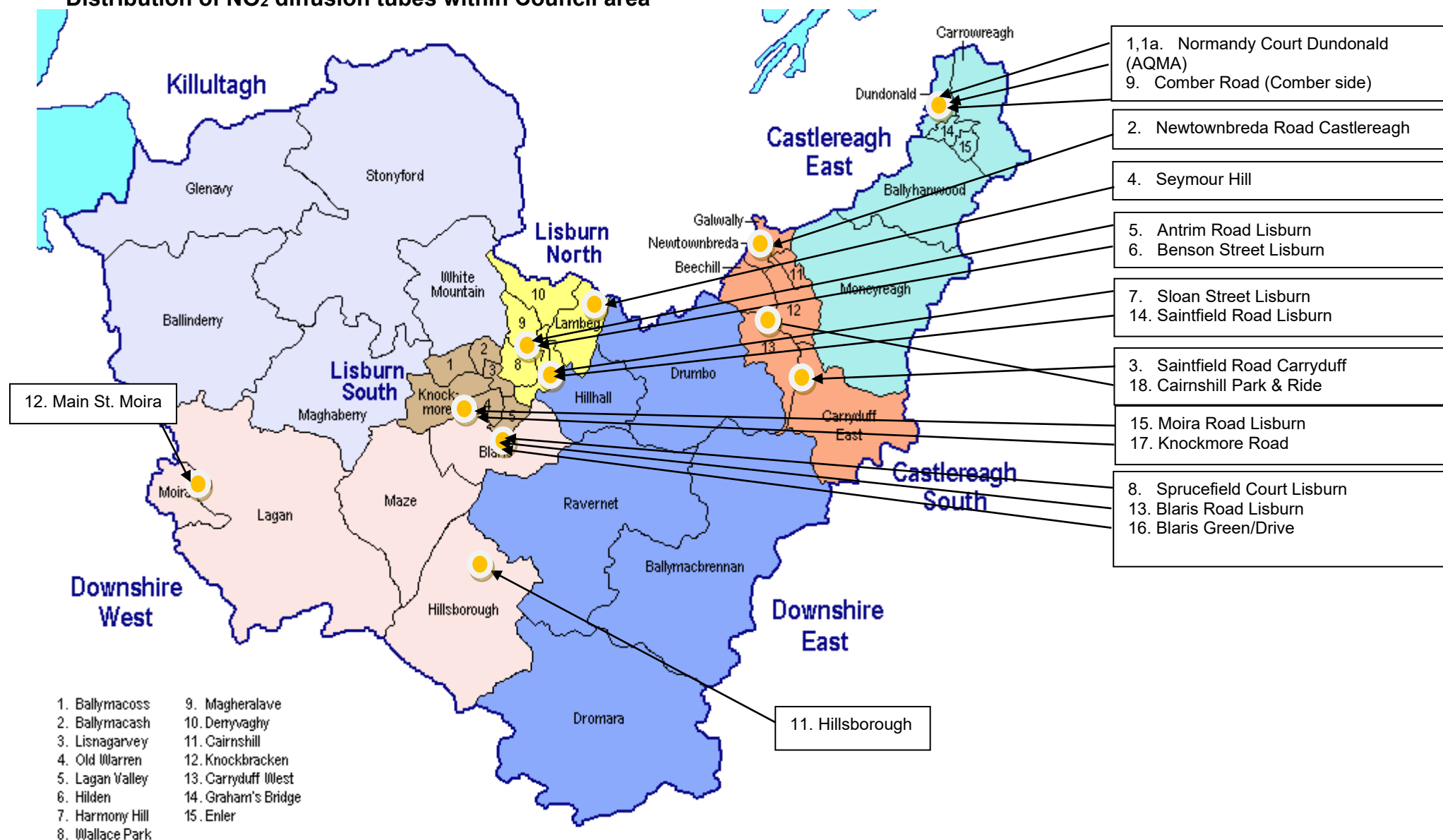


Figure 2.8 Position of tube 1. Dundonald village in AQMA(Normandy Court), and Comber Road Dundonald (tubes 9,10)

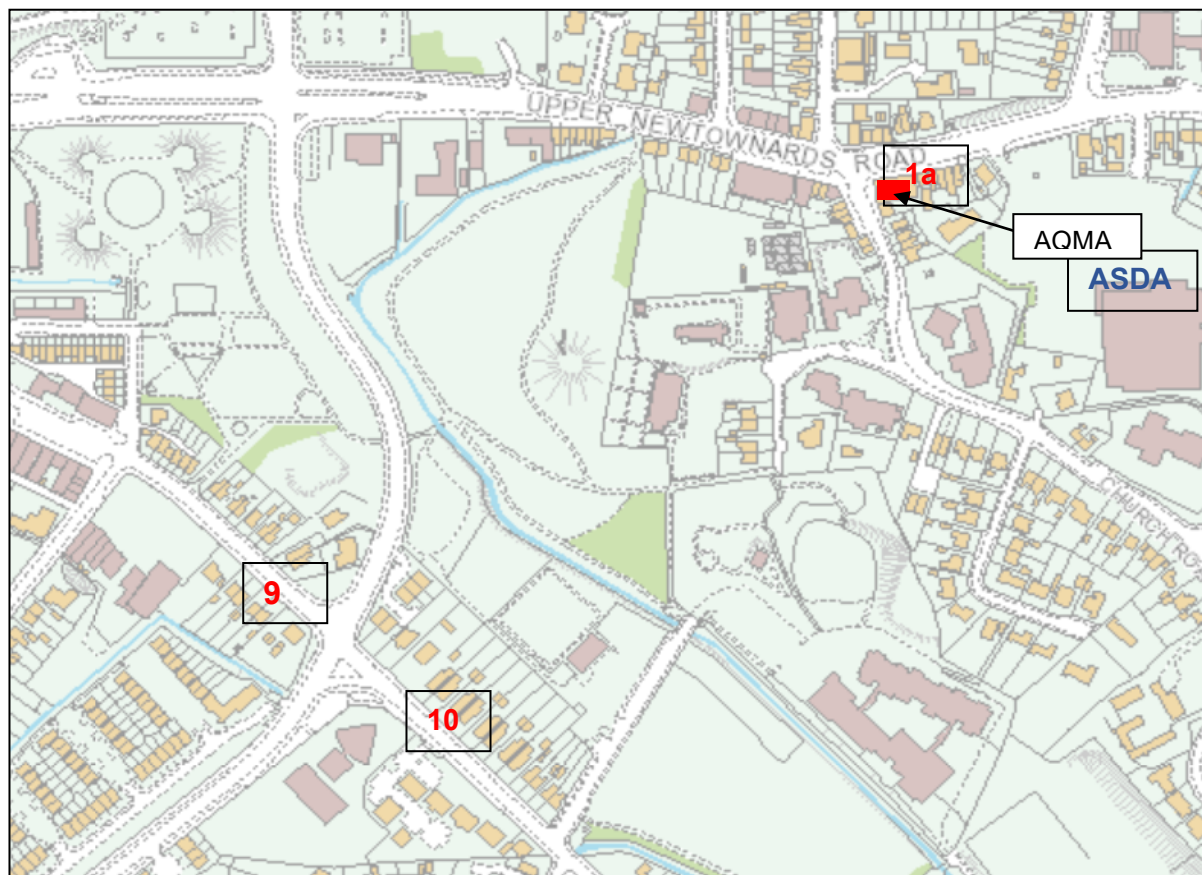


Figure 2.9 Picture of NO₂ Tubes 1 and 1a, AQMA Normandy Court Dundonald

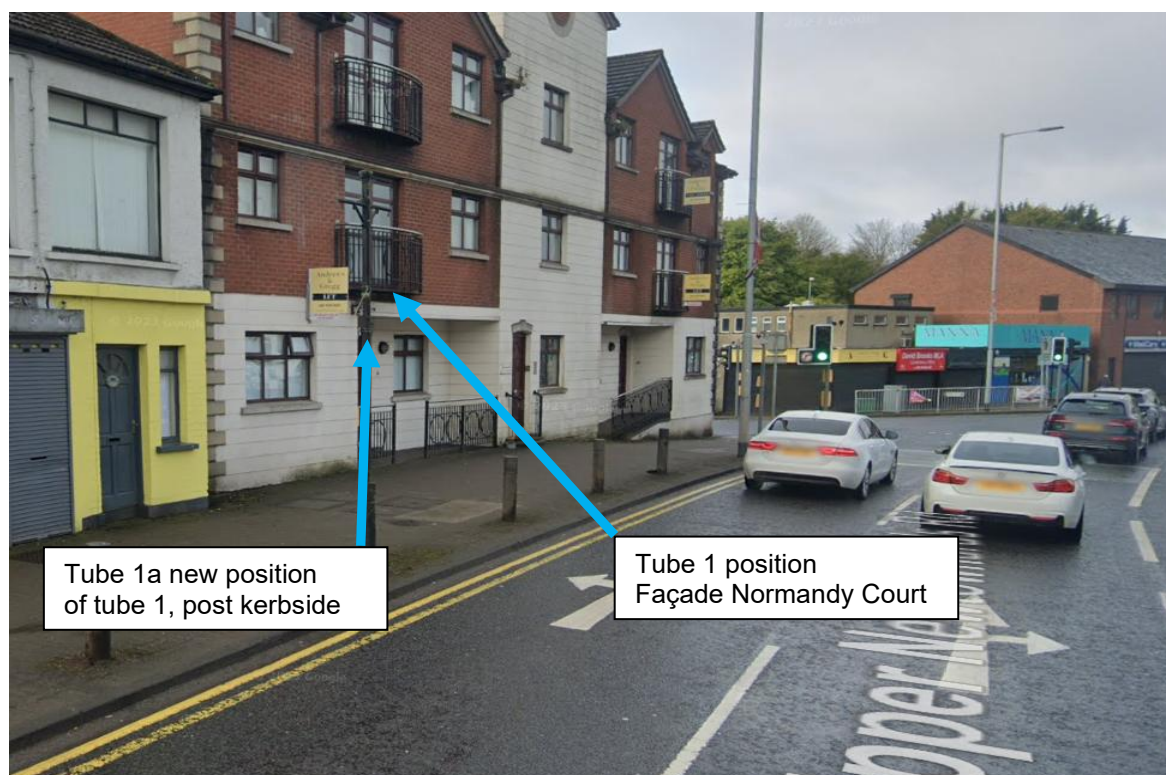


Figure2.10 Position of tube 2 Castlereagh area (Newtownbreda Road)



Figure2.11 Position of tube 3 Saintfield Road Carryduff



Figure 2.12 Position of tube 4 Seymour Hill

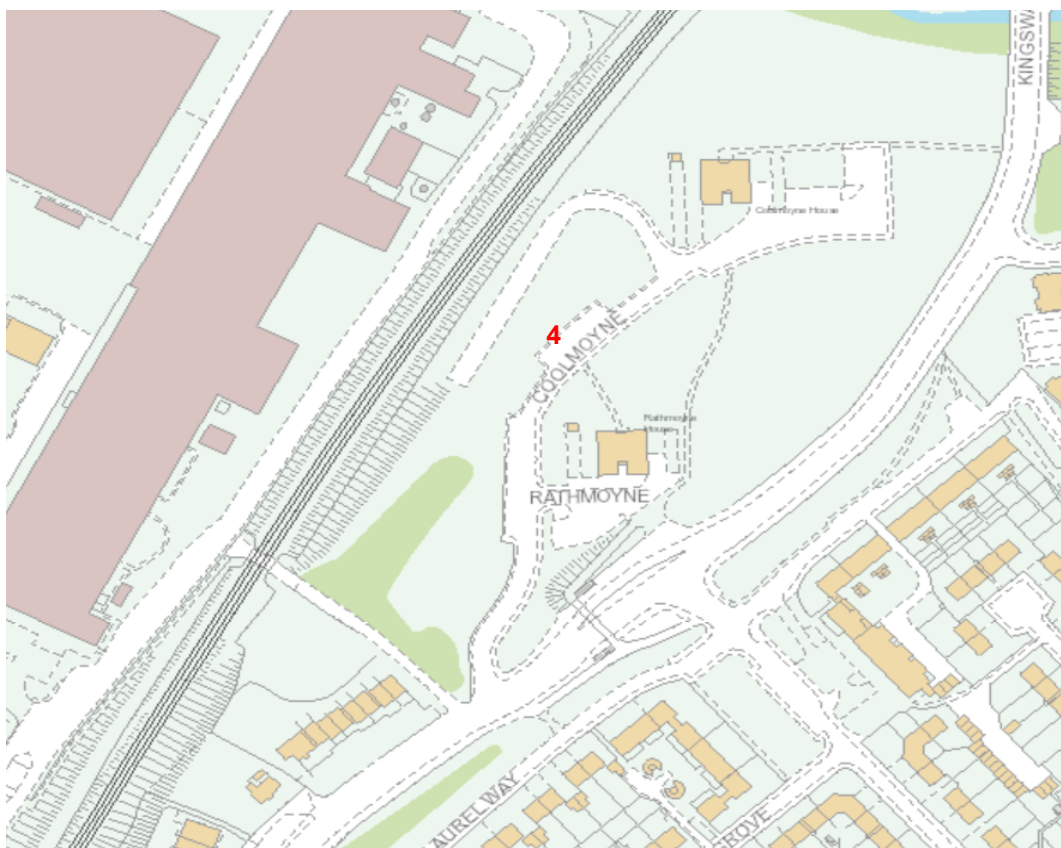


Figure 2.13 Position of tubes in Lisburn City

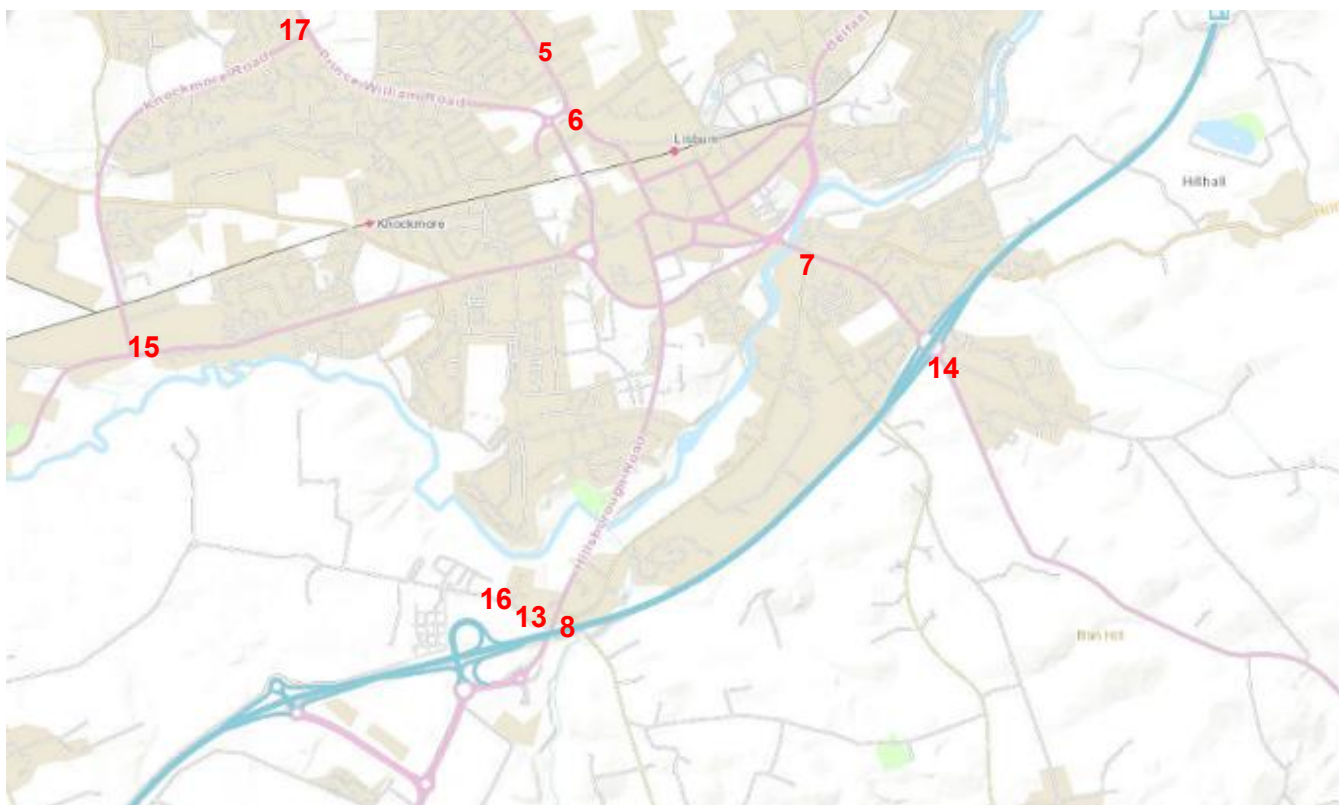


Figure 2.13.1 Position of tubes 5,6 (Antrim Rd, Benson St.)in Lisburn City

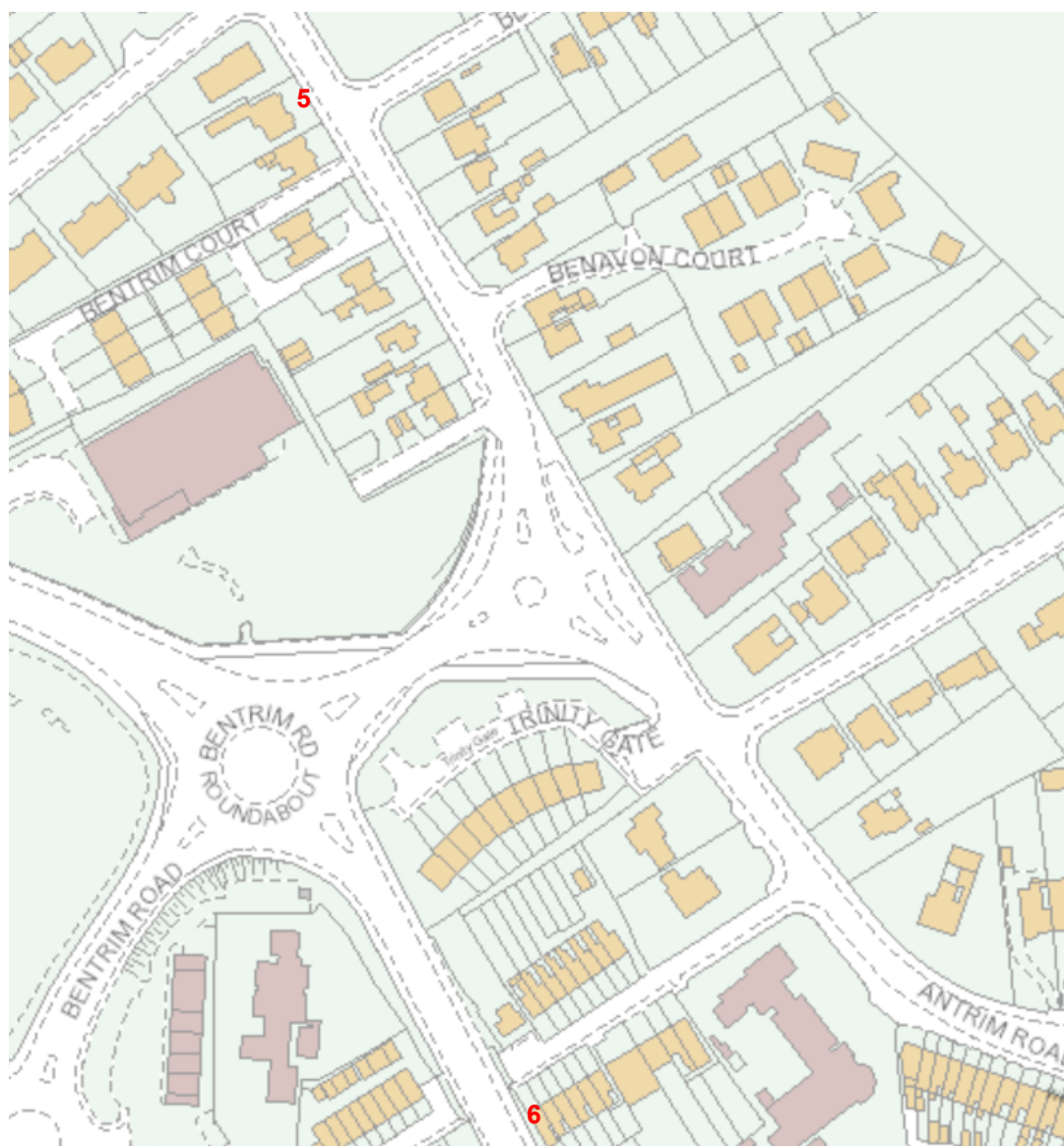


Figure 2.13.2 Position of tubes 7 Sloan Street in Lisburn City



Figure 2.13.3 Position of tubes 8,13,16,(Sprucefield Ct. Blaris Road, Blaris Green/Drive) in Lisburn City

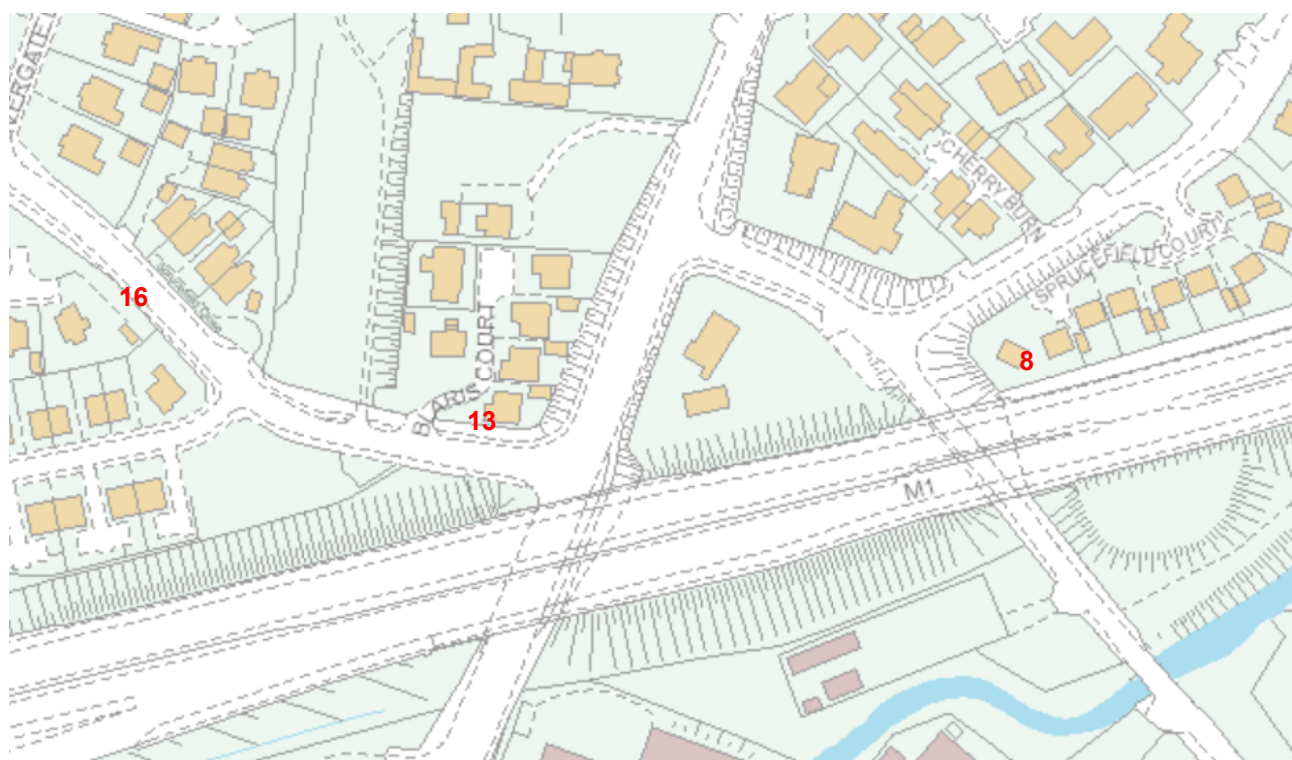


Figure 2.13.4 Position of tubes 14, Saintfield Road in Lisburn City

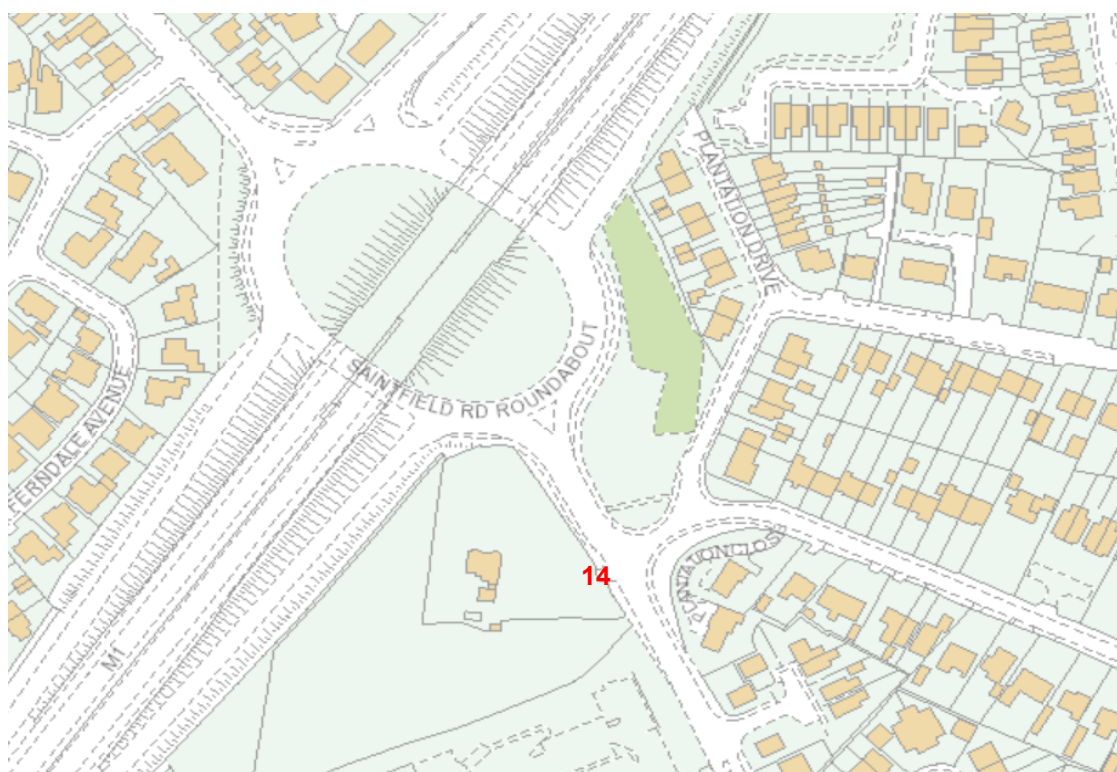


Figure 2.13.5 Position of tubes 15, Moira Road in Lisburn City

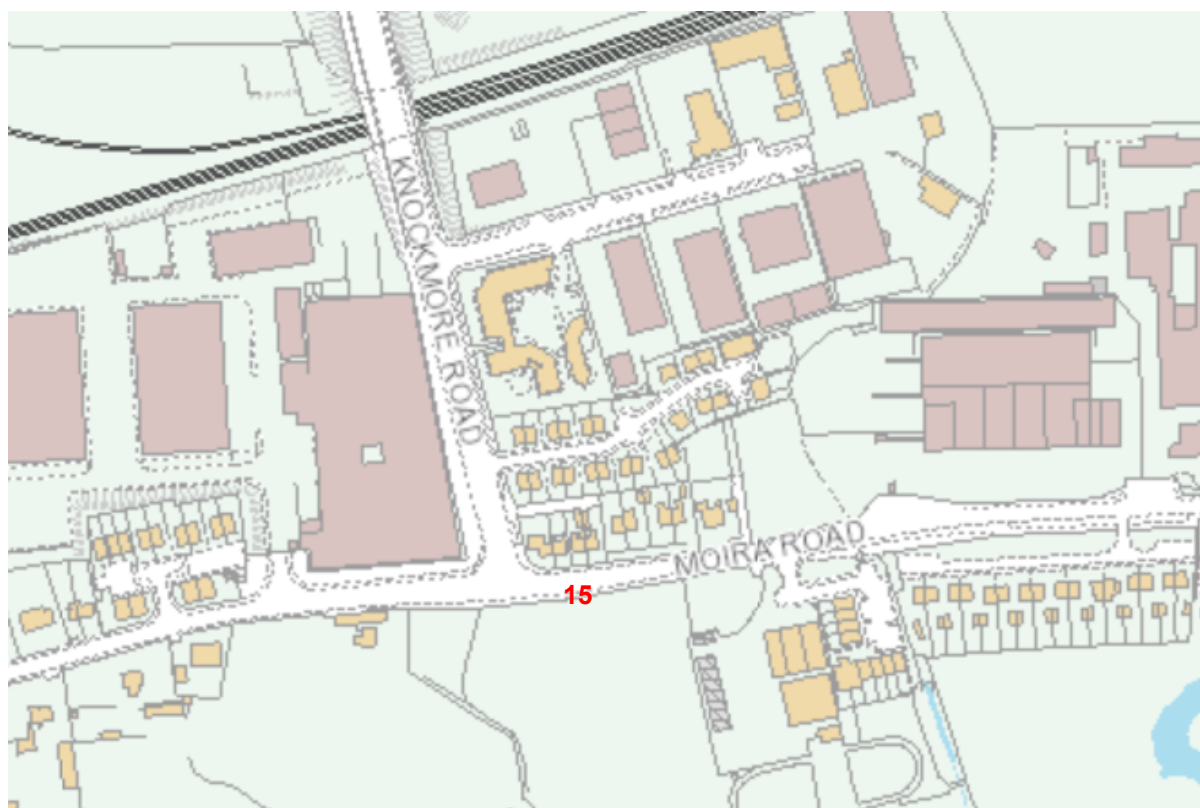


Figure 2.13.6 Position of tubes 17, Knockmore Road junction Road in Lisburn City



Figure 2.14 Map of tube 11 in Ballynahinch Street Hillsborough

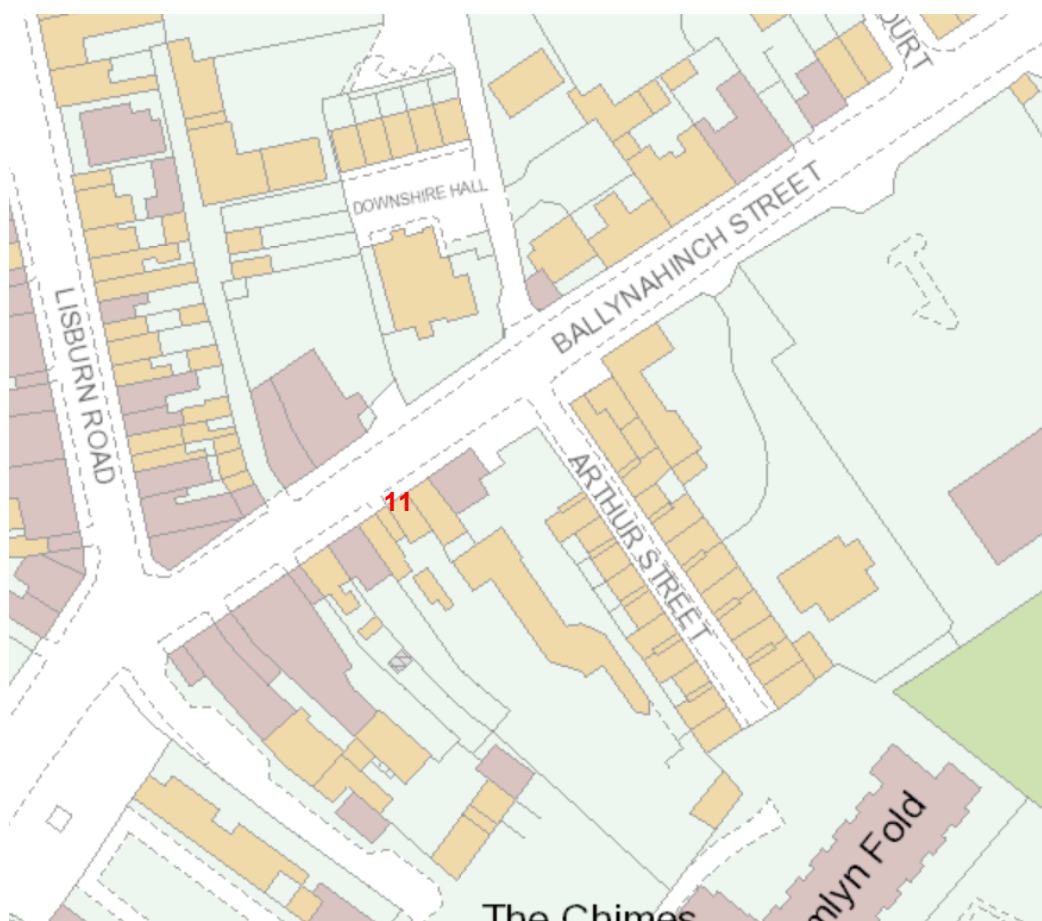


Figure 2.15 Position of tube 12 in Main Street Moira



Figure 2.16 Position of tube no.18 Cairnshill Park & Ride



Table 2.2 – Details of Non- Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	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	Normandy Court Dundonald (AQMA)	Roadside	154371	528792	3m	NO ₂	Yes	No	Yes (0m)	0.5m	Yes
2	Newtownbreda Road Castlereagh	Roadside	147284	525422	2.5m	NO ₂	No	No	Yes (7m)	2.5m	Yes
3	Saintfield Road Carryduff	Roadside	148515	520944	2m	NO ₂	No	No	Yes (70m)	10m	Yes
4	Seymour Hill	Background	140514	524071	2.5m	NO ₂	No	No	No (50m)	100m	No
5	Antrim Rd Lisburn	Roadside	137721	521827	2.5m	NO ₂	No	No	Yes (7m)	1m	Yes
6	Benson Street Lisburn	Roadside	137728	520780	2m	NO ₂	No	No	Yes (0.1m)	Yes	Yes
7	Sloan Street Lisburn	Roadside	138817	520176	2.5m	NO ₂	No	No	Yes (1.5m)	2m	Yes
8	Sprucefield Court Lisburn	Roadside	137621	518644	2m	NO ₂	No	No	Yes (1m) Façade of garage adjacent to house from road	15m	Yes
9	Comber Road (Comber side)	Roadside	154063	528489	2.5m	NO ₂	No	No	Yes (4m)	1.5m	Yes

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Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	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?
10	Comber Road (Belfast side)	Roadside	153980	528568	2.5m	NO ₂	No	No	Yes (4m)	1.5m	Yes
11	Hillsborough	Roadside	135549	515204	2m	NO ₂	No	No	Yes (0.1m)	1m	Yes
12	58-62 Main Street, Moira	Roadside	126321	517713	3m	NO ₂	No	No	Yes (4m)	1.5m	Yes
13	Blaris Road Lisburn	Roadside	137450	518641	2m	NO ₂	No	No	Yes (0m)	5.5m	Yes
14	Saintfield Road Lisburn	Roadside	139372	519616	2.5m	NO ₂	No	No	Yes (4m)	1.5m	Yes
15	Moira Road Lisburn	Roadside	135712	520000	2.5m	NO ₂	No	No	Yes (4m)	1.5m	Yes
16.	Blaris Green/Drive	Roadside	137342	518690	2.5m	NO ₂	No	No	Yes (7m)	1m	Yes
17.	Knockmore Road	Roadside	136545	521375	2.5m	NO ₂	No	No	Yes (19m)	1.5m	Yes
18.	Cairnshill Park & Ride	Roadside	147624	523693	2.5m	NO ₂	No	No	Yes (7m)	1.5m	Yes
19 (triplicate)	Co-located tubes at Dundonald Automatic site	Roadside	154412	528819	2.5m	NO ₂	No	Yes	Yes (22m)	3m	Yes

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 2024 Update and Screening Assessment. All monitored pollutant concentrations outside of the AQMA have been below their respective air quality objective limits at relevant exposure. In the following section results are presented for NO₂ at the automatic and diffusion tube sites and compared with the objective.

2.2.1 Nitrogen Dioxide (NO₂)

In the following section results are presented for NO₂ at the automatic and diffusion tube sites and compared with the objective.

All sites were below the AQS objective.

Automatic Monitoring Data

Table 2.3 presents the annual mean concentrations of NO₂ determined at the automatic site in 2024 from the hourly measurements.

Table 2.3 – Results of Automatic Monitoring for NO₂: 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
Castlereagh Dundonald	154412	528818	Roadside	99.7	99.7	17	19	19	20	18.6

In bold, exceedance of the NO₂ 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

Figure 2.17 – Trends in Annual Mean NO₂ Concentrations Measured at Automatic Monitoring Sites

The automatic station was installed in Dundonald in 2008 because of high results from NO₂ tubes at the Upper Newtownards Road site at Normandy Court. Results have shown a steady reduction since 2015, probably due to the introduction of the Park & Ride in Dundonald and new Rapid Transport System through the village. The pandemic in 2020 also significantly contributed to the reduction of NO₂ at Normandy Court (AQMA) in Dundonald. This reduction has remained in 2024 and has not returned to pre pandemic levels.

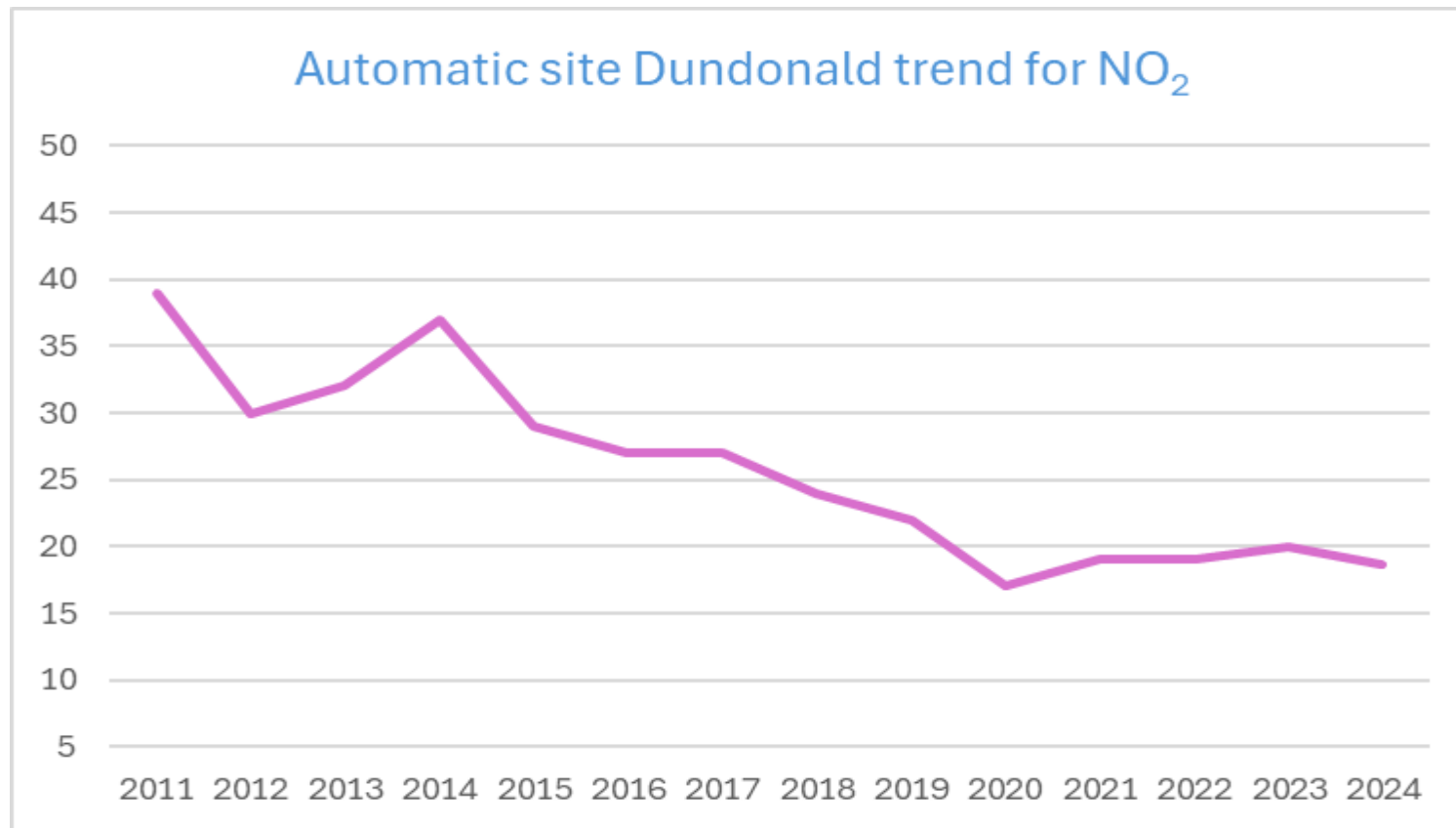


Table 2.4 – Results of Automatic Monitoring for NO₂: Comparison with 1-hour Mean Objective

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
Castlereagh Dundonald	Roadside	NO	N/A	99.7	0	0	0	0	0

Diffusion Tube Monitoring Data

Results at the NO₂ diffusion tube sites, situated within the council area are shown below in Table 2.5, they are sited in accordance with the technical guidance LAQM.TG (22) and analysed by Gradko. Table 2.5 show the calculated results of the diffusion tubes submitted to the DEFRA LAQM Portal Diffusion Tube Data Entry System (DTDES).

A diffusion tube co-location study has been undertaken at the Dundonald automatic monitoring station site. The results of this study have been submitted to the national data-base and they calculated the 2024 the local bias as **0.78**. As in previous years a decision has been made to apply the national bias adjustment factor of **0.84**, as based on 31 studies this was deemed to be a more realistic figure.

The Normandy Court Dundonald NO₂ tube façade site within the AQMA continued to show a reduction since the completion of the Park & Ride in Dundonald 2014, and the new Glider Rapid Transport Network completed in September 2018, . There was also a significant reduction in monitored NO₂ results in 2020 due to reduced traffic volumes during the COVID pandemic, in 2024 levels have not returned to pre-pandemic levels.

The Normandy Court façade, Dundonald NO₂ tube site no.1 within the AQMA continued to show a reduction since the completion of the Park & Ride in Dundonald 2014, and the new Glider Rapid Transport Network completed in September 2018, this site ceased at the end of 2022 as we no longer had permission to locate these tubes on the façade of the building, and the tubes were relocated in January 2023 to the nearest post kerbside no.1a, shown in Figure 2.9, results from this site are elevated as expected due to the proximity of the road but remain well below the objective and therefore the data has not been distance calculated.

The diffusion tube at the Benson Street site was located on the façade of the property, in 2024 this was moved kerbside 1M from the façade due to building work being carried out on the property.

There was a significant reduction in all the monitored NO₂ results in 2020 due to reduced traffic volumes during the COVID pandemic, this correlates with the automatic site 30M west. No sites have returned to pre-pandemic levels, and all remain well below the objective.

Trends for the 18 diffusion tube sites within the Council area are shown in Figure 2.18

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

Table 2.5 – Annual Results Summary

Site Name	X OS Grid Reference	Y OS Grid Reference	Height (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean Raw Data (µg/m3)	Annual Mean: Annualised and Bias Adjusted (0.84)
Newtownbreda Road	147284	525422	2.5	37.8	32.7	35.2	35.4	37.7	26.9	27.4	22.5		32.5	36.8	31.8	32.4	
Newtownbreda Road	147284	525422	2.5	35.7	34.2	37.0	34.0	39.4	25.0	28.7	22.5		33.9	35.8	33.8	32.7	27.5
Newtownbreda Road	147284	525422	2.5	34.5	32.4	35.7	31.6	40.0	26.1	27.5	22.6		32.7	36.7	30.2	31.8	26.7
Saintfield Rd Lisburn	139372	519616	2.5	44.1	40.6	32.0	38.8	37.5	38.2	34.9	35.2	50.2	37.6	42.1	38.3	39.1	32.9
Sloan Street	138817	520176	2.5	32.6	32.5	30.2	28.4	29.1	23.8	24.1	24.8	37.0	27.7	33.1	31.3	29.6	24.8
Sprucefield Court	137621	518644	2.5	35.9	34.9	33.4	26.9	30.4	21.7	24.6	31.0	45.5	34.2	36.1	33.7	32.3	27.2
Blaris Green-Drive	137342	518690	2.5	28.2	24.9	27.0	25.5	28.1	18.9	22.3	24.2	41.1	30.8	31.3	28.6	27.6	23.2
Blaris Facade	137450	518641	2.5	31.0	30.1	31.4	26.1	29.8	19.3	24.2	26.0	45.0	33.7	29.8	29.3	29.6	24.9
Hillsborough	135549	515204	2.5	25.0	22.6	21.2	17.3	17.6	13.4	14.6	18.0	31.0	23.3	24.2	22.7	20.9	17.6
Main Street Moira	126321	517713	2.5	29.1	25.8	23.0	23.3	23.6	22.5	18.8	19.3	26.3	19.7	25.0	25.4	23.5	19.7
Cairnshill	147623	523693	2.5	27.7	26.9	25.2	29.3	31.6	22.1	18.6	20.6	34.9	26.2	30.3	23.6	26.4	22.2
Saintfield Rd Carryduff	148515	520944	2.5	17.5	14.8	17.6		18.5	10.1	12.2	11.6	22.4	16.8	19.4	14.8	16.0	13.4
Normandy Court Kerbside Dundonald	154371	528792	2.5	38.9	38.5	31.1	29.0	31.6	26.8	25.8	15.9		37.3	36.4	37.1	31.7	26.6

Lisburn & Castlereagh City Council

Normandy Court Kerbside Dundonald	154371	528792	2.5	40.3	37.5	35.7	31.9	33.8	28.8	24.2	16.3		39.4	39.2	50.4	34.3	28.8
Normandy Court Kerbside Dundonald	154371	528792	2.5	38.0	35.8	33.0	29.8	30.4	25.2	21.7	14.3		36.4	31.6	35.5	30.2	25.3
Comber Rd Comber side	154063	528489	2.5	27.7	24.8	20.8	19.4	19.3	16.6	16.3	16.8	29.6	22.2	27.5	27.1	22.3	18.8
Comber Rd Belfast side	153980	528568	2.5	27.3	25.1	25.5	21.8	24.7	17.4	19.5	19.1	34.9	26.2	28.6	26.2	24.7	20.8
Moir Rd Lisburn	135712	520000	2.5	27.4	22.7		19.2	21.2	15.2	8.3	12.7	26.5	19.9	26.9	22.4	20.2	17.0
Knockmore Rd	136545	521375	2.5	25.0	25.1		19.4	19.3	14.0	14.5		30.1	22.6	23.4		21.5	18.0
Benson Street Kerbside	137728	520780	2.5	33.8	30.9	38.0	32.7	37.5	27.2	30.0	25.1	47.0	35.2	33.1	30.6	33.4	28.1
Antrim Road	137721	521027	2.5	29.9	28.7	25.3	22.5	24.3	16.0	17.5	16.9	33.5	25.1	29.5	27.4	24.7	20.7
Seymourhill	140514	524071	2.5	19.0	17.5	15.7	14.1	17.4	11.7	9.2	8.4	20.9	15.7	18.3	17.0	15.4	12.9

In bold, exceedance of the NO₂ annual mean AQS objective of 40µg/m³

Underlined, annual mean > 60µg/m³, indicating a potential exceedance of the NO₂ 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, NO₂ concentration at the nearest relevant exposure should be estimated based on the “[NO₂ fall-off with distance](http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html)” 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.

No exceedances were identified at any sites or required to be annualised, all monitored sites are located at the nearest relevant exposure.

Table 2.6 – Results of NO₂ Diffusion Tubes (2020 to 2024)

Site ID	Site Type	Annual mean concentration (adjusted for bias) µg/m ³				
		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)
1.Normandy Court facade Dundonald (AQMA)	Roadside	23	26	24		
1a Normandy Court kerbside Dundonald (AQMA)	Kerbside				29	27
Newtownbreda Road	Roadside	33	30	29	29	27
Saintfield Road Carryduff	Roadside	11	14	12	13	13
Seymourhill	Background	17	15	14	12	13
Antrim Rd	Roadside	20	21	21	21	21
Benson Street facade	Roadside	18	19	20	18	
Benson Street kerbside						28
Sloan Street	Roadside	23	25	25	24	25
Sprucefield Court	Roadside	26	29	28	27	27
Comber Road Comber side	Roadside	18	18	20	18	19
Comber Road Belfast side	Roadside	17	18	19	20	21
Hillsborough	Roadside	20	19	19	18	18
Main Street Moira	Roadside	20	21	20	20	20

Site ID	Site Type	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
		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)
Blaris facade	Roadside	24	30	30	29	25
Saintfield Road Lisburn	Roadside	23	26	28	31	33
Moirs Road Lisburn	Roadside	17	20	17	17	17
Blaris Green- Drive	Roadside	23	29	30	29	23
Knockmore Road	Roadside	24	30	29	29	18
Cairnshill	Roadside	20	25	23	23	22

In bold, exceedance of the NO₂ annual mean AQS objective of 40 $\mu\text{g}/\text{m}^3$

Underlined, annual mean > 60 $\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO₂ hourly mean AQS objective

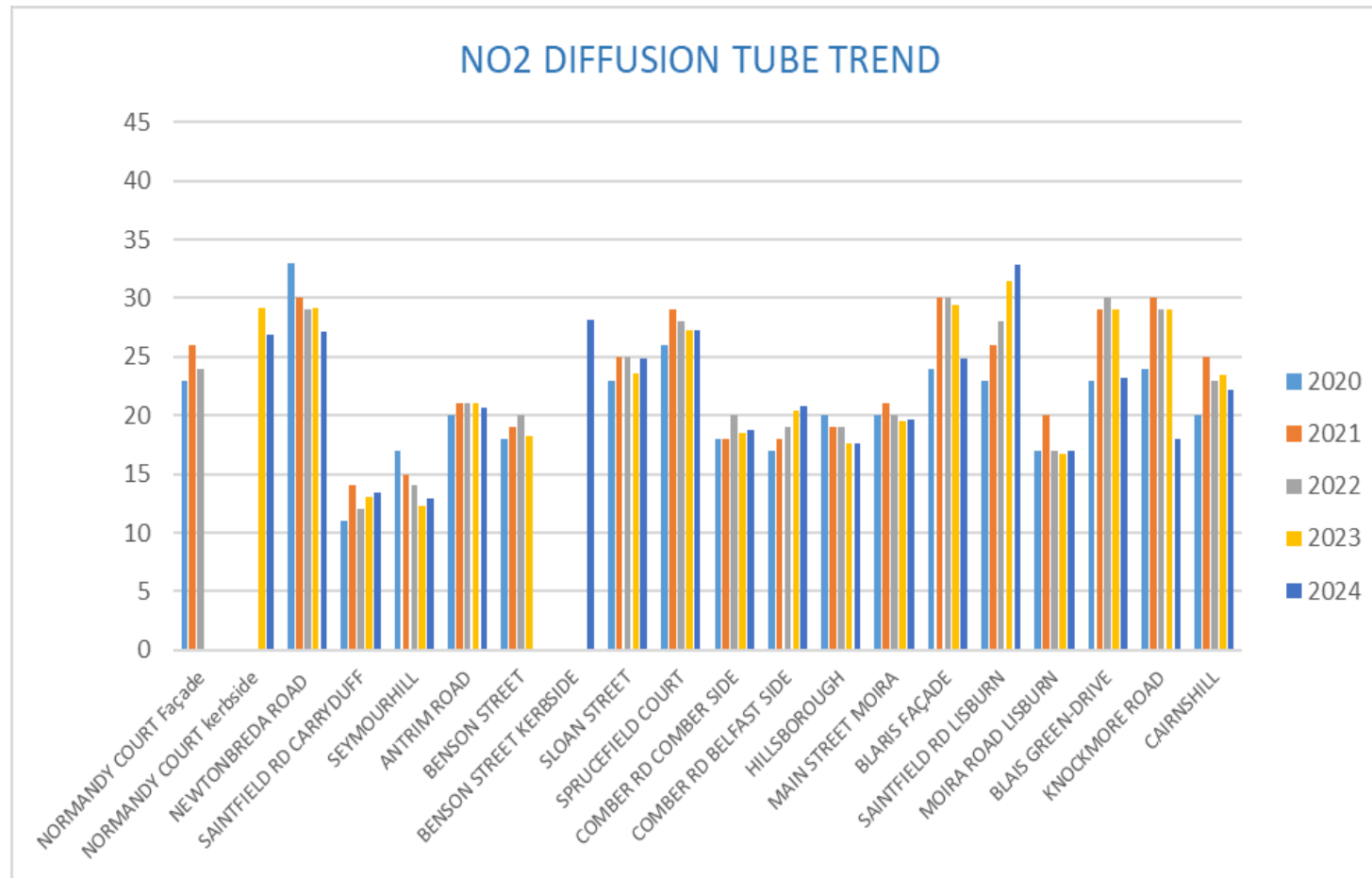
^a Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG22, if full calendar year data capture is less than 75%

^b If an exceedance is measured at a monitoring site not representative of public exposure, NO₂ concentration at the nearest relevant exposure should be estimated based on the “[NO₂ fall-off with distance](http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html)” 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.

No exceedances were identified at any sites or required to be annualised, all monitored sites are located at the nearest relevant

Figure 2.18 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites

All sites have continued to remain below the objective of 40ug/m³



2.2.2 Particulate Matter (PM₁₀)

In 2024, automatic monitoring of PM₁₀ and PM_{2.5} using a FIDAS200 instrument, was undertaken at Kilmakee Activity Centre, Rowan Drive, Seymour Hill situated between Lisburn City and Belfast City.

This location is also the site for the AURN PAH, Black Carbon and TOMPS monitor. This site was chosen due to the high use of secondary solid fuel use.

The results are ratified and adjusted accordingly by AQDM, the data management company, and a specialist engineer is also contracted to service and maintain the equipment. Summaries of this data, regarding annual and hourly mean objectives, are presented in Table 2.7 and Table 2.8.

All results remain below the AQS objective.

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

All results remain below the AQS objective.

Table 2.7 – Results of Automatic Monitoring for PM₁₀: 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 N/A)	Annual Mean Concentration (µg/m ³)				
						2020	2021	2022	2023	2024
Kilmakee Activity Centre (PM ₁₀)	Urban Background	N	N/A	97%	Y	12	14	12	10.3	10.7

Figure 2.5 – Trends in Annual Mean PM₁₀ Concentrations

PM₁₀ has remained consistently low in Dunmurry

Table 2.8 – Results of Automatic Monitoring for PM₁₀: 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 (Y or N/A)	Number of Daily Means > 50µg/m ³				
						2020	2021	2022	2023	2024
Kilmakee Activity Centre (PM ₁₀)	Urban Background	N	N/A	97%	Y	0	0	0	0	0

2.2.3 Sulphur Dioxide (SO₂)

In 2012 LCCC installed an automatic SO₂ monitor at Kilmakee Activity Centre, which was renewed in 2023 with an Enviro Technology T100 analyser, it sits alongside the particulate, TOMPS and PAH monitors. The site was chosen due to high PAH results in the area and across Northern Ireland compared to the rest of the UK, and high secondary solid fuel use in the area, adjacent to relevant exposure.

Data capture for 2024 was 90.2%, there were no exceedances of the AQS objective. The data has been fully ratified by AQDM.

Table 2.9 – Results of Automatic Monitoring for SO₂: Comparison with Objectives

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2024 % ^b	Number of exceedances:		
					15-minute Means > 266µg/m ³	1-hour Means > 350µg/m ³	24-hour Means > 125µg/m ³
Kilmakee Activity Centre Dunmurry	Urban Background	N	N/A	90.2%	0	0	0

In bold, exceedance of the relevant AQS objective (15-min mean = 35 allowed/year; 1-hour mean = 24 allowed/year; 24-hour mean = 3 allowed/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 relevant percentile in bracket (in µg/m³): 15-min mean = 99.9th ; 1-hour mean = 99.7th ; 24-hour mean = 99.2th percentile.

Figure 2.6 – Trends in SO₂ Concentrations

Results have remained very low at this site.

2.2.4 Benzene

Benzene monitoring was not undertaken in 2024. LCCC review all relevant planning applications and all air quality assessments received, no major changes have been identified requiring a further assessment of Benzene. LCCC 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/m3.

Table 2.10 Results of monitoring from benzene: Annual Mean Concentrations for the Belfast Centre 2019 – 2023

Site ID	Site type	Within AQMA? Which AQMA?	Valid Data Capture 2022%	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

2.2.1 Other Pollutants Monitored

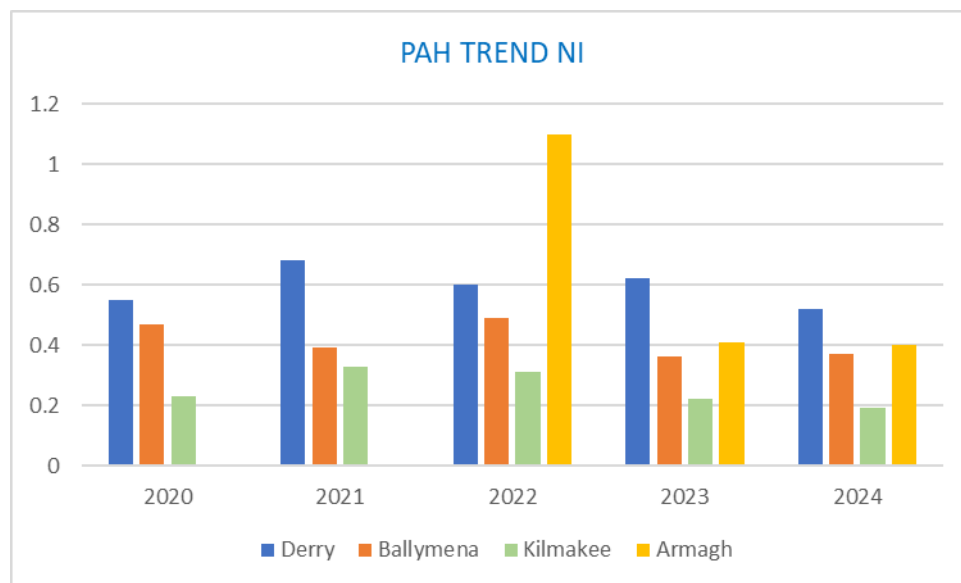
Polycyclic Aromatic Hydrocarbons (PAH)

The national network monitoring for PAH includes three monitoring sites in Northern Ireland and Kilmakee Activity Centre, Seymour Hill in LCCC is one of these. The UK National Air Quality Objective for PAH is an annual average of 0.25ng-/m3, the EU limit value for PAH is an annual average of 1ng BaP/m3. The Kilmakee site in LCCC is below the EU objective and in 2024 was also below the UK non-mandatory objective.

The following table shows the results from 2020 to 2024.

Site	2020 ng/m ³ annual mean	2021 ng/m ³ annual mean	2022 ng/m ³ annual mean	2023 ng/m ³ annual mean	2024 ng/m ³ annual mean
Derry	0.55	0.68	0.6	0.62	0.52
Ballymena	0.47	0.39	0.49	0.36	0.37
Kilmakee Activity Centre	0.23	0.33	0.31	0.22	0.19
Armagh (roadside)			1.1	0.41	0.40

Figure 2.19 Trends in PAH Northern Ireland



Particulate Matter (PM_{2.5})

At the beginning of 2021 a new FIDAS 200 monitoring PM₁₀ and PM_{2.5} was installed at the Kilmakee site in Lisburn, the annual mean results for PM_{2.5} are listed in Table 2.11 below, the results are below the UK limit value of 20 ug/m³.

Table 2.11 Results of Automatic Monitoring of PM_{2.5} 2021-2023 compared with the 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 N/A)	Annual Mean Concentration (µg/m ³)			
						2021	2022	2023	2024
ASPM1 Kilmakee Activity Centre (PM _{2.5})	Urban Background	N	N/A	97%	N/A	7	8	6.4	6.7

2.2.2 Summary of Compliance with AQS Objectives

Lisburn and Castlereagh City Council has examined the results from monitoring in the area.

Concentrations within the AQMA (Normandy Court, Dundonald) are not exceeding the objective for NO₂ in 2024, levels reduced during the COVID19 and have not returned to pre-pandemic levels, also due to the popularity of the Rapid Transport System returning, therefore LCCC will submit a detailed assessment in 2025 and move towards revoking the AQMA in Dundonald.

Concentrations outside of the AQMA are also below the objectives at relevant exposure, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

Lisburn & Castlereagh City Council confirm that there are no new or newly identified local developments in 2024 that may have an impact on air quality within the Local Authority area.

Lisburn & Castlereagh City Council confirm 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

LCCC 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 Service Unit has commented on planning applications where an air quality impact assessment may be necessary, no new road traffic sources were identified.

3.2 Other Transport Sources

LCCC 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 Service Unit comments on planning applications in relation to Air Quality they did not identify any relevant applications.

3.3 Industrial Sources

LCCC 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 Service Unit comments on all planning applications where air quality may have an impact and require further assessment, no new other transport sources were identified that required further action.

3.4 Commercial and Domestic Sources

LCCC 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 Service Unit comments on all planning applications where air quality may have an impact and require further assessment, no new other sources were identified that required further action.

3.5 New Developments with Fugitive or Uncontrolled Sources

LCCC can confirm they have considered the following

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

The Environmental Health Service Unit comments on all planning applications where air quality may have an impact and require further assessment, no new sources were identified that required further action.

4 Local / Regional Air Quality Strategy

LCCC 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

LCCC Environmental Health Service Unit considered all relevant planning applications and request an Air Quality Impact Assessment if required, no applications required further action.

6 Implementation of Action Plans

LCCC Updating and Screening Assessment 2015 explained the amalgamation of local authorities in Northern Ireland, and how LCCC was made up from the previous council areas of Lisburn City and Castlereagh Borough with a substantial portion moving into Belfast City Council.

Castlereagh Borough Council declared the AQMA (now within LCCC area) in Dundonald village (apartments Normandy Court), in January 2011 and an Air Quality Action plan was submitted to the Department in 2013.

A survey at that time carried out by TransportNI indicated the Park & Ride situated east of the AQMA in Dundonald and the introduction of the new rapid Transport system (Glider Bus) could reduce road traffic vehicles by 20%.

When the new Rapid Transport System came into operation in September 2018, there was a noticeable reduction in NO₂. The opening times of the Park & Ride were extended to midnight at this time and in 2019 it continued to grow in popularity and was at capacity during working hours. The 2019 recorded NO₂ annual mean was 31ug/m³ within the AQMA Normandy Court showing a further 10% reduction. Levels of NO₂ were greatly reduced in 2020 due to reduced traffic volumes during the COVID pandemic, in 2024 they still are reduced from the pre-pandemic levels and a trend in the reduction of NO₂ within the AQMA has been established.

LCCC updated the 2013 Action Plan in 2024, and a detailed assessment will be submitted in 2025 moving forward with revoking the AQMA.

Table 6.1 – Action Plan Progress

Actions in 2023	Lead Authority	Impact	Time Scale years	Impact 10 high 1 low	2023 Actions	Updated Actions 2024
1. To review the existing 2012 Action Plan created by Castlereagh Borough Council	LCCC	Leading to the review of the AQMA Normandy Court, Dundonald	1-2	4	Review all actions within the existing Action Plan and the impact they have had. To update all actions within the Action Plan.	Completed new detailed assessment to be submitted in 2025 moving forward with revoking AQMA
2. Council vehicle fleet - Improving Euro Emissions	LCCC	Improving air quality with low emission vehicles	6+	2	LCCC will continue to try and improve vehicle emissions when purchasing new vehicles	LCCC continue to try and improve vehicle emissions when purchasing new vehicles
3. Continue to improve the bus fleet by providing Eco- driver training.	Translink	Reduced vehicle emissions with improved driving skills	3-5	1	Translink provide Eco-driver training and roll out a mentor programme. LCCC will continue with air quality monitoring	Translink continue to provide Eco-driver training and roll out a mentor programme. LCCC will continue with air quality monitoring
4. Continue current practice of purchasing low emission vehicles on fleet renewal	Translink	Reduced emissions from buses in AQMA	3-5	3	Purchase low emission vehicles on replacement/ renewal. LCCC will continue with air quality monitoring	Purchase low emission vehicles on replacement/ renewal. LCCC will continue with air quality monitoring
5. Improve the transport network and efficiency.	Translink	Lower emissions from buses and a significant reduction within the AQMA which is within the new Belfast Rapid Transport (BRT) corridor.	3-5	6	To continue with improvements to the transport network with newer vehicles and more efficient routes, continuation of the new glider buses in the BRT corridor. LCCC will continue with air quality monitoring	To continue with improvements to the transport network with newer vehicles and more efficient routes, new glider buses established with significant reduction in monitored NO ₂ results within the AQMA Dundonald. LCCC will continue with air quality monitoring

7 Conclusions and Proposed Actions

7.1 Conclusions from New Monitoring Data

All monitoring at relevant exposure within the Council Area have not shown an increase at key locations in 2024 and are below the AQS objectives.

The NO₂ levels within the AQMA in Dundonald in 2024 have remained below the objective, with the success of the new rapid transport system and a change in working patterns they have not returned to pre COVID levels. LCCC shall continue monitoring at the AQMA location in 2025 and submit a detailed assessment to revoke the AQMA.

7.2 Conclusions relating to New Local Developments

Lisburn & Castlereagh City Council assessed the NO₂ diffusion tube sites, and found no new sites requiring further monitoring in 2025.

7.3 Proposed Actions

This 2025 Progress Report has identified there is no need to proceed with a detailed assessment for any of the pollutants outside of the AQMA. LCCC is focused on improving air quality as a whole, therefore all existing monitoring sites shall continue in 2025.

LCCC will continue to make the resources for the No Idling Outside Schools initiative available in 2025.

Levels of NO₂ within the AQMA have remained low for over five years, LCCC will submit a detailed assessment in 2025 with the intention of revoking the AQMA.

8 References

| TG (22) Part IV of the Environment Act 1995. Local Air Quality Management: Technical

Appendices

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

Data

QA/QC Data of automatic sites

Lisburn City & Castlereagh City Council commissioned AQDM Technology to provide the QA/QC of the automatic measurements of NO₂, SO₂, PM₁₀, PM_{2.5} for the Kilmakee, Seymour Hill and Dundonald A20 sites. Local authority staff act as the local site operator and visit the sites on a weekly basis carrying out any manual calibration or filter changes required. The sites were repaired as necessary and ESU1 were contracted to service the sites.

Automatic station reports produced by the data Management Company

Air Quality Report

Produced by AQDM on behalf of Lisburn
LISBURN DUNMURRY SEYMOUR HILL 2024

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

Site Environment and Description

Kilmakee Activity Centre

URBAN BACKGROUND

[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
PM ₁₀ Particulate Matter	0 days	0	0
PM _{2.5} Particulate Matter	0 days	0	0
Sulphur Dioxide	0 15-minutes	0	0

Air Quality Exceedances of the AQS Objectives

Gravimetric PM₁₀ - annual data capture was 97.0 %

The annual mean was 10.7 µg m⁻³ which did not exceed the 40 µg m⁻³ Objective.

The maximum daily mean was 38.1 µg m⁻³ so there were no exceedances of the PM₁₀ daily limit of 50 µg m⁻³. There is an annual allowance of 35 days so the Objective was not exceeded.

Gravimetric PM_{2.5} - annual data capture was 97.0 %

The annual mean was 6.7 µg m⁻³ which did not exceed the 20 µg m⁻³ Objective.

SO₂ - annual data capture was 90.2 %

The maximum 15-minute mean was 8.0 µg m⁻³ so there were no exceedances of the SO₂ 15-minute limit of 266 µg m⁻³. There is an annual allowance of 35 15-minute means so the Objective was not exceeded.

The maximum hourly mean was 6.7 µg m⁻³ so there were no exceedances of the SO₂ 1-hour limit of 350 µg m⁻³. There is an annual allowance of 24 hours so the Objective was not exceeded.

The maximum daily mean was 1.9 µg m⁻³ so there were no exceedances of the SO₂ daily limit of 125 µg m⁻³. There is an annual allowance of 3 days so the Objective was not exceeded.

The annual mean was 0.4 µg m⁻³ which did not exceed the 20 µg m⁻³ Objective.

Air Quality Report

LISBURN DUNMURRY SEYMOUR HILL 2024

Air Quality Statistics

Pollutant	Grav PM ₁₀ ⁺	Grav PM _{2.5} [~]	PM ₁ [§]	SO ₂
Number Very High #	0	0	-	0
Number High #	0	0	-	0
Number Moderate #	0	0	-	0
Number Low #	353	353	-	29781
Maximum 15-min mean	- µg m ⁻³	- µg m ⁻³	87.9 µg m ⁻³	8.0 µg m ⁻³
Maximum hourly mean	79.5 µg m ⁻³	70.7 µg m ⁻³	72.2 µg m ⁻³	6.7 µg m ⁻³
Maximum running 8-hr mean	64.6 µg m ⁻³	59.2 µg m ⁻³	60.3 µg m ⁻³	4.9 µg m ⁻³
Maximum running 24-hr mean	40.6 µg m ⁻³	37.2 µg m ⁻³	38.1 µg m ⁻³	2.4 µg m ⁻³
Maximum daily mean	38.1 µg m ⁻³	34.1 µg m ⁻³	34.9 µg m ⁻³	1.9 µg m ⁻³
Average	10.7 µg m ⁻³	6.7 µg m ⁻³	5.2 µg m ⁻³	0.4 µg m ⁻³
Data capture	97.0 %	97.0 %	97.0 %	90.2 %

Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013

+ Gravimetric PM₁₀ 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

§ PM₁ as measured by a FIDAS instrument

Mass units for the gases are at 20°C and 1013mb

Air Quality Exceedances

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Max Conc	Number	Days	Allowed	Exceeded
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg m ⁻³	10.7 µg m ⁻³	0	-	-	No
PM ₁₀ Particulate Matter (Gravimetric)	Daily mean > 50 µg m ⁻³	38.1 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
Sulphur Dioxide	15-minute mean > 266 µg m ⁻³	8.0 µg m ⁻³	0	0	35 15 mins	No
Sulphur Dioxide	Hourly mean > 350 µg m ⁻³	6.7 µg m ⁻³	0	0	24 hours	No
Sulphur Dioxide	Daily mean > 125 µg m ⁻³	1.9 µg m ⁻³	0	0	3 days	No
Sulphur Dioxide	Annual mean > 20 µg m ⁻³	0.4 µg m ⁻³	0	-	-	No

Air Quality Report

Produced by AQDM on behalf of Castlereagh
CASTLEREAGH DUNDONALD 2024

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

Site Environment and Description

Upper Newtownards Road

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>.

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

Air Quality Exceedances of the AQS Objectives

NO₂ - annual data capture was 99.7 %

The annual mean was 18.6 µg m⁻³ which did not exceed the 40 µg m⁻³ Objective.

The maximum hourly mean was 99.5 µg m⁻³ so there were no exceedances of the NO₂ hourly limit of 200 µg m⁻³. There is an annual allowance of 18 hours so the Objective was not exceeded.



Air Quality Data Management (AQDM)
23rd January 2025

Air Quality Report

CASTLEREAGH DUNDONALD 2024

Air Quality Statistics

Pollutant	NO ₂	NO	NO _x
Number Very High #	0	-	-
Number High #	0	-	-
Number Moderate #	0	-	-
Number Low #	8762	-	-
Maximum 15-min mean	131.0 µg m ⁻³	542.6 µg m ⁻³	928.5 µg m ⁻³
Maximum hourly mean	99.5 µg m ⁻³	427.7 µg m ⁻³	752.4 µg m ⁻³
Maximum running 8-hr mean	76.6 µg m ⁻³	184.1 µg m ⁻³	359.0 µg m ⁻³
Maximum running 24-hr mean	55.0 µg m ⁻³	122.8 µg m ⁻³	241.3 µg m ⁻³
Maximum daily mean	48.1 µg m ⁻³	88.1 µg m ⁻³	183.1 µg m ⁻³
Average	18.6 µg m ⁻³	11.2 µg m ⁻³	35.7 µg m ⁻³
Data capture	99.7 %	99.7 %	99.7 %

Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013

Mass units for the gases are at 20°C and 1013mb

NO_x mass units are NO_x as NO₂ 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	18.6 µg m ⁻³	0	-	-	No
Nitrogen Dioxide	Hourly mean > 200 µg m ⁻³	99.5 µg m ⁻³	0	0	18 hours	No



Air Quality Data Management (AQDM)
23rd January 2025

QA/QC of Diffusion Tube Monitoring

In 2024 the NO₂ tubes were supplied, prepared and analysed 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 Dundonald site and the data submitted to National Physical Laboratory (NPL) to be include in 2025 national data base.

<https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/>

Lisburn & Castlereagh City Council

The local bias adjustment figure **0.78** was calculated by NPL and included on the data base.

Decision to use the bias adjustment factor 0.84

The results of the local co-location study at the Dundonald site were submitted to the national data base, and they calculated the Dundonald local bias adjustment factor at **0.78**, this co-location study is 30M from the AQMA in Dundonald and is on one of the main arterial routes into Belfast City centre.

The following are the results from the local co-location study Dundonald submitted to the NPL and the national data base.

Diffusion Tube Collocation Data Questionnaire For Local Authorities					
Please Read the "Notes" sheet and then fill in the white boxes of this questionnaire					
Should you require assistance, email nick.martin@npl.co.uk or phone 020 8943 7088					
Your Details	Date form filled in	Name of Local Authority	Your name	Phone number	Contact email
	27/02/2025	Lisburn & Castlereagh City Council	Cheryl Harkness	7841474188	cheryl.harkness@ardkandnorthdown.gov.uk
Site Details	Distance from kerb (m)	Site type (e.g. roadside, background). Definitions of site types are given on the "Notes" sheet	Distance from diffusion tube(s) to continuous analyser inlet (m) (this should be less than 1m from the analyser inlet)	Location (site name or a brief description)	Grid Reference of Site (if available)
	2	Roadside	0.1	Castlereagh Dundonald	ir.grid ref:342016/374041
Diffusion Tube Details	Prepared by	Analysed by	Example results sheet attached? (please attach a results sheet provided by the analysis laboratory)	Preparation method (e.g. 50% TEA in acetone; 50% TEA in water)	How are diffusion tubes deployed? (e.g. with a clip, spacer, shelter box, just tape)
	Gradko	Gradko environmental	Yes	20% TEA / Water	clip
Continuous Analyser Details				Analyser type	QA/QC (e.g. local or network)
				ET T200	Local

Data from the Automatic Analyser (Matching Individual Diffusion Tube Periods)						
Period	Start Date (dd/mm/yy)	End Date (dd/mm/yy)	% Data Capture	Ratified / Provisional	NOx (if available) (ug/m ³)	Nitrogen Dioxide (ug/m ³)
1	03/01/2024	31/01/2024	99.4	Ratified	48.8	24.3
2	31/01/2024	06/03/2024	99.8	Ratified	46.1	23.8
3	06/03/2024	03/04/2024	99.3	Ratified	38.1	20.1
4	03/04/2024	01/05/2024	99.6	Ratified	28.1	16.4
5	01/05/2024	29/05/2024	99.7	Ratified	30.6	17.4
6	29/05/2024	03/07/2024	99.8	Ratified	19.1	11.8
7	03/07/2024	31/07/2024	99.4	Ratified	23.9	12.9
8	31/07/2024	05/09/2024	99.8	Ratified	25.3	14.1
9	05/09/2024	01/10/2024	99.7	Ratified	28.6	16.3
10	01/10/2024	06/11/2024	99.5	Ratified	45.7	21
11	06/11/2024	03/12/2024	99.8	Ratified	56.3	24.9
12	03/12/2024	08/01/2025	99.7	Ratified	40.1	21.2
13						
Please express NOx as NO ₂ (e.g. ppb x 1.913) or alternatively note the approach / units here:						
When you are identifying the automatic monitoring periods that match your diffusion tube exposure periods, please be as precise as possible. It is not, however, necessary to match start times to the exact hour that you put out your tubes.						

Individual Period (monthly) Mean Nitrogen Dioxide Data from the Diffusion Tubes (ug/m ³)					
Period		Tube 1	Tube 2 (if available)	Tube 3 (if available)	Tube 4 (if available)
1		24	24	25	
2		26	27	27	
3		27	28	29	
4		20	20	20	
5		23	22	22	
6		14	13	15	
7		16	15	16	
8		31	30	29	
9		34	35	32	
10		25	25	23	
11		25	22		
12		24	24	24	
13					

Other Information	Are the concentrations stated in ug/m ³ ?	Did the diffusion tube supply or analysis method change during the monitoring period? When, from what, to what?	Were there any significant problems with the continuous analyser during the monitoring period?	Are there any other relevant issues with your data?
		YES	NO	NO

Please Return Completed Questionnaires to: nick.martin@npl.co.uk
 This questionnaire is now maintained and distributed by the National Physical Laboratory on behalf of Defra and the DAs

Below shows the result for Lisburn & Castlereagh City Council local bias adjustment factor of 0.78 published on the 09/25 spreadsheet.

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 09/25					
Follow the steps below in the correct order to show the results of relevant co-location studies						This spreadsheet will be updated at the end of March 2026 LAQM Helpdesk Website					
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.						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 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.	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		Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision	Bias Adjustment Factor (A) (Cm/Dm)
Ordnance		20% TEA in water	2024	R	Westmorlandshire County Council	12	29	24	15.4%	G	0.84
Gradko		20% TEA in water	2024	KS	Marleybone 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
Gradkin		20% TEA in water	2024	R	Eastleigh Borough Council	12	29	24	20.3%	G	0.83

The September 2025 national bias adjustment figure for Gradko in 2024 is **0.84**.

As in recent years a decision was made to apply the national figure of **0.84** as 31 studies were included in this and therefore deemed to be a more realistic figure and therefore will show a more accurate trend. .

A copy of the National bias adjustment spread sheet can be found below:

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 09/25				
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 March 2026 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 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.		If you have your own co-location study then see footnote. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327853				
Analysed By	Method	Year	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	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2024	KS	Warrington Borough Council	12	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	0.89
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	R	Cheshire West And Chester	12	33	27	21.7%	G	0.82
Gradko	20% TEA in water	2024	R	Cheshire West And Chester	11	30	27	12.9%	G	0.89
Gradko	20% TEA in water	2024	R	The Highland Council	12	19	18	6.9%	G	0.94
Gradko	20% TEA in water	2024	R	The Highland Council	11	15	11	35.3%	G	0.74
Gradko	20% TEA in water	2024		Overall Factor² (31 studies)				Use		0.84