



Comhairle Ceantair
Lár Uladh
Mid Ulster
District Council

2022 Air Quality Progress Report

In fulfilment of Environment (Northern Ireland) Order 2002



Date: August 2022

Local Air Quality Management

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Executive Summary

Mid Ulster District Council undertakes non-automatic monitoring for NO₂ in a number of towns and villages across the District. These are generally located close to the centres of the towns and villages along the main North to South A29 road transport system. This road runs from the North to the South of Northern Ireland and connects the three main towns in the District of Magherafelt, Cookstown and Dungannon.

There were previously five AQMA's declared for NO₂ in the District, two of which have been revoked due to improvements in the air quality at these locations. Ongoing monitoring has shown continued exceedances of the air quality objective for NO₂ at two of the AQMA's.

The third AQMA in Magherafelt Town Centre has now shown no exceedances at any of the six monitoring sites for four straight years with all results being below 36µg/m³. It was hoped that Mid Ulster would be in a position to revoke the Magherafelt AQMA if the air quality monitoring showed results within air quality objectives for the third consecutive year. While the results continue to show compliance at this location, the impacts of Covid-19 mean that a further year's results will need to be considered.

The improvement in the air quality at Magherafelt is most likely linked to the construction of the A31 Magherafelt by-pass. The by-pass consists of a 5.9km single carriageway to the east of Magherafelt town, and now diverts a lot of the through traffic that previously passed through the town centre around the outskirts of the town.

Diffusion Tube monitoring at locations within the AQMA's in Dungannon and Moy has demonstrated that there are 2 sites where NO₂ levels continue to

exceed the objective limit of $40\mu\text{g}/\text{m}^3$, namely Newell Road, Dungannon and Charlemont Street in Moy.

Diffusion tube monitoring at eight locations along the main thoroughfare in Cookstown and Moneymore did not demonstrate any exceedances of the air quality objective limit. Routine monitoring of these locations will continue to help monitor trends in the air quality at these locations.

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1 Introduction

1.1 Description of Local Authority Area

The Mid Ulster District straddles two counties running from Swatragh in the north to Fivemiletown in the south and from the Sperrin Mountains in the west to Lough Neagh in the east. It comprises of an area of 1955km² with a varied landscape and a diverse mix of rural and urban communities. It is characterised by its rural nature, given the large proportion of households which are located in the small towns, villages and countryside.

Demographics

Mid Ulster is the 6th most populous District in Northern Ireland with a population of 150,293. This is an increase of 8.4% since the 2011 census (Census 2021). The population is an ageing one with a greater proportion of people aged over 64 than in previous years. Another marked demographic feature of our District is the relatively high migrant population. 9% of the population was born outside the UK and ROI, as opposed to a Northern Ireland average figure of 7%

This trend can partly be explained by the success of the agri-food industry in attracting migrant labour, particularly in and around the Dungannon area. The average household size is 2.76 people per household. This is the highest of all the 11 Local Government Districts. Mid Ulster has 15% of its population living in a household with more than 5 people compared to a Northern Ireland average of 9%.

Mid Ulster is also a very rural District with 72% of the population living in a rural area, as defined by the inter-departmental rural urban definition group. This definition of rural means that everywhere in the District is classed as rural apart from Cookstown, Dungannon, Magherafelt and Coalisland. Additionally, 40% of households are located with the countryside.

Economic Trend

Unemployment levels in Mid Ulster are in line with the Northern Ireland average of just under 5% (Census 2011). The District is significantly more dependent on the construction and manufacturing sectors than the rest of Northern Ireland. For instance, 27.5% of all jobs in Mid Ulster are in manufacturing and 8% are in construction, compared to regional figures of 11% and 4.2% respectively (Census for Employment, NISRA, July 2014). The high prevalence of manufacturing is in part linked to a thriving minerals industry in the District, particularly the extraction of sand and gravel. As a spin off to this extraction activity, there is a very strong manufacturing sector specialising in crushing and screening equipment. It has been estimated that Northern Ireland provides 40% of the world's mobile screening and crushing equipment and undoubtedly, a large proportion of this is supplied by companies within Mid Ulster.

Infrastructure

In terms of infrastructure, the A29 which runs throughout Northern Ireland from north to south, is the spine of the District and the main transport corridor. The A29 also connects the 3 main towns in the District, or what may be referred to as the three main "hubs" i.e. Cookstown, Dungannon and Magherafelt. Of these 3 towns, Dungannon and Cookstown are classed as "medium towns" by NISRA due to having a population of more than 10,000 whilst Magherafelt is considered a "small town."

The A4 which is an important east-west transport corridor also runs through the southern part of the District as does the A5 which is the main link between Dublin/ROI and the northwest of Northern Ireland. The A6 runs through the northern portion of the District, and this is a vital corridor which connects the two main cities in Northern Ireland. Travel times from some parts of Mid Ulster to an A&E hospital is over 50 minutes, making the need for improved roads and infrastructure a significant priority.

Environment

Mid Ulster is home to some of the most picturesque and high value landscapes in Northern Ireland. A significant portion of the northern half of the District is included within the Sperrin Area of Outstanding Natural Beauty, including the summit of Slieve Gallion which is a prominent feature in the Mid Ulster landscape. The Clogher Valley

is also an area of high scenic importance and in addition to important landscapes, Mid Ulster is also home to numerous important habitats including Lough Neagh, Lough Beg and Slieve Beagh, all of which are internationally important habitats.

1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in the Environment (Northern Ireland) Order 2002, the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether the air quality objectives are likely to be achieved. Where exceedances are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

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

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

1.3 Air Quality Objectives

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

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

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m ³	Running annual mean	31.12.2003
	3.25 µg/m ³	Running annual mean	31.12.2010
1,3-butadiene	2.25 µg/m ³	Running annual mean	31.12.2003
Carbon monoxide	10 mg/m ³	Running 8-hour mean	31.12.2003
Lead	0.50 µg/m ³	Annual mean	31.12.2004
	0.25 µg/m ³	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m ³	Annual mean	31.12.2005
Particulate matter (PM ₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m ³	Annual mean	31.12.2004
Sulphur dioxide	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

The Updating and Screening Assessment of 2015 was the first Report submitted on behalf of the newly established Mid Ulster District Council. Previous reports submitted by both Dungannon and South Tyrone borough Council, and by Magherafelt District Council had identified a number of problematic areas in relation to areas where the air quality objective of $40\mu\text{g}/\text{m}^3$ for Nitrogen dioxide (NO_2) was exceeded. Routine air quality monitoring for Nitrogen Dioxide using diffusion tubes had identified the exceedances of this objective. As a result of this monitoring a number of Air Quality Management (AQMA's) were established in various areas throughout the District. There has been a total of five AQMA's declared within the Mid Ulster area since routine monitoring began. Four of these were located in the former Dungannon and South Tyrone Borough and one in the former Magherafelt District. However, following improvements in the air quality in two of these AQMA's for three successive years during which time the air quality objective was not exceeded the AQMA for these areas were revoked.

The AQMA's were revoked for the following areas:

1. Church Street, Dungannon
2. Stewartstown Road, Coalisland.

There are still three remaining AQMA's in the District located at the following locations:

1. Newell Road, Dungannon.
2. Charlemont Street, Moy.
3. Church Street & King Street, Magherafelt.

It is hoped to revoke the Magherafelt AQMA soon.

Figure 1.1 –Map of AQMA Boundary at Church Street/ King Street Magherafelt

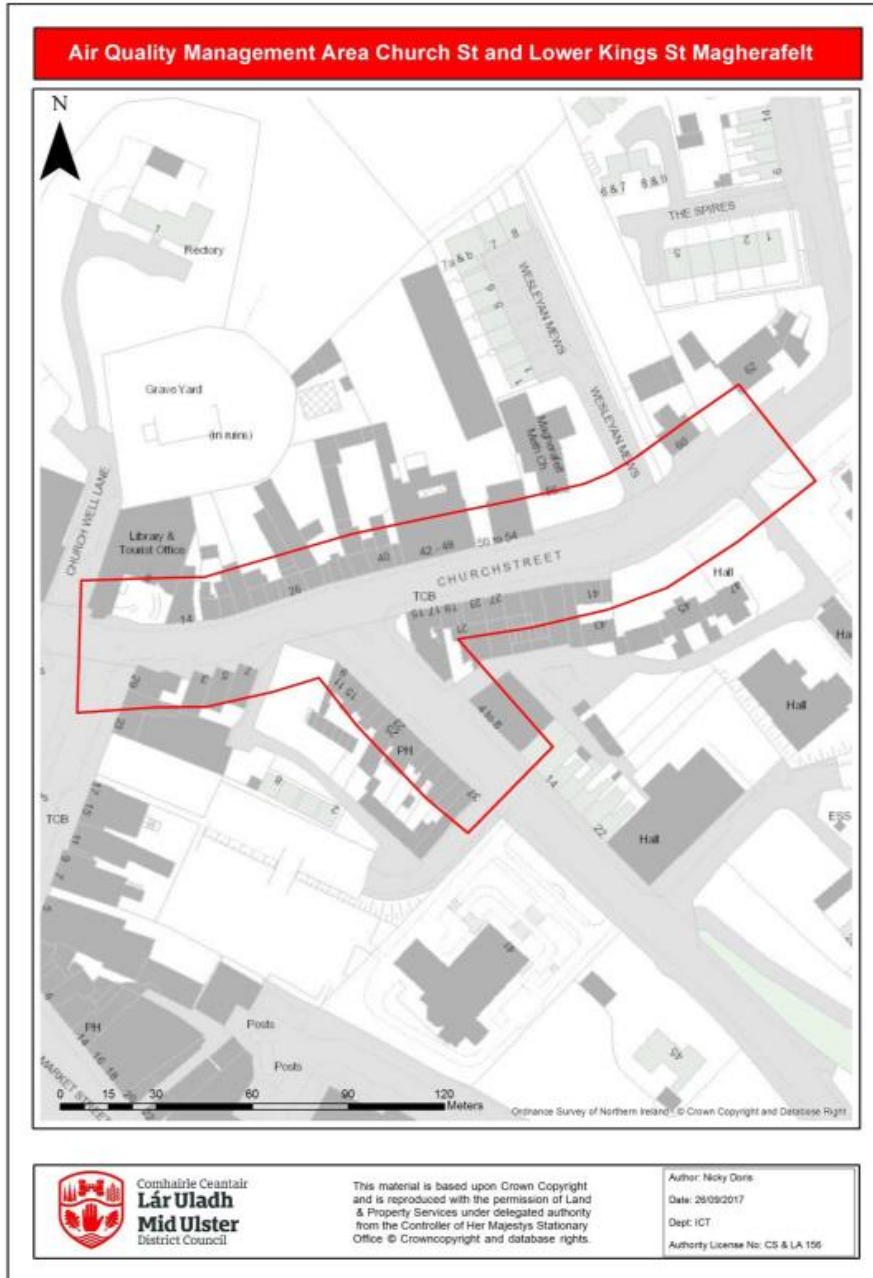


Figure 1.2 – Map of AQMA Boundary Newell Road, Dungannon

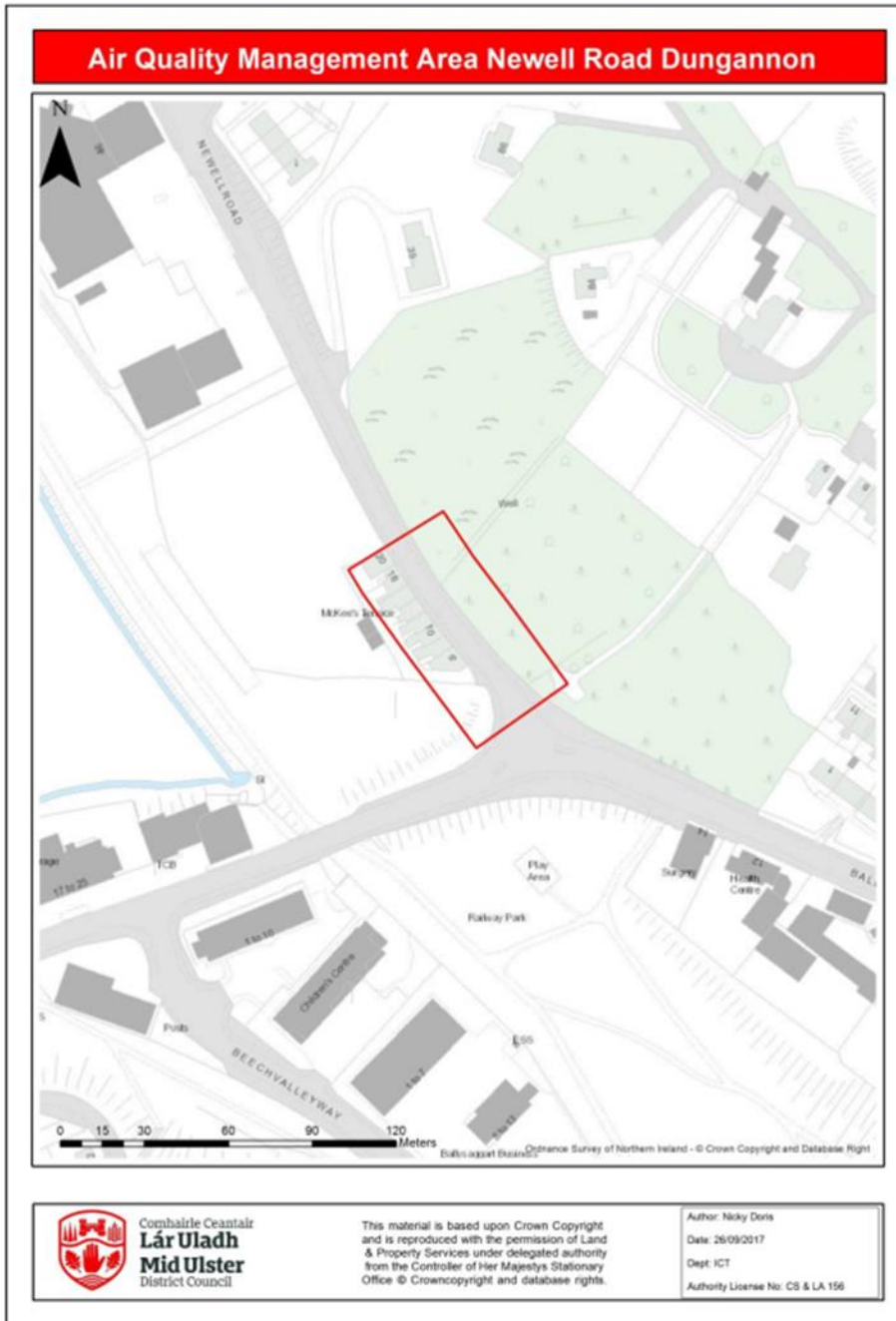
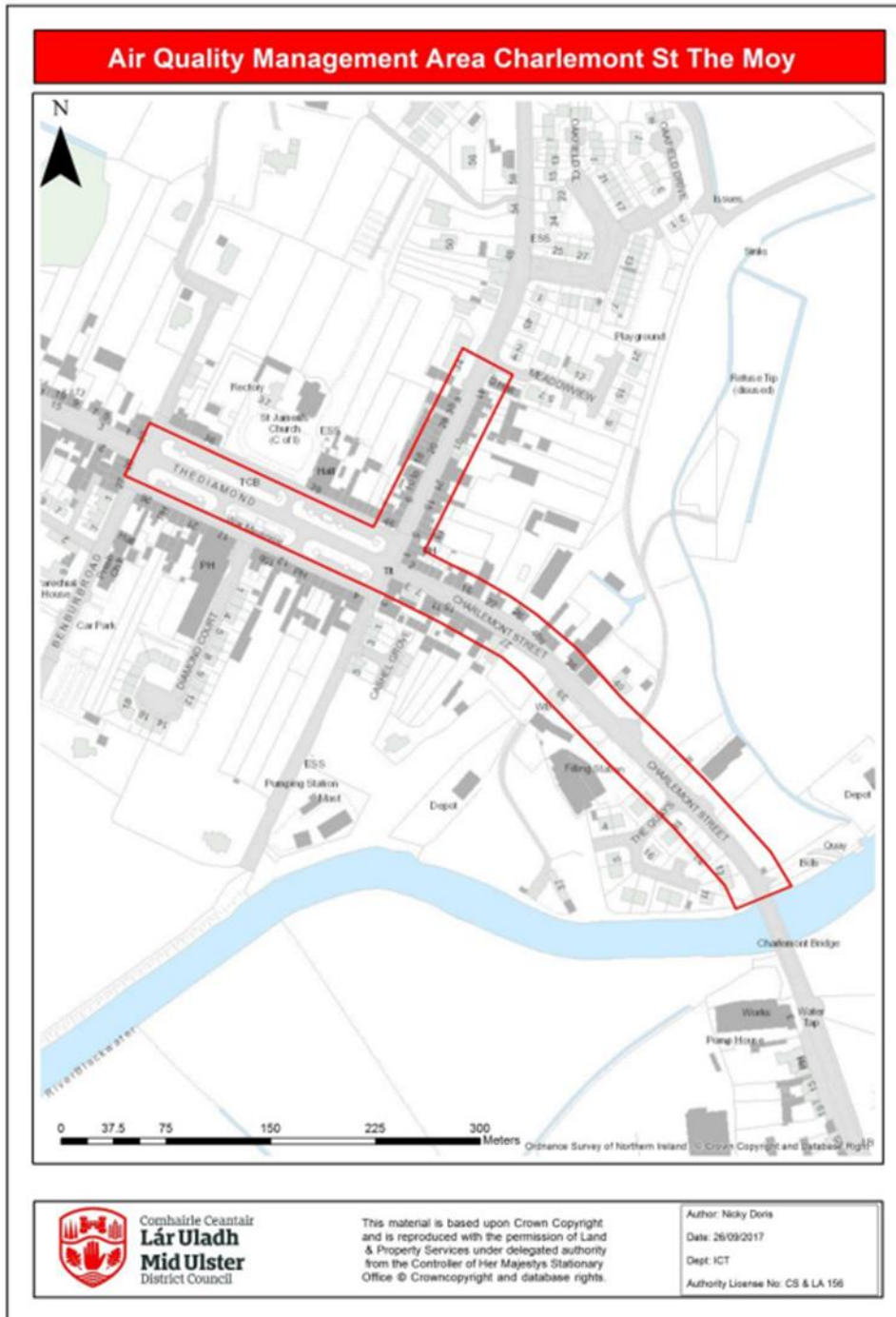


Figure 1.3 – Map of AQMA Boundary Charlemont Street, Moy



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There are no automatic monitoring sites in the Mid Ulster Council area. All monitoring is undertaken by diffusion tube at present.

2.1.2 Non-Automatic Monitoring Sites

Mid Ulster District Council monitors 22 separate locations for Nitrogen dioxide NO₂. This is done using 43 tubes which are changed on a monthly basis. The tubes located in the Air Quality Management Areas are in triplicate while single tubes are used to monitor other locations.

In 2021 a new monitoring location was introduced in a residential area close to the Granville Business Park. This was introduced as a response to local residents' issues among which were concerns regarding through traffic in the area.

The Urban Background site in Magherafelt was also changed from Wesleyan Mews to Marriot House due some problems regarding the removal of tubes in 2020. There were some minor issues throughout the year regarding the replacement of lampposts with new LED ones which led to interruptions at several of the sites with the tubes being removed at the time the lampposts were replaced, and then having to source new tube mountings etc. when this was noticed.

The Air quality monitoring takes place along the roads that are more heavily congested throughout the District. This generally occurs along the main North-South transport route identified in the Local Development Plan 2030 – Draft Plan Strategy. The roads in question link the three main towns of Magherafelt, Cookstown and Dungannon. Two of the smaller villages that this traffic passes through are also monitoring sites, namely Moneymore and Moy. The chosen sites tend to be located close to residential dwellings at points where the traffic is slowing down or idling at busy junctions or traffic lights.

Laboratories Used

The laboratory that supplied and analysed the tubes was also changed mid-year as the contract for this service was renewed. The laboratory used for the first 8 months of the year was Socotec Laboratories Didcot. The tubes were prepared by spiking acetone: triethanolamine (T.E.A.) (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow autoanalyser with ultraviolet detection.

The laboratory used for the last 4 months of the year was Somerset Scientific Services. These are the laboratories The methodology used was 20% T.E.A. in water.

Laboratory Quality Assurance

AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Executive (HSE). AIR PT is a new scheme, started in April 2014, which combined two long running PT schemes: LGC Standards STACKS PT scheme and HSE WASP PT scheme.

Defra and the Devolved Administrations advise that diffusion tubes used for Local Air Quality Management should be obtained from laboratories that have demonstrated satisfactory performance in the AIR PT scheme. Laboratory performance in AIR PT is also assessed, by the National Physical Laboratory (NPL), alongside laboratory data from the monthly NPL Field Intercomparison Exercise carried out at Marylebone Road, central London. The information is used to help the laboratories to identify if they have problems and may assist devising measures to improve their performance and forms part of work for Defra and the Devolved Administrations under the Local Air Quality Management Services Contract.

For the Air PT rounds of testing from May/ Jun 2020 to May/ June 2022 (AR037- AR050) both laboratories scored 100% on six out of seven rounds. For the remaining round Socotec scored 87.5% (AR045), and Somerset Scientific Services scored 75% (AR049). From their participation in this scheme and the results obtained we can safely assume that the laboratories show a satisfactory performance level.

Figure 2.2 – Map(s) of Non-Automatic Monitoring Sites

Fig.2.2.1 Map Overview of Magherafelt Town Centre

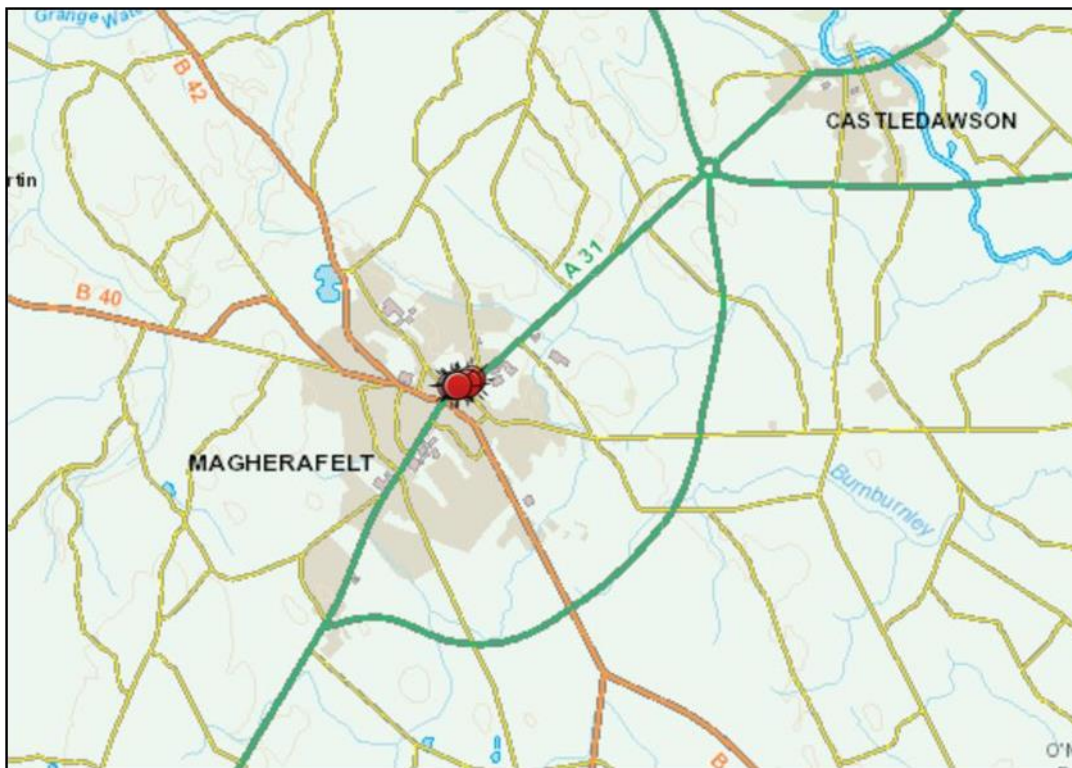


Figure 2.2.1 shows that the monitoring tubes are clustered in the town centre along the previous main thoroughfare of the A31 (route shown in green). The new Magherafelt by-pass is also shown in green, and it can be seen that this loops around Magherafelt to the South and is now the main route for all through traffic.

Fig. 2.2.2 Map Showing Location of Diffusion Tubes in Magherafelt Town Centre along Church St. and King St



The air quality monitoring sites for Magherafelt are shown above. It can be seen that the monitoring sites are located in the Church Street/ King Street areas in the centre of the town. These sites correspond with the AQMA area for the town outlined in Figure 1.1. Routine monitoring of other areas in the Magherafelt town centre in previous years indicated compliance with the air quality objective. Consequently, the focus of the monitoring is now within the AQMA. The new urban background location can be seen at Marriott House to the top right-hand side of the map.

Fig. 2.2.3- Overview of Air Quality Monitoring Sites in Moneymore



The village of Moneymore receives a lot of through traffic from Cookstown to Magherafelt, and from Cookstown to the north coast. The air quality monitoring sites in Moneymore are located close to residential properties on the main roads into and out of the village, and in the cases of the Stonard Street and Conyngham Street locations along inclines where traffic is likely to be moving slowly.

The sites shown are from top to bottom Smith Street, Lawford Street, Conyngham Street and Stonard Street.

Fig. 2.2.4 Overview of Air Quality Monitoring Sites in Cookstown



Fig. 2.2.4 above shows the monitoring site locations along Cookstown's main thoroughfare. As can be seen the sites are located close to busy road junctions and traffic lights where high volumes of traffic will frequently be idling.

Fig. 2.2.5. Monitoring Locations at William Street and James Street



Figure 2.2.5 above shows the town centre monitoring locations along the town centre area of Cookstown in the main retail area of the town.

Fig. 2.2.6. Monitoring Locations at Church Street and Killymoon Street



Figure 2.2.5 above shows the town centre monitoring locations at the busy Church Street junction (top) and at the traffic lights beside the Sweep Road Asda/ McDonald's development.

Fig. 2.2.7 Overview of Monitoring Locations in Dungannon



Fig. 2.2.7. shows the three monitoring sites in Dungannon showing from top to bottom sites at Ardgannon, Newell Road, and Dunclare Way.

Fig. 2.2.8. Position of Monitoring Site at Newell Road, Dungannon



Fig.2.2.8. shows the location of the monitoring site at the AQMA on Newell Road. The site is framed by terraced houses on one side and a steep bank on the other. The route is along the main thoroughfare through the town from North to South. The proximity of the receptors to the main road can clearly be seen in the photograph.

Fig. 2.2.9. Overview of Monitoring Locations in Moy

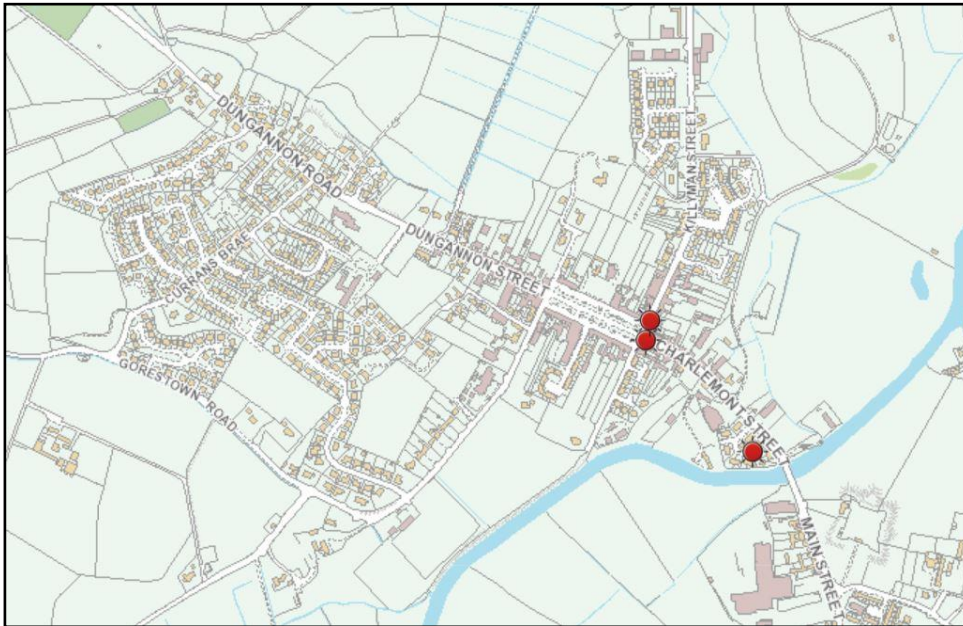


Fig. 2.2.10. shows the three monitoring sites in the village of Moy along the main Armagh to Dungannon Road.



The air quality monitoring sites for Moy are shown above.

The Charlemont Street site is shown at the junction of Charlemont Street running into the Square. The Killyman Street site (top site in Map) is located at a busy traffic light junction feeding into the main Square as well. These two sites are located within the AQMA. The urban background site located in the Quays residential area is also shown.

Table 2.2 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
M2	22 Church St, Magherafelt	Roadside	289771	390728	2.5	NO ₂	Y	N	Y	<5m	Y
M9	12 Church St, Magherafelt	Roadside	289745	390722	2.5	NO ₂	Y	N	Y	<5m	Y
M10	30 Church St, Magherafelt	Roadside	289794	390735	2.5	NO ₂	Y	N	Y	<5m	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
M11	27 King St, Magherafelt	Roadside	289798	390706	2.5	NO ₂	Y	N	Y	<5m	Y
M13	47 Church St, Magherafelt	Roadside	289903	390778	2.5	NO ₂	Y	N	Y	<5m	Y
M23	47 Church St, Magherafelt	Roadside	289860	390734	2.5	NO ₂	Y	N	Y	<5m	Y
M24	Marriott House, Magherafelt	Urban Background	290012	390944	2.5	NO ₂	N	N	Y(<10m)	>50m	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
D1	Ardgannon, Dungannon	Urban Background	279576	363173	2.5	NO ₂	N	N	Y(<10m)	>50m	Y
D2	Newell Rd, Dungannon	Roadside	279139	362445	2.5	NO ₂	Y	N	Y(<1m)	2m	Y
D3	Charlemont St, Moy	Roadside	284969	356128	2.5	NO ₂	Y	N	Y(<1m)	2m	Y
D4	Killyman St, Moy	Roadside	284984	356161	2.5	NO ₂	Y	N	Y(<10m)	2m	Y
D5	The Quays, Moy	Suburban	285171	355922	2.5	NO ₂	N	N	Y(<1m)	3m	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
D6	Dunclare Way, Dungannon	Urban Background	279568	361548	2.5	NO ₂	N	N	Y(<1m)	2.5m	Y
D7	Eskragh Road, Dungannon	Roadside	277660	361492	2.5	NO ₂	N	N	Y(<10m)	1m	Y
C1	Lawford St, Moneymore	Kerbside	285770	383510	2.5	NO ₂	N	N	Y(<1m)	2m	Y
C8	Smith St, Moneymore	Roadside	285813	383458	2.5	NO ₂	N	N	Y(<1m)	3m	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
C10	Conyngnam St Moneymore	Kerbside	285759	383333	2.5	NO ₂	N	N	Y(<1m)	3m	Y
C11	Stonard St Moneymore	Roadside	285874	383341	2.5	NO ₂	N	N	Y(<1m)	2m	Y
C2	William St Cookstown	Kerbside	281071	378445	2.5	NO ₂	N	N	Y(<2m)	1m	Y
C5	Killymoon St, Cookstown	Kerbside	281053	378197	2.5	NO ₂	N	N	Y(<6m)	1m	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
C4	Church St, Cookstown	Kerbside	281121	377537	2.5	NO ₂	N	N	Y(<1m)	2m	Y
C3	James St, Cookstown	Roadside	281225	376939	2.5	NO ₂	N	N	Y(<4m)	2m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO₂)

Throughout the period of this monitoring there was little interruption to the air quality monitoring schedule except for continuing staff shortages due to illness and staff covering other posts. However, some sites were affected by the installation of new LED lighting and the loss of the diffusion tubes when some of the lampposts mounting the diffusion tubes were replaced.

Automatic Monitoring Data

There is no automatic monitoring data for the Mid Ulster District Council area.

Diffusion Tube Monitoring Data

The results for the diffusion tube monitoring are shown in Table 2.5 below. The results have been bias adjusted in accordance with the National Diffusion Tube Bias Adjustment Factor Spreadsheet (Version Number 06/22).

Fig 2.210 Showing National Bias Adjustment Factor for Socotec Didcot.

National Diffusion Tube Bias Adjustment Factor Spreadsheet					Spreadsheet Version Number: 06/22					
Follow the steps below in the correct order to show the results of relevant co-location studies								This spreadsheet will be updated at the end of September 2022		
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods								LAQM Helpdesk Website		
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet										
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.										
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.					Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.					
Step 1:		Step 2:		Step 3:		Step 4:				
Select the Laboratory that Analyses Your Tubes from the Drop-Down List		Select a Preparation Method from the Drop-Down List		Select a Year from the Drop-Down List		Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ⁷ shown in blue at the foot of the final column.				
If a laboratory is not shown, we have no data for this laboratory		If a preparation method is not shown, we have no data for this method at this laboratory		If a year is not shown, we have no data ²		If you have your own co-location study then see footnote ⁴ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMhelpdesk@bureauveritas.com or 0800 0327953				
Analysed By ¹	Method ³	Year ²	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ⁵	Bias Adjustment Factor (A) (Cm/Dm)
SOCOTEC Didcot	50% TEA in acetone	2021		Overall Factor ⁷ (25 studies)				Use		0.78

Fig 2.211 Showing National Bias Adjustment Factor for Somerset Scientific Services

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 06/22				
Follow the steps below in the correct order to show the results of relevant co-location studies						This spreadsheet will be updated at the end of September 2022				
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods						Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet				
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.						LAQM Helpdesk Website				
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.						Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.				
Step 1:		Step 2:	Step 3:	Step 4:						
Select the Laboratory that Analyses Your Tubes from the Drop-Down List		Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ³ shown in blue at the foot of the final column.						
If a laboratory is not shown, we have no data for this laboratory.		If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data.	If you have your own co-location study then see footnote ¹ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953						
Analysed By ¹	Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ²	Bias Adjustment Factor (A) (Cm/Dm)
Somerset County Council	20% TEA in water	2021	UB	Bristol City Council	11	24	20	18.8%	G	0.84
Somerset County Council	20% TEA in water	2021	R	Bristol City Council	12	67	50	33.6%	G	0.75
Somerset County Council	20% TEA in water	2021	R	Bristol City Council	11	27	30	-9.7%	G	1.11
Somerset County Council	20% TEA in water	2021	R	Bristol City Council	12	33	31	5.9%	G	0.94
Somerset County Council	20% TEA in water	2021	UB	Bristol City Council	12	19	17	9.4%	G	0.91
Somerset County Council	20% TEA in water	2021	R	Bristol City Council	11	36	32	12.9%	G	0.89
Somerset County Council	20% TEA in water	2021	KS	Bristol City Council	12	34	24	39.5%	G	0.72
Somerset County Council	20% TEA in water	2021	R	Wiltshire Council	12	28	27	4.5%	G	0.96
Somerset County Council	20% TEA in water	2021	R	Wiltshire Council	12	32	27	18.2%	G	0.85
Overall Factor ³ (11 studies)								Use	0.86	

As can be seen from the above figures the Bias Adjustment chosen for Socotec Didcot was 0.78 and the Bias Adjustment chosen for Somerset Scientific Services was 0.86.

Given that the diffusion tube supplier was changed during the calendar year, the process of bias adjustment is more complex than described than normal. As such, a single bias adjustment factor, either locally or nationally derived, is no longer applicable.

Using Box 7.14 of LAQM-TG16- April we had to apply the two separate bias factors across the relevant periods of exposure for each laboratory. A weighted average relative to the two exposure periods was calculated to determine the final annual mean NO2 concentration.

Example

As an example, Site D1 Ardgannon had 8 months (Jan-Aug) where the analysis was conducted by Socotec, and 4 months where the analysis was conducted by Somerset Scientific (Sept- Dec).

Therefore:

$$\text{Annual mean NO}_2 \text{ concentration} = (8\text{-month period average} * 8\text{-month bias factor} * 8/12) + (4\text{-month period average} * 4\text{-month bias factor} * 4/12)$$

The average of the first 8 months (12.44 $\mu\text{g}/\text{m}^3$)

Bias adjustment first 8 months (0.78)

The average of the last four months (13.74 $\mu\text{g}/\text{m}^3$)

Bias adjustment of last 4 months (0.86)

Annual Mean NO₂ concentration= (12.44 $\mu\text{g}/\text{m}^3$ * 0.78 * 8/12) + (13.74 $\mu\text{g}/\text{m}^3$ * 0.86 * 4/12)

Therefore, the bias adjusted figure for this site is **10.4 $\mu\text{g}/\text{m}^3$** .

This method was repeated for all sites with the 12-month figure amended according to how many months data were available e.g., if 11 months available figures were divided by 11 rather than 12.

Table 2.5 – Results of NO₂ Diffusion Tubes 2021

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2021 (Number of Months)	2021 Annual Mean Concentration ($\mu\text{g}/\text{m}^3$) – Bias Adjustment factor = 0.78 & 0.86 ^b
M2	22 Church St, Magherafelt	Roadside	Y	Triplicate	11	31.7
M9	12 Church St, Magherafelt	Roadside	Y	Triplicate	11	25.9
M10	30 Church St, Magherafelt	Roadside	Y	Triplicate	9	35.2
M11	27 King St, Magherafelt	Roadside	Y	Triplicate	7	17.3a
M13	47 Church St, Magherafelt	Roadside	Y	Triplicate	8	18.9a
M23	47 Church St, Magherafelt	Roadside	Y	Triplicate	10	25.5

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2021 (Number of Months)	2021 Annual Mean Concentration ($\mu\text{g}/\text{m}^3$) – Bias Adjustment factor = 0.78 & 0.86 ^b
M24	Marriott House, Magherafelt	Urban Background	N	Triplicate	10	8.6
D1	Ardgannon, Dungannon	Urban Background	N	Single	12	10.4
D2	Newell Rd, Dungannon	Roadside	Y	Triplicate	12	45.1
D3	Charlemont St, Moy	Roadside	Y	Triplicate	12	47.2
D4	Killyman St, Moy	Roadside	Y	Triplicate	12	21.7
D5	The Quays, Moy	Suburban	N	Single	12	7.6
D6	Dunclare Way, Dungannon	Urban Background	N	Single	12	6.8

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2021 (Number of Months)	2021 Annual Mean Concentration ($\mu\text{g}/\text{m}^3$) – Bias Adjustment factor = 0.78 & 0.86 ^b
D7	Eskragh Road, Dungannon	Roadside	N	Single	3	8.8a
C1	Lawford St, Moneymore	Kerbside	N	Single	11	29.3
C8	Smith St, Moneymore	Roadside	N	Single	10	20.5
C10	Conyngnam St Moneymore	Kerbside	N	Single	11	11.4
C11	Stonard St Moneymore	Roadside	N	Single	10	24.2
C2	William St Cookstown	Kerbside	N	Single	11	21.9

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2021 (Number of Months)	2021 Annual Mean Concentration ($\mu\text{g}/\text{m}^3$) – Bias Adjustment factor = 0.78 & 0.86 ^b
C5	Killymoon St, Cookstown	Kerbside	N	Single	11	18.8
C4	Church St, Cookstown	Kerbside	N	Single	10	19.9
C3	James St, Cookstown	Roadside	N	Single	10	24.9

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

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

^a Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG16, if full calendar year data capture is less than 75%

^b If an exceedance is measured at a monitoring site not representative of public exposure, NO₂ concentration at the nearest relevant exposure should be estimated based on the [NO₂ fall-off with distance calculator](#), and results should be discussed in a specific section.

The procedure is also explained in paragraphs 7.77 to 7.79 of LAQM.TG16.

2021 Results

From Table 2.5 it can be seen that in general air quality at the monitored sites across the District remains good and well within the $40\mu\text{g}/\text{m}^3$ air quality objective. Within the three AQMA's the one in Magherafelt (6 sites) has now gone 4 years since a site returned an exceedance of the objective. This AQMA would have been revoked last year but for the fact that the results were obtained when the traffic levels had drastically reduced due to the pandemic. Mid Ulster Council will likely move to revoke this AQMA in the near future. It is likely that the Magherafelt By-pass as expected has contribute greatly to the reduction in levels within the town centre area by reducing the levels of through traffic and associated congestion.

The AQMA's in Dungannon and Moy continue to show exceedances of the objective even in the Covid year of 2020. While there has been a steady decline in levels since 2016 the AQMA's are unlikely to be revoked in the near future.

Table 2.6 – Results of NO₂ Diffusion Tubes (2017 to 2021)

Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m ³) – Adjusted for Bias ^a					
			2016 (Bias Adjustment Factor 0.92)	2017 (Bias Adjustment Factor = 0.89)	2018 (Bias Adjustment Factor = 0.76)	2019 (Bias Adjustment Factor = 0.77)	2020 (Bias Adjustment Factor = 0.77)	2021 (Bias Adjustment Factor = 0.78 & 0.86)
M2	Roadside	Y	47	37	35	35	28	32
M9	Roadside	Y	46	35	30	31	25	26
M10	Roadside	Y	52	41	35	27	31	35
M11	Roadside	Y	33	28	24	22	18	17a
M13	Roadside	Y	28	25	23	19	15	19a
M23	Roadside	Y	0	0	33	29	21	26
M24	Urban Background	N	0	0	0	10	8	9

Site ID	Site Type	Within AQMA?	Annual Mean Concentration ($\mu\text{g}/\text{m}^3$) – Adjusted for Bias ^a					
			2016 (Bias Adjustment Factor 0.92)	2017 (Bias Adjustment Factor = 0.89)	2018 (Bias Adjustment Factor = 0.76)	2019 (Bias Adjustment Factor = 0.77)	2020 (Bias Adjustment Factor = 0.77)	2021 (Bias Adjustment Factor = 0.78 & 0.86)
D1	Urban Background	N	11	10	12	11	9	10
D2	Roadside	Y	58	50	50	54	42	45
D3	Roadside	Y	61	57	55	55	46	47
D4	Roadside	Y	29	26	26	26	20	22
D5	Suburban	N	9	7	8	8	7	8
D6	Urban Background	N	10	7	9	9	7	7
D7	Roadside	N	0	0	0	0	0	9a
C1	Kerbside	N	35	35	35	33	26	29
C8	Roadside	N	21	22	25	24	19	20

Site ID	Site Type	Within AQMA?	Annual Mean Concentration ($\mu\text{g}/\text{m}^3$) – Adjusted for Bias ^a					
			2016 (Bias Adjustment Factor 0.92)	2017 (Bias Adjustment Factor = 0.89)	2018 (Bias Adjustment Factor = 0.76)	2019 (Bias Adjustment Factor = 0.77)	2020 (Bias Adjustment Factor = 0.77)	2021 (Bias Adjustment Factor = 0.78 & 0.86)
C10	Kerbside	N	15	14	17	13	13	11
C11	Roadside	N	34	34	37	27	27	24
C2	Kerbside	N	21	22	25	26	26	22
C5	Kerbside	N	32	32	30	27	27	19
C4	Kerbside	N	29	26	26	24	24	20
C3	Roadside	N	32	31	31	27	27	25

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

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

^a Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG16, if full calendar year data capture is less than 75%

Figure 2.4 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites

There is a consistent trend at nearly all the monitoring sites across the Mid Ulster District. There has been a steady downwards trend since 2016 with most years continuing this trend. The Covid-19 pandemic of 2020 sharpened the rate of decline due to the massive decrease in traffic due to lockdown. Results for 2021 are generally slightly higher than for 2020 due to an increase in traffic to more normal pre pandemic times. However, these results are still part of a general ongoing decline since 2016. It will be interesting to see if this continues on into 2022 when traffic levels may have increased further from 2021 levels. To demonstrate this trend a number of sites from within the AQMA's have been chosen along within one of the Urban Background sites for comparison purposes.

Fig 2.41 Six Year Trend at 30 Church Street, Magherafelt

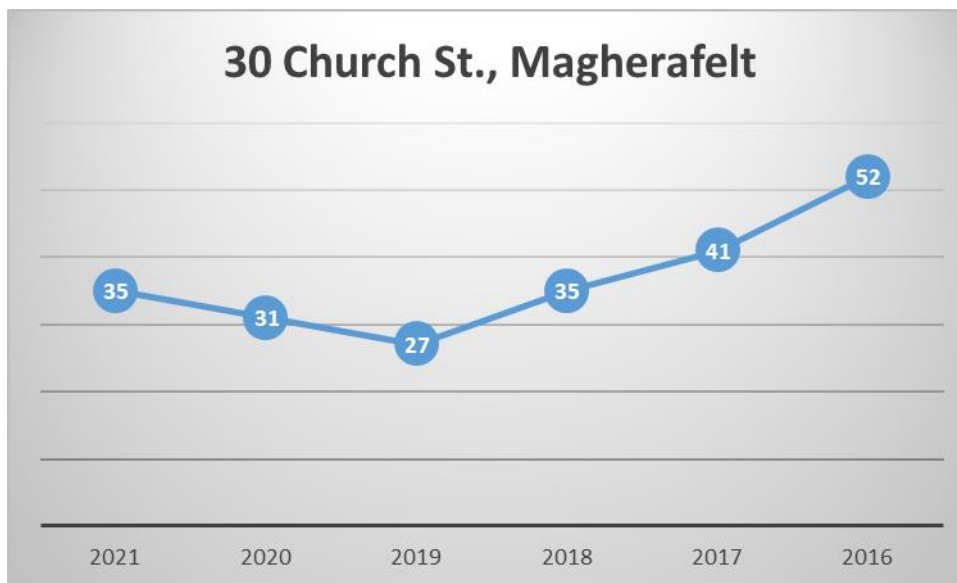
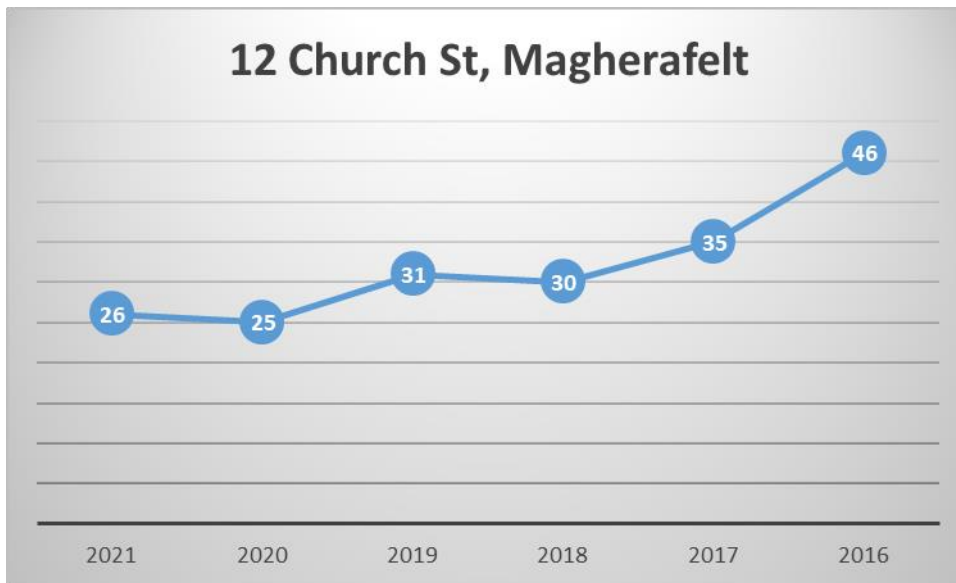
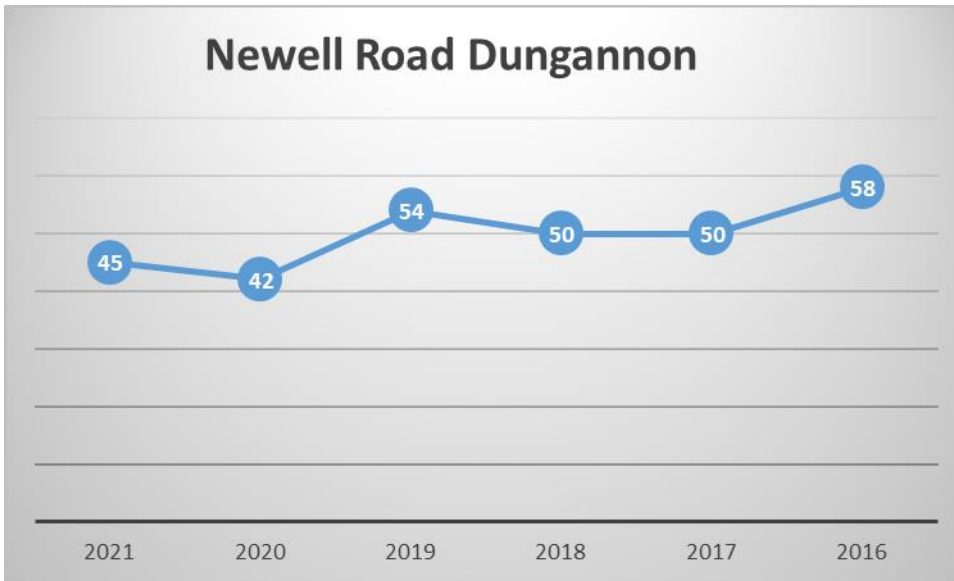


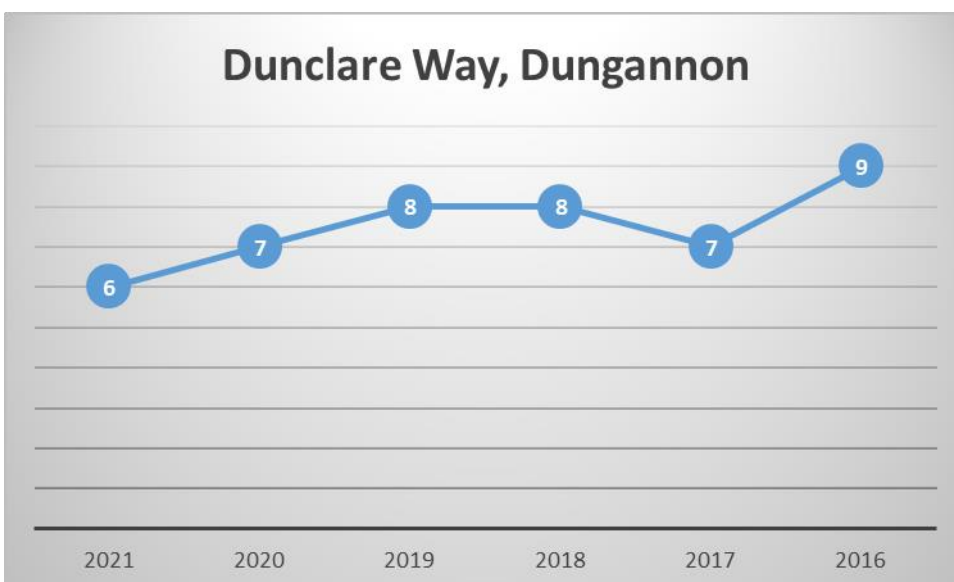
Figure 2.41 shows the monitoring results at the site in Magherafelt AQMA which consistently showed the highest levels of NO₂. Unusually this was one of the few sites to show a slight increase in NO₂ in 2020 compared with 2019. The level of result for 2021 is more in line with 2018 levels. It would appear the 2019 level was significantly lower than normal although it is unclear why this may be the case.

Fig. 2.42 Six Year Trend at 12 Church Street, Magherafelt

The two graphs above show six-year trends within the AQMA in Magherafelt town centre. These are two of the locations that have consistently shown the highest levels within the AQMA. The graph shows a trend downwards from values which exceeded the air quality objective in 2016 to having no exceedances for the last four years at 30 Church Street, and no exceedances at 12 Church Street for the last five years. Some caution must be taken for the figures for 2020 and 2021 due to Covid impacts. There has now been no exceedances within the AQMA at any monitoring point for four years. Mid Ulster District Council hopes to be able to revoke this AQMA soon.

Fig 2.43 Six Year Trend at Newell Road, Dungannon

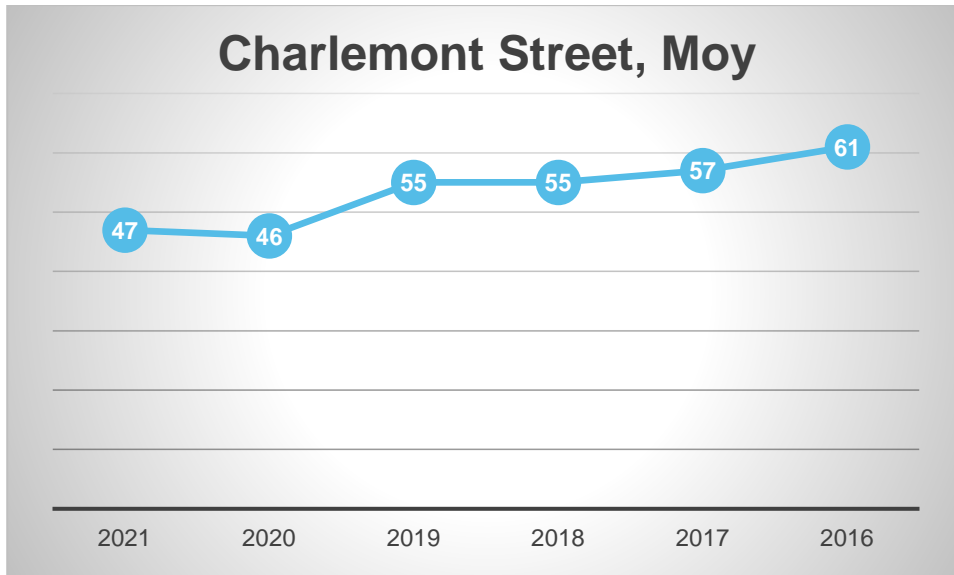
The trend for the Newell Road AQMA has been one of a gradual reduction. It is disappointing that even in a period with Covid restrictions that the air quality at this spot exceeds the Air Quality Objective. It is believed that this stretch of road is affected by the canyoning effect of tall houses on one side and a steep bank on the other which elevate pollution levels beyond what they would be if the site was more open.

Fig. 2.44 Six Year Trend at Dunclare Way, Dungannon.

The urban background monitoring site at Dunclare Way, Dungannon provides an interesting comparison with the Newell Road site. It is located over 50m away from the main arterial route through the town. Background levels have been under $10\mu\text{g}/\text{m}^3$ for each

of the six years and continue to show a gradual decline in line with generally improving air quality throughout the District.

Fig 2.45 Six Year Trend at Charlemont Street, Moy



The six-year trend at Charlemont Street in Moy shows a similarity to that of the other AQMA at Newell Road in Dungannon. The monitoring site is at a busy set of traffic lights on an incline. The site has shown a gradual decline from 2016 when it had a result of $61\mu\text{g}/\text{m}^3$ to $55\mu\text{g}/\text{m}^3$ in 2019. The site showed a reduction to $46\mu\text{g}/\text{m}^3$ in 2020. Encouragingly this figure only rose to $47\mu\text{g}/\text{m}^3$ in 2021 so it is hoped that the overall downward trend will be maintained in the years following the global pandemic. However, despite the downward trend the site consistently exceeds the $40\mu\text{g}/\text{m}^3$ air quality objective.

Fig. 2.46 Six Year Trend for Killyman Road, Moy

The trend chart for the Killyman Road in Moy is like many of the other trend charts throughout the District. The overall trend is down since 2016 from 29 $\mu\text{g}/\text{m}^3$ in 2016 to 2021 when it was 22 $\mu\text{g}/\text{m}^3$ with a low of 20 $\mu\text{g}/\text{m}^3$ in 2020 reflecting the reduction in traffic due to the Covid-19 pandemic. It is hoped that the overall downward trend will continue. All the results for this site which is in the AQMA for Moy are well within the air quality objective of 40 $\mu\text{g}/\text{m}^3$. This is despite it being located less than 35m from the site at Charlemont Street which has consistently breached the air quality objective.

2.2.2 Particulate Matter (PM₁₀)

Mid Ulster District Council does not monitor for particulate matter PM₁₀.

2.2.3 Sulphur Dioxide (SO₂)

Mid Ulster District Council does not monitor for Sulphur Dioxide SO₂.

2.2.4 Benzene

Mid Ulster District Council does not monitor for Benzene.

2.2.5 Other Pollutants Monitored

Mid Ulster District Council does not monitor for other pollutants.

2.2.6 Summary of Compliance with AQS Objectives

Mid Ulster District Council has examined the results from monitoring in the district. Concentrations outside of the AQMA are all below the objectives at relevant locations, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

3.1 Road Traffic Sources

There are three new major road projects in the Mid Ulster District Council area currently proposed, or recently completed.

The 14.7km Randalstown to Castledawson scheme opened in May 2021. Mid Ulster District Council

Details of the air quality assessment undertaken for this development are available at the hyperlink below:

<https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/a6-toome-bypass-environmental-statement-volume-1.pdf>

The air quality assessments undertaken for the A29 Cookstown by-pass can be found at the link below.

<https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/sar-report-cookstown-bypass-2021.pdf>

The air quality assessment for the A5 Western Transport corridor part of which runs through the District can be found at the link below.

<https://www.a5wtc.com/Environmental-Consultation-2022>

In general, it can be said that these schemes will improve air quality in the district by reducing areas of urban congestion. This is best illustrated by the Magherafelt By-pass which has resulted in an improvement in air quality in the town centre since its construction.

Mid Ulster District Council has assessed new/proposed roads meeting the criteria in Table 7.1 of Chapter 7 of LAQM.TG16 and concluded that it will not be necessary to proceed to a Detailed Assessment.

3.2 Other Transport Sources

There are no large, airports, ports or railways located in the Mid Ulster District at present.

Industrial Sources

The agricultural planning applications below were all considered with air quality assessments being submitted in support of the relevant proposals. Further industrial applications are outlined in the planning section (S.5) where an air quality assessment may have been requested as part of the planning process.

Table 3.21 Planning Applications for Industrial Sources

Planning Reference	Application	Location
LA09/2019/1546/F	Proposed No1 pullet rearing poultry shed with 1No. feed bin a storage shed and associated site works (Poultry shed to contain 32000 Pullets)	Land 250m Southwest of 1 Grillagh Road Maghera
LA09/2020/1001/F	Proposed 2No. replacement pig sheds with 2 feed bins and associated site works (pig sheds to contain 120 120 sows giving a total site capacity of 160)	Lands at 53 Dunnabraggy Road Cookstown
LA09/2021/0010/F	Proposed free range poultry shed with 2 feed bins, a storage shed, standby generator building and associated site works. (Poultry shed to contain 16000 free range hens)	Lands off Glendavagh Road 100m West of 142 Minterburn Road Caledon
LA09/2021/0100/F	An application under section 54 of The Planning Act (N.I.) 2011 to vary the wording of condition No.4 (parking and service areas) of approval M/2014/0567/F for an in vessel composting facility (IVCF)	Lands at Northway Mushrooms 24m South of 17 Aghnagar Road Ballygawley
LA09/2020/0374/F	Proposed free range poultry unit with meal silo and litter store.	210m NW of 39b Annaghmore Road Castledawson BT45 8DN
LA09/2020/1258/F	Proposed free range poultry shed with 2 feed bins a storage shed a standby generator building and associated site works (Poultry shed to contain 16000 free range egg laying hens)	Land 250m West of 56 Carnteel Road Aughnacloy
LA09/2021/0219/F	Proposed free range poultry shed with 4 feed bins 2 storage sheds, a standby generator building and associated site works (poultry shed to contain 32000 Free range egg laying hens)	Land 150m Northwest of 59 Stilago Road Eglishe Dungannon
LA09/2019/0202/F	Proposed poultry shed with 2No. feed bins, a storage shed and associated site works (Poultry shed to contain 5,000 Barn House Egg Laying Hens (AQIA))	Land 200m East of 107 Drummurrer Lane Coalisland Dungannon

3.3 Commercial and Domestic Sources

No new commercial or domestic sources were identified since the last Updating and Screening Assessment.

3.4 New Developments with Fugitive or Uncontrolled Sources

Environmental Health Department commented on the planning application below in regard to fugitive emissions.

Table 3.41 Planning Applications for Fugitive Sources

Planning Reference	Application	Location
LA09/2020/0736/F	Proposed phase 4 extension to existing quarry for sand and gravel extraction	380m North West of 290 Drum Road, Cookstown

Mid Ulster District Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Mid Ulster District Council confirms that all the following have been considered:

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

4 Local / Regional Air Quality Strategy

5 Planning Applications

The Environmental Health Department are consulted on a range of planning applications where their input is considered necessary. They consider the applications in relation to noise, air quality, contaminated land, and odour. Environmental Health may request that assessments are submitted in relation to these where they believe an application has the potential to impact on residential amenity. The following is a list of approved applications considered by Environmental Health in 2021. Some other applications have been considered in previous a previous chapter of this Progress Report.

Table 5.1 Planning Applications for Other Industrial Sources

Planning Reference	Application	Location
LA09/2020/1174/F	Proposed extension & alterations to existing boning hall amenity area.	Linden Foods Unit 26 Granville Industrial Estate Dungannon
LA09/2020/1535/F	Proposed extension to factory and office to provide additional storage and circulation space amid the Covid 19 crisis.	John Mackle Ltd Factory Site Moygashel 33 Main Road Dungannon
LA09/2020/0121/F	Proposed new factory building, car parking and all associated site works.	Lands 85m Northeast of 100 Coleraine Road, Maghera
LA09/2020/0943/F	Expansion of established engineering business to facilitate a programme of social distancing.	42 Tullyodonnell Road The Rock Dungannon
LA09/2020/0983/F	Water quality improvement project at existing cheese processing factory including a shed to contain a reverse osmosis unit & 2 no 250,000l water tanks within a 3.1m high bund area	Lands at 141 Moneymore Road Dunman Bridge Cookstown
LA09/2020/0507/F	Proposed replacement timber engineering workshop and office accommodation	36 Rossmore Road Dungannon BT71 4BJ
LA09/2020/1673/F	Proposed industrial unit	221m SE of 24 Lisgorgan Lane Upperlands Maghera BT46 5TE.
LA09/2018/1283/F	Retention of engineering workshops, increased curtilage and hard standing including temporary carpark, bulk LPG gas tank, toilets and changing building and loading area	200 Annagher Road Coalisland
LA09/2019/0559/F	Expansion of established engineering business comprising of new workshop, extension to existing yard & new storage	Lands at 31b Tullyreavy Road Cookstown

	yard to rear of 33 Tullyreavy Road, Cookstown	
LA09/2019/1057/F	Proposed construction of new factory inclusive of a fabrication and cutting shed, a fitting shed, and office block with associated site works	Site adjacent and South of Ardboe Business Park Kilmascally Road Ardboe Dungannon
LA09/2017/0319/F	The relocation of 2 chimney stacks approved under ref. M/2011/0126/F and the retention of 4 further chimney stacks to facilitate spraying within existing approved building. All flues to discharge 6 metres above the existing ridge line. (Revised Odour Impact Assessment received)	70m South of 177 Annagher Road Dungannon
LA09/2020/0938/F	New manufacturing plant for the production of paving flags including mixer platform, silos & conveyor feed from existing batching plant	2 Lisnamuck Road Tobermore
LA09/2019/0965/F	Extension to provide new welding bay facilities for the assembly of structural frames which will be used in Aviation Ground Support Vehicles-Class B3 General Industrial (revised description and plans	Northwest corner of former Tyrone Crystal complex 115 Coalisland Road Dungannon
LA09/2021/0373/F	Proposed site For food production unit(factory) dry goods storage/ fridge and freezer cold storage and new access to carriageway.	300m Northwest of 160 Tanderagee Road Pomeroy Dungannon
LA09/2021/0190/F	Proposed fabrication and manufacturing of steel and timber portable buildings and all associated site works	Opposite TES Group Kilcronagh Business Park Cookstown
LA09/2021/0517/F	Proposed industrial development consisting of 11 units	Approx 185m West of 60 Ballyronan Road Magherafelt
LA09/2020/1534/F	4No. Industrial / Commercial Units	Lands Adjacent to A45 Service Station 212 Ballynakilly Road Dungannon.

Table 5.2 Planning Applications for Residential Properties

Planning Reference	Application	Location
LA09/2020/1223/O	Proposed private housing development (renewal of LA09/2017/0373/O)	North and West of 47 Coash Road Ballynakelly Dungannon
LA09/2020/1403/F	Change of house type to include single storey sunroom to rear of house & change from single storey entrance projection to two storey entrance projection	Coolreaghs Manor North of 3 Coolreaghs Road Cookstown
LA09/2020/0689/F	Housing Development (12 no Units) and associated site works	Land adjacent to 4A Ballyheifer Road Magherafelt BT45 5EQ

LA09/2020/1464/F	Proposed residential development comprising of 8 detached dwellings & associated site works	Development lands at 14 Moneymore Road situated adjacent & Southwest of Oakvale Manor
LA09/2019/0730/O	Proposed housing development	Land immediately N.E. of St Patrick's Primary School Pomeroy Road Donaghmore
LA09/2020/0632/F	Proposed residential development comprising of 11 no detached units, creation of new accesses on Tobermore Road and Fern Drive, private amenity space and landscaping	lands 40metres North of 11 Desertmartin Road Magherafelt Co. Derry BT45 5HD
LA09/2020/0523/O	Proposed residential development	Lands between Lindsayville and Ballyneill Road and to the rear of 122-128 Shore Road and to the rear of 1-6 Lovedale Ballyronan
LA09/2018/0945/F	Housing Development (79 no dwellings) to include 15no detached and 64no semi-detached dwellings	Land to the SE of No 1 Park Lane Killyfaddy Road Magherafelt
LA09/2019/0229/F	Housing development consisting of 6 no detached 2 storey dwellings, 28 no semi-detached 2 storey dwellings, 2 no semi-detached single storey dwellings, 2 no detached single storey dwellings along with right hand turning lane & associated site works & private treatment plant	South & Adjacent to Abbeyvale Mullinahoe Road Ardboe Co. Tyrone
LA09/2017/1366/F	Residential Development for 52 units	20 Dungannon Road Cookstown
LA09/2020/0537/F	Housing development comprising of 14 no. semi-detached dwellings, 7 no. block of 3 dwellings,	Killymeal House and Adjacent lands Killymeal Road Dungannon
LA09/2020/0759/F	Proposed housing development consisting of 8 dwellings (4 Semi-detached and 4 detached) with associated access	Lands adjacent to 121 Ruskey Road The Loup
LA09/2020/0521/F	Proposed Residential Development of 30no Semi-Detached & 7 no Detached Dwellings with associated access, Roads, Footway, Landscaping & Parking	Site Between Nos 6 & 8a Drumearn Road and to the rear of Nos 1 1a & 1b Killycurragh Road Orritor Cookstown
LA09/2019/0144/F	Proposed housing development comprising of 2 no. detached dwellings and 14. No. Semi-detached (total16 units).	Lands opposite No.9 Strifehill Road Cookstown.
LA09/2020/0839/F	Construction of 49 social housing units comprising 45 two storey houses, 4 no. bungalows, associated site works and landscaping	Lands 62m S.W. of 5 Old Eglis Road Dungannon.

Table 5.3 Planning Applications for Commercial Activities

Planning Reference	Application	Location
LA09/2020/1325/F	Redevelopment of Phoenix Integrated Primary School and nursery unit to include the replacement of existing temporary school accommodation	Phoenix Integrated Primary School 80 Fountain Road Cookstown
LA09/2020/1612/F	A new " Learning and development centre" for Northern Ireland Fire and Rescue Service (NIFRS) for the training of NIFRS employees	Lands South of Desertcreat Road East of A29 Dungannon Road and Northwest of Downs Road Desertcreat Cookstown
LA09/2019/0597/O	Proposed mixed use development on lands to rear of 114 Bush Road. Development to include Community Centre and Multi Use Games Area, Fuel Filling Station and Shop, Small Business Units and Residential Development for bespoke 'one-off' houses.	Lands to the rear of 114 Bush Road Dungannon
LA09/2021/0311/F	Replacement vehicle workshop to provide facilities for applicant to maintain vehicles linked with his business	40a Agharan Road Dungannon BT71 4HG.

6 Air Quality Planning Policies

Mid Ulster District Council's Local Development Plan 2030 (Draft Plan Strategy) prioritises a number of issues which relate to both air quality and transportation issues throughout the District.

Chapter 4 outlines the growth strategy and spatial planning framework for the District. This spatial planning framework has been considered in formulating the subject planning policy within this Plan and will act as a guide when preparing the Local Policies Plan.

The air quality improvements necessary are outlined within SPF8 and SPF 9 of the document. This outlines the Council's commitment to improving the infrastructure along the main A29 North to South transportation link. It also highlights the importance of moving individuals away from private cars and other forms of transport, and highlights planning considerations to be given to encourage greater cycling and pedestrian movement within the main towns and villages.

SPF 8 – Encourage improvements to public and private transportation provision including railway lines and upgrading of the road network.

In Mid Ulster public transport is essential for those people who do not have access to the private car. At present, there are limited services across the District, although the links to Belfast along the main northwest and southwest transport corridors are reasonably strong. It is therefore important that encouragement is given to local services particularly transport which can help to link up our family of settlements to the Ulster Bus Translink provision along the key transport corridors.

This means ensuring that new development for housing estate developments or when improvements are made to existing streets, consideration is given to allowing sufficient movement for local buses. Also, in the interest of promoting sustainable transport, consideration needs to be given to providing safe environs for the pedestrian and cyclist. This does not necessarily mean the provision of dedicated cycle ways as it can often be achieved through careful design of roads and promotion of safer routes, particularly when it comes to children travelling to school.

We best link public transport to land use by adopting a town centre first approach to the development of new shops, leisure, and other uses which people need to travel to.

In selecting land use zonings, particularly in our towns, consideration will be given to overall accessibility, with greater priority given to land within walking distance of town centres and other services followed by sites with good links to public transport.

In looking at travel times and the connectivity between our hubs and settlements we are keen to ensure opportunities for improvements to transportation are not lost and therefore, we will protect disused railways from development that would prejudice their future use. We will also protect the Ulster Canal and a Blueway along the River Bann. We will also protect the riverbanks of our other main rivers to ensure that the possibility of riverside walkways and cycle ways is not lost for future generations.

By designing for public transport and encouraging walking and cycling this will also lead to improvements for private transport as a result of taking people off the road.

SPF 9 – Facilitate improvements to the A29 which acts as the transportation spine and link between Mid Ulster’s hubs and other trunk roads crossing the District.

For the three hubs of Cookstown, Dungannon and Magherafelt to act as a cluster it is essential that travel times between these settlements are reduced. This means there is a need to bring forward improvements to the A29 and A31.

We remain committed to the provision of a by-pass around Cookstown and Dungannon and will use our powers to protect any road line identified for development. We also recognise that as opportunities arise, new road schemes such as road widening, straightening and provision of overtaking lanes will also help to improve connectivity and help people move across the District quicker in order to connect with the southwest and northwest transport corridor but also directly to Dublin and the north coast.

The importance of improvement to the A29 should not be underestimated as it is critical to address the existing problem of heavy traffic choosing rural routes along the lough shore in order to avoid congestion in Cookstown and Dungannon.

The importance of the more rural roads such as the A505 should not be forgotten for the remoter rural communities where travel times to essential acute hospital services are greatest.

7 Local Transport Plans and Strategies

Mid Ulster District Council's Local Development Plan 2030 (Draft Plan Strategy) prioritises a number of issues which relate to transportation issues throughout the District.

These are outlined below

TRANSPORTATION

Overview

Good quality transport infrastructure is fundamental to achieving sustainable growth and vibrant communities within Mid Ulster. In terms of travel to work, the vast majority of our working population travel by private car, however the majority of our employed population also work within the District. By contrast only a very small percentage of the working population travel to work by public transport. There is a high reliance on the private car as Mid Ulster is a predominantly rural population, with limited access to public transport and a complete absence of railways.

Given the dispersed nature of Mid Ulster's rural population, access to transportation is a key element in developing vibrant rural communities and will assist in alleviating social isolation. Regarding health and well-being, Mid Ulster residents have an average 50-minute travel time to the nearest acute hospital. This demonstrates the importance of improving the local road network in Mid Ulster.

Therefore, the focus is on developing the key and link transportation corridors between the three main hubs of Dungannon, Cookstown and Magherafelt, the two local towns of Maghera and Coalisland and the rural hinterland. Mid Ulster will identify the routes of future infrastructure works to upgrade the A29 trunk road and will think of safeguarding other protected routes within our District.

Regional Policy Context

The Regional Development Strategy 2035 (RDS) advocates managing our road and rail space in a more efficient way and this is to be achieved through a number of key objectives. These are improving connectivity, maximising the potential of the Regional Strategic Transport Network, improving social exclusion and accessibility and road safety. The RDS establishes the three main towns have the potential to form a cluster

and are well positioned on key transport corridors.

Strategic planning policy aims to encourage greater integration of transportation within land use planning. The strategic objectives focus on promoting sustainable transport choices such as walking and cycling and providing more facilities for cyclists. The SPPS also focuses on reducing the reliance on the private car through appropriate car parking policies. To achieve this Local Development Plans are expected to consider transportation in the allocation of land use, and zoning of housing land. Consideration should also be given to new transport schemes, opportunities from disused railways, provision of car parking and protected routes.

Community Plan

Our Community Plan recognises the importance of the roads and public transport infrastructure to facilitate the movement of goods and people particularly between the 'Mid Ulster Urban Cluster' of Cookstown, Dungannon and Magherafelt and the rural hinterland. A key issue identified is the heavy reliance on the private car in Mid Ulster. Key outcomes of the Community Plan are that we are better connected through appropriate infrastructure and we increasingly value our environment and enhance it for our children. This aim shall be met through two main objectives: improving the rural and urban road network and providing facilities that encourage more sustainable modes of transport.

A key objective of improving the roads network will be facilitated by the development of the Strategic Road Network (the A29-A31, A4, A5 and A6) including by-passes for the three main hubs. Within Mid Ulster there is a high proportion of rural dwellers and our Community Plan recognises the need to maintain the local roads network to allow those living in rural communities to access goods and services both in the hubs and local villages.

In terms of sustainable transport, our Community Plan encourages active travel and greater public transport use and this can be achieved by implementing Park & Ride at strategic sites and investigating the feasibility of restoring rail links to and from Mid Ulster. In rural areas the objective is to pilot an 'Integrated Transport Scheme' for rural dwellers and businesses. Also, to develop an Intra-Town Transit System to include shuttle bus, cycling and walking links.

Our Transportation Strategy

Our approach for transportation is to facilitate a strategy that suits the needs of Mid Ulster as a rural District. The guiding principle is a focus on improving connectivity for both rural and urban dwellers. This will be centred on by-passes around the three main towns, and the villages of Moneymore and Moy, with a focus on improving the A29 spine road. The success of clustering services across our hubs is dependent on improving connectivity and reducing travel time. Critical to this are new by-passes for Cookstown and Dungannon. In turn this will reduce congestion in the town centres making them safer and a better environment for shopping and economic activity. We also wish to see a by-pass for Fivemiletown and the Clogher valley villages to improve travel times along the A5 Ulster Connaught corridor, and delivery of the A4 improvements through Mid Ulster. We will also continue to support tight planning controls along these roads in line with regional protected route policy.

8 Implementation of Action Plans

Measure No.	Measure	EU Category	EU Class	Lead Authority	Key Performance Indicator	Target Pollution Reduction in the AQMA	Update
1	Investigate potential for traffic control systems leading to and within AQMA	Traffic Management	UTC, Congestion management , traffic reduction	TransportNI	Reduction in Charlemont AQMA NO ₂ levels.	To be determined and dependent on proposed changes	Transport Ni contacted re potential improvements
2	Ensure potential air quality issues are assessed with new developments before problems arise through consultation with the Planning Department	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	MUDC	Air Quality Assessments submitted through planning process for certain developments.	Development of appropriate response for planning consultations in line with up-to-date guidance	Air Quality issues considered in all planning consultation responses. See details in previous Chapters of Progress Report.
3	Investigate the potential of requiring a number of electric charging points to be included in certain developments, through consultation with the Planning Department	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	MUDC	Increase in number of charging points. Currently 20 charge points Sept. 2022	Development of appropriate response for planning consultations in line with up-to-date guidance	Data available from https://data-midulster.opendata.arcgis.com/datasets/midulster::mid-ulster-district-council-echarging-points-/explore?location=54.718888%2C-6.689293%2C10.71

Measure No.	Measure	EU Category	EU Class	Lead Authority	Key Performance Indicator	Target Pollution Reduction in the AQMA	Update
4	Prepare information leaflets on how to help improve air quality and reduce exposure	Promoting Travel Alternatives Transport and Planning Infrastructure	Promotion of cycling Promotion of walking School Travel & Workplace Travel Planning	MUDC DEARA	To be determined	Investigating the feasibility of restoring rail links to and from Mid Ulster. Pilot an 'Integrated Transport Scheme' for rural dwellers and businesses. To develop an Intra-Town Transit System to include shuttle bus, cycling and walking links.	Mid Ulster District Council Local Development Plan 2030
5	Control of emissions from Part C processes	Environmental Permits	Air Quality Planning and Policy Guidance	MUDC	Meet inspection target in line with DEARA requirements	Compliance with KPI	83 premises permitted and subject of annual inspection regime.
6	Investigation of air quality nuisance complaints, inclusion appropriate action to resolve the problem	No EU category/ classification	No EU category/ classification	MUDC	85% of complaints to be responded to within 3 days	Compliance with KPI	Ongoing
7	Identify, map, and promote use of electric vehicle recharging points within Council area.	Promoting Low Emission Transport	Other	MUDC Local Business/town Centre forum	Map produced and available on council website	Unable to determine	Data available at https://data-midulster.opendata.arcgis.com/datasets/midulster::mid-ulster-district-council-echarging-points-/explore?location=54.718888%2C-6.689293%2C10.71

Measure No.	Measure	EU Category	EU Class	Lead Authority	Key Performance Indicator	Target Pollution Reduction in the AQMA	Update
8	Enforcement of the Clean Air Act with regards to industrial smoke	No EU category/ classification	No EU category/ classification	MUDC	Number of complaints received.	Ongoing	10 complaints received in previous 12 months.
9	Encourage the installation and of new and bicycle stands at large supermarkets located in the District and will promote the use of existing bicycle stands	Promoting Travel Alternatives	Promotion of cycling	MUDC Local Business town Centre forum	Increase in number of bike stands	Unable to determine	Ongoing
10	Ensure that bicycle stands are available at all council buildings	Promoting Travel Alternatives	Promotion of cycling	MUDC	Increase in number of bike stands	Unable to determine	Current Cycle to Work scheme available for staff to access.
11	Investigate fleet improvements of Council owned vehicles	Vehicle Fleet Efficiency	Vehicle Retrofitting Programme	MUDC	Selection of vehicles which meet or exceed EU emission requirements at time of purchase.	Not yet determined	Ongoing. Council has in addition purchased 4 electric vans this year.
12	Annual engagement event to educate and raise awareness regarding air quality. Also, to find joint working opportunities	Public Information	Promotion campaigns and advertisements	MUDC	To be determined	Development of leaflets and information on Council website.	Data available at: https://www.visitmidulster.com/things-to-do/walking-and-hiking

Measure No.	Measure	EU Category	EU Class	Lead Authority	Key Performance Indicator	Target Pollution Reduction in the AQMA	Update
13	Investigation potential for marked walking and routes within towns	Promoting Travel Alternatives	Promotion of walking	MUDC	Increase in number of walking routes within towns	Unable to determine	Data available at: https://www.visitmidulster.com/things-to-do/walking-and-hiking

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

This year's new monitoring data indicates compliance with air quality objectives at areas monitored outside of the AQMA's. It also shows compliance with air quality objectives at the Magherafelt AQMA. However, exceedances were still noted at the Dungannon and Moy AQMA's. Based on this year's results there is no need to proceed to a detailed assessment based on this year's new monitoring data.

9.2 Conclusions relating to New Local Developments

No new sources with relevant exposure have been identified through Assessment. Therefore, it is not considered necessary to proceed to a 'Detailed Assessment' based on potential sources.

9.3 Other Conclusions

This monitoring year saw a gradual return to normality from the Covid-19 pandemic. It is anticipated that as more people return to the traditional working environment traffic levels will rise, and levels of NO₂ will increase to pre-pandemic levels again.

9.4 Proposed Actions

New monitoring data has not identified the need to progress to a detailed assessment for any pollutant. The monitoring data has indicated that there are no changes required to the existing AQMA's within the District at this stage. Air Quality at the Magherafelt AQMA has complied with air quality objectives for the fourth successive year and it is hoped to revoke this AQMA in the near future if a fifth successive year is obtained.

This is a welcome step in the improvement of air quality within the District. Mid Ulster District Council's next course of action is to continue to monitor pollutants at their current locations and submit a Progress Report in 2023.

10References

1. Local Air Quality Management Technical Guidance (TG16) April 2021- Department of the Agriculture, Environment & Rural Affairs.
2. Local Development Plan 2030 (Draft Plan Strategy) February 2019

11 Appendices

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

Appendix B: Impact of COVID-19 upon LAQM

Appendix A: QA/QC Data

QA/QC Diffusion Tube Monitoring

The results have been bias adjusted in accordance with the National Diffusion Tube Bias Adjustment Factor Spreadsheet (Version Number 06/22).

Diffusion Tube Annualisation

The diffusion tube annualisation data is presented on P.59 of this report along with all monthly results from all of the sites. This spreadsheet is taken from the Bureau Veritas diffusion tube data processing tool Version 2: March 2022.

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

Diffusion Tube Bias Adjustment Factors

Mid Ulster District Council have applied a national bias adjustment factor of 0.78 & 0.86 to the 2021 monitoring data. A summary of bias adjustment factors used by Mid Ulster District Council over the past five years is presented in Table A.1.

The NO₂ tubes for Mid Ulster District Council were analysed by two different laboratories in the course of 2021 due to a new contract being awarded. The first eight months were supplied and analysed by the Socotec Laboratory and the final four months were analysed by Somerset Scientific Services.

Socotec based in Didcot, Oxfordshire. The tubes were analysed using Socotec's standard operating procedure ANU/SOP/1015. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance.'

The tubes were prepared by spiking acetone:triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow autoanalyser with ultraviolet detection.

The national bias adjustment figures were selected for both Socotec and Somerset Scientific.

These figures were derived from the national bias adjustment spreadsheet version 06/22.

Table A.1 – Bias Adjustment Factor

Using Box 7.14 of LAQM-TG16- April we had to apply the two separate bias factors across the relevant periods of exposure for each laboratory. A weighted average relative to the two exposure periods was calculated to determine the final annual mean NO₂ concentration. This is fully explained on P22 & P.23 of the main report.

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	06/22	0.78 & 0.86
2020	National	09/20	0.77
2019	National	06/19	0.77
2018	National	09/18	0.76
2017	National	06/17	0.89

NO₂ Fall-off with Distance from the Road

No diffusion tube NO₂ monitoring locations within Mid Ulster District Council required distance correction during 2021.

Table A.2 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Diffusion Tube Raw Data Inputs										Annualisation required, follow instructions on STEP 2a Annualisation Inputs tab												
Enter data into the pink cells																						
i) Select local authority: Mid Ulster District Council																						
ii) Enter raw diffusion tube data																						
Diffusion Tube ID	Site Name	Duplicate/Triplicate ID	New or Existing Site?	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	NO ₂ Monthly Concentration Data ($\mu\text{g}/\text{m}^3$)												Requires Annualisation?	
									JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
M2a	22 Church St	M2	Existing	289771	390728	Roadside	1.0	2.0	46.2	35.1	35.6	43.4	35.6	32.3	29.7	47.3	39.3	35.6	39.7		NO	
M2b	22 Church St	M2	Existing	289771	390728	Urban Centre	1.0	2.0	43.2	33.4	34.6	46.8	39.9	32.5	36.1	48.5	35.4	36.8	41.6		NO	
M2c	22 Church St	M2	Existing	289771	390728		1.0	2.0	47.0	26.5	35.1	44.9	44.9	32.6	35.0	48.7	37.2	34.4	42.1		NO	
M9a	12 Church St	M9	Existing	289745	390722	Roadside	1.0	2.0	45.4	39.6	30.1	37.8	33.2	26.7	27.0	39.6	32.1	32.8	37.0		NO	
M9b	12 Church St	M9	Existing	289745	390722		1.0	2.0	39.5	32.3	32.4	33.6	26.7	23.8	25.5	41.1	31.9	34.7	37.9		NO	
M9c	12 Church St	M9	Existing	289745	390722		1.0	2.0	38.6	29.5	30.2	32.9	29.4	24.3	26.6	38.4	30.3	33.0	34.2		NO	
M10a	30 Church St	M10	Existing	289794	390735	Roadside	15.0	2.0	42.8			60.3	44.0	35.3	40.0	43.7	41.1	33.3	47.2		NO	
M10b	30 Church St	M10	Existing	289794	390735		15.0	2.0	50.5			43.8	49.6	38.2	38.2	47.2	35.1	42.5	48.4		NO	
M10c	30 Church St	M10	Existing	289794	390735		15.0	2.0	48.3			47.0	43.3	33.8	37.3	53.1	40.0	39.4	42.3		NO	
M11a	27 King St	M11	Existing	289798	390706	Roadside	1.0	2.0	27.3	23.5	21.6	22.7	21.3			19.7	22.5				YES	
M11b	27 King St	M11	Existing	289798	390706		1.0	2.0	22.4	25.7	19.4	21.7	15.3			23.4	23.1				YES	
M11c	27 King St	M11	Existing	289798	390706		1.0	2.0	25.5	24.6	22.3	20.8	12.5			16.8	22.3				YES	
M13a	47 Church St	M13	Existing	289903	390778	Roadside	1.0	2.0	25.5	21.9	19.9	18.5	17.7			34.5	27.2		30.0		YES	
M13b	47 Church St	M13	Existing	289903	390778		1.0	2.0	25.1	20.8	16.0	19.2	17.1			28.7	27.3		27.6		YES	
M13c	47 Church St	M13	Existing	289903	390778		1.0	2.0	26.8	14.2	16.9	19.3	18.9			33.6	26.5		29.0		YES	
M23a	47 Church St	M23	Existing	289860	390734	Roadside	1.0	2.0	33.7	35.7	27.2	31.2	28.9		15.2	29.2	37.7	40.4	38.7		NO	
M23b	47 Church St	M23	Existing	289860	390734		1.0	2.0	33.9	33.3	28.9	33.1	34.2		23.0	31.6	33.2	41.0	33.2		NO	
M23c	47 Church St	M23	Existing	289860	390734		1.0	2.0	31.4	34.4	27.7	29.4	26.3		22.4	32.6	32.2	35.2	32.5		NO	
M24a	Marrriott House	M24	New	290012	390944	Urban Background	5.0	50.0	17.0	12.5	8.6	10.1	9.0		6.5	11.8	9.3	11.6	11.5		NO	
M24b	Marrriott House	M24	New	290012	390944		5.0	50.0	17.0	14.8	8.5	9.1	13.1		6.2	10.6	10.1	12.7	11.2		NO	
M24c	Marrriott House	M24	New	290012	390944		5.0	50.0	15.9	13.6	9.4	10.2	7.9		6.2			11.4	11.7		NO	
D1	Ardaganon	D1	Existing	279576	363173	Urban Background	5.0	50.0	21.4	14.2	11.7	10.9	11.2	8.3	9.8	11.6	12.8	13.0	11.2	17.8		NO
D2a	Newell Rd	D2	Existing	279193	362445	Roadside	1.0	2.0	74.3	55.8	57.2	68.3	38.7	54.2	59.0	61.9	52.8	47.3	51.4	49.5		NO
D2b	Newell Rd	D2	Existing	279193	362445		1.0	2.0	70.4	60.5	57.3	68.3	58.2	50.7	59.1	66.5	45.6	52.2	57.2		NO	
D2c	Newell Rd	D2	Existing	279193	362445		1.0	2.0	56.4	52.3	54.7	43.2	64.4	52.3	60.1	64.4	43.8		56.0	50.9		NO
D3a	Charlemont St	D3	Existing	284969	356128	Roadside	1.0	2.0	57.6	54.9	60.5	56.4	67.7	59.0	55.0	52.6	50.9	63.3	65.6	55.3		NO
D3b	Charlemont St	D3	Existing	284969	356128		1.0	2.0	52.8	56.4	47.7	61.8	61.4	56.8	60.1	54.4	52.6	61.4	63.6	57.8		NO
D3c	Charlemont St	D3	Existing	284969	356128		1.0	2.0	63.8	55.2	63.6	63.7	63.5	55.3	56.1	53.3	56.0	63.0	64.1	60.9		NO
D4a	Killyman St	D4	Existing	284984	356161	Roadside	1.0	2.0	20.5	27.8	20.9	29.9	30.3	19.9	24.4	31.2	25.8	26.0	26.8	29.0		NO
D4b	Killyman St	D4	Existing	284984	356161		1.0	2.0	33.8	30.3	22.5	28.7	24.1	22.7	25.3	30.0	27.4	27.8	24.6	29.8		NO
D4c	Killyman St	D4	Existing	284984	356161		1.0	2.0	34.3	29.8	20.6	28.1	29.7	21.2	25.0	33.1	28.9	26.8	24.7	27.8		NO
D5a	The Guesz	D5	Existing	285171	355922	Suburban	1.0	30.0	14.4	11.9	7.1	9.6	8.3	5.8				8.0	9.5	12.0		NO
D5b	The Guesz	D5	Existing	285171	355922		1.0	30.0	14.4	12.3	6.8	10.0	8.9	6.3				7.4	8.4	10.5		NO
D5c	The Guesz	D5	Existing	285171	355922		1.0	30.0	14.4	11.1	7.8	9.8	7.9	6.0				7.2	8.4	11.3		NO
D6	Dunshire Way	D6	Existing	279568	361548	Urban Background	1.0	3.0	13.9	9.5	8.3	8.6	4.6	4.5	5.8	10.1	7.6	8.3	9.1	11.1		NO
D7	Eskragh Road	D7	New			Roadside	8.0	1.0											9.5	12.1	15.1	YES
C1	Lanford St	C1	Existing	285770	389510	Kerbside	1.0	2.0	38.5	37.0	39.8	36.2	21.9	30.4	50.1		33.1	39.0	38.1	34.9		NO
C8	Smith St	C8	Existing	285813	383458	Roadside	1.0	2.0	32.2	26.3	21.1	33.5	36.2	11.0			15.4	29.1	26.7	30.5		NO
C10	Corryngham St	C10	Existing	285759	383333	Kerbside	1.0	2.0	18.7	14.6	12.6	14.8	11.7	9.5	11.8		12.0	15.4	16.7	16.5		NO
C11	Stonard St	C11	Existing	285874	383341	Roadside	1.0	2.0	19.0	32.2	32.7	36.0	23.9	31.3			16.4	35.2	32.3	38.4		NO
C2	William St	C2	Existing	287071	378445	Kerbside	2.0	1.0	32.2	33.9	25.0	31.0	29.9	15.6	25.8		24.3	26.1	24.2	29.7		NO
C5	Killymoon St	C5	Existing	281053	378197	Kerbside	5.0	1.0	31.6	18.2	25.6	22.9	16.4	16.0	18.4		20.0	25.3	28.2	31.6		NO
C4	Church St	C4	Existing	281121	377537	Kerbside	1.0	1.0	33.7	27.6	23.9						24.7	28.7	25.3	29.5		NO
C3	James St	C3	Existing	281225	376939	Roadside	4.0	2.0	33.4	33.0	34.7	25.3					32.0	33.0	34.2	33.9		NO

As can be seen from table A2 on Page 60 there were three sites which required annualisation. These were sites M11, M13 and D7.

Sites M11 and M13 were first annualised using the Bias adjustment for the Socotec laboratory which was used for the first four months of the year. The results for the first 4 months of the year were recorded on the raw data inputs and then annualised for the Socotec bias adjustment figure of 0.78.

The first four months figures were then removed and the results for the last 8 months of the year were annualised using the bias adjustment figure for the Somerset Scientific Laboratory (0.86). A combined annualised figure was then calculated as shown below.

Site D7 is a new site and was only operational for 3 months at the end of the year so the Somerset annualisation figure was used.

	Annualised figure for Socotec Bias (0.78)	Annualised figure for Somerset Bias (0.86)		Combined annualised figure
M11	16.1 µg/m ³ 4 months	18.9 µg/m ³ 3 months	$\frac{(16.1 \times 4) + (18.9 \times 3)}{7}$	17.3 µg/m ³
M13	14.1 µg/m ³ 4 months	23.7 µg/m ³ 4 months	$\frac{(14.1 \times 4) + (23.7 \times 4)}{8}$	18.9 µg/m ³
D7	N/A	8.8 µg/m ³	N/A	8.8 µg/m ³

Appendix B: Impact of COVID-19 upon LAQM

COVID-19 has had a significant impact on society. Inevitably, COVID-19 has also had an impact on the environment, with implications to air quality at local, regional, and national scales. COVID-19 has continued to present various challenges for Local Authorities with respect to undertaking their statutory LAQM duties in the 2021 reporting year.

Despite the challenges that the pandemic has given rise to, it has also provided Local Authorities and other organisations with an opportunity to quantify the air quality impacts associated with wide-scale and extreme intervention and changes in behaviour such as reduced road traffic and working from home.

Mid Ulster District Council maintained their air quality monitoring duties changing the diffusion tubes for each month throughout 2021. One of the biggest challenges faced by the authority in this period was that a number of people who would normally change the tubes were ill and at the same time and alternative arrangements had to be made for changing them from a limited staff availability. There was generally an increase in the number of complaints received across the Environmental Health function meaning a greater workload than normal being borne by fewer people.

This obviously presented difficulties in performing the air quality duties in as timely a manner as previously. The situation with Covid -19 and air quality gradually returned to a more normal working pattern as the year progressed.