Derry City and Strabane District Council

2023 Progress Report

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

April 2024

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Report Reference number	2023/DCSDC/01
Date	30/04/2024

Executive Summary

This report fulfils the requirements of the Local Air Quality Management 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. Results from monitoring by the Council are presented and sources of air pollution are identified.

This report confirms that air quality within the Council area continues to meet the relevant air quality objectives at locations of relevant exposure, with the exception of locations within existing Air Quality Management Areas (AQMAs). There were no exceedances of any objectives outside the existing AQMA boundaries.

In the 2019 Progress report and the 2020 Progress Report, 2021 Updating and Screening Assessment and 2022 Progress Report, Council recommended that the Spencer Road AQMA should be revoked due to reduced pollutant concentrations over the previous number of years. DAERA subsequently advised that more recent monitoring results be compiled for this AQMA to determine if pollutant concentrations continued to decline: this has been shown to be the case and it is now hoped that this AQMA can be revoked. The remaining AQMAs are considered appropriate and should remain unchanged. The Buncrana Road AQMA had a slight exceedance (40.6 µg/m^3 in 2022) of the Nitrogen Dioxide (NO2) annual mean limit value of 40 µg/m^3 with no exceedances in the two previous years. Council will continue to monitor trends at this location. There is no requirement for a Detailed Assessment for any pollutant.

The report has not identified any significant changes in emissions sources within Derry City and Strabane District Council area. There have been no new relevant industrial installations and no new significant commercial, domestic or fugitive sources of emissions. An update has also been provided on the measures contained in Council's Air Quality Action Plan. It is proposed to amend the Action Plan to take account of additional measures that Council has undertaken and to also account for the recommendations to be contained in the imminent Clean Air Strategy for Northern Ireland by DAERA.

Table of Contents

List of Tables

List of Figures

Appendices

Appendix A: QA/QC Data including Distance Correction for NO_2 diffusion tubes at Dale's Corner Roadside site and 2022 NO_2 diffusion tubes raw results

Appendix B: Air Quality Reports- Dale's Corner, Derry 2022

Appendix C: Air Quality Reports- Springhill Park, Strabane 2022

Appendix D: Air Quality reports – Strathfoyle, Derry 2022

Appendix E: Air Quality reports- Newtownstewart 2022

Appendix F: Long term trends in NO2 concentrations at Dale's Corner

1 Introduction

1.1 Description of Local Authority Area

Derry City and Strabane District Council is located in the west of Northern Ireland. Derry City is the second-largest city in Northern Ireland, situated on the River Foyle, and includes Foyle Port and the City of Derry Airport within its boundaries. Road transport emissions have previously been found to be the dominant source of air pollution in the Derry City area. The remainder of the district is largely rural in character, the largest population centre outside Derry being Strabane Town.

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 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 (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 (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

As part of the review and assessment process, Derry City and Strabane District Council has prepared a number of air quality reports. A summary is provided in Table 1.2. In 2005 an AQMA was declared at the Creggan Road / Infirmary Road junction in Derry City, in 2011 two additional AQMAs were declared at Dale's Corner and at the Buncrana Road / Racecourse Road junction. In 2012/2013 two further AQMAs were declared at Spencer Road and Strand Road, all for exceedances of the annual mean NO_2 objective.

In October 2018 the Strand Road AQMA was revoked and the Spencer Road AQMA was reduced in size.

The remaining AQMAs are shown in Figures 1.1 to 1.4

Three AQMAs were declared in Strabane, Newtownstewart and Castlederg in 2004 for exceedances of the annual and 24-hour mean PM_{10} objectives due to domestic heating. These 3 AQMA's were revoked in October 2018. An Action Plan was developed in order to identify measures to reduce ambient concentrations of particles and to attempt to comply with the objectives for PM_{10}.

The Council has also completed updating and screening assessments that did not highlight any other areas of concern that required a detailed assessment to be undertaken.

Table 1.2 summarises the Review and Assessment work carried out by Council in the 5 year period 2018 to 2022 The 2018 Updating & Screening Assessment was then followed by the 2019 Progress Report. The the 2020 Progress Report, 2021 Updating and Screening Assessment and 2022 Progress Report were amalgamated into one report.

Table 1.2 Summary of Review and Assessment by Derry City Council

Report	Summary
2018 Updating & Screening Assessment	There were no exceedances of any objectives outside the existing AQMA boundaries, or within the Strand Road AQMA. No significant changes in emission sources or no new developments within the Derry and Strabane District Council area were identified that would significantly impact on air quality at relevant locations. In 2018, the Council revoked the Strabane, Newtownstewart and Castlederg AQMA's for particulates (PM10). The former SDC Action Plan measures were realised and pollution levels reduced to well below health limit values.The Smoke Control Areas still remain. The Strand Road AQMA for nitrogen dioxide was revoked in 2018 and the Spencer Road AQMA was reduced in size to reflect updated monitoring and modelling results. The remaining AQMAs are considered appropriate for the time-being. The Council is revising the Air Quality Action Plan to reflect the new Council boundary. Measures shall be introduced to work towards achieving air quality objectives within the remaining AQMAs to improve health and wellbeing across the Council area.
2019 Progress Report	The report confirmed that air quality within the Council area continued to meet the relevant air quality objectives at locations of relevant exposure, with the exception of locations within the existing Air Quality Management Areas (AQMAs) at Creggan Road and Dale's Corner. There were no objectives exceedances outside the existing AQMA boundaries. Council recommended in the report that the Spencer Road AQMA should be revoked due to reduced pollutant concentrations, well below the limit value, over the last number of years. DAERA subsequently advised that more recent monitoring results be compiled for this AQMA to determine if pollutant concentrations continued to decline: this has been shown to be the case and it is now hoped that this AQMA can be revoked. The remaining AQMAs are considered appropriate and should remain unchanged. There is no requirement to proceed to a Detailed Assessment for any pollutant. The report has not identified any significant changes in emissions sources within Derry City and Strabane District Council area and there have been no new relevant industrial installations and no new significant commercial, domestic or fugitive sources of emissions. An update has also been provided on the measures contained in Council's Air Quality Action Plan. It is proposed to amend the Action Plan to take account of DAERA's imminent Clean Air Stragy for Northern Ireland and also additional measures that Council has proposed.
2020 Progress Report, 2021 Updating and Screening	The report confirmed that air quality within Derry City and Strabane District Council area continued to meet the

Assessment and 2022 Progress Report	relevant air quality objectives at locations of relevant exposure, with the exception of locations within existing Air Quality Management Areas (AQMAs). There were no exceedances of any objectives outside the existing AQMA boundaries. Council recommended that the Spencer Road AQMA should be revoked due to reduced pollutant concentrations, well below the limit value, over the previous number of years. DAERA subsequently advised that more recent monitoring results be compiled for this AQMA to determine if pollutant concentrations continued to decline and, in the Appraisal of the report, advised that a Detailed Assessment should be undertaken if necessary. It had further been shown that pollutant concentrations have continued to stay below the pollutant limit value and it is now hoped that this AQMA can be revoked. The remaining AQMAs are considered appropriate and should remain unchanged. The Buncrana Road AQMA had, in the previous 4 years only a marginal exceedance (40.8 $\mu g/m^3$ in 2019) of the Nitrogen Dioxide (NO2) annual mean limit value of 40 $\mu g/m^3$. Council will observe trends at this location with the possibility of revocation of the AQMA should NO2 levels remain lower. There was no requirement to proceed to a Detailed Assessment for any pollutant. The report did not identifiy any significant changes in emissions sources within Derry City and Strabane District Council area. There had been no new relevant industrial installations and no new significant commercial, domestic or fugitive sources of emissions. An update had also been provided on the measures contained in Council's Air Quality Action Plan. It is proposed to amend the Action Plan to take account of additional measures that Council has undertaken and to also account for the recommendations to be contained in the imminent Clean Air Strategy for Northern Ireland by DAERA.

The following Figures 1.1 – 1.4 show the AQMA's in the Derry City and Strabane District Council area. These 4 AQMA's are within the Derry area of the council. They have been declared for NO_2 from traffic sources.

Maps of the AQMA's declared for Nitrogen Dioxide (Annual Mean)

Figure 1.1 – Creggan Road Air Quality Management Area

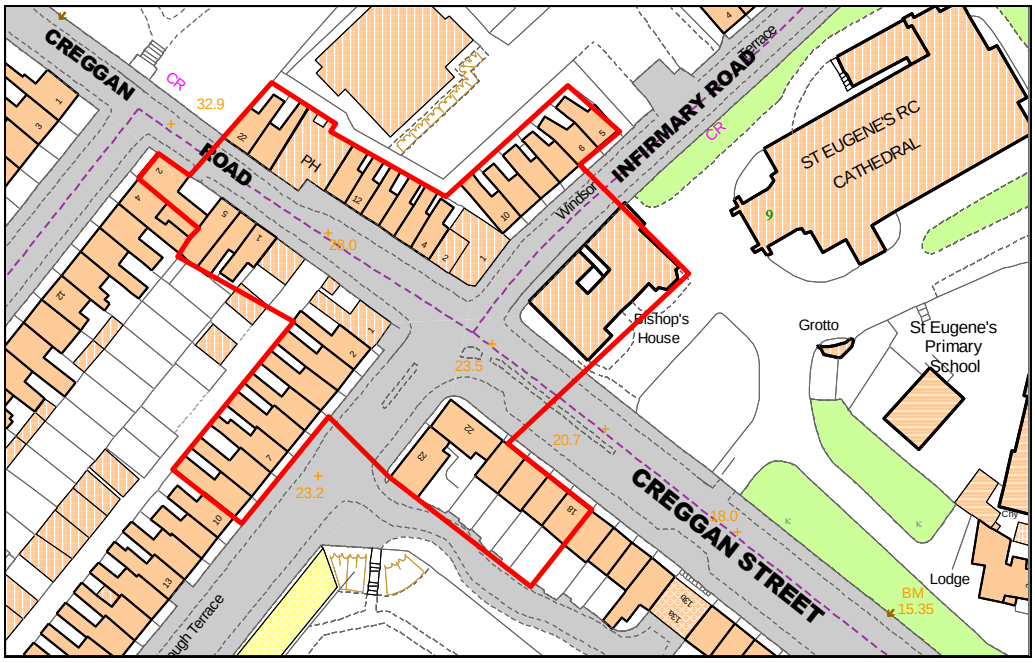

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Figure 1.2 – Dale's Corner Air Quality Management Area

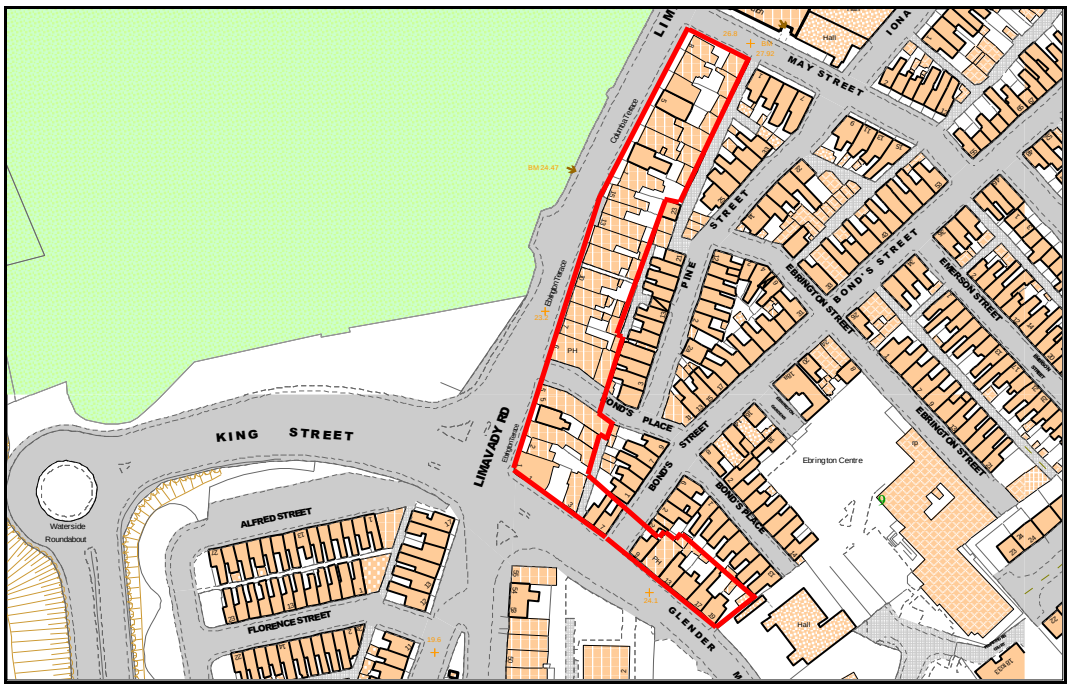


Figure 1.3 – Buncrana Road Air Quality Management Area

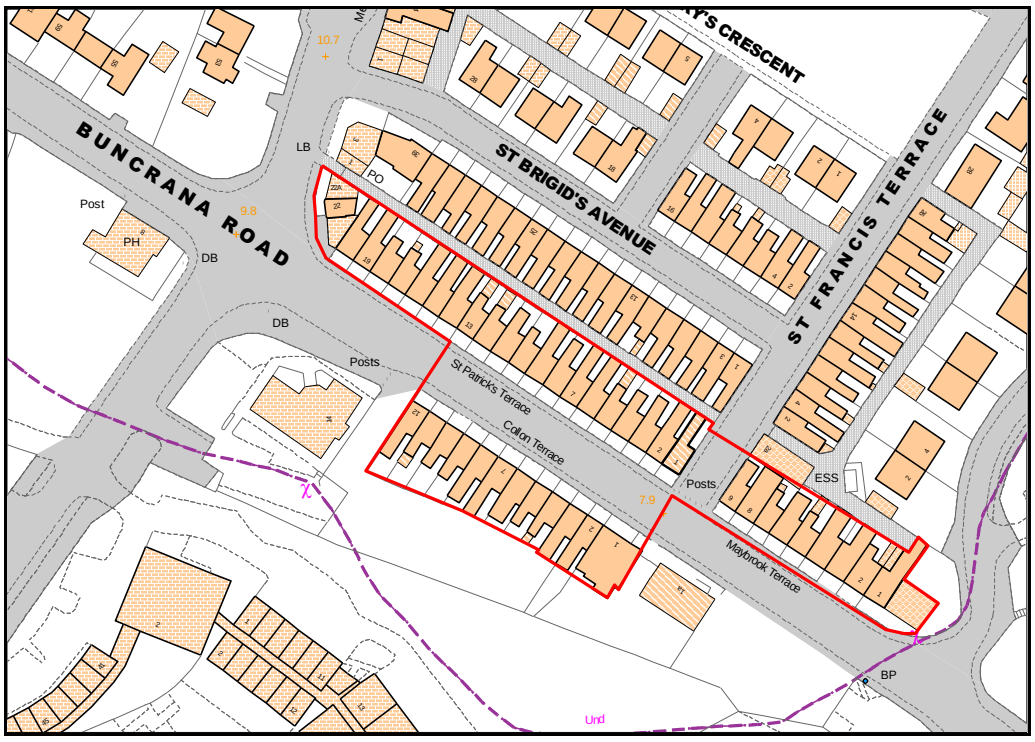
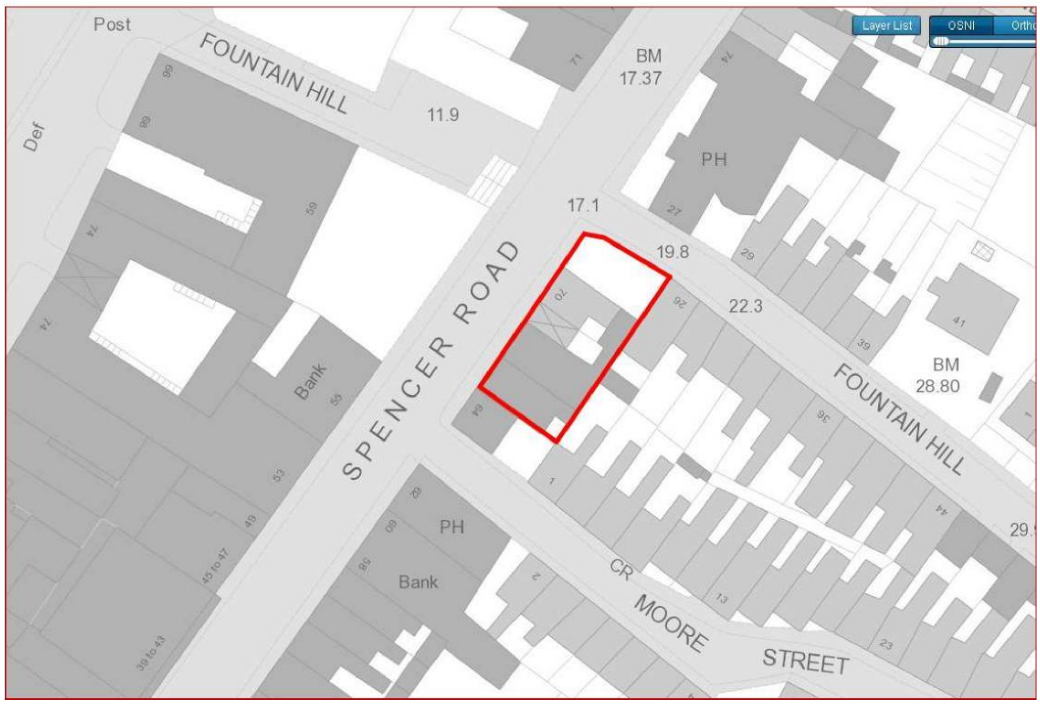


Figure 1.4 – Spencer Road Air Quality Management Area



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

The Council monitors NO_2 at two locations, Derry Rosemount and Dale's Corner. PM_{10} was monitored at Derry Rosemount, Bawnmore Place at Strathfoyle and the Springhill Park site in Strabane. A new site at Newtownstewart was commissioned in April 2021 measuring PM_{10}. $PM_{2.5}$ was also monitored at Derry Rosemount, as was Ozone. The Council monitors SO_2 at two locations, Derry Rosemount and Springhill Park. Details of the automatic monitoring sites are summarised in Table 2.1 and shown in Figures 2.1 and 2.2.

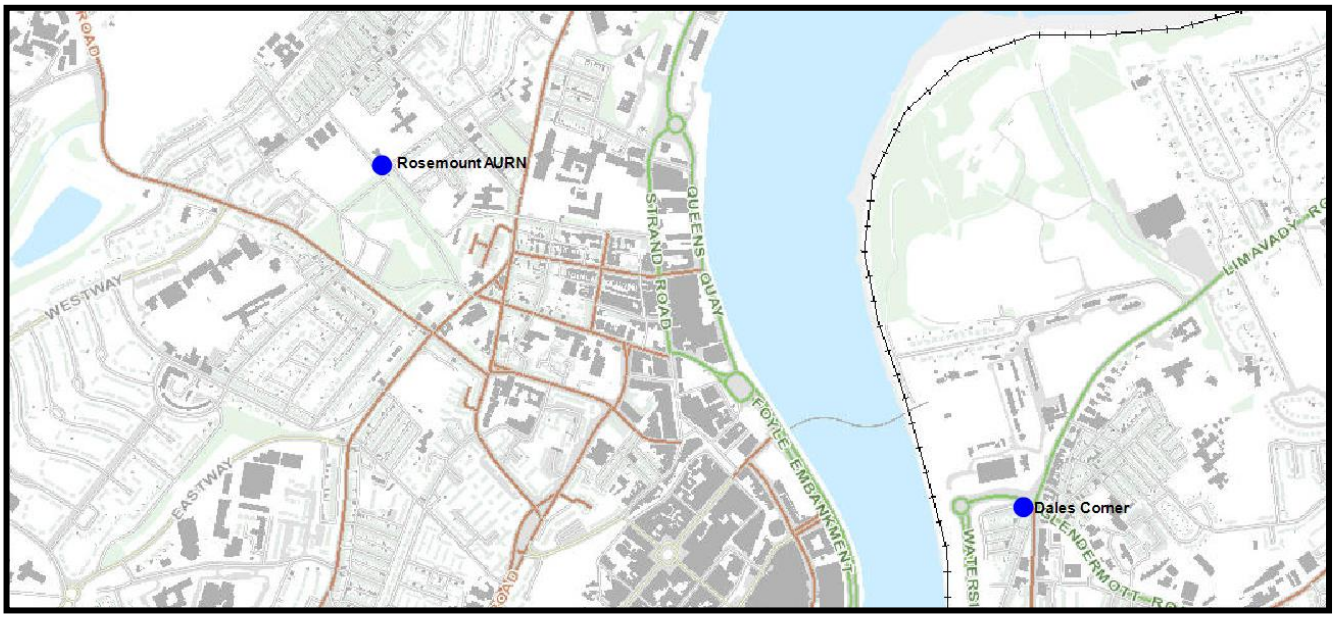
Monitoring techniques used at the sites include; chemi-luminescence at Dale's Corner, BAMs and chemi-luminescent at Derry Rosemount, FIDAS and UV florescence at Springhill Park and FIDAS PM_{10} at Bawnmore Place, Strathfoyle and also Newtownstewart. Council replaced all old TEOM analysers with new FIDAS instruments measuring PM_{10} and $PM_{2.5}$ at Strathfoyle, Springhill Park and Newtownstewart. A new site is currently (April 2024) being commissioned in Castlederg with the installation of a FIDAS analyser to report on PM_{10} and $PM_{2.5}$ concentrations.

NO_2 concentrations were below both the annual mean at the Rosemount and Dale's Corner sites in all years and 1-hour objectives were below the threshold at both sites in all years.

The Rosemount AURN site is managed to the UK Automatic Urban and Rural Network (AURN) QA standards. QA/QC details and overview monitoring graphs and exceedance statistics for the non-AURN sites are included in the Appendices.

Figure 2.1 – Map of Automatic Monitoring Sites in Derry

Rosemount AURN and Dales Corner



34 Bawnmore Place

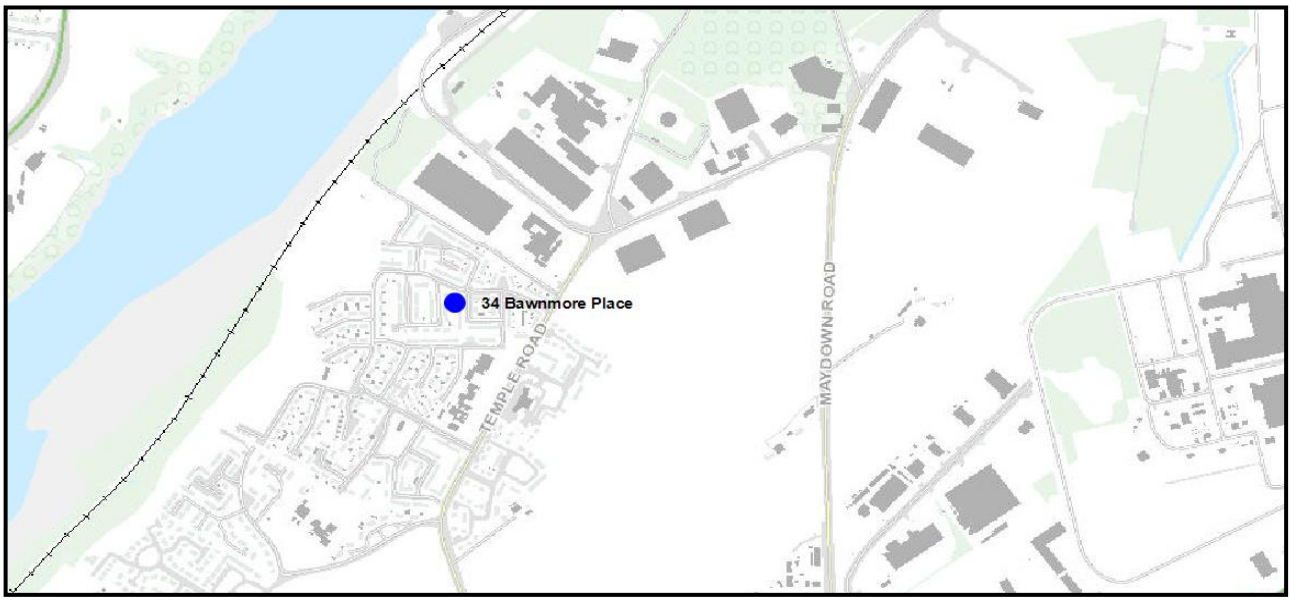


Figure 2.2 Map of Automatic Monitoring Site in Strabane

Springhill Park

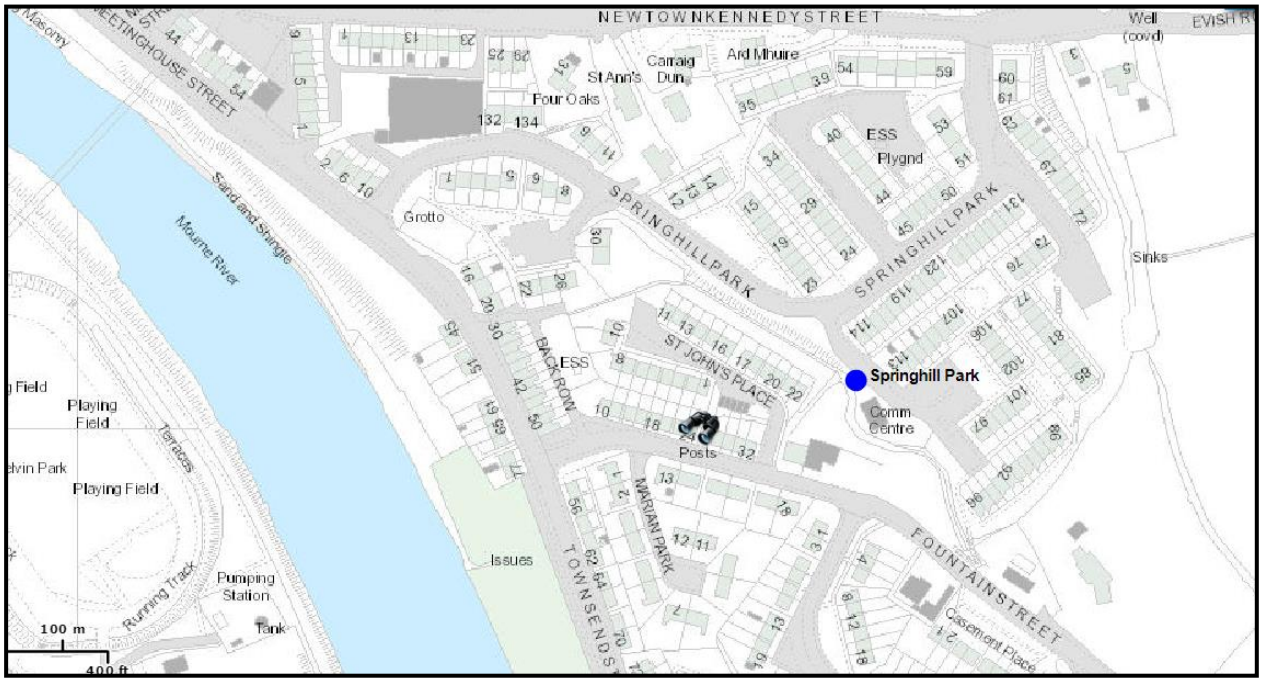


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Figure 2.3 Map of Automatic Monitoring Site in Newtownstewart

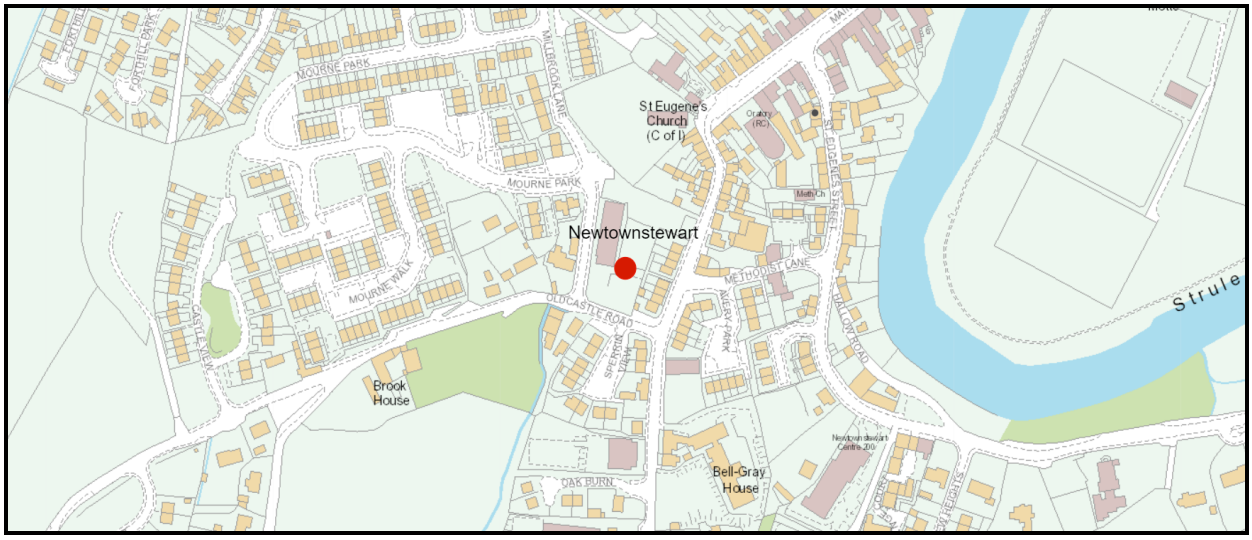

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Table 2.1 – Details of Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Ref.	Y OS Grid Ref.	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?
Dales Corner	Roadside	244186	416761	1.5m	NO_2	N	chemiluminescence monitor	Y	3m	Y
Derry Rosemount	Urban	242850	417468	3m	O3, NO_2 PM_{10}, $PM_{2.5}$ SO_2	N	FDMS (changed to BAM early 2020) and chemiluminescence monitor	Y	161m	N/A
Strathfoyle	Suburban	247007	421004	1.5m	PM_{10}, $PM_{2.5}$	N	TEOM (changed to FIDAS early 2022)	Y	27m	N/A
Springhill Park, Strabane	Urban Background	235175	397222	2.5m	PM_{10}, SO_2	N	beta ray attenuation (changed to FIDAS early 2022) and UV florescence	Y	2m	Y
Newtownstewart	Urban	240015	385545	1.5m	PM_{10}, $PM_{2.5}$,	N	FIDAS	Y	22m	Y

2.1.2 Non-Automatic Monitoring Sites

The Council operates 24 Nitrogen Dioxide (NO_2) diffusion tube monitoring sites within its area situated across Derry City. 50 tubes in all were exposed, with triplicate tubes at the continuous NO_2 monitoring stations at Dale's Corner and Rosemount and duplicate tubes at all other sites. The locations of these sites are shown in Figures 2.4 to 2.9 and described in detail in Table 2.2. The maps show current and historical monitoring locations since 2015.

It was decided to use the local bias correction factor for the NO_2 diffusion tubes and this is discussed later in Section 2.2.

Full details of the QA/QC procedure for the diffusion tubes are provided in Appendix A.

Figure 2.4 – Map of Brooke Park (AURN) Non-Automatic Monitoring Sites

Figure 2.5 - Map of Creggan Road, Marlborough Terrace, Windsor Terrace, Creggan Street and Francis Street Non- Automatic Monitoring Sites.

Figure 2.6 – Map of Dales Monitor, Clooney Terrace, Glendermott Road, Ebrington Terrace, Columba Terrace and Melrose Terrace Non – Automatic Monitoring Sites.

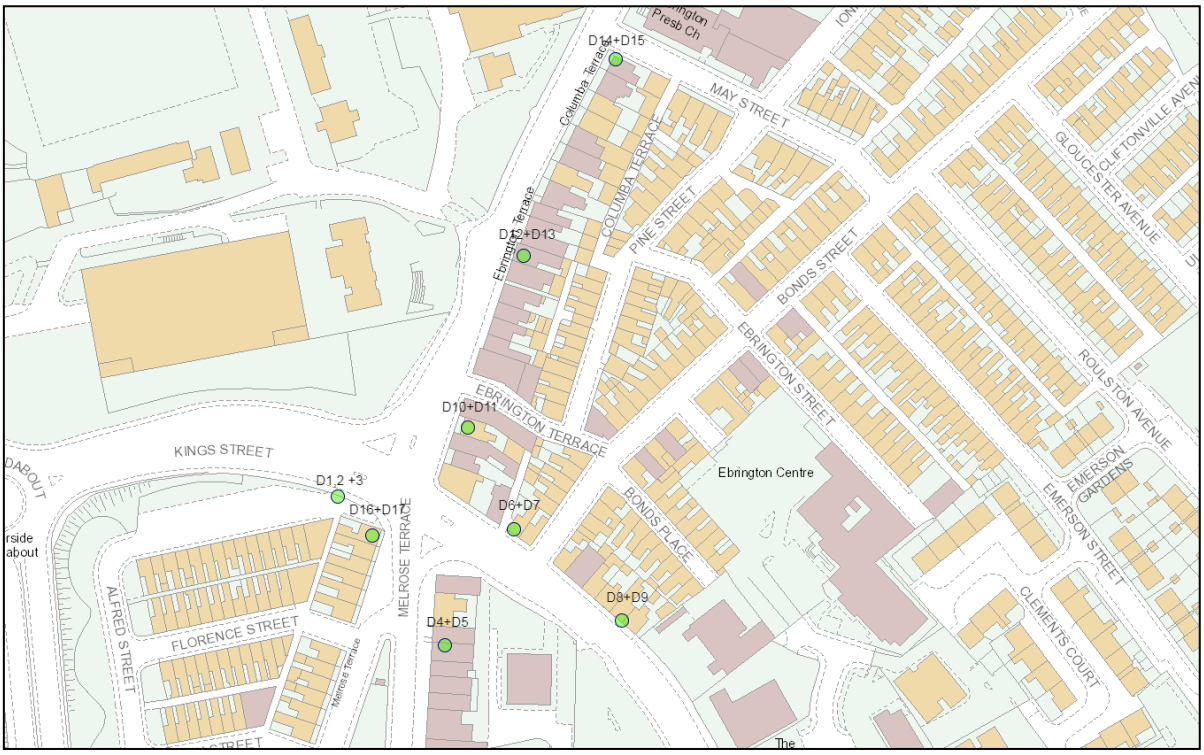


Figure 2.7 – Map of Messines Park, Maybrook Terrace, St Patrick's Terrace and Collon Terrace Non – Automatic Monitoring Sites

Figure 2.8 Map of Spencer Road Non-Automatic Monitoring Site

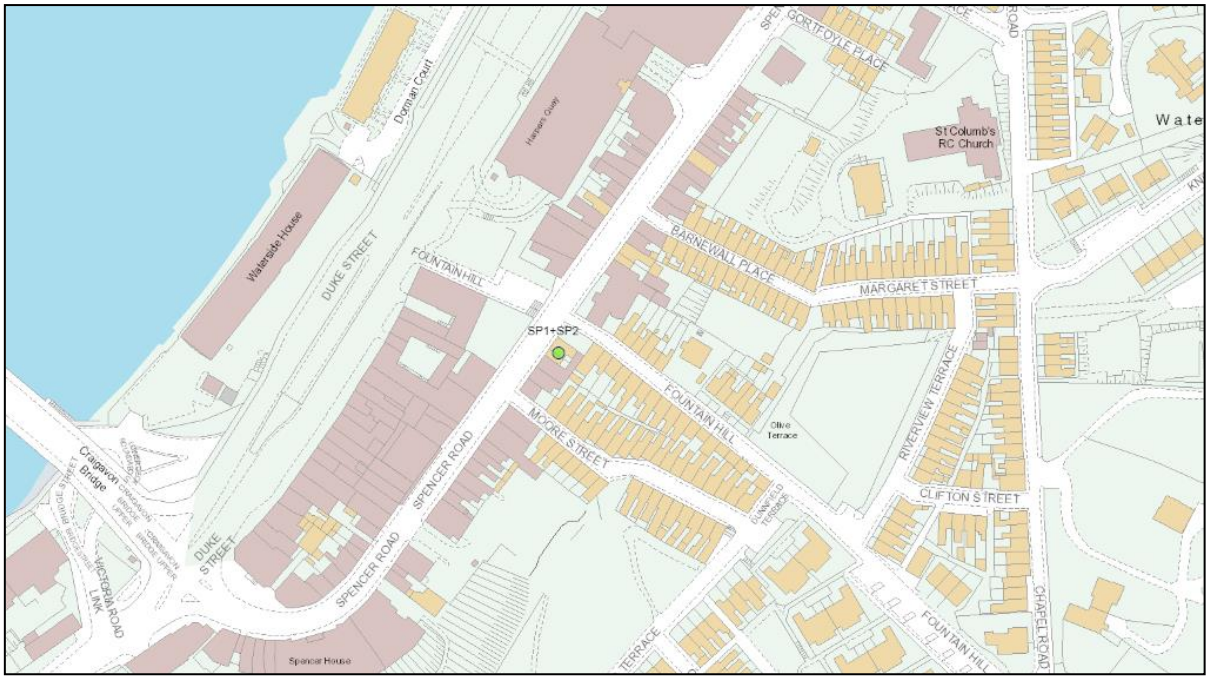


Figure 2.9 Map of Aberfoyle Terrace Non-Automatic Monitoring Site

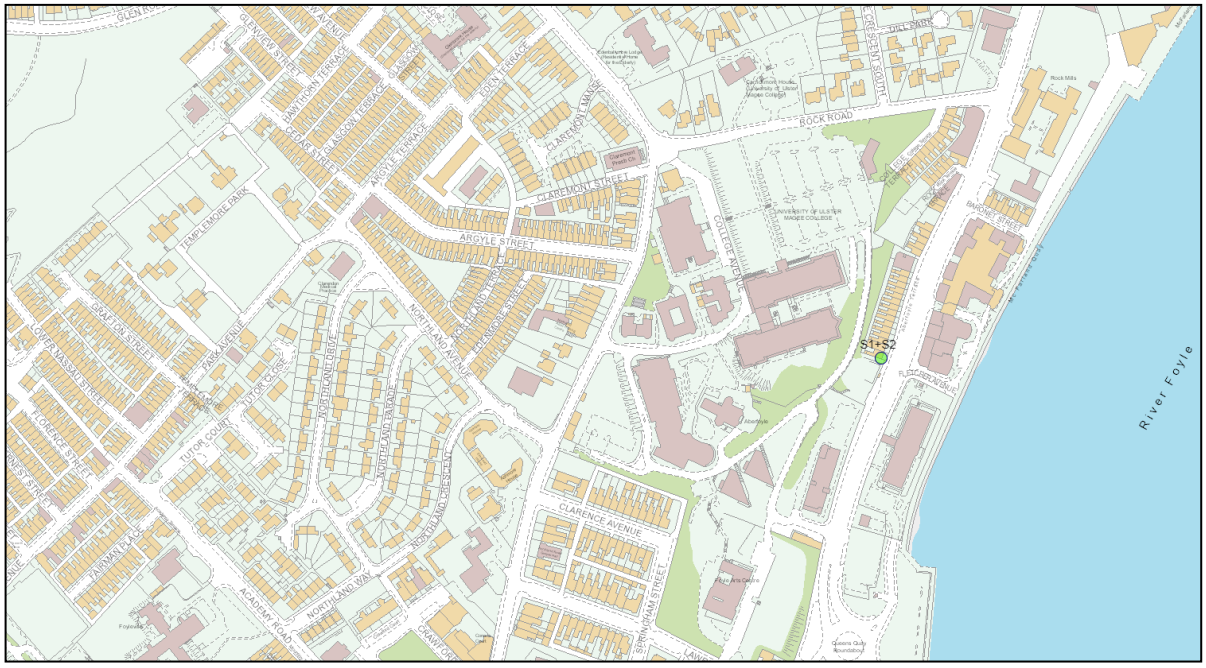


Table 2.2 – Details of Non- Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
A1-3	Urban background	242962	417217	2.5	NO2	N	Y (triplicate)	Y (161m)	161m	Y
C1-2	Roadside	242913	417144	2.5	NO2	Y	N (duplicate)	Y (0m)	1m	Y
C3-4	Roadside	242921	417101	2	NO2	Y	N (duplicate)	Y (0m)	4m	Y
C5-6	Roadside	242959	417102	2	NO2	Y	N (duplicate)	Y (0m)	3m	Y
C7-8	Roadside	243017	417191	2	NO2	N	N (duplicate)	Y (0m)	3m	Y
C9-10	Roadside	242928	417148	2	NO2	Y	N (duplicate)	Y (0m)	3m	Y
D1-3	Roadside	244178	416760	1.5	NO2	N	N (triplicate)	Y (0m)	3m	Y
D4-5	Roadside	244210	416714	2.5	NO2	N	N (duplicate)	Y (0m)	5m	Y
D6-7	Roadside	244238	416753	2.5	NO2	Y	N (duplicate)	Y (0m)	1m	Y
D8-9	Roadside	244283	416718	2.5	NO2	Y	N (duplicate)	Y (0m)	1m	Y
D10-11	Roadside	244219	416794	3	NO2	Y	N (duplicate)	Y (0m)	4m	Y
D12-13	Roadside	244240	416856	2	NO2	Y	N (duplicate)	Y (0m)	4m	Y

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
D14-15	Roadside	244277	416931	1.5	NO2	Y	N (duplicate)	Y (0m)	4m	Y
D16-17	Roadside	244189	416756	2	NO2	N	N (duplicate)	Y (0m)	7.3m	Y
P1-2	Roadside	243449	419013	2	NO2	N	N (duplicate)	Y (0m)	5m	Y
P3-4	Roadside	243418	419016	2.5	NO2	N	N (duplicate)	Y (0m)	5m	Y
P5-6	Roadside	243571	418910	2	NO2	Y	N (duplicate)	Y (0m)	5m	Y
P7-8	Roadside	243480	418970	2	NO2	Y	N (duplicate)	Y (0m)	4m	Y
P9-10	Roadside	243539	418908	2	NO2	Y	N (duplicate)	Y (0m)	4m	Y
P11-12	Roadside	243519	418921	2	NO2	Y	N (duplicate)	Y (0m)	4m	Y
S7-8	Roadside	243483	417801	2	NO2	Y	N (duplicate)	Y (0m)	6m	N
SP1-2	Roadside	243557	417907	2.5	NO2	Y	N (duplicate)	Y (0m)	2m	Y
FR1-2	Roadside	243084	417075	3	NO2	N	N (duplicate)	Y (0m)	2m	Y
FR3-4	Roadside	243110	417225	3	NO2	N	N (duplicate)	Y (0m)	2m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO_2)

Automatic Monitoring Data

Details of results from both automatic monitoring sites, compared with the annual mean objective from 2018-2022, are documented in Table 2.3 and shown in Figure 2.10. The annual limit value of 40µg/m^3 is shown by the red line. Comparison with the 1-hour mean Objective is also documented in Table 2.4.

The monitoring results at both the Rosemount site and Dales Corner site show a decrease in the annual mean from 2019 to 2020, however this increased again in 2021 at both sites. The annual mean remained the same in 2022 for the Dales Corner site and decreased in 2022 for the Rosemount site. There is a downward trend for both sites over the five year period 2018 -2022 as evidenced in Figure 2.10.

Automatic Monitoring Data

Table 2.3 Results of Automatic Monitoring of Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring %[a]	Valid Data Capture 2019 % [b]	Valid Data Capture 2020% [b]	Valid Data Capture 2021 % [b]	Valid Data Capture 2022 % [b]	Annual Mean Concentration μg/m³				
								2018* [c]	2019* [c]	2020 * [c]	2021* [c]	2022* [c]
Derry Dale's Corner	Roadside	N	-	97	99	97	79	32	33	27	30	30
Derry Rosemount	Urban background	N	-	98	99	99	99	10	11	8	9	8

[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 per Boxes 7.9 and 7.10 of LAQM.TG22, if monitoring was not carried out for the full year.
*Annual mean concentrations for previous years are optional.

Trends in Annual Mean NO_2 Concentrations Measured at Automatic Monitoring Sites

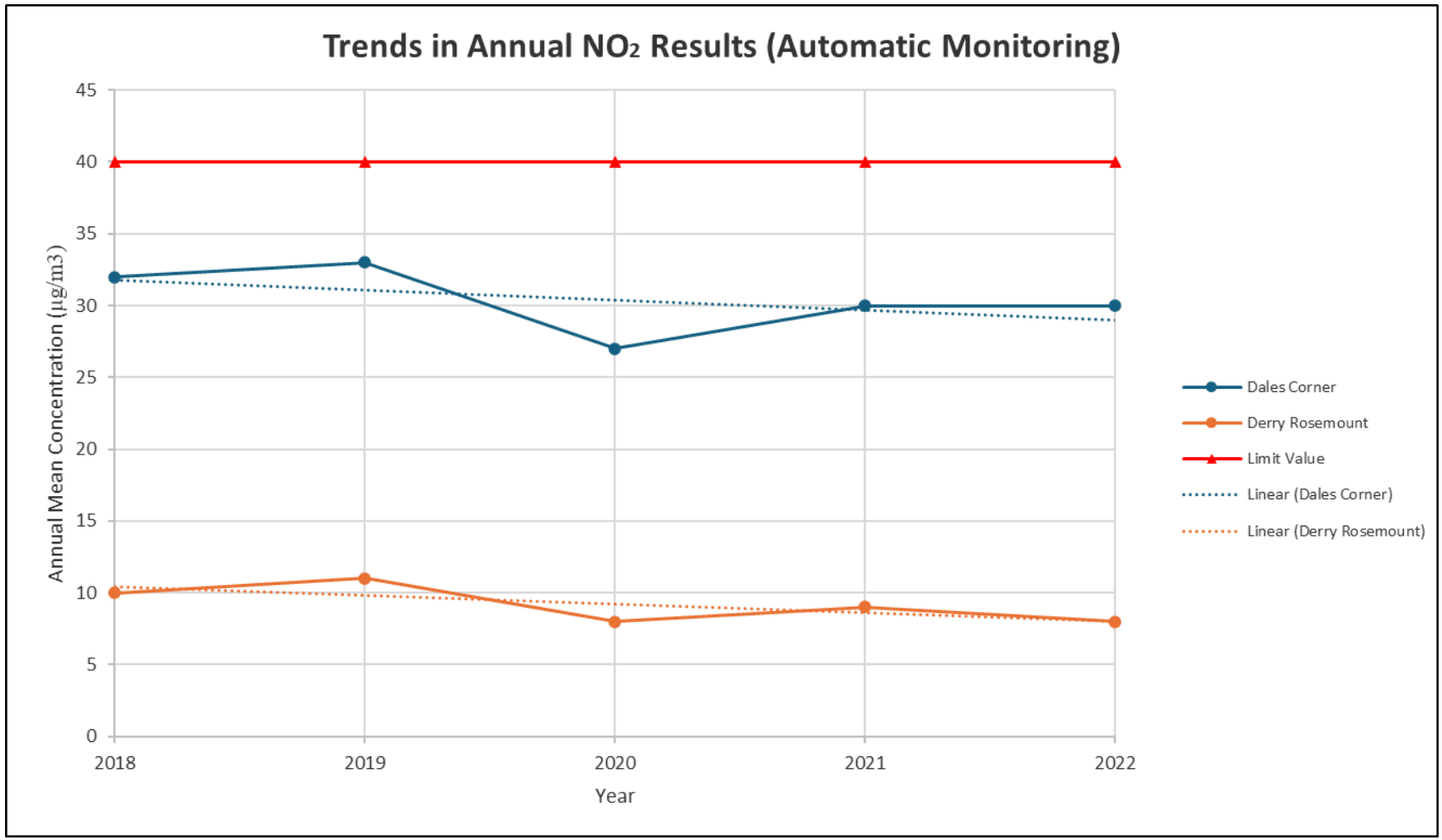


Figure 2.10

Table 2.4 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring %[a]	Valid Data Capture 2019 % [b]	Valid Data Capture 2020 % [b]	Valid Data Capture 2021% [b]	Valid Data Capture 2022% [b]	Number of Exceedances of Hourly Mean (200 μg/m^3)			
								2019* [c]	2020* [c]	2021* [c]	2022* [c]
Derry Dale's Corner	Roadside	N	-	97%	99%	97%	97%	0	0	0)	0
Derry Rosemount	Urban background	N	-	98%	99%	99%	99%	0	0	0	0

[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 period of valid data is less than 85%, include the 99.8th percentile of hourly means in brackets
*Number of exceedances for previous years are optional.

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

Diffusion Tube Monitoring Data

Long term trends have been illustrated in the following graphs for different locations within the AQMA's. Monitoring results for 2020 decreased from 2019 to well below the polluntant limit value. There has been an upward trend since 2020 with increases at most diffusion tube monitoring locations. Despite this most locations results remain below the pollutant limit value. Council is cognisant of the fact that the pandemic resulted in traffic reduction in year 2020 with lower NO2 levels as a result

It must be acknowledged that the trends can be affected by several important parameters, not least the choice of bias correction factor. The local bias correction factor has shown a slight increase in 2018 from 0.75 to 0.77 in 2019. In 2020 this decreased slightly to 0.76, however in 2021 the local bias adjustment factor increased up to 0.88 and increased again in 2022 to 0.95.

The national bias adjustment factor decreased from 0.77 in 2018 to 0.75 in 2019 . This increased in 2020 to 0.83 and then decreased in 2021 to 0.78 and 2022 to 0.76.

Council choose to use the Local Co-location Factors in this report for years 2019, 2020, 2021 and 2022 as opposed to the National Diffusion Tube Bias Adjustment Factors for the ESG laboratory at Didcot (using the 50% triethanolamine (TEA) in acetone preparation method) for DCSDC's tube analyses. The use of the higher local bias adjustment factor of 0.88 in 2021 and 0.95 in 2022 will of course have an effect on the corrected concentrations and this will be reflected in the graphs. For comparison purposes, the National Diffusion Tube Bias Adjustment Factors for some sites has been included in Figure 2.15

All diffusion tube monitors are located on façade of dwellings with the exception of the Rosemount AURN site and the Dale's Corner continuous roadside monitoring site. The tubes at the AURN site cannot be distance corrected as they are over 50m from the kerbside. At Dale's Corner, the distance correction calculator shows a reduction of over 4 µg/m^3 to give an NO_2 annual mean concentration of 24.3 µg/m^3 at the façade of the nearest dwelling.

The NO_2 diffusion tube data is summarised in Table 2.6.1 and 2.6.2 (Exceedances shown in bold). The annual mean objective was exceeded using the local factor at four sites in 2018 and five sites in 2019. This was exceeded at one site in 2020, then exceeded at 4 sites in 2021 and 5 sites in 2022.

No exceedances have been recorded outside the existing AQMAs within the past number of years.

The following sites were found to be exceeding in 2018:
· C1-2 (Creggan Road AQMA);
· D6-7 (Dale's Corner AQMA);
· D8-9 (Dale's Corner AQMA) and;
· D10-11 (Dale's Corner AQMA)

The following sites were found to be exceeding in 2019:
· C1-2 (Creggan Road AQMA);
· D6-7 (Dale's Corner AQMA);
· D8-9 (Dale's Corner AQMA);
· D10-11 (Dale's Corner AQMA) and
· P11-12 (Buncrana Road AQMA) only when using the local bias adjustment factor

The following sites were found to be exceeding in 2020:
· C1-2 (Creggan Road AQMA);

The following sites were found to be exceeding in 2021:
· C1-2 (Creggan Road AQMA);
· D6-7 (Dale's Corner AQMA) only when using the local bias adjustment factor
· D8-9 (Dale's Corner AQMA) only when using the local bias adjustment factor
· D10-11 (Dale's Corner AQMA) only when using the local bias adjustment factor

The following sites were found to be exceeding in 2022:
· C1-2 (Creggan Road AQMA)
· D6-7 (Dale's Corner AQMA) only when using the local bias adjustment factor
· D8-9 (Dale's Corner AQMA) only when using the local bias adjustment factor

·D12-13 (Dale's Corner AQMA) only when using the local bias adjustment factor

·P11-12 (Buncrana Road AQMA) only when using the local bias adjustment factor

The above illustrates one additional monitoring site with an exceedance from 2021 to 2022 within the AQMA's.

This shows the Buncrana Road AQMA has two exceedances between 2018 and 2022 which are slight exceedances of 40.8 µg/m^3 with the local bias adjustment factor in 2019 and 40.6 µg/m^3 with the local bias adjustment factor in 2022.

It is worth noting that, had the National bias adjustment factor been chosen, there would be less exceedances at most of the sites.

Creggan Road AQMA

Exceedances of the annual mean NO_2 objective continue to occur within the AQMA as shown by the monitoring results. Diffusion tube monitoring site C1-2 showed concentrations of 53.6µg/m^3 in 2018 using the local bias adjustment factor and 55.1µg/m^3 using the national factor. In 2019 the concentrations increased to 55.7µg/m^3 using the local bias adjustment factor but decreased slightly to 54.3 µg/m^3 using the national bias adjustment factor. In 2020 both figures decreased to 42.1µg/m^3 using the local bias adjustment factor and 46 µg/m^3 using the national bias adjustment factor, however these figures have increased again in 2021 showing concentrations of 51.4 µg/m^3 using the local bias adjustment factor and 45.5 µg/m^3 using the national bias adjustment factor.

In 2022 these figures have increased again showing concentrations of 56.1 µg/m^3 using the local bias adjustment factor however the concentrations using the national bias adjustment factor has decreased to 44.9 µg/m^3 using the national bias adjustment factor.

It is therefore recommended that this AQMA remains as declared.

Dale's Corner AQMA

Exceedances of the annual mean NO_2 objective continue to occur within the AQMA as shown by the monitoring results.
In 2018 diffusion tube monitoring site D 6-7 (5 Glendermott Road) showed concentrations of 40.6 µg/m^3 using the local bias adjustment factor. This slight exceedance then increased in 2019 to a concentration of 43.4 µg/m^3 using the local bias adjustment factor. This exceedance then decreased to 42 µg/m^3 in 2021 using the local bias adjustment factor however has increased to 43.7 µg/m^3 in 2022 using the local bias adjustment. There is no exceedance at this site in 2022 using the national bias adjustment figure.

In 2018 diffusion tube monitoring site D 8-9 (19 Glendermott Road) showed concentrations of 44.5 µg/m^3 using the local bias adjustment factor. This exceedance then further increased in 2019 to a concentration of 47.9 µg/m^3 using the local bias adjustment factor. This exceedance has decreased to 45.3 using the local bias adjustment factor in 2022 and there is no exceedance at this site in 2022 using the national bias adjustment figure.

In 2018 diffusion tube monitoring site D10-11 (4 Ebrington Terrace) showed concentrations of 44.1 µg/m^3 using the local bias adjustment factor. This exceedance then further increased in 2019 to a concentration of 46.2 µg/m^3 using the local bias adjustment factor and in 2022 this has decreased to below the limit at 34 µg/m^3 using the local bias adjustment factor.

From 2018-2021 diffusion tube monitoring site D 12-13 (12 Ebrington Terrace) showed concentrations of well below the limit value using the local bias adjustment factor. In 2022 the results showed a concentration of 41.8 µg/m^3 using the local bias adjustment factor.

It is recommended that this AQMA remains as declared.

Buncrana Road AQMA

Exceedance of the annual mean NO_2 objective was recorded at only one site within the AQMA (P11-12 – 5 Collon Terrace) since 2014. In 2018 using both the local and national bias adjustment factor the concentrations were below the annual mean NO_2 objective. In 2019 using the local bias adjusement factor at this site there was a slight exceedance with a concentration of 40.8 µg/$m^{3.}$
The levels in 2020 and 2021 at this site remained below the annual mean NO_2 objective. The level increased in 2022 resulting in a slight exceedance with a concentration of 40.6 µg/m^3 using the local bias adjustment factor however no exceedance when using the national bias adjustment factor.

Measurements at all other sites within this AQMA have remained below the objective in the last 8 years. A proposed road widening scheme for this section of the A2 has undergone public consultation. The preferred route would appear to follow the existing road with vesting of all properties along Collon Terrace and the construction of a roundabout at the current cross junction at Buncrana Road/ Racecourse Road. The site within this AQMA which has shown a slight exceedance in 2019 and 2022 shall be monitored carefully to establish longer term trends.

In 2023, the entire Translink Foyle Metro bus fleet in Derry~Londonderry became emissions free with the introduction of a further 38 battery electric buses, making the City among the first in Europe to have a fully zero-emission urban bus fleet.
As a major Translink bus station is adjacent the AQMA on Buncrana Road, it is anticipated that this will result in a reduction in emissions at this location. Updated monitoring results will hopefully demonstrate an improvement in air quality at this location.

Spencer Road AQMA

On 16th October 2018, under the Derry City and Strabane District Council Air Quality Management Area No 4 Order, the AQMA at Spencer Road was reduced in size. The AQMA formerly incorporated numbers 32 to 70a Spencer Road under the Derry City Council Air Quality Management Area No 3 Order and was changed to incorporate numbers 66 to 70a Spencer Road.

No exceedances have been recorded within the Spencer Road AQMA since before 2013. Appendix F shows a table and graphs of historical monitoring results at this location for the last 10 years. There is a downward trend over the period. It can be seen that NO2 levels have not exceeded the pollutant limit values throughout this period. Council have consistently used the local bias factor for correcting the NO2 diffusion tubes where possible in accordance with good practice. Although it would appear that levels have been increasing since 2020 (27.7 µg/m^3) to the last year 2023 (36.2 µg/m^3), they are still very close to being 10% under the limit value. The revocation of an AQMA should be considered following three consecutive years of compliance, 10% below the relevant objective at the point of exposure.

Where there have been no exceedances for the past five years, local authorities must proceed to revoke the AQMA. The LAQM Technical Guidance 2022 is clear in this respect: "There should not be any declared AQMAs for which compliance with the relevant objective has been achieved for a consecutive five-year period."

Spencer Road is a narrow street with parking on part of one side, making the street unappealing to HGV's except for deliveries, as congestion results. Buses stopped traversing the street some 8 years ago for this reason.

Based on the fact that annual mean concentrations have been under the objective limit over the last 5 years, Council is again recommending that this AQMA should be revoked.

Table 2.5.1 Results of Nitrogen Dioxide Diffusion Tubes in 2019

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2019 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2019 (µg/m³) Local Bias Adjustment factor = 0.77
A1-3	AURN	B	N	Triplicate	12 months	N	N/A	11.5
C1-2	3 Creggan road	R	Y	Duplicate	12 months	N	N/A	**55.7**
C3-4	6 Marlborough Terrace	R	Y	Duplicate	12 months	N	N/A	32.5
C5-6	22a Creggan Street	R	Y	Duplicate	12 months	N	N/A	35.3
C7-8	1 Windsor Terrace	R	N	Duplicate	12 months	N	N/A	20.9
C9-10	14 Creggan Road	R	N	Duplicate	7 months	N	N/A	37.5
D1-3	Dale's Corner	R	N	Duplicate	12 months	N	Y	29.9
D4-5	52 Clooney Terrace	R	N	Duplicate	12 months	N	N/A	26.8
D6-7	5 Glendermott Road	R	Y	Duplicate	12 months	N	N/A	**43.4**
D8-9	19 Glendermott Road	R	Y	Duplicate	12 months	N	N/A	**47.9**
D10-11	4 Ebrington Terrace	R	Y	Duplicate	12 months	N	N/A	**46.2**
D12-13	12 Ebrington Terrace	R	Y	Duplicate	9 months	N	N/A	35.9
D14-15	9 Columba Terrace	R	Y	Duplicate	12 months	N	N/A	29.4
D16-17	17 Melrose Terrace	R	N	Duplicate	11 months	N	N/A	28.6
.P1-2	53 Messines Park	R	N	Duplicate	12 months	N	N/A	20.5

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2019 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2019 (µg/m³) Local Bias Adjustment factor = 0.77
P3-4	57 Messines Park	R	N	Duplicate	12 months	N	N/A	25.3
P5-6	8 Maybrook Terrace	R	Y	Duplicate	12 months	N	N/A	26.0
P7-8	19 St Patricks Terrace	R	Y	Duplicate	12 months	N	N/A	32.1
P9-10	1 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	33.6
P11-12	5 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	**40.8**
S7-8	35 Aberfoyle Terrace	R	Y	Duplicate	12 months	N	N/A	26.9
SP1-2	70 Spencer Road	R	Y	Duplicate	12 months	N	N/A	35.1
FR1-2	3 Francis Street	R	N	Duplicate	12 months	N	N/A	23.9
FR3-4	45 Francis Street	R	N	Duplicate	12 months	N	N/A	25.5

[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 (https://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 2.5.2 Results of Nitrogen Dioxide Diffusion Tubes in 2020

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2020 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2020 (µg/m³) Local Bias Adjustment factor = 0.76
A1-3	AURN	B	N	Triplicate	12 months	N	N/A	8.2
C1-2	3 Creggan road	R	Y	Duplicate	12 months	N	N/A	**42.1**
C3-4	6 Marlborough Terrace	R	Y	Duplicate	11 months	N	N/A	25.7
C5-6	22a Creggan Street	R	Y	Duplicate	12 months	N	N/A	26.0
C7-8	1 Windsor Terrace	R	N	Duplicate	12 months	N	N/A	15.1
C9-10	14 Creggan Road	R	N	Duplicate	12 months	N	N/A	27.3
D1-3	Dale's Corner	R	N	Duplicate	12 months	N	Y	22.0
D4-5	52 Clooney Terrace	R	N	Duplicate	12 months	N	N/A	19.3
D6-7	5 Glendermott Road	R	Y	Duplicate	12 months	N	N/A	32.0
D8-9	19 Glendermott Road	R	Y	Duplicate	12 months	N	N/A	33.2
D10-11	4 Ebrington Terrace	R	Y	Duplicate	12 months	N	N/A	33
D12-13	12 Ebrington Terrace	R	Y	Duplicate	12 months	N	N/A	23.5
D14-15	9 Columba Terrace	R	Y	Duplicate	12 months	N	N/A	24.8
D16-17	17 Melrose Terrace	R	N	Duplicate	12 months	N	N/A	21.6
P1-2	53 Messines Park	R	N	Duplicate	12 months	N	N/A	15.8

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2020 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2020 (µg/m³) Local Bias Adjustment factor = 0.76
P3-4	57 Messines Park	R	N	Duplicate	12 months	N	N/A	18.7
P5-6	8 Maybrook Terrace	R	Y	Duplicate	12 months	N	N/A	19.2
P7-8	19 St Patricks Terrace	R	Y	Duplicate	12 months	N	N/A	24.2
P9-10	1 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	26.0
P11-12	5 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	31.1
S7-8	35 Aberfoyle Terrace	R	Y	Duplicate	12 months	N	N/A	20.3
SP1-2	70 Spencer Road	R	Y	Duplicate	12 months	N	N/A	27.7
FR1-2	3 Francis Street	R	N	Duplicate	12 months	N	N/A	19.2
FR3-4	45 Francis Street	R	N	Duplicate	12 months	N	N/A	18.2

[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 (https://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 2.5.3 Results of Nitrogen Dioxide Diffusion Tubes in 2021

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2021 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2021 (µg/m³) Local Bias Adjustment factor = 0.88
A1-3	AURN	B	N	Triplicate	12 months	N	N/A	10.0
C1-2	3 Creggan road	R	Y	Duplicate	12 months	N	N/A	**51.4**
C3-4	6 Marlborough Terrace	R	Y	Duplicate	12 months	N	N/A	31.3
C5-6	22a Creggan Street	R	Y	Duplicate	12 months	N	N/A	32.6
C7-8	1 Windsor Terrace	R	N	Duplicate	12 months	N	N/A	18.7
C9-10	14 Creggan Road	R	N	Duplicate	12 months	N	N/A	36.0
D1-3	Dale's Corner	R	N	Triplicate	12 months	N	Y	27.8
D4-5	52 Clooney Terrace	R	N	Duplicate	12 months	N	N/A	25.2
D6-7	5 Glendermott Road	R	Y	Duplicate	10 months	N	N/A	**42.0**
D8-9	19 Glendermott Road	R	Y	Duplicate	12 months	N	N/A	**43.6**
D10-11	4 Ebrington Terrace	R	Y	Duplicate	12 months	N	N/A	**42.0**
D12-13	12 Ebrington Terrace	R	Y	Duplicate	12 months	N	N/A	31.2
D14-15	9 Columba Terrace	R	Y	Duplicate	12 months	N	N/A	31.3
D16-17	17 Melrose Terrace	R	N	Duplicate	12 months	N	N/A	26.0
P1-2	53 Messines Park	R	N	Duplicate	12 months	N	N/A	19.0
P3-4	57 Messines Park	R	N	Duplicate	12 months	N	N/A	23.4
P5-6	8 Maybrook Terrace	R	Y	Duplicate	12 months	N	N/A	25.7

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2021 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2021 (µg/m³) Local Bias Adjustment factor = 0.88
P7-8	19 St Patricks Terrace	R	Y	Duplicate	12 months	N	N/A	31.6
P9-10	1 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	32.6
P11-12	5 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	37.8
S7-8	35 Aberfoyle Terrace	R	Y	Duplicate	12 months	N	N/A	26.0
SP1-2	70 Spencer Road	R	Y	Duplicate	12 months	N	N/A	34.5
FR1-2	3 Francis Street	R	N	Duplicate	12 months	N	N/A	24.6
FR3-4	45 Francis Street	R	N	Duplicate	12 months	N	N/A	24.0

[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 (https://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. (Although there was not an exceedance at no 17 Melrose Terrace, this calculation was undertaken out of interest; the triplicate diffusion tubes are located at the inlet to the continuous monitor and relevant exposure is several metres away).

Table 2.5.4 Results of Nitrogen Dioxide Diffusion Tubes in 2022

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2022 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2022 (µg/m³) Local Bias Adjustment factor = 0.95
A1-3	AURN	B	N	Triplicate	12 months	N	N/A	17.1
C1-2	3 Creggan road	R	Y	Duplicate	12 months	N	N/A	**56.1**
C3-4	6 Marlborough Terrace	R	Y	Duplicate	12 months	N	N/A	32.1
C5-6	22a Creggan Street	R	Y	Duplicate	12 months	N	N/A	33.1
C7-8	1 Windsor Terrace	R	N	Duplicate	12 months	N	N/A	17.8
C9-10	14 Creggan Road	R	N	Duplicate	12 months	N	N/A	34.8
D1-3	Dale's Corner	R	N	Duplicate	12 months	N	Y	28.3
D4-5	52 Clooney Terrace	R	N	Duplicate	12 months	N	N/A	24.7
D6-7	5 Glendermott Road	R	Y	Duplicate	10 months	N	N/A	**43.7**
D8-9	19 Glendermott Road	R	Y	Duplicate	12 months	N	N/A	**45.3**
D10-11	4 Ebrington Terrace	R	Y	Duplicate	12 months	N	N/A	34.0
D12-13	12 Ebrington Terrace	R	Y	Duplicate	12 months	N	N/A	**41.8**
D14-15	9 Columba Terrace	R	Y	Duplicate	12 months	N	N/A	32.0
D16-17	17 Melrose Terrace	R	N	Duplicate	12 months	N	N/A	27.0
P1-2	53 Messines Park	R	N	Duplicate	12 months	N	N/A	19.1
P3-4	57 Messines Park	R	N	Duplicate	12 months	N	N/A	24.3
P5-6	8 Maybrook Terrace	R	Y	Duplicate	12 months	N	N/A	25.6

Site ID	Location	Site Type	Within AQMA ?	Triplicate or Collocated Tube	Data Capture 2022 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration 2022 (µg/m³) Local Bias Adjustment factor = 0.95
P7-8	19 St Patricks Terrace	R	Y	Duplicate	12 months	N	N/A	31.5
P9-10	1 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	33.5
P11-12	5 Collon Terrace	R	Y	Duplicate	12 months	N	N/A	**40.6**
S7-8	35 Aberfoyle Terrace	R	Y	Duplicate	12 months	N	N/A	26.7
SP1-2	70 Spencer Road	R	Y	Duplicate	12 months	N	N/A	36.1
FR1-2	3 Francis Street	R	N	Duplicate	12 months	N	N/A	25.3
FR3-4	45 Francis Street	R	N	Duplicate	12 months	N	N/A	26.9

[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 (https://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. (Although there was not an exceedance at no 17 Melrose Terrace, this calculation was undertaken out of interest; the triplicate diffusion tubes are located at the inlet to the continuous monitor and relevant exposure is several metres away).

Table 2.6.1 Results (µg/m^3) of Nitrogen Dioxide Diffusion Tubes, using Local Bias Adjustment Factors (2018-2020)

Site ID	Site Type	Within AQMA?	2018 Local Bias Adjustment Factor = 0.75	2019 Local Bias Adjustment Factor = 0.77	2020 Local Bias Adjustment Factor = 0.76
A1-3	AURN	N	11.2	11.5	8.2
C1-2	3 Creggan road	Y	**53.6**	**55.7**	**42.1**
C3-4	6 Marlborough Terrace	Y	28.9	32.5	25.7
C5-6	22a Creggan Street	Y	33.6	35.3	26
C7-8	1 Windsor Terrace	N	21.9	20.9	15.1
C9-10	14 Creggan Road	N	30.6	37.5	27.3
D1-3	Dale's Corner	N	27.9	29.9	22
D4-5	52 Clooney Terrace	N	25	26.8	19.3
D6-7	5 Glendermott Road	Y	**40.6**	**43.4**	42
D8-9	19 Glendermott Road	Y	**44.5**	**47.9**	33.2
D10-11	4 Ebrington Terrace	Y	**44.1**	**46.2**	33
D12-13	12 Ebrington Terrace	Y	34.3	35.9	23.5
D14-15	9 Columba Terrace	Y	27.7	29.4	24.8
D16-17	17 Melrose Terrace	N	27.1	28.6	21.6
P1-2	53 Messines Park	N	20	20.5	15.8
P3-4	57 Messines Park	N	24	25.3	18.7
P5-6	8 Maybrook Terrace	Y	24.5	26	19.2

Site ID	Site Type	Within AQMA?	2018	2019	2020
			Local Bias Adjustment Factor = 0.75	Local Bias Adjustment Factor = 0.77	Local Bias Adjustment Factor = 0.76
P7-8	19 St Patricks Terrace	Y	30.3	32.1	24.2
P9-10	1 Collon Terrace	Y	31.5	33.6	26
P11-12	5 Collon Terrace	Y	38	**40.8**	31.1
S7-8	35 Aberfoyle Terrace	Y	25.3	26.9	20.3
SP1-2	70 Spencer Road	Y	32.9	35.1	27.7
FR 1-2	3 Francis Street	N	25.2	23.9	19.2
FR 3-4	45 Francis Street	N	26.2	25.5	18.2

Table 2.6.2 Results (µg/m^3) of Nitrogen Dioxide Diffusion Tubes, using Local Bias Adjustment Factors (2021 to 2022)

Site ID	Site Type	Within AQMA?	2021 Local Bias Adjustment Factor = 0.88	2022 Local Bias Adjustment Factor = 0.95
A1-3	AURN	N	10	17.1
C1-2	3 Creggan road	Y	**51.4**	**56.1**
C3-4	6 Marlborough Terrace	Y	31.3	32.1
C5-6	22a Creggan Street	Y	32.6	33.1
C7-8	1 Windsor Terrace	N	18.7	17.8
C9-10	14 Creggan Road	N	36	34.8
D1-3	Dale's Corner	N	27.8	28.3
D4-5	52 Clooney Terrace	N	25.2	24.7
D6-7	5 Glendermott Road	Y	**42**	**43.7**
D8-9	19 Glendermott Road	Y	**43.6**	**45.3**
D10-11	4 Ebrington Terrace	Y	**42**	34.0
D12-13	12 Ebrington Terrace	Y	31.2	**41.8**
D14-15	9 Columba Terrace	Y	31.3	32.0
D16-17	17 Melrose Terrace	N	26	27.0
P1-2	53 Messines Park	N	19	19.1
P3-4	57 Messines Park	N	23.4	24.3

Site ID	Site Type	Within AQMA?	2021	2022
			Local Bias Adjustment Factor = 0.88	Local Bias Adjustment Factor = 0.95
P5-6	8 Maybrook Terrace	Y	25.7	25.6
P7-8	19 St Patricks Terrace	Y	31.6	31.5
P9-10	1 Collon Terrace	Y	32.6	33.5
P11-12	5 Collon Terrace	Y	37.8	**40.6**
S7-8	35 Aberfoyle Terrace	Y	26	26.7
SP1-2	70 Spencer Road	Y	34.5	36.1
FR 1-2	3 Francis Street	N	24.6	25.3
FR 3-4	45 Francis Street	N	24	26.9

Dale's Corner AQMA trends

The levels at all sites decreased in 2020 below the annual mean NO_2 limit value of 40 $\mu g/m^3$. Although the levels at the 3 sites increased in 2021 and 5 and 19 Glendermott Road levels increased further in 2022 the levels at 4 Ebrington Terrace decreased. Figure 2.11 shows the general trend for all 3 sites in the Dale's Corner AQMA.

Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites.

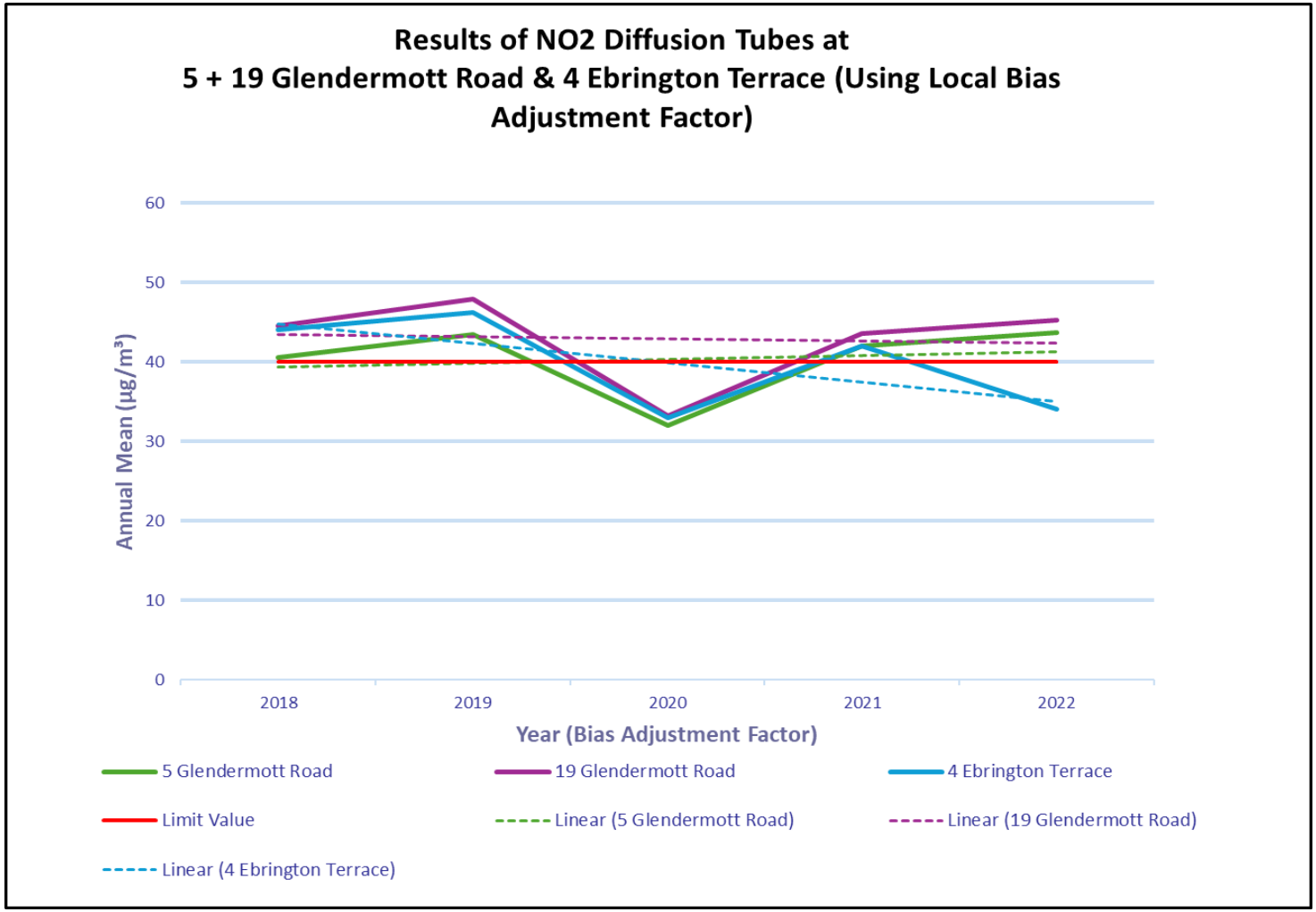


Figure 2.11

Creggan Road AQMA trends

No.3 Creggan Road remains above the limit value and after a drop in 2020, levels have remained static from 2018 to 2022.

No.14 Creggan Road (Figure 2.12), shows levels consistently remain below the annual mean NO2 limit value.

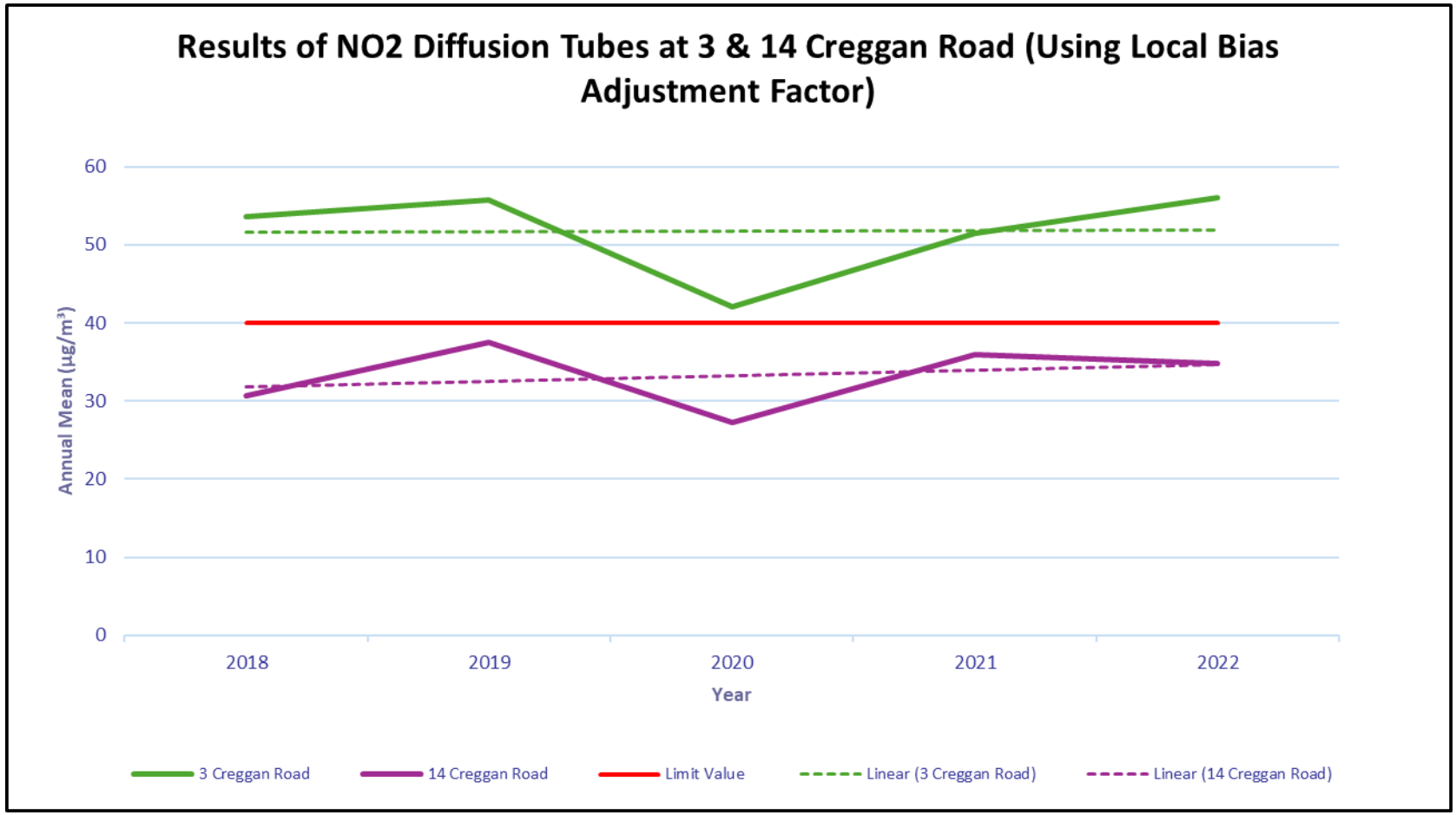

Results of NO2 Diffusion Tubes at 3 & 14 Creggan Road (Using Local Bias Adjustment Factor)
Annual Mean (µg/m³)
60
50
40
30
20
10
0
2018
2019
2020
2021
2022
Year
3 Creggan Road
14 Creggan Road
Limit Value
Linear (3 Creggan Road)
Linear (14 Creggan Road)

Figure 2.12

Buncrana Road AQMA trends

Using the local bias correction factor, Figure 2.14 shows that No.1 Collon Terrace is consistently below the annual mean limit value of 40 µg/m^3 whilst No. 5 Collon Terrace has been below the mean limit value in 2018, 2020 and 2021. But there was a slight exceedance of the mean limit value shown in 2019 and 2022 at 5 Collon Terrace.

As mentioned in previous reports, a proposed road widening scheme for a section of the A2 road has undergone public consultation with the preferred route following the existing road with vesting and demolition of all properties along Collon Terrace. This scheme is ongoing.

There have been no exceedances of the pollutant objective value for the last 5 years, apart from marginal exceedance at No.5 Collon Terrace as previously mentioned.

Council is also cognisant of the fact that the pandemic resulted in traffic reduction in year 2020 with lower NO_2 levels as a result.

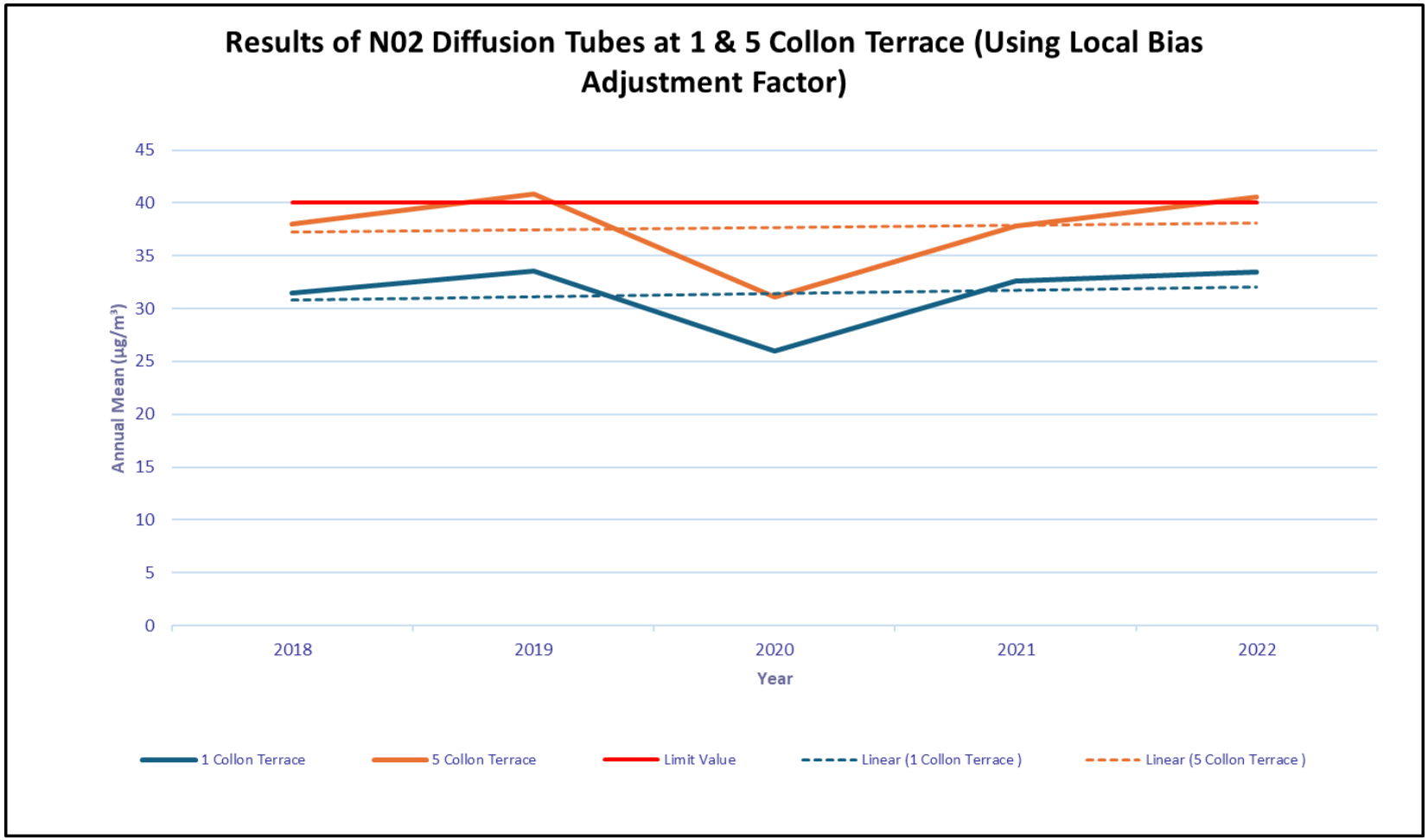

Results of N02 Diffusion Tubes at 1 & 5 Collon Terrace (Using Local Bias Adjustment Factor)
Annual Mean (µg/m³)
45
40
35
30
25
20
15
10
5
0
2018
2019
2020
2021
2022
Year
1 Collon Terrace
5 Collon Terrace
Limit Value
Linear (1 Collon Terrace)
Linear (5 Collon Terrace)

Figure 2.13

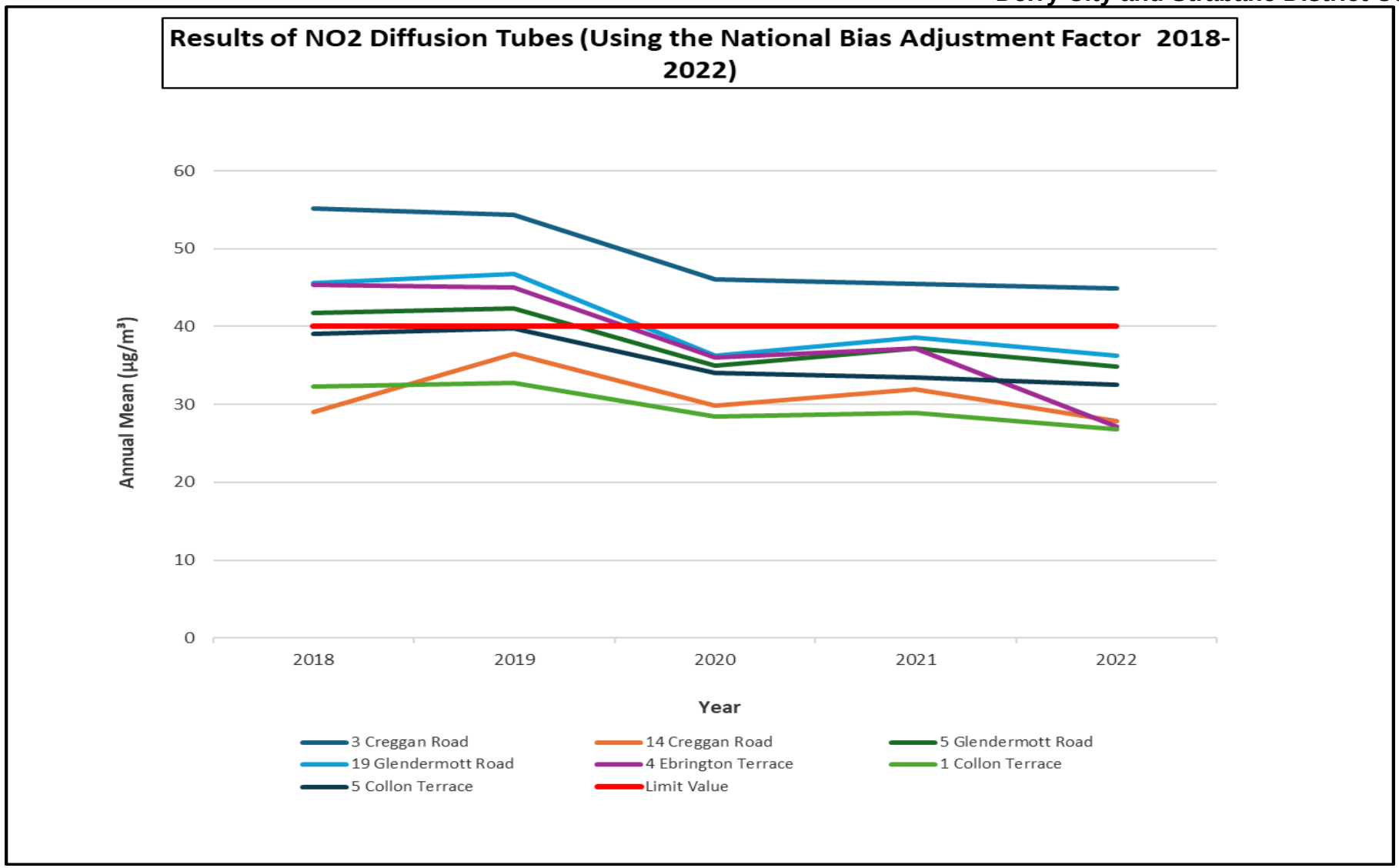

Results of NO2 Diffusion Tubes (Using the National Bias Adjustment Factor 2018-2022)
Annual Mean (µg/m³)
60
50
40
30
20
10
0
2018
2019
2020
2021
2022
Year
3 Creggan Road
14 Creggan Road
5 Glendermott Road
19 Glendermott Road
4 Ebrington Terrace
1 Collon Terrace
5 Collon Terrace
Limit Value

Figure 2.14

Figure 2.14 above, for comparison, shows data collected from the reviewed monitoring sites, using the National Bias Adjustment Factor for 2018-2022.

All sites show downward trends except for 14 Creggan Road which shows a slight upwards trend though all sites have showed decreased levels from 2021 to 2022. 14 Creggan Road and 1 Collon Terrace have been consistently below the annual mean NO_2 limit value of 40 µg/m^3. 5 Collon Terrace is shown to be just above the annual mean objective but dropping below in 2018 then increasing again in 2019 slightly. In 2020 and 2021, 5 Collon Terrace annual mean level decreased further. This then increased slightly in 2022 though remains lower than the 2019 slight exceedance.

3 Creggan Road, 4 Ebrington Terrace and 5 and 19 Glendermott Road have been recorded consistently higher than the annual mean objective of 40 µg/m^3 up until 2019. 3 Creggan Road has historically shown the highest concentrations but the downward trends are encouraging for these 3 sites. However, this is not replicated when using the local bias adjustment factor.

2.2.2 Particulate Matter (PM_{10})

The Council monitors PM_{10} at four locations in the district;

- Derry AURN Rosemount
- Springhill Park, Strabane.
- Strathfoyle
- Newtownstewart

The monitoring data is summarised in Table 2.7 for PM_{10} annual mean concentrations in comparison to its objective level and in Table 2.8 for the 24-hour mean in terms of number of exceedances. Prior to the installation of the FIDAS analysers, concentrations for Springhill, Strathfoyle and Newtownstewart have been automatically adjusted by Air Quality Data Management (AQDM) to gravimetric equivalent using the VCM methodology, where possible.

Figure 2.15 shows the trends in annual mean PM_{10} concentrations at all sites.

Concentrations at Springhill Park show an increase in the level from 2018 to 2019.This then decreased in 2020 and have continued to show a downward trend.

Results from Derry Rosemount site show levels remain the same in 2018 and 2019. Levels then increased in 2020 before decreasing in 2021 and 2022.

Concentrations at Bawnmore Place show a downward trend from 2018 to 2020 but in 2021 and 2022 this figure increased however the annual mean objective at all sites monitored from 2018 to 2022 have been below the annual mean objective.

Newtownstewart monitoring station only became operational in 2021 and so data for this site is limited. The results from 2021 to 2022 have shown an increase however are below the annual mean objective.

There was 1 exceedance of the 24-hour Mean concentration at Rosemount in 2020 and none at Rosemount in 2019, 2021 and 2022 .

There were 3 exceedances of the 24-hour mean concentration at Springhill in 2019, 1 exceedance in 2020, 2 exceedances in 2021 and 5 exceedances in 2022.
There were 0 exceedances of the 24-hour mean concentration at Bawnmore place between 2019 and 2021.

There were 0 exceednaces of the 24-hour mean concentration at Newtownstewart in 2021 however in 2022 there were 3 exceedances.

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 2019 %[b]	Valid Data Capture 2020 %[b]	Valid Data Capture 2021 %[b]	Valid Data Capture 2022%[b]	Confirm Gravimetric Equivalent (Y or NA)	Annual Mean Concentration mg/m^3				
									2018*c	2019* c	2020* c	2021*c	2022*c
Derry Rosemount	Urban background	N	-	77%	97%	96%	97%	Y	12	12	14	13	13
Springhill Park, Strabane	Urban background	N	-	97%	94%	93%	50%	Y	15	17	15	14	12
Bawnmore Place Strathfoyle	Suburban	N	-	71%	85%	91%	35%	Y	15	13	10	12	13
Newtownstewart		N	-	-	-	71%	94%	-	N/A	-	-	10	13

In bold, exceedance of the PM_{10} 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% Note: this was not undertaken for Strathfoyle and Newtownstewart as the recorded concentrations are substantially below the limit value and is not a DEFRA or affiliated site.

* Annual mean concentrations for previous years are optional

Trends in Annual Mean PM_{10} Concentrations

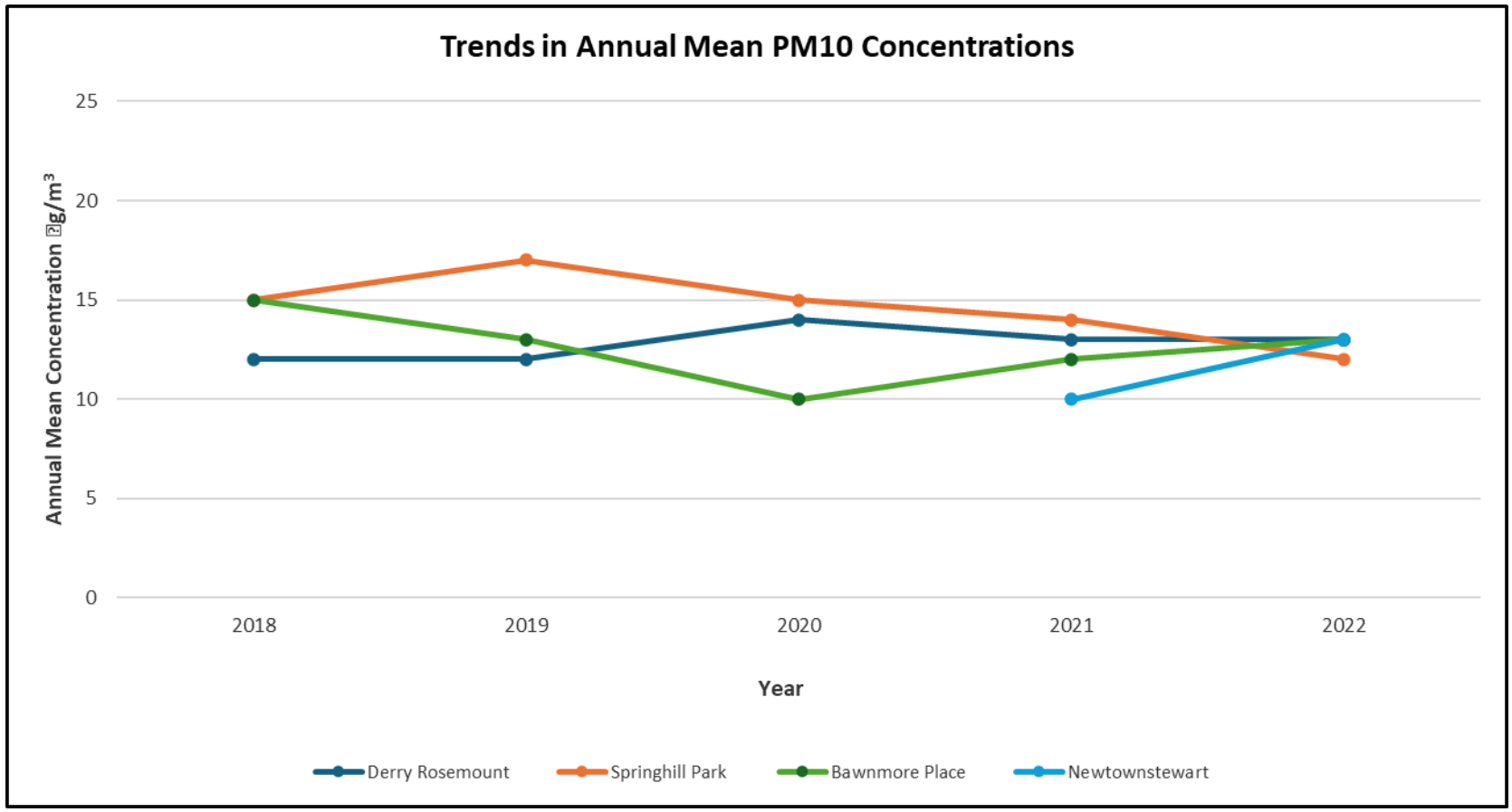


Figure 2.15

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 2019 %[b]	Valid Data Capture 2020 %[b]	Valid Data Capture 2021 %[b]	Valid Data Capture 2022%[b]	Confirm Gravimetric Equivalent (Y or NA)	Number of Exceedances of 24-Hour Mean (50 µg/m^3)			
									2019* c	2020* c	2021*c	2022*c
Derry Rosemount	Urban background	N	-	77%	97%	96%	97%	Y	0	1	0	0
Springhill Park, Strabane	Urban background	N	-	97%	94%	93%	50%	Y	3	1	2	5
Bawnmore Place Strathfoyle	Suburban	N	-	71%	85%	91%	35%	Y	0	0	0	0
Newtownstewart		N	-	-	-	71%	94%	-	-	-	0	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] if data capture is less than 85%, include the 90.4th percentile of 24-hour means in brackets
* Optional

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

2.2.3 Sulphur Dioxide (SO_2)

The monitoring data is shown in Table 2.9.

Concentrations of Sulphur at both Derry Rosemount and Springhill Park have remained below the below the annual hourly mean objective between 2018 and 2022.

Table 2.9 - Results of Automatic Monitoring for Sulphur Dioxide: Comparison with Annual Hourly Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %[a]	Valid Data Capture 2019 %[b]	Valid Data Capture 2020 %[b]	Valid Data Capture 2021 %[b]	Valid Data Capture 2022%[b]	Confirm Gravimetric Equivalent (Y or NA)	Annual Mean Concentration μg/m³				
									2018 * c	2019* c	2020 * c	2021 *c	2022 *c
Derry Rosemount	Urban background	N	-	96%	96%	96%	94%	Y	2	2	2	2	1
Springhill Park, Strabane	Urban background	N	-	99%	99%	93%	97%	Y	3	2	3	3	2

There were no exceedances of any of the objectives at either site between 2018 and 2022 (2019 to 2022 shown in below tables)

Table 2.10.1 – Results of Automatic Monitoring for SO_2: Comparison with Objectives (2019)

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %[a]	Valid Data Capture 2019 %[b]	Number of Exceedances (percentile in bracket μg/m³)[c]		
					15-minute Objective (266 μg/m³)	1-hour Objective (350 μg/m³)	24-hour Objective (125 μg/m³)
Derry Rosemount	Urban Background	N	-	96%	0	0	0
Springhill Road, Strabane	Urban Background	N	-	99%	0	0	0

Table 2.10.2 – Results of Automatic Monitoring for SO_2: Comparison with Objectives (2020)

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %[a]	Valid Data Capture 2020 %[b]	Number of Exceedances (percentile in bracket μg/m³)[c]		
					15-minute Objective (266 μg/m³)	1-hour Objective (350 μg/m³)	24-hour Objective (125 μg/m³)
Derry Rosemount	Urban Background	N	-	96 %	0	0	0
Springhill Road, Strabane	Urban Background	N	-	99%	0	0	0

Table 2.10.3 – Results of Automatic Monitoring for SO_2: Comparison with Objectives (2021)

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %[a]	Valid Data Capture 2021%[b]	Number of Exceedances (percentile in bracket μg/m³)[c]		
					15-minute Objective (266 μg/m³)	1-hour Objective (350 μg/m³)	24-hour Objective (125 μg/m³)
Derry Rosemount	Urban Background	N	-	96 %	0	0	0
Springhill Road, Strabane	Urban Background	N	-	93%	0	0	0

Table 2.10.4 – Results of Automatic Monitoring for SO_2: Comparison with Objectives (2022)

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %[a]	Valid Data Capture 2022 %[b]	Number of Exceedances (percentile in bracket μg/m³)[c]		
					15-minute Objective (266 μg/m³)	1-hour Objective (350 μg/m³)	24-hour Objective (125 μg/m³)
Derry Rosemount	Urban Background	N	-	84%	0	0	0
Springhill Road, Strabane	Urban Background	N	-	97%	0	0	0

Figure 2.16 - Graph showing Results of Automatic Monitoring for SO_2.

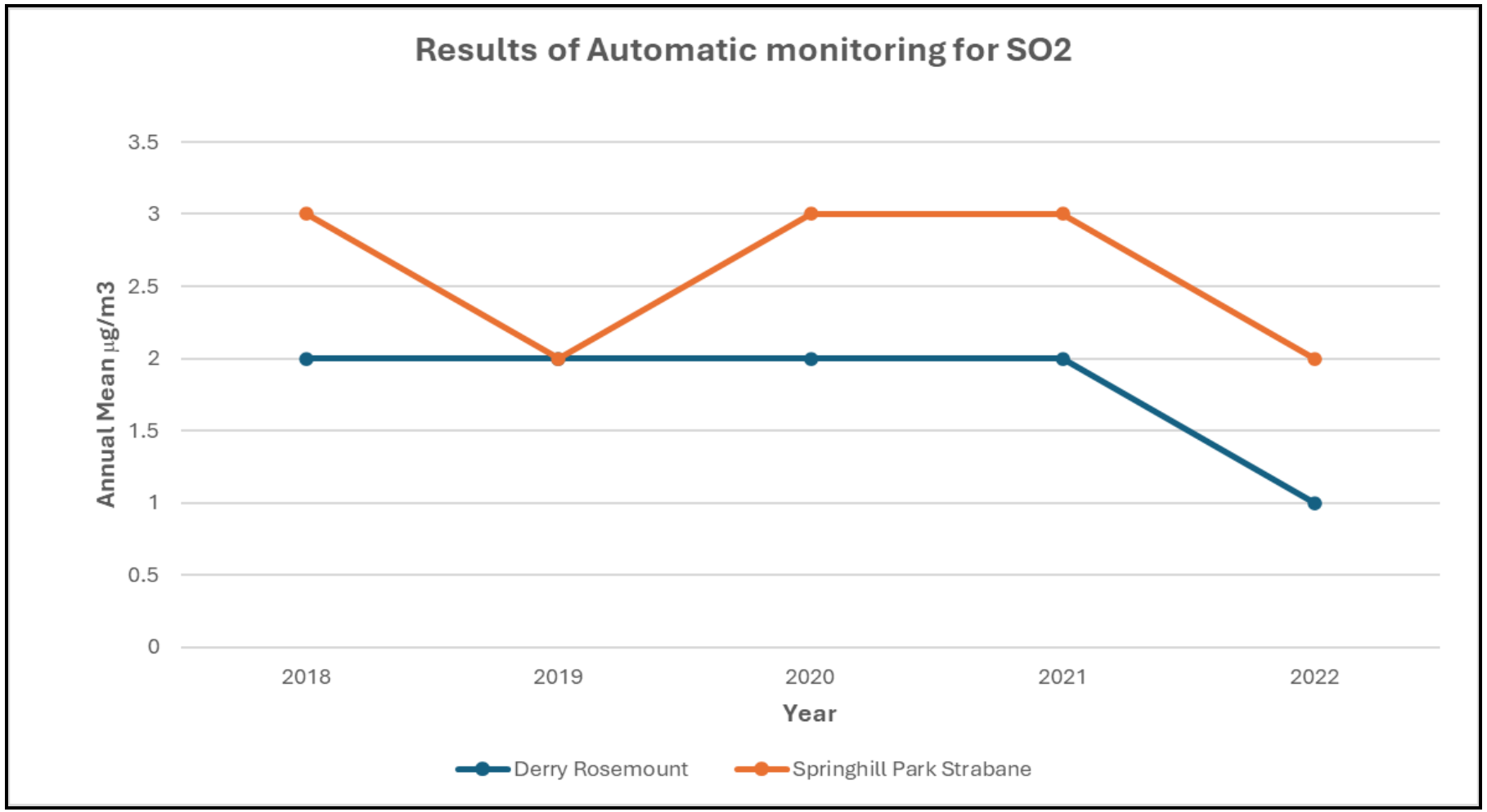


Figure 2.16

2.2.4 Benzene

No benzene monitoring takes place within Derry City and Strabane District Council area.

2.2.5 Other pollutants monitored

$PM_{2.5}$

$PM_{2.5}$ is measured at Derry Rosemount, Bawnmore Place Strathfoyle, Springhill Strabane and Newtownstewart. $PM_{2.5}$ objectives have been set out in the UK Air Quality Regulations, although, there is no requirement for local authorities to review and assess $PM_{2.5}$ against these objectives as part of the LAQM regime. Results have been reported as recommended by Technical Guidance LAQM.TG22, shown in Table 2.11. The low results in 2022 for the Bawnmore Place Strathfoyle and Springhill Park, Strabane sites were due to breakdowns of an antiquated BAM analyser at Strathfoyle and breakdowns of an antiquated TEOM (non-FDMS) analyser at Strabane.

Table 2.11 Results of Automatic Monitoring of $PM_{2.5}$: Comparison with Annual Mean Objectives (20µg/m³)

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %	Valid Data Capture 2019 %	Valid Data Capture 2020 %	Valid Data Capture 2021 %	Valid Data Capture 2022%	Confirm Gravimetric Equivalent (Y or NA)	Annual Mean Concentration µg/m³			
									2019	2020	2021	2022
Derry Rosemount	Urban background	N	-	83%	97%	96%	95%	Y	9	7	7	9
Bawnmore Place Strathfoyle	Suburban	N	-	-	-	-	22%	Y	-	-	-	4
Springhill Park, Strabane	Urban background	Y	-	-	-	-	39%	Y	-	-	-	8
Newtownstewart		N	-	-	-	-	80%	-	-	-	-	8

Ozone (O_3)

Ozone is measured at the Derry Rosemount site. O_3 is a transboundary pollutant; the sources of O_3 are frequently spatially distant from the measured site of the concentrations. This pollutant is not a prescribed air quality objective for LAQM purposes; however, it has been reported as recommended by Technical Guidance LAQM.TG16.

The monitoring data are shown in Table 2.12. There were no exceedances of 8-Hour Running Mean in 2019, 2020, 2021 or 2022.

Table 2.12 Results of Automatic Monitoring of Ozone: Comparison with Annual Hourly Mean Objective (100µg/m³)

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %[a]	Valid Data Capture 2019 %[b]	Valid Data Capture 2020 %[b]	Valid Data Capture 2021 %[b]	Valid Data Capture 2022%[b]	Confirm Gravimetric Equivalent (Y or NA)	Number of exceedances of 8-Hour Running Mean (100µg/m³)			
									2019	2020	2021	2022
Derry Rosemount	Urban background	N	-	97%	94%	98%	99%	Y	0	0	0	0

[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%).

Polycyclic Aromatic Hydrocarbons (PAH)

As part of the UK network, PAH is measured on behalf of DEFRA/DAERA at the Derry Brandywell site. Exceedences of the target value of 1 nanogram/m^3 for the annual mean concentration of B[a]P were historically measured in 2010 and 2016. From 2017 – 2022 the annual mean concentrations of B[a]P were 0.75, 0.66, 0.82, 0.63, 0.6 and 0.6 respectively. Full results can be found at: https://uk-air.defra.gov.uk/data/non-auto-data?uka_id=UKA00499&network=paha&s=View+Site

2.2.6 Summary of Compliance with AQS Objectives

The Council has examined the results from monitoring in the district. There were no exceedances of any objectives outside the existing AQMA boundaries, or within the Spencer Road AQMA since 2013 or indeed within the Buncrana Road AQMA for the last 5 years, apart from marginal exceedance at No.5 Collon Terrace as previously mentioned.

In 2018, DCSDC revoked the Strabane, Newtownstewart and Castlederg AQMA's for particulate matter (PM_{10}). The former Strabane District Council Action Plan measures were realised and pollution levels reduced to well below health limit values. The Smoke Control Areas still remain and there are occasional spikes in PM_{10} levels as a result of winter episodes associated with the use of coal as a secondary source of heating in some areas of the Council.

The Strand Road AQMA for nitrogen dioxide was revoked in 2018 and the Spencer Road AQMA was reduced in size to reflect updated monitoring and modelling results.

It is recommended that the Spencer Road AQMA be revoked due to continually reduced NO_2 concentrations as described in the text. The remaining AQMAs are considered appropriate for the time-being.

3 New Local Developments

3.1 Road Traffic Sources

All road traffic sources which may have an impact on air quality have been considered in previous reports: The Council confirms that as there has been no significant change to any of the above sources, there is no need to proceed to a Detailed Assessment.

3.2 Other Transport Sources

Airports, Railway Stations and Shipping Ports were considered in previous assessments in accordance with all relevant criteria and were able to be screened out .

3.3 Industrial Sources

No relevant installations have been identified. The Council confirms that there are no industrial installations with substantially increased emissions or for which planning approval has been granted requiring an air quality assessment, or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority. Four Part C Permit Applications were received in 2022 for; coal handling (a smokeless coal briquetting plant), the use of bulk cement (the batching of ready mix concrete), a Mobile Crusher (crushing of bricks/tiles/concrete), and a drycleaners. One of these Part C installations came through the planning system; i.e the smokeless fuel plant, and this was accompanied with a dust impact assessment.
The Council were not consulted by NIEA on any new or significantly changed Part A and B installations in 2022.

3.4 Commercial and Domestic Sources

Biomass combustion and Combined Heat and Power (CHP) Plant installations were considered in previous assessments and Council confirms that there are no installations meeting the specified criteria that require a Detailed Assessment.

Domestic solid-fuel burning was considered in previous assessments. In addition, a Fuel Use Survey was commissioned by Council and a report produced in March 2019. 10% of properties were surveyed within each of 20 designated 1km X 1km geographical areas (approx. sample total of 2760 properties) across the Council area, with a response rate of at least 75%, totalling 2077 surveys. The main types of fuel used were Oil (73.62%), followed by Gas (22.81%) , Coal/solid fuel (2%), Electricity (1.35%), wood (0.14%) and other (0.09%). The survey confirmed the very low incidence of burning of domestic solid fuel, particularly wood.

The Council confirms that there are no areas of significant solid domestic fuel use in the Local Authority area.

3.5 New Developments with Fugitive or Uncontrolled Sources

Landfill sites, quarries, unmade haulage roads on industrial sites, waste transfer stations and other potential sources of fugitive particulate matter emissions were considered in previous assessments.

There were a number of applications for quarries/ extensions to quarries in the Council district where the potential existed for PM_{10} emissions to affect nearby dwellings. The quarries were screened in accordance with Table 7.5 – Screening Assessment of Fugitive or Uncontrolled Sources of the Technical Guidance LAQM.TG22

The Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area other than quarries which were considered in a previous assessment.

4 Local / Regional Air Quality Strategy

A Clean Air Strategy for Northern Ireland has been pending for some time. In advance of developing a Clean Air Strategy for Northern Ireland DAERA launched a Public Discussion Document (PDD) on the 23rd November 2020.
The PDD presented evidence and research on a range of ambient air pollutants. It also outlines the current policy and legislation and the measures currently in place to control air pollution.

The PDD posed questions around pollutant source activities, with the aim of promoting discussion and the exchange of ideas. The full document can be viewed at https://www.daera-ni.gov.uk/clean_air_strategy_discussion_document

The Public Discussion Document is set out in a number of chapters that provide information on pollutants of concern, sources of emissions including road transport, households, agriculture and industry. The Discussion Document reviews the current arrangements for local air quality management and communication of air quality information. It recommended that the WHO guidelines for particular matter are adopted. Clear policy measures should be identified in the Clean Air Strategy defining actions to ensure they are met.

The PDD refers to household emissions in relation to particulate matter and suggests Councils could extend existing Smoke Control Areas. The banning of the sale of both bituminous coal and unseasoned wood to control emissions of particulate matter at source is also suggested.

Derry City and Strabane District Council awaits the publication of the Clean Air Strategy for Northern Ireland that would inform Council on future approaches to Local Air Quality Management.

5 Planning Applications

The Council considers all planning applications that are submitted in the district. If any proposed development has the potential to adversely affect air quality in relation to the relevant public exposure criteria, as described in the most recent Technical Guidance LAQM.TG16, the developer is requested to submit an air quality assessment.

Further to the proposed developments with potential air quality issues that were considered in the previous Progress Report, the following approved developments have the potential to adversely affect air quality:

Planning Application Reference no: LA11/2022/0114/RM

Proposal: Proposed residential development of 255 No. dwellings comprising of a mix of 8 No. detached, 180 No. semi-detached, 15 No. townhouses, and 52 No. apartments, public open space, equipped children's play area, IT community hub meeting space, community allotments, car parking, landscaping and all associated site and access works at Lands situated to the South East of the A2 Clooney Road and East of Nos. 29 30 31 and 32 Gransha Park Derry/Londonderry.

An air quality assessment was submitted as part of this application and was reviewed by the Environmental Health Service. The report concluded that there would be no change to the outcome of an assessment submitted at the outline planning stage. Council has therefore concluded that there would be no significant effects on local air quality as a result of the development.

Planning Application Reference: LA11/2022/0875/O

Proposal: Proposed Housing Development with mix of detached & semi-detached dwellings including garages to some plots. Vehicle & Pedestrian access from Urney Road and associated site works.

Council requested that the developer should determine if an air quality assessment is identified as being required; if so, this may take the form of either a Simple Assessment or a Detailed Assessment. The principle underlying this guidance is that any assessment should provide enough evidence that will lead to a sound conclusion on the presence, or otherwise, of a significant effect on local air quality.

Council has not yet received an application for this development which would ordinarily provide the relevant Air Quality Assessment. On this basis the impact on local air quality has not yet been determined.

6 Air Quality Planning Policies

The Councils Local Deveopment Plan Team continues to progress the Council's Local Development Plan (LDP) 2032. The Local Development Plan Team submitted the Derry City & Strabane District Local Development Plan (LDP 2032) – draft Plan Strategy and supporting documents to the Department for Infrastructure on 20th May 2022 as part of the Independent Examination process. The Independent Examination (IE) is undertaken by the Planning Appeals Commission (PAC) and hearing sessions for the Council's LDP draft Plan Strategy took place over four weeks between 5th September and 4th October 2023. The PAC state that the Commissioner expects to deliver the IE Report to the DfI Regional Planning team by April 2024.

When adopted the Council's LDP will replace the current Derry Area Plan 2011 (adopted May 2000) and the Strabane Area Plan 2001 (adopted 1991). The new LDP will replace most existing regional policies. The LDP will consist of two development plan documents:

- The Plan Strategy (PS); and
- The Local Policies Plan (LPP).

The LDP is to take account of the Councils overall vision for the District set out in our Community Plan – the Inclusive Growth Plan for Derry City and Strabane District Council (2017) which has as its Vision for the District:
"To make Derry City and Strabane District a thriving, prosperous and sustainable development, whilst protecting our environment, and also promoting well-being with equality of opportunity for all."

The draft LDP sets out a number of objectives including putting in place the Councils Planning framework of policies that will deliver high quality sustainable development across the City and District to 2032, contributing to climate change prevention/adaptation, protecting the environment and meeting the needs (including health and well-being and amenity) of residents and visitors.

General Development Principles have been stated within the draft LDP to achieve sustainable development (GDP1), tackle climate change (GDP 2) and improve health and wellbeing (GDP3) by promoting active travel, limiting emissions and ensuring development proposals do not significantly impact on air quality.

The General Development Principles outlined above will be delivered through the policies contained in the LDP and the application of best practice guidance.

General Development Management Policy (GDPOL 1) is one of a number of essential criteria that must be met by all developments and indicates that planning permission will be granted where there is no significant impact on amenity as a result of air pollution. In justifying this policy, the LDP recognises the impact on health of poor air quality, current Air Quality Management Areas, Smoke Control Areas and the forthcoming Air Quality Strategy for Northern Ireland. The need to sustainably manage and improve air quality is recognised as an important objective. In addition to the proposed Air Quality Strategy for Northern Ireland, the LDP is one of the more effective mechanisms to be utilised to improve air quality. This includes taking into account existing and future air quality in an area and having regard to any local Air Quality Management Areas.

The Council is currently developing a Climate Change Adaptation Plan and is considering further supplementary best practice guidance on air quality. The Institute of Air Quality Management (IAQM) have produced their 2017 guidance document entitled, ‘Land-Use Planning & Development Control: Planning For Air Quality. The Council’s Environment and Neighbourhoods Team refers to this document in order to determine when an Air Quality Impact Assessment is required.

7 Local Transport Plans and Strategies

THE NORTH WEST TRANSPORT PLAN - TRANSPORT STUDY (June 2021)

The Department for Infrastructure (the Department) has undertaken a Transport Study (TS) of the North West area focused on the Derry City and Strabane District Council (DCSDC) area. It is understood that the Department intend to undertake a further consultation on the development of the NW Transport Plan/Strategy in 2024. The purpose TS was to set out an objective evidence-based assessment of current and future transport issues in the context of the Council's growth ambitions. The transport measures identified are in line with the Draft Programme for Government (PfG) of the NI Executive, current government policies and with the direction of the Council's Strategic Growth Plan.

The Department is working co-operatively with councils across NI to produce a new family of Local Transport Plans (LTP) to integrate with their Local Development Plans (LDP). These plans move through different stages, and increase in detail from an overall strategic direction, through to specific local policies and schemes.
The initial North West Transport Plan (NWTP) LTS has been prepared by the Department in collaboration with DCSDC to inform the Council's LDP – Draft Plan Strategy stage.The purpose of the LTS is to set out an objective evidence-based assessment of in relation to current and future transport issues in the context of Council growth ambitions and future indicative transport measures required to facilitate growth ambitions during the LDP period to 2032 in the Council area.

In view of the complex issues faced by the Derry urban area, a computer transport model was used to estimate strategic impacts. Issues in the town of Strabane have drawn upon a specifically commissioned evidence base whilst standard datasets are used to consider the Council area as a whole.

A review of the policy context generated the following seven transport objectives for the development and assessment of transport options in the Council area:

Objective 1 - Improving external linkages: Enhance accessibility by road and public transport to the City of Derry from Letterkenny, Belfast, Dublin, Strabane and other gateways / hubs, to support greater levels of inward investment and tourism.

Objective 2 - Improving public transport accessibility: Ensure financially viable and sustainable public transport accessibility to essential services including health and education for people living in DCSDC.

Objective 3 - Improving active travel accessibility: Ensure there are attractive and safe active travel networks (walking and cycling) linking all residential, retail, leisure, culture, office and commercial uses within the urban areas of the DCSDC.

Objective 4 - Providing high quality public realm: Deliver high quality public realm in Derry City centre (especially the central riverfront area) and Strabane town centre with reduced vehicle dominance and permeability / walkability, to make them attractive, shared spaces to live and work and improve safety for active modes.

Objective 5 - Improving town centre accessibility: Enhance transport accessibility and manage traffic congestion in Derry City and Strabane town to strengthen Derry's role as the principal city of the cross border North West City Region.

Objective 6 - Improving public safety including air quality: Enhance safety for all modes of travel, reduce the number and severity of casualties and improve air quality. Transportation should contribute to / not worsen the health and well-being of the people of the region.

Objective 7 - Promoting sustainability and resilience: Protect and enhance the built and natural environment by ensuring our transport systems operate sustainably and can integrate climate change adaptation requirements.

Fully details of the Transport Study and its conclusions can be found at: https://www.infrastructure-ni.gov.uk/articles/north-west-transport-study

8 Climate Change Strategies

Further to the information relating to Climate Strategies undertaken by Council in the previous LAQM Progress/Updating and Screening Reports, updates on these stratregies are provided below:

Air Quality and Climate Change

Air quality and climate change are fundamentally interrelated. Many common air pollutants are 'climate active', and reducing emissions will lessen the warming effect on our climate. A warming climate also threatens to make air quality worse, with the prevalence of harmful photochemical smog's likely to increase throughout longer, hotter summers.

Response to the challenge of climate change can be defined as mitigation (measures to reduce emissions) and adaptation (actions to adapt and deliver resilience).

The UK Government has set a legal target for the UK to reach net zero carbon emissions by 2050. The following section outlines the initiatives currently being delivered by Council to address the issue of climate change.

In Northern Ireland, it is not currently a statutory requirement for local authorities to undertake adaptation planning, however Council declared a climate emergency in July 2019 followed by the Climate Emergency Pledge:

> Council undertakes to:
>
> Ensure that all strategic and policy decisions and budgets will immediately fall are in line with the shift to net zero greenhouse gas emissions by 2045 while also ensuring that the Derry City and Strabane District Council area as far as practically possible is prepared for and resilient to the effects of climate change.
>
> DCSDC Climate Pledge 2020

screening process which considers both adaptation and mitigation.

Commitments

Council have committed to the following national and international declarations:

- Global Covenant of Mayors for Climate & Energy

- Glasgow Food & Climate Change Declaration
- United Nations Race to Zero & Race to Resilience
- Council currently report to the Global Covenant of Mayors, CDP and ICLEI EU climate change platforms and NI National Adaptation Programme in an annual basis.

The most significant global climate target to date, is the Paris Agreement with a goal to prevent global average temperature rising above 1.5°C of pre-industrial levels. The UK legal framework is set down in the Climate Change Act 2008 for England, Wales and NI. This mechanism works by introducing 5 yearly carbon budgets and established the independent Committee on Climate Change.

The first NI Climate Change Bill and subsequent Act was passed in 2022 establishing a Net Zero emissions target by 2050 and 46% methane reduction target by 2050. NI Departments are required to publish sectoral plans to meet targets with public bodies required to report on climate action, mitigation, risk, adaptation, policies and plans.

In addition, the need to consider climate and environmental considerations are included in a number of national and local policies and plans including the NI Green Growth Strategy, Northern Ireland Environment Strategy, Nature Positive 2030 and NI Energy Strategy. DCSDC are committed to a range of projects/ plans to work towards the global climate target:

Local Development Plan 2032

General Development Principles; Development should demonstrate how they mitigate against the effects of climate change, adapt to its impacts, and to ensure resilience.

Climate Adaptation Plan

Council is the first local authority in NI to develop a climate adaptation plan passed by Council in July 2020. The vision is to prepare the district to ensure resilience to the effects of climate change, creating a safe and sustainable region for all.

Green Infrastructure Plan

DCSDC have launched a Green Infrastructure Plan providing a framework for a new approach within the North West. This Plan will provide a framework for nature-based solutions to climate change.

Infrastructure & Regeneration – Climate Smart Development

DCSDC are the first NI local authority to develop a Climate Change Risk & Opportunities Assessment for infrastructure projects. This will inform a template for climate proofing capital projects within the City Deal and wider developments. Work is also underway to develop a checklist and guidelines for Climate Smart development across Council.

Innovate UK

Derry City & Strabane District Council have successfully secured £300,000 of funding from Innovate UK to deliver the Net Zero Derry & Strabane project. The project will be delivered from July 2023-July 2025 with a range of stakeholders. The project aims to; enable effective collaboration through appropriate governance structures and policy frame works, provide FAIR place based system insights, ensuring knowledge based climate action, increase awareness and capacity for action, provide delivery frameworks through the development of a SMART climate action plan and identify economic and finance models necessary to deliver a climate resilient and net zero district.

Derry & Strabane Sustainability & Climate Commission

DCSDC led on the establishment of a multi stakeholder group which will prepare and deliver an action plan for the City & District. The multi stakeholder group is made up of; Climate Action Working Group, North West Green Transformation Working Group, Climate Change Training Programme, All Party Severe Weather Working Group and All Party Climate Emergency Working Group

<u>Net Zero - Derry & Strabane - From Ambition to Action Project Summary</u>

Council are responsible for delivery a number of projects relating to circular economy, zero waste, energy, green infrastructure and biodiversity. Council teams are currently developing the first Climate Mitigation Plan for council to reduce emissions through operations, waste, services and estate, in addition the Council is

developing a Sustainable Procurement Strategy and Screening checklist for all plans and projects. The checklist will ensure council aligns with the UN Sustainable Development Goals.

Active & Sustainable Travel

DCSDC has developed with partners 100km of traffic free routes across the city and district. An additional 45km are under development with a further 120km of routes identified.

Sustainable Food System

DCSDC are working across a portfolio of projects to deliver a sustainable food system for the city and district. These include:

- **Acorn Farm I Can Grow Project-** The 'I Can Grow' Project is funded by the National Lottery and led by the Community Foundation for Northern Ireland, delivered in partnership with DCSDC. The project will increase the capacity of local people to grow and cook their own food alongside research into our local food systems, resilience and climate change.
- **Sustainable Food Place**- is currently working towards designation of the city and district as a SustainableFood Place and has established Acorn Food Network working across a range of stakeholders to deliver change.
- **Growing Food, Growing Communities**- Working in partnership with Hollywood Transition Towns Council have delivered a food democracy programme including a local Food Summit to help inform the emerging Sustainable Food Plan for the city and district.
- **Acorn Farm Hub-** DCSDC has been awarded £5.6m from the UK Government Levelling Up Fund to develop the Acorn Farm Sustainable Food Hub (£6.2m) which will see the development of Geodesic Domes, growing spaces and learning centres within St Columb’s Park. The sustainable food hub will embrace innovative climate smart technology for local food production while progressing new culinary practices and food systems.

Regional Networks

DCSDC officers are involved in a number of climate and sustainability networks and working groups across Northern Ireland including the Local Government Climate Action Network, Regional Community Resilience Group, Living with Water Programme, NI Coastal Forum and Sustainable NI.

Cross Border & North West Region Climate Action

DCSDC recognises that climate change transcends local boundaries and borders and is working in partnership with Donegal County Council to address the climate emergency. This includes the development of the Regional Energy Strategy, Green Transformation Statement and North West Climate Action Framework.

9 Implementation of Action Plans

In 2008, the Council, along with relevant partner organisations launched its Final Air Quality Action Plan (AQAP) for the city designed to address areas of air quality concern, safeguard good air quality and to achieve national air quality strategy objectives and EU limit values.

In 2017, Council produced an Air Quality Action Plan Progress Report 2015-2017 that gave an update on progress on the measures in the Action Plan. The Plan draws upon all forms of air quality and transport planning activities, including sustainable transport options as well as engineering solutions. The aim of this AQAP is to improve road vehicle operations and to promote and enable a shift onto more sustainable modes of transport to achieve compliance with the NO2 annual mean EU limit value.

In 2018, DCSDC revoked the Strabane, Newtownstewart and Castlederg AQMA's for particulates (PM10). The measures outlined in the former Action Plan for Strabane were realised and pollution levels reduced to well below health limit values. The Smoke Control Areas still remain. The Strand Road AQMA for nitrogen dioxide was revoked in 2018 and the Spencer Road AQMA was reduced in size to reflect updated monitoring and modelling results. Due to continued decrease in NO_2 levels at the Spencer Road AQMA, it is recommended this AQMA be revoked also.

Although the air quality limit values for particulate matter have been achieved in Strabane town, Castlederg and Newtownstewart and the AQMA's there revoked, the limit values for nitrogen dioxide continue to be exceeded and give cause for concern in a few remaining locations.

Council has continued to provide updates on progress on the AQAP measures in subsequent annual Local Air Quality Management Progress reports, including the present report. Pending the upcoming publication of DAERA's Clean Air Strategy for Northern Ireland, which may include recommendations for the reduction of emissions

from transport, homes, farming and industry, Council will undertake a major revision of its Action Plan that will include all local air quality issues and national policies.

Table 3 – Action Plan Progress

Table 3 provides an update on the measures incorporated in Council's Air Quality Action Plan.

Category	No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in AQMA	Progress to Date	Progress in last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
Specific measures to be implemented in Creggan Road AQMA	**M1**	Restriction of HGV's on Creggan Road plus a 5% reduction in overall traffic at the junction	DfI Roads pass Order restricting >3tonne axle weight vehicles and erect signage at strategic locations (Alternate Routes)	DfI Roads	Completed	Part completed 2013 - signage	Reduce numbers of highly polluting vehicles on Creggan Road. Direct reduction in NO_2 levels	Reduction of 30% to 35% in NO_2 annual mean	Regular liaison with DfI Roads DfI Roads to review feasibility of 3T restriction. HGV alternative route signage erected	DfI Roads continuing to review feasibility of 3T restriction.	Due to to the coronavirus (COVID-19) pandemic, measure not progressed. DFi to consider this option again at AQ Steering Group	Access/ deliveries for HGV's will reduce efficiency of the measure. Enforcement of 3T restriction to be revisited as part of review.
	M2	Changed to Attitudinal Survey targeted at 150 households in and around the AQMA	Make residents in and around AQMA aware of alternative-to-car travel options	Derryy City and Strabane District Council (DCSDC)	Completed	Completed	Reduce number of vehicles at AQMA. Reduction in NO_2 levels	As yet unknown	Student undertook survey as part of Master's degree	Completed	Completed	Direct reduction in car usage - Healthier lifestyles. Car-dependency culture barrier to be weakened
Measures Proposed in ITS Short-Term Strategy (S1)	**M3**	Quality Bus Corridor and Bus Priority Measures	Cross-city QBC's and bus services via city centre and bus priority at key congestion hot spots	DfI Roads	Completed	Following review by DfI Roads and their consultants measure not feasible (2020)	Implementation of QBC's and priority measures Translink Chief Executive pushing for QBC's in Derry/Londonderry similar to Belfast	N/A	Translink CEO liaising with **Derry** City & **Strabane District Council** about the possibility in connection with the local authority's radical plans to transform the city centre and riverfront.			Entire fleet 0f 38 buses, including doubole deckers, now electric.
	M4	Improve Cark Parking Management	Continuous city centre Controlled Parking Zone to restrain commuter parking and contribute to modal shift	DCSDC DfI Roads	Ongoing	Not completed	Implementation of CPZ	N/A	Car parking considered as part of development and delivery of a sub-regional integrated transport strategy with implementation plan as part of Council Strategic Community Plan		5-10 years	Small number of controlled parking schemes being reviewed in Derry city centre area. Direct reduction in car usage - Healthier lifestyles. Car-dependency culture barrier to be weakened
To reduce air pollution by department for Infrastructure Travelwise NI Department of Transport in the Republic of Ireland	**M5**	Establish a Cross Border Travelwise Car Share scheme in the North West that will service the Derry and Donegal areas	DfI Travelwise NI group to target organisations / Employers / stakeholders to assess needs and possibilities	DfI Travelwise NI	Completed	Completed	Direct reduction in car usage	N/A	The CarshareNW car share scheme was discontinued after the end of the two-year pilot scheme	Due to the coronavirus (COVID-19) pandemic, the current public health advice was/is that everyone should work from home if they can and limit contact with other people	Due to to the coronavirus (COVID-19) pandemic, measure not progressed	Scheme piloted for Car-dependency culture barrier to be weakened
To reduce air pollution from Derry city Council fleet vehicles	**M6**	Vehicle emission testing	Assess the feasibility of testing vehicle emissions when routine servicing is carried out / compliance with MOT emissions criteria	DCSDC	Completed	Ongoing	Reduce numbers of highly polluting vehicles on the road.	N/A	Implemented	Implemented	Ongoing	All vehicles undergo annual PSV and emission testing
	M7	Cleaning up Council vehicles	Fitting pollution abatement equipment to older heavy	DCSDC	Completed	Ongoing	Reduction in polluting	N/A	All Refuse Collection Vehicles/large sweepers are now Euro 6 category.		Ongoing	Potential capital costs and maintenance

Category	No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in AQMA	Progress to Date	Progress in last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
			goods vehicles depending on EURO classification				emissions from Council vehicles					implications
	M8	Promotion of newer cleaner vehicles or alternative fuels where possible	Use of electrically powered vehicles	DCSDC	Completed	Ongoing	Reduction in polluting emissions from Council vehicles	N/A	1 electric Van 1 hybrid petrol /electric		Completed	Reduced emissions from vehicles being used for Council business.
	M9	Vehicle upgrading programme to comply with EURO emission standards	Replacement programme for Council vehicles	DCSDC	Completed	Ongoing	Reduction in pollution / noise emissions from Council vehicles and increased fuel efficiency.	N/A	RCV & Sweepers 49 Euro 6 Diesel Engines 24 Euro 5 Diesel Engines		Ongoing upgrades	Capital cost of purchasing new vehicles
		Establish vehicle replacement programme	Programmed replacement of heavy goods vehicles every 7 years	DCSDC	Completed	Ongoing	Reduction in pollution / noise emissions from Council vehicles. Less maintenance for newer vehicles and increased fuel efficiency	N/A	Totals 51 Euro 5 Diesel Engines 99 Euro 6 Diesel Engines		Ongoing upgrades	Capital cost of purchasing new vehicles
	M10	Vehicle Fuel Efficiency	Assess Councils vehicle and mobile plant fuel consumption efficiency and make improvement	DCSDC	Completed	Completed	Better fleet and mobile plant management operations. Increase vehicle and mobile plant fuel use efficiency	N/A	Telemetry and GIS systems monitor vehicle efficiency and route optimisation.		Completed	Increased Council vehicle and mobile plant fuel efficiency.
	M11	Investigate options for better travel planning amongst Derry City and Strabane District Council employees	Encourage walking and cycling among staff and uptake of sustainable modes of transport Completion of Travel to Work Survey	DCSDC & Sustrans	Completed and Ongoing	Completed and Ongoing	Reduced vehicle pollution from staff travelling to / from and at work. Cost savings. Healthier workforce	As yet unknown	5 new vehicles purchased through the Enterprise Car Club. Vehicles – 4 hybrid and 1 e-car for use by staff on council duties travelling from Council Offices in Derry and Strabane. Due to to the coronavirus (COVID-19) pandemic, vehicles not able to be shared. Discussions to have these vehicles return Be Well- Group within Council promotes health and well-being through promotion of walking and cycling among staff. Bike to work scheme (200 employees uptake) Provision of cycling facilities Active Travel Challenge encouraging staff to make more of their journeys by walking, cycling, running, using public transport and lift-sharing.		Completed 2017 Ongoing	Promotes modal shift among staff and overcomes reluctance to give up car and safety concerns. Reduces car journeys. Improves health.
To reduce air pollution from Derry City operations throughout the City	**M12**	Adopt an environmentally friendly source of power for Council buildings	Power Council buildings with electricity generated from renewable sources	DCSDC	Completed	Completed	Percentage of electricity from renewables	N/A	All Council facilities are supplied by electricity from 100% renewable sources	Fluorescent lighting upgraded to energy efficient LED lighting at various Council buildings/ leisure centres 15Kw of battery storage has been connected to Alley Theatre Pool covers installed in various Council buildings/ leisure centres to reduce heating costs and energy usage	Complete	Promotion of renewable energy sources for the generation of electricity.

Category	No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in AQMA	Progress to Date	Progress in last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
										Further measures for the council estate include the installation of smarter energy controls to improve and reduce energy usage, and the integration of further renewables EV Infrastructure development programme ongoing for both on-street and car parks. On-Street: to benefit homes without driveways: Installation of 14 chargers to begin later this year as part of a 9-council funded project. Further expansion of EV infrastructure, including Fast & Rapid chargers, for the Derry Strabane council area also due to commence this year. 'District Heating' being explored for the city, as part of the council's heating decarbonisation plans Derry City and Strabane District Council and Donegal County Council continue to work together to deliver the North West Regional Energy Strategy, which commits to a region with net zero carbon emissions by 2045. The current North West Decarbonization project, which works across all of the public sector, has designated two zones for decarbonisation in the council area: The 'Castlederg Decarbonisation Zone' and 'Ebrington /St Columbs Park Derry Decarbonisation Zone'. This project aims to decarbonise designated public		

Category	No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in AQMA	Progress to Date	Progress in last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
										buildings and enhance the biodiversity on public estates.		
	M13	Employment of a Council Energy Manager	Assessment of Council energy needs and usage. Adopt recommendations made by the Energy Manager to ensure the minimisation of energy consumption and reduction of carbon emissions	DCSDC	Completed	Completed	Reduction in carbon emissions from Council facilities	N/A	13% reduction in C02 emissions achieved between 2008 and 2010. Reduction of 28% by 2016. Council have pledged to reduce carbon to net zero by 2045 and is working with consultants to set incremental carbon reduction targets on a 5-year basis to be completed before September 2022. The first NI Climate Change Bill and subsequent Act was passed in 2022 establishing a Net Zero emissions target by 2050 and 46% methane reduction target by 2050. NI Departments are required to publish sectoral plans to meet targets with public bodies required to report on climate action, mitigation, risk, adaptation, policies and plans. **In addition, the need to consider climate and environmental considerations are included in a number of national and local policies and plans including the** NI Green Growth Strategy, Northern Ireland Environment Strategy, Nature Positive 2030 and NI Energy Strategy. DCSDC are committed to a range of projects/ plans to work towards the global	Implemented	Ongoing	

Category	No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in AQMA	Progress to Date	Progress in last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
									climate target			
	M14	Reduce Carbon Dioxide	Manage landfill gas production at Culmore landfill site. Explore the viability of using landfill gas produced at Culmore landfill site emissions.	DCSDC	Completed	Completed	Offsetting Council power requirements	N/A	Landfill Gas to be used to generate electricity to be used in Council facilities on-site with excess electricity sold to NI Water via a private wire arrangement.	Implemented	Complete	Elimination of flaring off of landfill gas from the landfill site
To reduce air pollution through education and community initiatives	**M15**	Managing bonfire sites	Establish a Council Policy on dealing with bonfires. Educate communities on the types of material that should be burned on bonfires and promote alternatives to bonfires.	DCSDC	Completed 2016/2017	Ongoing	Reduction of pollution from bonfires. Reduction in the number and size of bonfires	N/A	Appointment of officer within Council to specifically engage on bonfire issues	Policy completed and officer appointed 2017	Policy completed and officer appointed	Implementation of bonfire policy to consider alternatives to bonfires , better managed sites resulting in reduced emissions of pollutants from bonfires held in July (1day) and August (2days) .
	M16	Education initiatives, Develop an awareness of environmental issues amongst young people	Education campaign for young people highlighting the health and environmental problems associated with air pollution, via a targeted education programmed, which could be delivered online or through schools.eg Step-Up Programme,	DCSDC	Ongoing	Ongoing	Creation of sustainable attitudes to our environment among young people	N/A	Ongoing – develop an education programme for schools and communities		Ongoing	Identify partners and funding opportunities in supporting such initiatives
	M17	Active and Sustainable Travel Initiatives	Derry City and Strabane District Council Active and Sustainable Transport Forum	DCSDC	Ongoing	Ongoing	Reduced peak hour congestion	N/A	Continue working partnerships with Sustrans to ensure that walking cycling initiatives are supported through the Derry City and Strabane District Council Active and Sustainable Transport Forum; Progress made notably in the development of urban greenway network in Council area		Ongoing	Currently 80km of traffic free routes in Council area with a further 47.5km of traffic free greenways to be completed by the end of 2021 through cross border EU funding
	M18	Cycling Initiatives	Promote cycling among staff. Encourage Derry City and Strabane District Council employees to consider the use of bicycles in their daily duties.	DCSDC	Ongoing		Health benefits. Reduced pollution from non-use of vehicles	N/A	Council promotes cycle to work scheme once a year among staff		Scheme for 50 members to progress in summer 2012 Up to 2017 scheme utilised by 200 staff. Due to to the coronavirus (COVID-19) pandemic, measure not progressed in last 2-3 years	Promotes modal shift among staff reducing car journeys a
	M19	Improve information provision via electronic methods	Provide the public with air quality information through the Councils web site and links to the Northern Ireland air quality website (www.airqualityni.co.uk)	DCSDC	Completed	Completed		N/A	Central Northern Ireland Environment Agency (NIEA) web-site up and running and containing Derry CC's LAQM Reports and all monitoring site data/pollutant monitoring		Ongoing	Allows public to keep up to date on current local and provincial air quality issues. Website reviewed and updated

Category	No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in AQMA	Progress to Date	Progress in last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
	M20	Vehicle emission tests	Consider the provision of free vehicle emissions testing for motorists and supporting information about responsible car ownership, highlight vehicle pollution issues, eco driving and alternatives to the motor car	DCSDC	To be considered as part of future action plan and	To be considered as part of future action plan	No of vehicles checked	N/A	No emissions testing due to lack of funds - grant bid not supported. To be reviewed as part of revised Action Plan.		To be considered as part of future action plan	To be considered as part of future action plan
To reduce air pollution through Statutory Functions	**M21**	Development Control	Use Planning Process to ensure potential air quality issues are assessed. Comment upon planning applications to ensure that all relevant air quality issues are highlighted and mitigation measures are considered wherever possible	DCSDC	Completed	Ongoing	Sustainable development which considers environmental as well as socio-economic impact	N/A	Ongoing		Ongoing	Increased capital cost of development. Perceived reduction in development opportunities
	M22	Sustainable Development	Sustainable policies incorporated into Councils Local Development Plan and Community Plan and includes development and implementation of a revised sub-Regional Integrated Transport Strategy. Continue to comment on forthcoming development policies for DCSDC to ensure that sustainable development and air quality considerations are included. _	DCSDC	Ongoing Consultation	Ongoing	Incorporation of sustainable development in draft Local Development Plan and Community Plan	N/A	Draft Regeneration Plan - One Plan now replaced by Community Plan and Local Development Plan currently out for consultation		Ongoing	Development of sub-Regional Integrated Transport Strategy linked to the progression (2025) of a number of capital development projects such as an orbital route and third road bridge which will relieve congestion in AQMA's
	M23	Pollution Prevention Control	Permitting and inspection of industrial processes and installations under Part C of the Pollution Prevention and Control (Industrial Emissions) Regulations (NI) 2013	DCSDC	Completed	Ongoing	Compliance with conditions and air pollutant emission limits within permit	N/A	Ongoing inspection programme based on risk assessment		Ongoing	
	M24	Deal with burning of commercial and domestic waste	Take enforcement action under Clean Neighbourhoods and Environment Act (NI) 2011	DCSDC	Completed	Ongoing	Reduced pollution from burning of commercial and domestic waste	N/A	Ongoing response to complaints		Ongoing	
	M25	Recycling	Promoting domestic composting and use of Civic Amenity centres in a bid to reduce pollution from domestic garden bonfires	DCSDC	Completed	Ongoing	Reduced pollution from uncontrolled burning of commercial and domestic waste	N/A	Council's website updated with advice on recycling and composting		Ongoing	
To ensure Air Pollution is Monitored	**M26**	Monitor ambient air quality throughout the City Council area.	Continue ambient air quality monitoring programmes	DCSDC	Completed	Ongoing	Decisions on future air quality policies based on accurate and ratified monitoring data. Identification of areas of poor air quality.	N/A	Ongoing		Ongoing	Assessment of continuous NO_2 levels at 2 Council Monitoring Stations

Category	No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in AQMA	Progress to Date	Progress in last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
	M27		Evaluate results from air quality monitoring against air quality objectives					N/A	Detailed Assessments, USA and Progress Reports undertaken			
	M28		Install and maintain air quality equipment in areas of potential poor air quality					N/A	NO2 diffusion tube network maintained NOx monitor previously installed at Creggan Road and subsequently decommissioned to facilitate domestic development. Springhill Air Quality Monitoring Station maintained. PM10 monitor installed at Strathfoyle.		Ongoing Aug 2016	
	M29		Continue to assist Governmental in the development and implementation of polices in relation to Air quality.					N/A	New NOx monitor to be installed at Dale's Corner AQMA (replacement of existing monitor) New PM10+2.5 BAM units, new SO2, NO2 and Ozone analysers installed at Rosemount AURN site New FIDAS analysers installed at Springhill Park, Strathfoyle and Newtownstewart air monitoring stations New FIDAS analyser to be installed at Derg Leisure Centre air monitoring station, Castlederg		February 2023 Throughout 2020 and 2021 Late 2021 / early 2022 May 2024	
Measures considered as part of the Further Assessments of Dale's Corner and Buncrana Road AQMAs	**M30**	Realignment of the A2 Limavady Road away from nearest properties	Major works programme with land- owner compensated	DfI Roads)	DFi Roads are to forward as scheme for widening the footpath at Ebrington terrace for better public realm space and improved pedestrian access to the popular Ebrington Square for outdoor concerts. This will move traffic 5m away from relevant residential public exposure and reduced NO2 concentrations will be evidenced at the diffusion tubes at Ebrington Terrace within the Dale's Corner AQMA							
	M31	Change in traffic lights sequence to allow more free-moving traffic on the A2 Limavady Road	Deter traffic crossing main through route to allow more traffic to more quickly traverse worst affected part of the AQMA	DfI Roads	Design options being investigated	Ongoing	Reduction in polluting emissions due to more vehicles moving through more quickly through junction	5% to 10% of total NO_2 (2µg/m^3 to 6µg/m^3)	All traffic light sequencing adjusted to minimise congestion through AQMA's DfI Roads looking at traffic movement through junction as a result of proposed development		Liaison with DfI Roads ongoing. Due to to the coronavirus (COVID-19) pandemic, measure not progressed. DFi to consider this option again at AQ Steering Group	Works to junction may be development led
	M32	Implement restrictions on HGV traffic at Dale's Corner junction	Remove the worst polluting vehicles	DfI Roads	Measure previously not feasible. Consideration to be given to the feasibility of a Low Emissions Zone / Orbital route with 3rd road-bridge as part of Strategic Community Plan. Currently no alternative route until completion of 3rd Orbital route. LEZ may be explored as part of revised Action plan							
	M33	Implement restrictions on HGV traffic at Buncrana Road	Remove the worst polluting vehicles	DfI Roads	Measure previously not feasible. Consideration to be given to the feasibility of a Low Emissions Zone / Orbital route with 3rd road-bridge as part of the Strategic Community Plan. NO_2 diffusion tube resultsat no 5 Colloon terrace show slight exceedance of limit value for 2022 (40.6 µg/m^3)							

10 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

The Council has examined the results from monitoring in the district. There were no exceedances of any objectives outside the existing AQMA boundaries, or within the Spencer Road AQMA. In 2018, DCSDC revoked the Strabane, Newtownstewart and Castlederg AQMA's for particulates (PM_{10}). The measures outlined in the former Action Plan for Strabane were realised and pollution levels reduced to well below health limit values. The Smoke Control Areas still remain. The Strand Road AQMA for Nitrogen Dioxide was revoked in 2018 and the Spencer Road AQMA was reduced in size to reflect updated monitoring and modelling results. It is again recommended that the Spencer Road AQMA be revoked due to continually reduced NO_2 concentrations. The remaining AQMAs are considered appropriate for the time-being.

10.2 Conclusions relating to New Local Developments

Having assessed the relevant planning applications in the Council district, it was concluded that they would have no significant negative impact on existing local air quality. In addition, no significant changes in local circumstances were identified within the Council district, which would require further assessment. It is therefore not considered necessary to proceed to a 'Detailed Assessment' for any of the new local developments or potential sources.

10.3 Other Conclusion

No significant changes in emissions sources within the Council area have been identified. No new developments have been identified which would significantly impact on air quality at relevant locations.

10.4 Proposed Actions

It is recommended that the AQMA at Spencer Road should be revoked. The remaining AQMAs are considered appropriate and should remain unchanged for the time-being.

The Council is currently in process of revising the Air Quality Action Plan to reflect the imminent Clean Air Strategy for Nothern Ireland and intends to bring together relevant stakeholders to assist in its revision. The Action Plan shall contain measures to be introduced to work towards achieving air quality objectives within the remaining AQMAs and Particulater Matter reduction form different sources to improve health and wellbeing across the Council area.

11 References

Defra (2024) https://uk-air.defra.gov.uk/

Defra (2007*) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland*, Defra.

Defra (2022) *Review & Assessment: Technical Guidance LAQM.TG 22* Defra.

Defra 'Workplace Analysis Scheme for Proficiency (WASP) NO2 diffusion tubes proficiency tests'. http://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html

Northern Ireland Air – Air Quality in Northern Ireland website http://www.airqualityni.co.uk/

The Environment (Northern Ireland) Order 2002, Statutory Instrument 3153 (2002), HMSO. 2. http://www.legislation.gov.uk/nisi/2002/3153/contents/made

12 Appendices

Appendix A: QA/QC Data including Distance Correction for NO_2 diffusion tubes at Dale's Corner Roadside site and 2022 NO_2 diffusion tubes raw results

Appendix B: Air Quality Reports- Dale's Corner, Derry 2022

Appendix C: Air Quality Reports- Springhill Park, Strabane 2022

Appendix D: Air Quality reports – Strathfoyle, Derry 2022

Appendix E: Air Quality reports- Newtownstewart 2022

Appendix F: Long term trends in NO2 concentrations at Dale's Corner

Appendix A: QA/QC Data

Diffusion Tube Bias Adjustment Factors

The diffusion tubes for 2021 were supplied and analysed by Socotec Didcot utilising the 50% triethanolamine (TEA) in acetone preparation method. The national bias adjustment calculator showed bias adjustment factors of 0.76, 0.77 and 0.76 for the years 2020, 2021 and 2022 respectively.

Factor from Local Co-location Studies (if available)

Two local co-location studies have been undertaken at the Rosemount AURN and Dale's Corner automatic sites. Local bias adjustment factors of 0.76, 0.88 and 0.95 have been calculated for the years 2020, 2021 2022 respectively, as shown in Table A.1.

	2020	2021	2022
Rosemount AURN	0.73	0.78	0.92
Dale's Corner	0.79	0.98	0.98
Overall Factor [a]	0.76	0.88	0.95

The Diffusion Tube Co Location Data Questionnaires for both sites for the year 2022 are shown below:

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 david.butterfield@npl.co.uk or phone 020 8943 6391

	Date form filled in	Name of Local Authority	Your name	Phone number	Contact email
Your Details	12/04/2024	Derry City and Strabane District Council			

	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)
Site Details	**3m**	Roadside	<1m	Dales Corner	244178, 416760

	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)
Diffusion Tube Details	Socotec Didcot	Socotec Didcot	Attached	50% TEA in acetone	Clip spacer

	Analyser type	QA/QC (e.g. local or network)
Continuous Analyser Details	Chemiluminiscent monitor	Network

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	04/01/2022	31/01/2022	99%			36.29
2	31/01/2022	28/02/2022	95%			24.43
3	28/02/2022	28/03/2022	99%			35.79
4	28/03/2022	03/05/2022	98%			29.93
5	03/05/2022	06/06/2022	97%			24.41
6	06/06/2022	04/07/2022	92%			20.63
7	04/07/2022	04/08/2022	86%			21.65
8	04/08/2022	30/08/2022	92%			26.04
9	30/08/2022	26/09/2022	0%			No data
10	26/09/2022	31/10/2022	0%			No data
11	31/10/2022	28/11/2022	87%			35.43
12	28/11/2022	05/01/2023	99%			42.68
13						27.52

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		31.3	35.1	35.7	34.03333333
2		25.5	28.4	30.3	28.06666667
3		37.6	38.1	38.4	38.03333333
4		36	34.7	33.3	34.66666667
5		25.4	26.8	28.1	26.76666667
6		26.3	23.2	24.6	24.7
7		22.6	25	27.1	24.9
8		25.4	22.8	25.9	24.7
9		31.2	20.5	30.3	27.33333333
10		28.3	32.1	27.7	29.36666667
11		28.2	15	28.8	24
12		21.4	16.5	20.7	19.53333333
13					28

	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?
Other Information				

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

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 david.butterfield@npl.co.uk or phone 020 8943 6391

	Date form filled in	Name of Local Authority	Your name	Phone number	Contact email
Your Details	12/04/2024	Derry City and Strabane District Council			

	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)
Site Details	**55m**	Urban background	<1m	Derry Rosemount	2462962, 417217

	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)
Diffusion Tube Details	Socotec Didcot	Socotec Didcot	Attached	50% TEA in acetone	Clip spacer

	Analyser type	QA/QC (e.g. local or network)
Continuous Analyser Details	Chemiliminescent monitor	Network

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	04/01/2022	31/01/2022	100%			9
2	31/01/2022	01/03/2022	96%			5.4
3	01/03/2022	28/03/2022	100%			13.3
4	28/03/2022	03/05/2022	100%			9.4
5	03/05/2022	06/06/2022	100%			5.2
6	06/06/2022	04/07/2022	100%			4
7	04/07/2022	04/08/2022	99%			4.2
8	04/08/2022	30/08/2022	96%			5.9
9	30/08/2022	26/09/2022	99%			7.3
10	26/09/2022	31/10/2022	100%			6.7
11	31/10/2022	28/11/2022	98%			9.9
12	28/11/2022	05/01/2023	100%			16.4
13						8.1

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		13	17.4	8.3	12.9
2		8.4	7.9	10.1	8.8
3		18.5	15.1	20.5	18.1
4		11.5	11.9	11.8	11.7
5		6.5	6.5	7.7	6.9
6		6.3	6.5	5.9	6.2
7		6.6	6.5	6.1	6.4
8		7	7.7	7.8	7.5
9		9.1	9.2	7.9	8.7
10		9.5	11.1	10.9	10.5
11		4.2	7.5	6.4	6
12		1.3	1.2	1.1	1.2
13					8.7

	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?
Other Information				

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

Discussion of Choice of Factor to Use

The Technical Guidance LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tubes. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data from NOx / NO2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias adjustment factors for the relevant laboratory and preparation method.

The local bias adjustment factor was used in this report as the Technical Guidance suggests this should be used unless there is a strong alternative argument for using the National Bias Adjustment factor.

QA/QC of Diffusion Tube Monitoring

SOCOTEC, formerly ESG Didcot, has participated in the AIR NO2 PT scheme since it started in April 2014, and participated in the Workplace Analysis Scheme for Proficiency (WASP) for NO2 diffusion tube analysis prior to this. These schemes provide strict performance criteria for participating laboratories to meet, thereby ensuring NO2 concentrations reported are of a high calibre. AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, which combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme. AIR offers a number of test samples designed to test the proficiency of laboratories undertaking analysis of chemical pollutants in ambient indoor, stack and workplace air. One such sample is the AIR NO2 test sample type that is distributed to participants in a quarterly basis. AIR NO2 PT forms an integral part of the UK NO2 Network's QA/QC. The scores achieved by SOCOTEC are shown in Table A.2. The percentage score reflects the results deemed to be satisfactory based upon the z-score of < ± 2.

Laboratory summary performance for AIR NO2 PT rounds AR0030, 31, 33, 34, 36, 37, 39, 40 and 42.

AIR PT Round	AIR PT AR030	AIR PT AR031	AIR PT AR033	AIR PT AR034	AIR PT AR036	AIR PT AR037	AIR PT AR039	AIR PT AR040	AIR PT AR042
Round conducted in the period	January – February 2019	April – May 2019	July – August 2019	September – November 2019	January – February 2020	May – June 2020	July – August 2020	September – October 2020	January – March 2021
SOCOTEC	87.5 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	NR [3]	NR [3]	100 % [1]	100 % [1]

[1] Participant subscribed to two sets of test results (2 x 4 test samples) in each AIR PT round.

Precision versus Accuracy (Bias)

The spreadsheet of diffusion tube co-location results, used for calculating a national bias adjustment factor, also contains information on the precision of the diffusion tubes, in those cases where duplicate or triplicate tubes were exposed. At the request of a number of local authorities, the precision data for each laboratory have been brought together in a summary form.

Precision should not be confused with accuracy. Diffusion tube precision can be described as the ability of a measurement to be consistently reproduced, i.e., how similar the results of duplicate or triplicate tubes are to each other. Accuracy represents the ability of the measurement to represent the “true” value, which, in this case, is defined as the result from the automatic analyser. When averaged over a number of sets of results, bias can become evident. This represents the overall tendency of the diffusion tubes to depart from the “true” value, i.e., to systematically over- or under-read when compared against the reference method.

Once identified, bias can be adjusted for in order to improve the accuracy of diffusion tube results. This is completed using bias adjustment factors, which have been found to be specific to a laboratory and tube preparation method.

Unlike bias, poor precision cannot be adjusted for. It can only be improved by careful handling of the tubes in both the laboratory and the field.

Precision Summary Table

Diffusion Tube Preparation Method	2021 Good	2021 Bad	2022 Good	2022 Bad	2023 Good	2023 Bad
ESG Didcot / SOCOTEC,	25	3	29	0	28	0

Precision Summary Table

Diffusion Tube Preparation Method	2021 Good	2021 Bad	2022 Good	2022 Bad	2023 Good	2023 Bad
50% TEA in Acetone						

The table above shows that there were very few bad results with the vast majority classified as “good.”

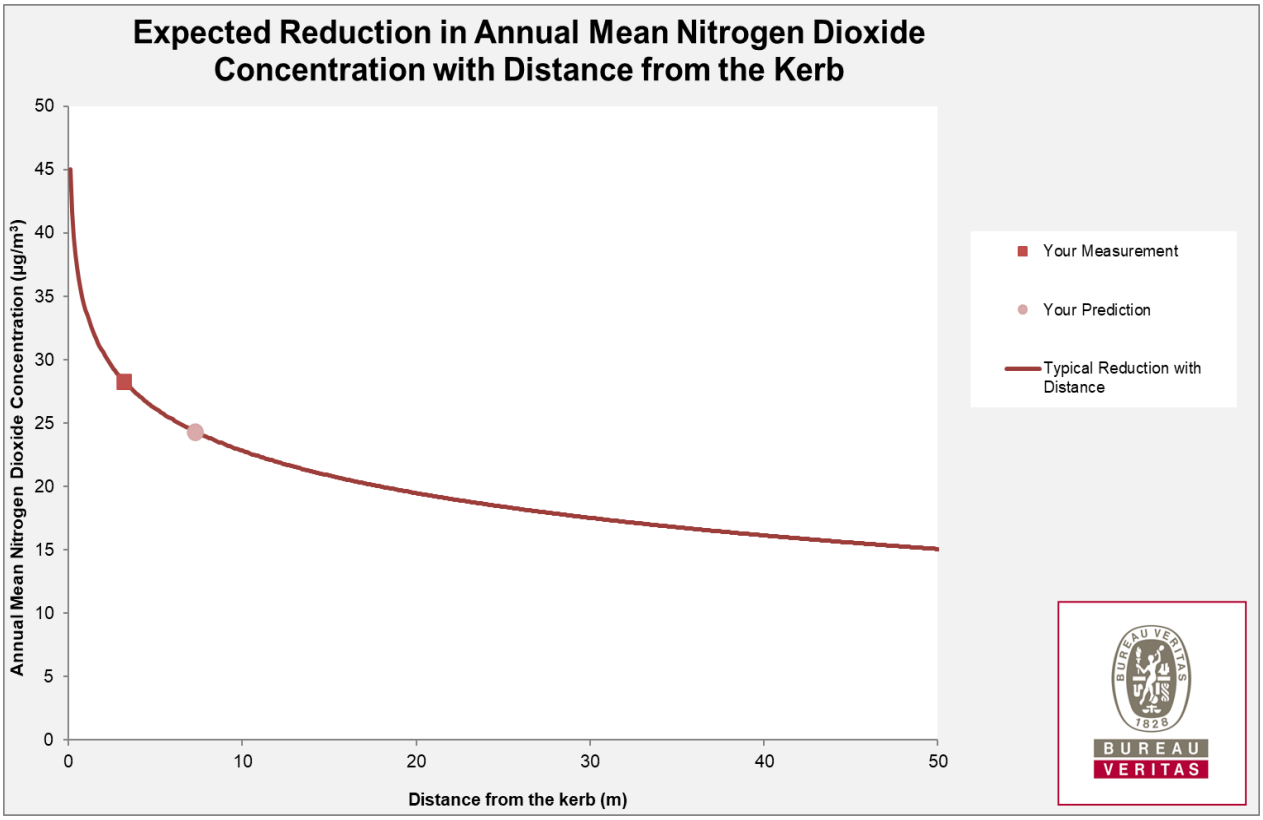
Full results can be found at

https://laqm.defra.gov.uk/air-quality/air-quality-assessment/precision-and-accuracy/

Distance Correction for NO_2 diffusion tubes at Dale's Corner

Roadside site

Step 1	How far from the KERB was your measurement made (in metres)?	3.2	metres
Step 2	How far from the KERB is your receptor (in metres)?	7.3	metres
Step 3	What is the local annual mean background NO_2 concentration (in µg/m^3)?	10	µg/m^3
Step 4	What is your measured annual mean NO_2 concentration (in µg/m^3)?	28.3	µg/m^3
Result	The predicted annual mean NO_2 concentration (in µg/m^3) at your receptor	24.3	µg/m^3



QA/QC of Automatic Monitoring Overview

The Rosemount AURN site is managed to the UK Automatic Urban and Rural Network (AURN) QA procedures and standard. The National Physical Laboratory (NPL) undertook the Quality Assurance/Quality Control (QA/QC) procedures at the three non-AURN monitoring sites during 2019 -2021, ensuring that measurements from the analysers were as accurate as possible. Manual calibration of automatic monitors was undertaken every two weeks by the Council's officers. This allowed the instrument drifts to be fully quantified and documented using traceable calibration gas standards and the results are used to scale data. The analysers were checked and serviced every six months by the appointed equipment support contractors, EnviroTechnology. The reports were then sent to AQDM for data ratification.

PM Monitoring Adjustment

No adjustment to the PM monitoring data was required.

Short-term to Long-term Data Adjustment

There was no requirement to undertake this in the report.

Appendix B: Dale's Corner site

Air Quality Report

Produced by AQDM on behalf of Derry

DERRY DALE'S CORNER 2022

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

Site Environment and Description

KERBSIDE: Corner of King Street and Melrose Terrace

Map Photo Dashboard

Statistical Summary Report

This 2022 report contains all the statistics required for the LAQM reporting.

The full results and statistics are available from the 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

NO_2 - annual data capture was 78.8 %

The annual mean was 30 µg m^{-3} which did not exceed the 40 µg m^{-3} Objective.

The maximum hourly mean was 140 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.

Air Quality Report

DERRY DALE'S CORNER 2022

Air Quality Statistics

Pollutant	NO_2	NO	NOx
Number Very High #	0	-	-
Number High #	0	-	-
Number Moderate #	0	-	-
Number Low #	6903	-	-
Maximum 15-min mean	201 µg m^{-3}	489 µg m^{-3}	916 µg m^{-3}
Maximum hourly mean	140 µg m^{-3}	410 µg m^{-3}	761 µg m^{-3}
Maximum running 8-hr mean	102 µg m^{-3}	195 µg m^{-3}	374 µg m^{-3}
Maximum running 24-hr mean	72 µg m^{-3}	133 µg m^{-3}	262 µg m^{-3}
Maximum daily mean	71 µg m^{-3}	124 µg m^{-3}	251 µg m^{-3}
99.8th percentile of hourly means†	119 µg m^{-3}	-	-
Average	30 µg m^{-3}	22 µg m^{-3}	64 µg m^{-3}
Data capture	78.8 %	78.8 %	78.8 %

Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013
† Percentile required for annual data capture < 85%
Mass units for the gases are at 20'C and 1013mb
NOx mass units are NOx 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}	30 µg m^{-3}	0	-	-	No
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	140 µg m^{-3}	0	0	18 hours	No

Air Quality Report
DERRY DALE'S CORNER 2022

Monthly Data Captures %

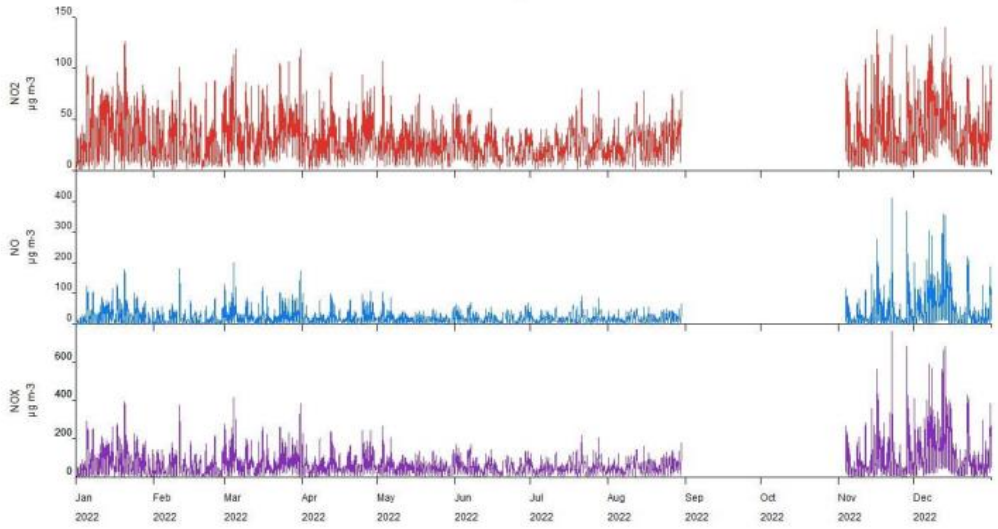
Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Nitrogen Dioxide	99.6	95.1	99.9	98.2	97.2	92.1	86.7	87.8	0.0	0.0	89.9	99.7

Monthly Means

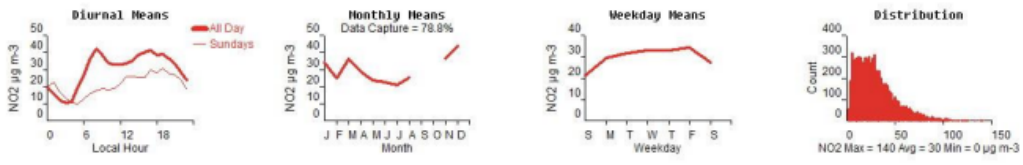
Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Nitrogen Dioxide µg m^{-3}	34	25	36	29	24	23	21	25	-	-	36	44

Air Quality Report
DERRY DALE'S CORNER 2022

Hourly Means



Air Quality Report
DERRY DALE'S CORNER 2022



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http://www.UKAirQuality.net

Appendix C: Springhill Park site

Air Quality Report

Produced by AQDM on behalf of Strabane

STRABANE SPRINGHILL PARK 2022

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

Site Environment and Description

URBAN BACKGROUND: Springhill Park

Map Photo

Statistical Summary Report

This 2022 report contains all the statistics required for the LAQM reporting.

The full results and statistics are available from the 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	5 days	0	0
$PM_{2.5}$ Particulate Matter	5 days	1	0
Sulphur Dioxide	0 15-minutes	0	0

Gravimetric PM_{10} was Moderate on 10th 11th 13th 14th 15th Dec with a daily mean reaching 63 µg m^{-3}.
Gravimetric $PM_{2.5}$ was Moderate on 11th 12th 13th 14th 15th Dec with a daily mean reaching 52 µg m^{-3}.
Gravimetric $PM_{2.5}$ was High on 10th Dec with a daily mean reaching 57 µg m^{-3}.

Air Quality Report

Air Quality Exceedances of the AQS Objectives

Gravimetric PM_{10} - annual data capture was 49.6 %
The annual mean was 12 µg m^{-3} which did not exceed the 40 µg m^{-3} Objective.

The maximum daily mean was 63 µg m^{-3} so there were 5 exceedances of the PM_{10} 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 38.8 % and 60.0 % for the monitored period
The annual mean was 8 µg m^{-3} which did not exceed the 25 µg m^{-3} Objective. Note that the $PM_{2.5}$ standard is not set in the regulations.

There should be a 15% cut in urban background exposure (annual mean) for all Local Authorities from 2010 to 2020.

SO_2 - annual data capture was 97.2 %
The maximum 15-minute mean was 141 µg m^{-3} so there were no exceedances of the SO_2 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 130 µg m^{-3} so there were no exceedances of the SO_2 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 28 µg m^{-3} so there were no exceedances of the SO_2 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 2 µg m^{-3} which did not exceed the 20 µg m^{-3} Objective.

Air Quality Report
STRABANE SPRINGHILL PARK 2022

Air Quality Statistics

Pollutant	Grav PM_{10}*	Grav $PM_{2.5}$~	$PM_1$$	SO_2
Number Very High #	0	0	-	0
Number High #	0	1	-	0
Number Moderate #	5	5	-	0
Number Low #	175	135	-	33539
Maximum 15-min mean	-	-	317 µg m^{-3}	141 µg m^{-3}
Maximum hourly mean	275 µg m^{-3}	255 µg m^{-3}	265 µg m^{-3}	130 µg m^{-3}
Maximum running 8-hr mean	140 µg m^{-3}	129 µg m^{-3}	134 µg m^{-3}	68 µg m^{-3}
Maximum running 24-hr mean	83 µg m^{-3}	77 µg m^{-3}	79 µg m^{-3}	35 µg m^{-3}
Maximum daily mean	63 µg m^{-3}	57 µg m^{-3}	59 µg m^{-3}	28 µg m^{-3}
90.4th percentile of daily means†	19 µg m^{-3}	-	-	-
90th percentile of daily means†	19 µg m^{-3}	-	-	-
98.1st percentile of daily means†	54 µg m^{-3}	-	-	-
Average	12 µg m^{-3}	8 µg m^{-3}	7 µg m^{-3}	2 µg m^{-3}
Data capture	49.6 %	38.8 %	38.8 %	97.2 %
Data capture from 10th May	-	*60.0 %*	*60.0 %*	-

Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013
† Percentile required for annual data capture < 85%
* Gravimetric PM_{10} instruments:
BAM instrument using 0.833 gravimetric factor to 28 February 2022
FIDAS instrument using 1 gravimetric factor from 10 May 2022
~ 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

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}	12 µg m^{-3}	0	-	-	No
PM_{10} Particulate Matter (Gravimetric)	Daily mean > 50 µg m^{-3}	63 µg m^{-3}	5	5	35 days	No
$PM_{2.5}$ Particulate Matter (Gravimetric) *	Annual mean > 25 µg m^{-3}	8 µg m^{-3}	0	-	-	No
Sulphur Dioxide	15-minute mean > 266 µg m^{-3}	141 µg m^{-3}	0	0	35 15 mins	No
Sulphur Dioxide	Hourly mean > 350 µg m^{-3}	130 µg m^{-3}	0	0	24 hours	No
Sulphur Dioxide	Daily mean > 125 µg m^{-3}	28 µg m^{-3}	0	0	3 days	No
Sulphur Dioxide	Annual mean > 20 µg m^{-3}	2 µg m^{-3}	0	-	-	No

* Not set in regulations

Air Quality Report
STRABANE SPRINGHILL PARK 2022

Monthly Data Captures %

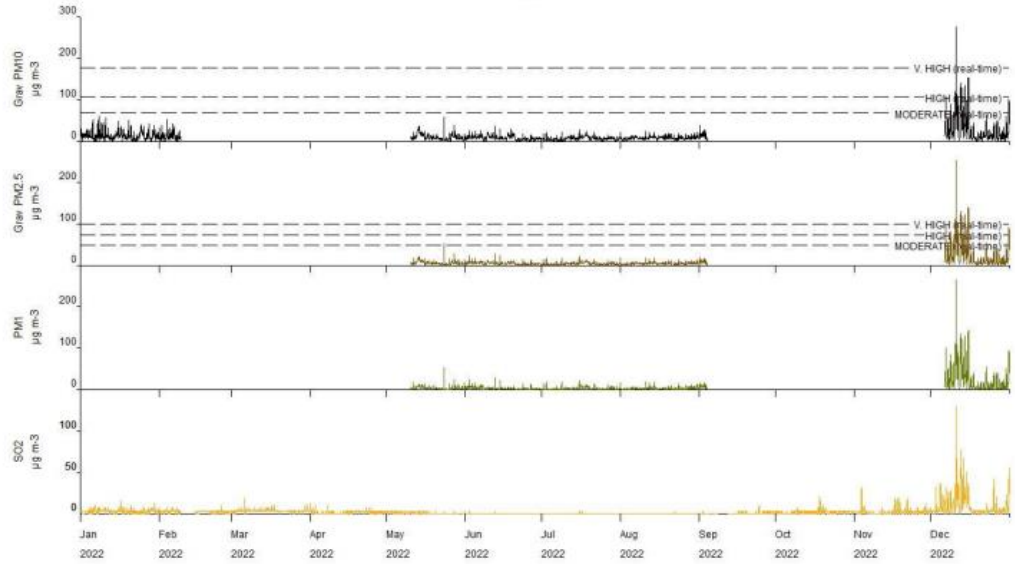
Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grav PM_{10}	99.9	30.2	0.0	0.0	67.9	99.4	99.9	99.7	11.1	0.0	0.0	82.5
Grav $PM_{2.5}$	0.0	0.0	0.0	0.0	67.9	99.4	99.9	99.7	11.1	0.0	0.0	82.5
PM_1	0.0	0.0	0.0	0.0	67.9	99.4	99.9	99.7	11.1	0.0	0.0	82.5
Sulphur Dioxide	99.9	79.2	100.0	100.0	99.5	99.7	100.0	100.0	87.9	100.0	98.3	99.9

Monthly Means

Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grav PM_{10} µg m^{-3}	14	12	-	-	11	9	7	8	12	-	-	26
Grav $PM_{2.5}$ µg m^{-3}	-	-	-	-	6	5	4	5	8	-	-	22
PM_1 µg m^{-3}	-	-	-	-	4	4	3	3	7	-	-	22
Sulphur Dioxide µg m^{-3}	3	3	4	2	1	0	0	0	0	2	2	10

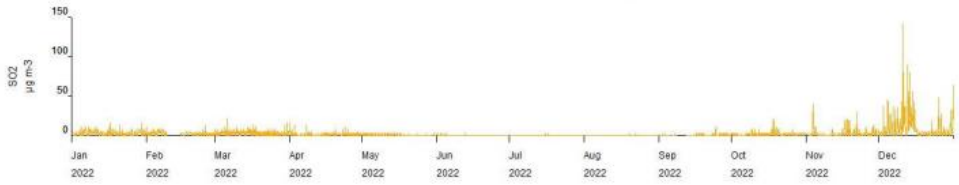
Air Quality Report
STRABANE SPRINGHILL PARK 2022

Hourly Means

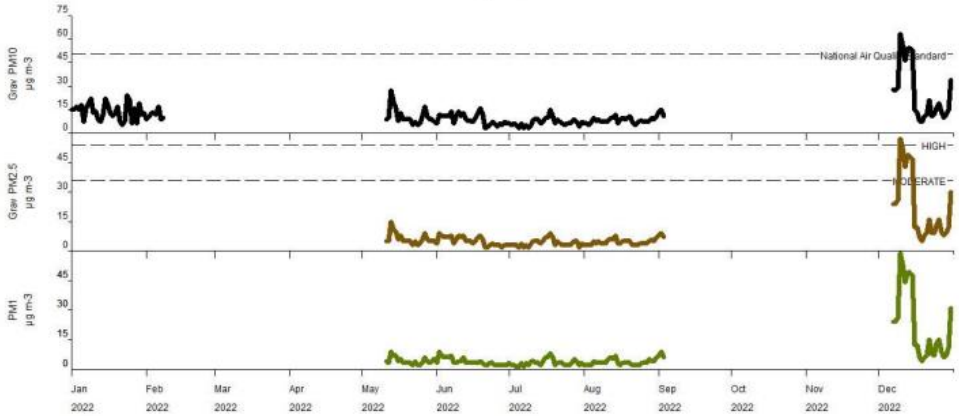


Air Quality Report
STRABANE SPRINGHILL PARK 2022

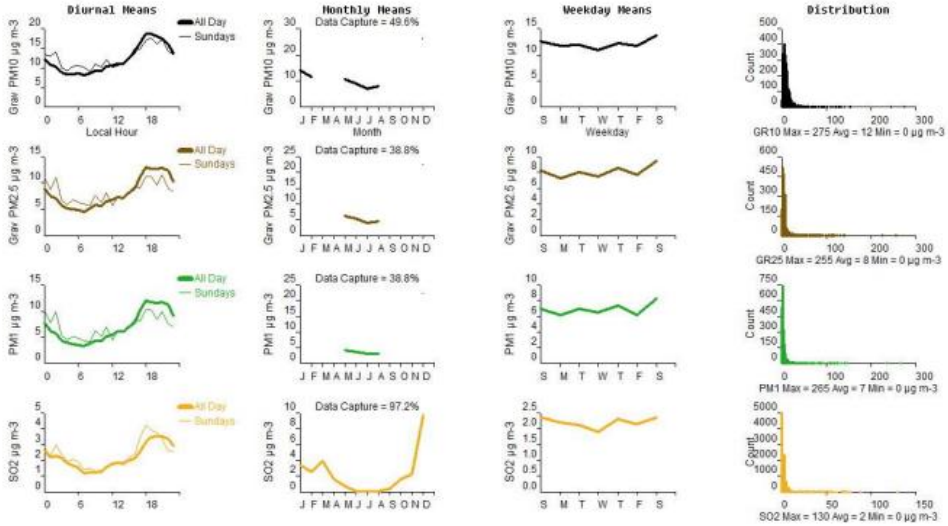
15-min Means



Daily Means



Air Quality Report
STRABANE SPRINGHILL PARK 2022



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Appendix D: Strathfoyle site

Air Quality Report

Produced by AQDM on behalf of Derry

STRATHFOYLE BAWNMORE PLACE 2022

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

Site Environment and Description

URBAN BACKGROUND: 33 Bawnmore Place, Strathfoyle

Map Photo Dashboard

Statistical Summary Report

This 2022 report contains all the statistics required for the LAQM reporting.

The full results and statistics are available from the 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

Air Quality Exceedances of the AQS Objectives

Gravimetric PM_{10} - annual data capture was 35.5 %
The annual mean was 11 µg m^{-3} which did not exceed the 40 µg m^{-3} Objective.

The maximum daily mean was 32 µg m^{-3} so there were no exceedances of the PM_{10} 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 22.2 % and 26.1 % for the monitored period
The annual mean was 4 µg m^{-3} which did not exceed the 25 µg m^{-3} Objective. Note that the $PM_{2.5}$ standard is not set in the regulations.

There should be a 15% cut in urban background exposure (annual mean) for all Local Authorities from 2010 to 2020.

Air Quality Report

STRATHFOYLE BAWNMORE PLACE 2022

Air Quality Statistics

Pollutant	Grav PM_{10}*	Grav $PM_{2.5}$~	$PM_1$$
Number Very High #	0	0	-
Number High #	0	0	-
Number Moderate #	0	0	-
Number Low #	128	80	-
Maximum 15-min mean	-	-	39 µg m^{-3}
Maximum hourly mean	52 µg m^{-3}	29 µg m^{-3}	23 µg m^{-3}
Maximum running 8-hr mean	40 µg m^{-3}	13 µg m^{-3}	10 µg m^{-3}
Maximum running 24-hr mean	34 µg m^{-3}	11 µg m^{-3}	9 µg m^{-3}
Maximum daily mean	32 µg m^{-3}	10 µg m^{-3}	9 µg m^{-3}
90.4th percentile of daily means†	19 µg m^{-3}	-	-
90th percentile of daily means†	19 µg m^{-3}	-	-
98.1st percentile of daily means†	30 µg m^{-3}	-	-
Average	11 µg m^{-3}	4 µg m^{-3}	3 µg m^{-3}
Data capture	35.5 %	22.2 %	22.2 %
Data capture from 25th February	-	*26.1 %*	*26.1 %*

Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013
† Percentile required for annual data capture < 85%
* Gravimetric PM_{10} instruments:
FIDAS instrument using 1 gravimetric factor from 25 February 2022
TEOM instrument using the VCM to 24 February 2022
~ Gravimetric $PM_{2.5}$ as measured by a FIDAS instrument using 0.94 gravimetric factor
$ PM_1 as measured by a FIDAS instrument

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}	11 µg m^{-3}	0	-	-	No
PM_{10} Particulate Matter (Gravimetric)	Daily mean > 50 µg m^{-3}	32 µg m^{-3}	0	0	35 days	No
$PM_{2.5}$ Particulate Matter (Gravimetric) *	Annual mean > 25 µg m^{-3}	4 µg m^{-3}	0	-	-	No

* Not set in regulations

Air Quality Report

STRATHFOYLE BAWNMORE PLACE 2022

Monthly Data Captures %

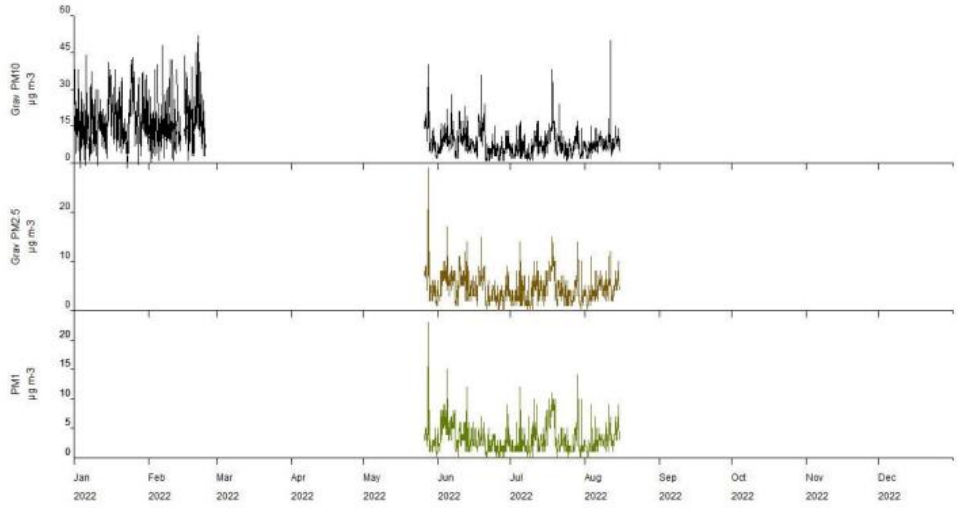
Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grav PM_{10}	95.6	67.6	0.0	0.0	18.0	100.0	100.0	46.2	0.0	0.0	0.0	0.0
Grav $PM_{2.5}$	0.0	0.0	0.0	0.0	18.0	100.0	100.0	46.2	0.0	0.0	0.0	0.0
PM_1	0.0	0.0	0.0	0.0	18.0	100.0	100.0	46.2	0.0	0.0	0.0	0.0

Monthly Means

Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grav PM_{10} µg m^{-3}	17	16	-	-	10	8	7	8	-	-	-	-
Grav $PM_{2.5}$ µg m^{-3}	-	-	-	-	5	5	4	4	-	-	-	-
PM_1 µg m^{-3}	-	-	-	-	3	3	3	3	-	-	-	-

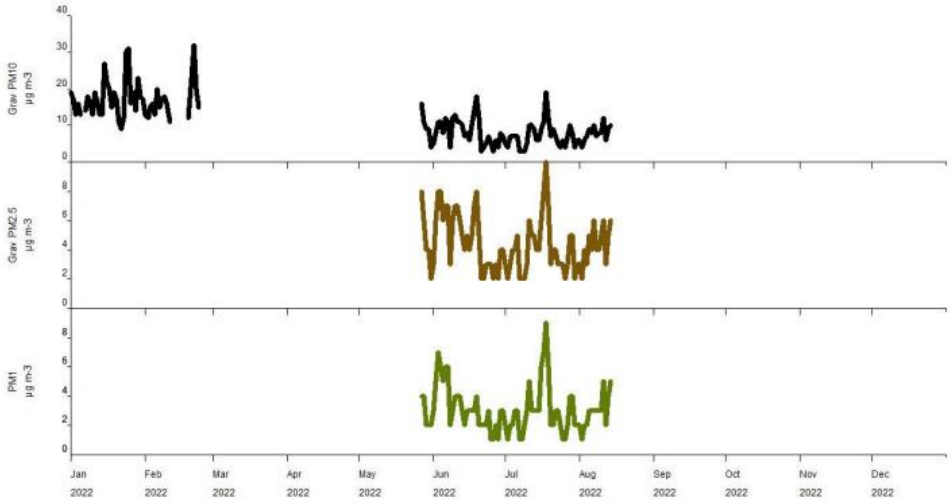
Air Quality Report
STRATHFOYLE BAWNMORE PLACE 2022

Hourly Means

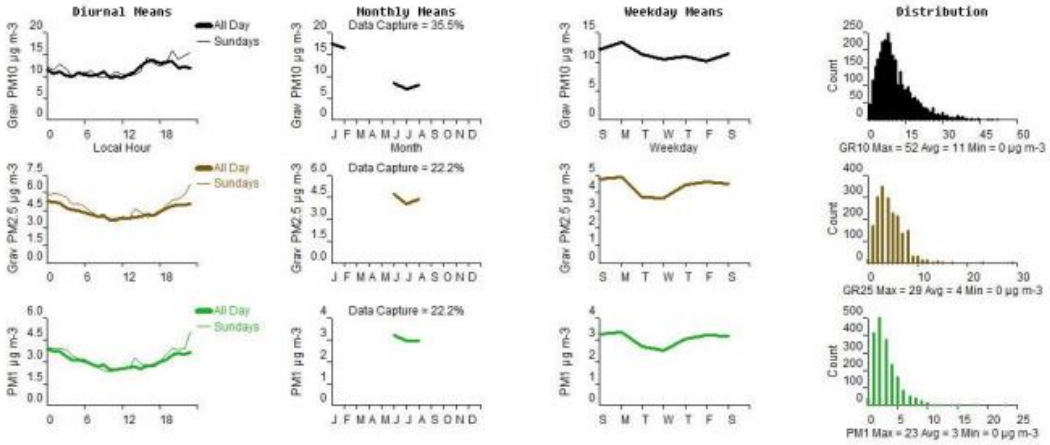


Air Quality Report
STRATHFOYLE BAWNMORE PLACE 2022

Daily Means



Air Quality Report
STRATHFOYLE BAWNMORE PLACE 2022



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http://www.UKAirQuality.net

Appendix E: Newtonstewart site

Air Quality Report

Produced by AQDM on behalf of Derry

NEWTOWNSTEWART 2022

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

Site Environment and Description

SUBURBAN: Behind Oldcastle Street and Dublin Street, Newtownstewart

Map Photo Dashboard

Statistical Summary Report

This 2022 report contains all the statistics required for the LAQM reporting.

The full results and statistics are available from the 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	3 days	0	0
$PM_{2.5}$ Particulate Matter	5 days	1	0

Gravimetric PM_{10} was Moderate on 10th 13th 15th Dec with a daily mean reaching 59 µg m^{-3}.
Gravimetric $PM_{2.5}$ was Moderate on 11th 13th 14th 15th 31st Dec with a daily mean reaching 49 µg m^{-3}.
Gravimetric $PM_{2.5}$ was High on 10th Dec with a daily mean reaching 54 µg m^{-3}.

Air Quality Exceedances of the AQS Objectives

Gravimetric PM_{10} - annual data capture was 94.3 %
The annual mean was 13 µg m^{-3} which did not exceed the 40 µg m^{-3} Objective.

The maximum daily mean was 59 µg m^{-3} so there were 3 exceedances of the PM_{10} 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 79.8 % and 98.1 % for the monitored period
The annual mean was 8 µg m^{-3} which did not exceed the 25 µg m^{-3} Objective. Note that the $PM_{2.5}$ standard is not set in the regulations.

There should be a 15% cut in urban background exposure (annual mean) for all Local Authorities from 2010 to 2020.

Air Quality Report
NEWTOWNSTEWART 2022

Air Quality Statistics

Pollutant	Grav PM_{10}*	Grav $PM_{2.5}$~	$PM_1$$
Number Very High #	0	0	-
Number High #	0	1	-
Number Moderate #	3	5	-
Number Low #	340	284	-
Maximum 15-min mean	-	-	310 µg m^{-3}
Maximum hourly mean	227 µg m^{-3}	211 µg m^{-3}	219 µg m^{-3}
Maximum running 8-hr mean	99 µg m^{-3}	92 µg m^{-3}	95 µg m^{-3}
Maximum running 24-hr mean	70 µg m^{-3}	64 µg m^{-3}	64 µg m^{-3}
Maximum daily mean	59 µg m^{-3}	54 µg m^{-3}	56 µg m^{-3}
Average	13 µg m^{-3}	8 µg m^{-3}	7 µg m^{-3}
Data capture	94.3 %	79.8 %	79.8 %
Data capture from 10th March	-	*98.1 %*	*98.1 %*

Daily Air Quality Index (DAQI) as defined by COMEAP January 2012 and revised April 2013
* Gravimetric PM_{10} instruments:
FIDAS instrument using 1 gravimetric factor from 10 March 2022
TEOM instrument using the VCM to 9 March 2022
~ Gravimetric $PM_{2.5}$ as measured by a FIDAS instrument using 0.94 gravimetric factor
$ PM_1 as measured by a FIDAS instrument

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}	13 µg m^{-3}	0	-	-	No
PM_{10} Particulate Matter (Gravimetric)	Daily mean > 50 µg m^{-3}	59 µg m^{-3}	3	3	35 days	No
$PM_{2.5}$ Particulate Matter (Gravimetric) *	Annual mean > 25 µg m^{-3}	8 µg m^{-3}	0	-	-	No

* Not set in regulations

Air Quality Report
NEWTOWNSTEWART 2022

Monthly Data Captures %

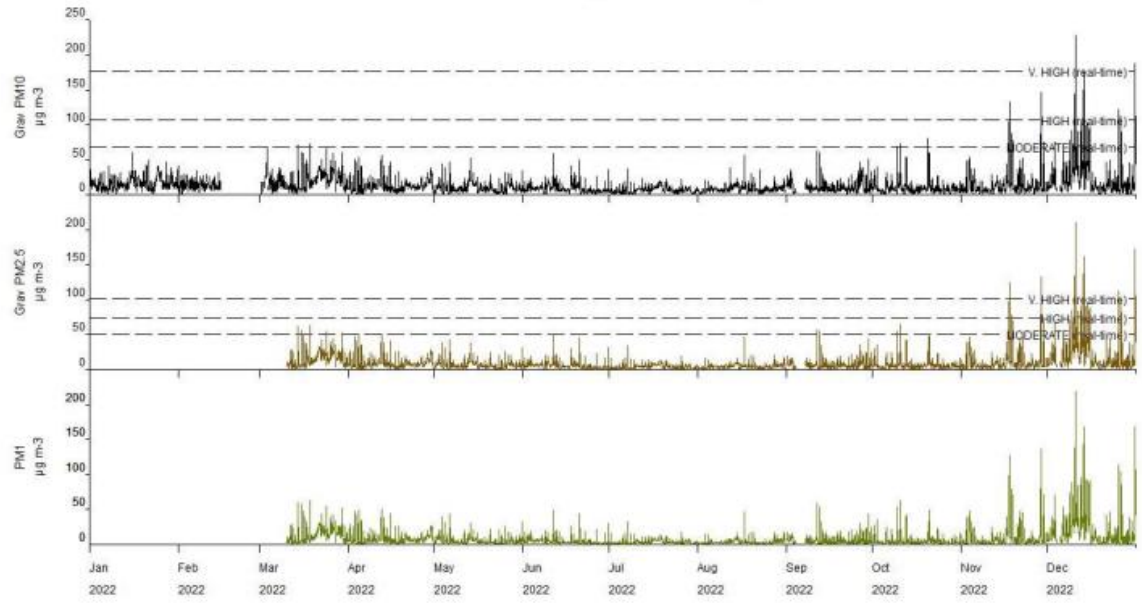
Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grav PM_{10}	99.6	50.6	94.2	99.7	99.9	99.3	100.0	99.7	89.2	100.0	100.0	96.0
Grav $PM_{2.5}$	0.0	0.0	68.5	99.7	99.9	99.3	100.0	99.7	89.2	100.0	100.0	96.0
PM_1	0.0	0.0	68.5	99.7	99.9	99.3	100.0	99.7	89.2	100.0	100.0	96.0

Monthly Means

Pollutant	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Grav PM_{10} µg m^{-3}	16	14	20	13	10	9	7	8	11	10	13	23
Grav $PM_{2.5}$ µg m^{-3}	-	-	15	9	7	6	4	5	7	6	9	20
PM_1 µg m^{-3}	-	-	14	8	5	4	3	3	5	4	8	19

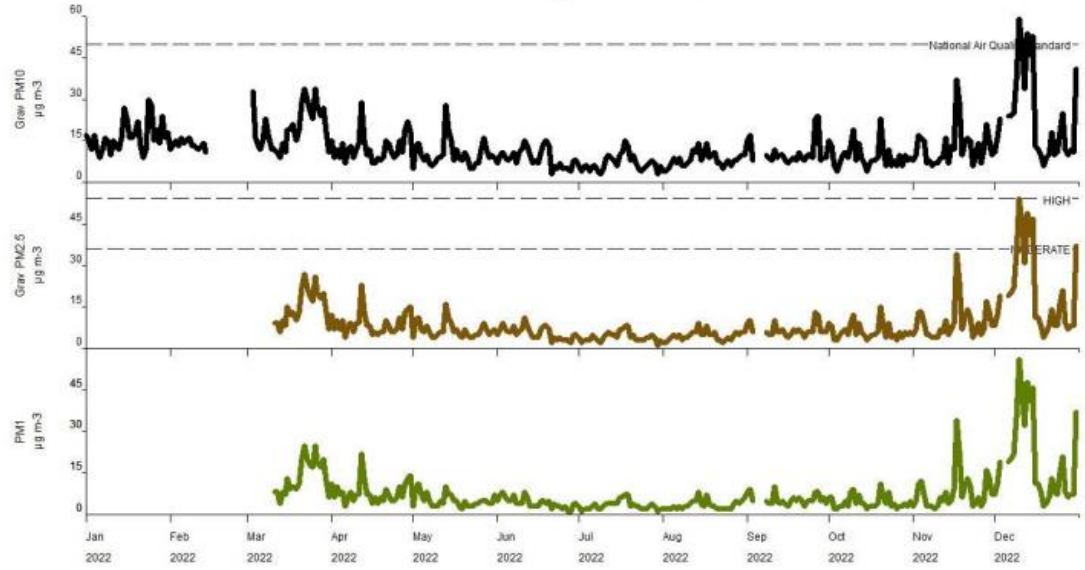
Air Quality Report
NEWTOWNSTEWART 2022

Hourly Means

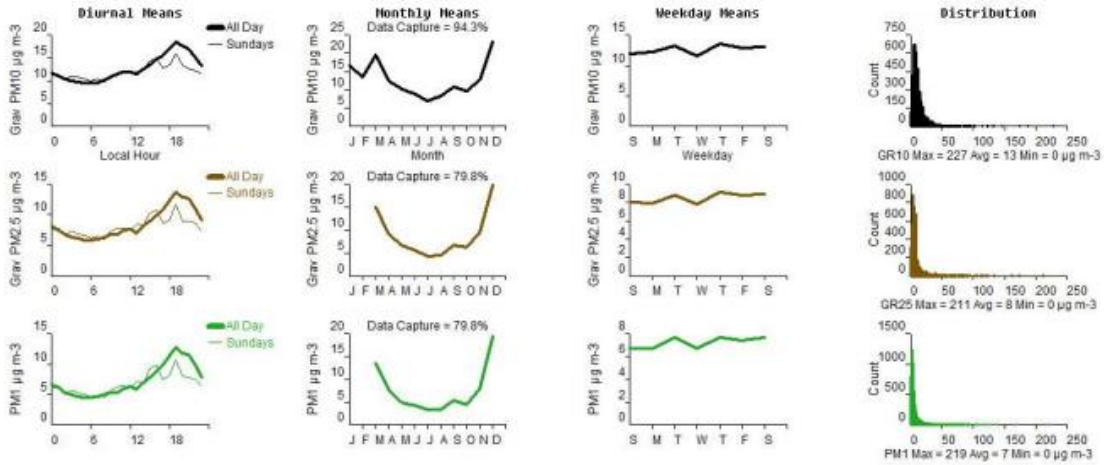


Air Quality Report
NEWTOWNSTEWART 2022

Daily Means



Air Quality Report
NEWTOWNSTEWART 2022



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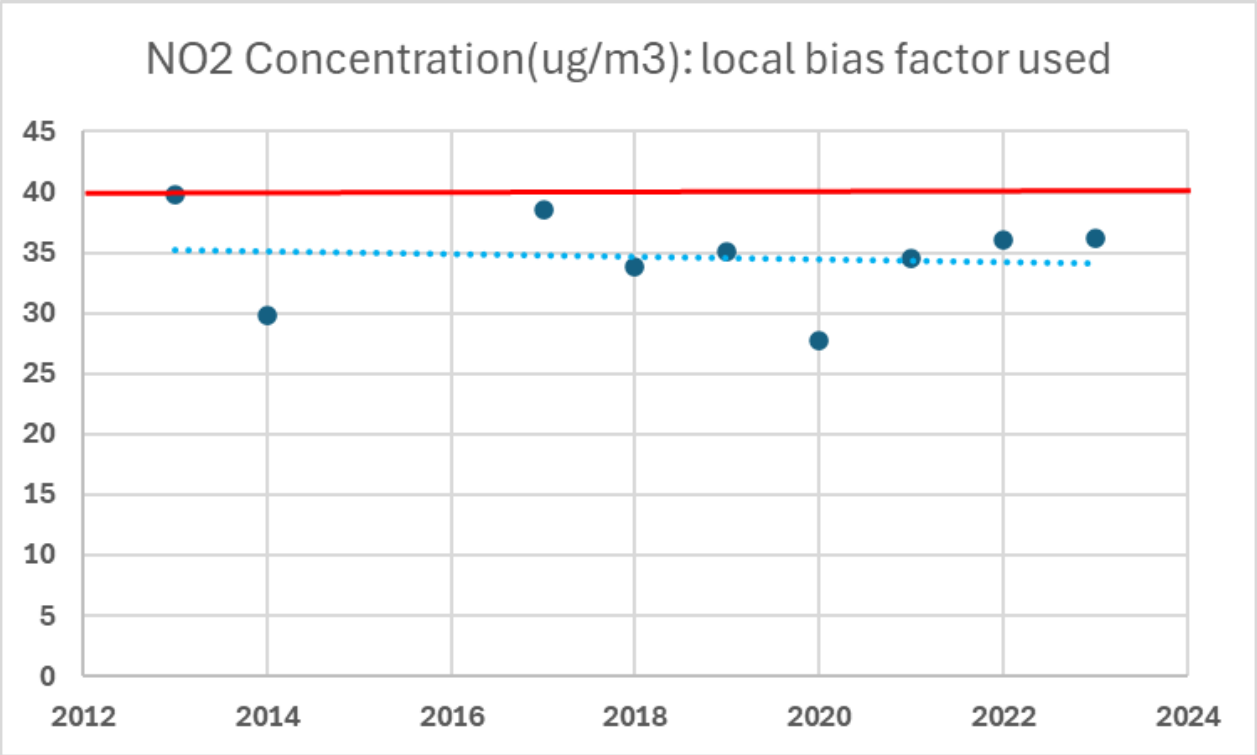
Appendix F: Long term trends in NO2 concentrations at Spencer Road



Year	NO2 Concentration(ug/m3) local bias factor used
2023	36.2
2022	36.1
2021	34.5
2020	27.7
2019	35.1
2018	33.8
2017	38.5
2016	
2015	
2014	29.8
2013	39.8