Armagh City, Banbridge and Craigavon Borough Council

2016 Air Quality Progress Report

Including a Detailed Assessment of Mill Street, Tandragee

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

May 2017

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Date	May 2017

Executive Summary

This report is submitted in continuance of the Council's role in Local Air Quality Management as prescribed in the Environment (NI) Order 2000.

The air quality throughout the land mass comprising the Borough is good when compared to the concentrations specified in the National Air Quality Strategy and where applicable where these relate to EU Directive obligations taken on by the UK. However, in urban areas levels of traffic pollution can be measured near to roads which are consistently in excess of the objective concentrations. It is known that air pollution causes adverse health effects and where these concentrations are exceeded and relevant exposure occurs to human beings the Local Air Quality Management system focusses on the declarations of Air Quality Management Areas (AQMAs).

This Council has 2 declared AQMAs in Armagh (Mall West / Lonsdale Road / Railway Street AQMA and Greenpark Terrace AQMA) with a further declaration forth-coming in relation to Mill Street in Tandragee. This report includes the additional data comprising a Detailed Assessment of Mill Street, Tandragee using triplicate tubes.
These areas are small geographically and are no unusual when compared to towns and small cities across the UK. Air quality is poor during periods when traffic emissions are high, typically being worse during congested periods and during calm weather conditions.

The monitoring reported upon in this Progress Report shows that pollutant concentrations in these areas remain relatively steady which is unsurprising as the traffic source and therefore emissions are also relatively steady.

The Action Planning process led by the Council but which aimed to involve other relevant stakeholders (including central Government Departments) has failed to lead to the revocation of the AQMAs. It is hoped that the civic leadership undertaken by the Council and its role in land use planning has as a minimum held back the worsening of air pollution within the AQMAs and the Borough as a whole. However, it

is clear that only a nationwide policy of emissions reduction can address traffic source pollution which is manifest across the UK associated with the road network.

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1 Introduction

1.1 Description of Local Authority Area

Armagh City, Banbridge and Craigavon Borough Council is a local authority that was established on 1 April 2015. It replaced Armagh City and District Council, Banbridge District Council and Craigavon Borough Council. Covering an area of 554 square miles and a population in excess of 204,000 outside of Belfast we are the largest council in Northern Ireland. It is strategically positioned on the axis of the main East West and North South economic corridors and is supported by high quality road and rail links to both Northern Ireland and the Republic of Ireland. Despite the challenges of the recent economic recession the area can boast of a vibrant and growing economic sector. - More than 7,700 VAT or PAYE registered businesses - Majority are small medium sized business employing 50 or less - Notable large employers such as Moy Park, Tayto, Fane Valley, Almac, Irwins, Turkingtons and Wilsons. - 66000 employee jobs: wholesale, retail, health and social services, manufacturing - Total work force of 123000 of whom 84000 are economically active - 2013 Gross Value Added: £2.7bn – 9.4% of NI total and second only to Belfast.

Employing approximately 1400 staff (full and part time) and led by 41 Elected Members, the council is made up of 7 District Electoral Areas and has a budget in excess of £90 million. Population growth is greater than the regional average: 15.8%, during 2001 to compared to an 8.3% in Northern Ireland overall. While 67% of the population live in towns, 33% live in rural areas exceeding the number of residents in the largest town. We have a higher proportion of the population aged between 0 -15 years old (22.2% vs. NI average 20.9%). 10 fewer crimes recorded per thousand of population in 2013 than the Northern Ireland average. House prices in the ABC region are comparable to the NI average.

In terms of air quality, the area does not have a legacy of heavy industry. Industries such as agriculture including a sizeable proportion of intensive agriculture facilities as well as quarrying are relatively common throughout the Borough. The area is heavily reliant on private car use given the large hinterland, dispersed towns and the nature of UK public transport networks. Several towns are congested along key arterial routes at peak hour periods during school term time.

Domestic fuel usage throughout the Borough has historically been based on solid fuel/oil with limited use of gas. As within the province generally, the use of coal is declining although a trend of secondary or primary heating using wood or multi-fuel burning stoves is apparent giving rise to additional air quality concerns.

1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in the Environment (Northern Ireland) Order 2002, the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

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

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

This report also comprises the data and processing for the Detailed Assessment of Mill Street, Tandragee.

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

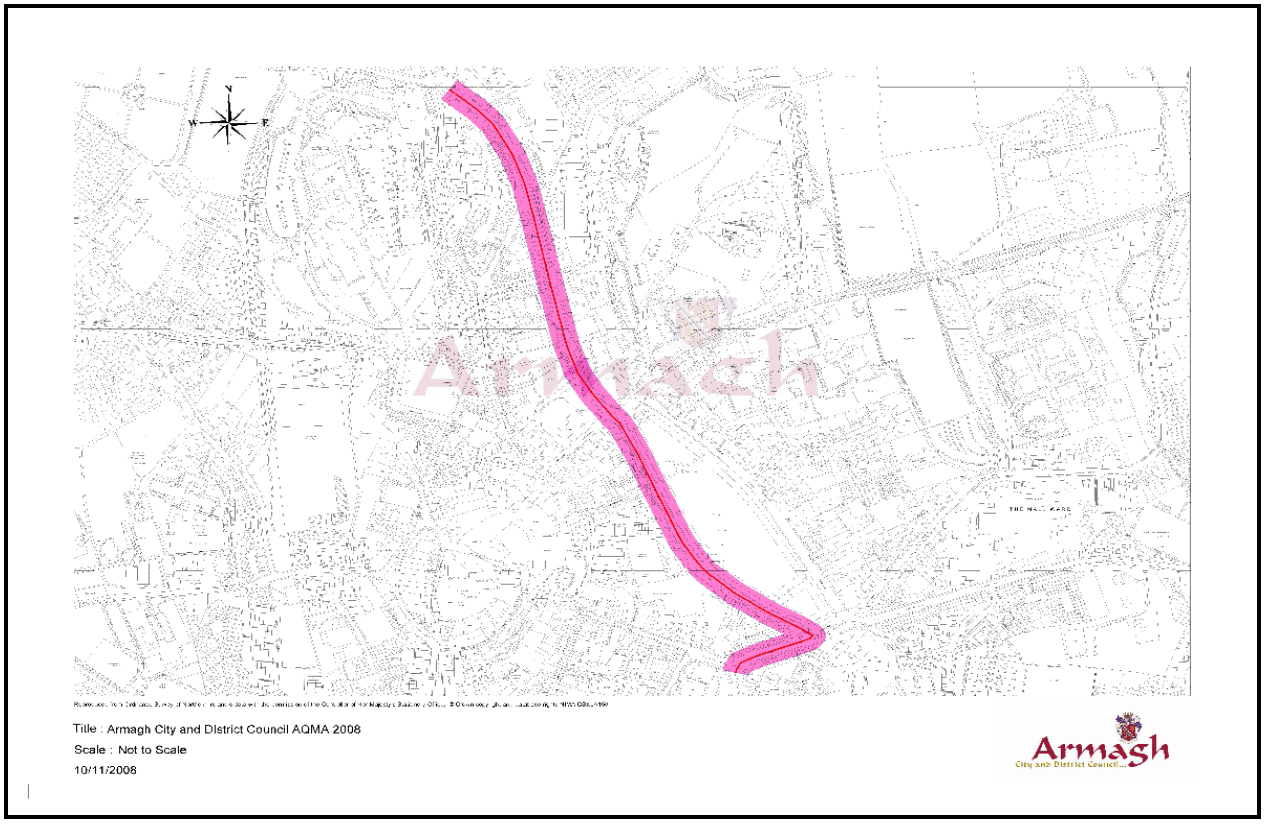
Report Type	Date	Exceedences	Detailed Assessment Required	AQMA's Declared
Initial Review and Assessment	Jan 2001	None	No	None
Progress Report	April 2005	None	No	None
Updating & Screening Assessment	April 2006	None	No	None
Progress Report	April 2007	None	No	None
Detailed Assessment for NO_2	Nov 2007	None	No	None
Progress Report	April 2008	NO_2	No	Yes
Updating & Screening Assessment	April 2009	NO_2	No	In the previous year
Progress Report	May 2010	NO_2	Yes	None
Progress Report	May 2011	NO2	No	Yes
Updating and Screening Assessment	April 2012	NO2	No	Yes
Progress Report	April 2013	NO2	No	No
Progress Report	April 2014	NO2	No	No new AQMAs
Updating and Screening Assessment	April 2015	NO2	Yes	No new AQMAs
Progress Report & DA (hereby presented)	April 2016 (May 2017)	NO2	Yes	To be declared

The Council has 2 declared AQMAs in Mall West / Railway Street, Armagh and in Greenpark Terrrace, Armagh. Additional monitoring has indicated the need to declare Market Street in Tandragee.

Previously, the Council has 2 further AQMAs in Bridge Street, Portadown and Flush Place in Lurgan.

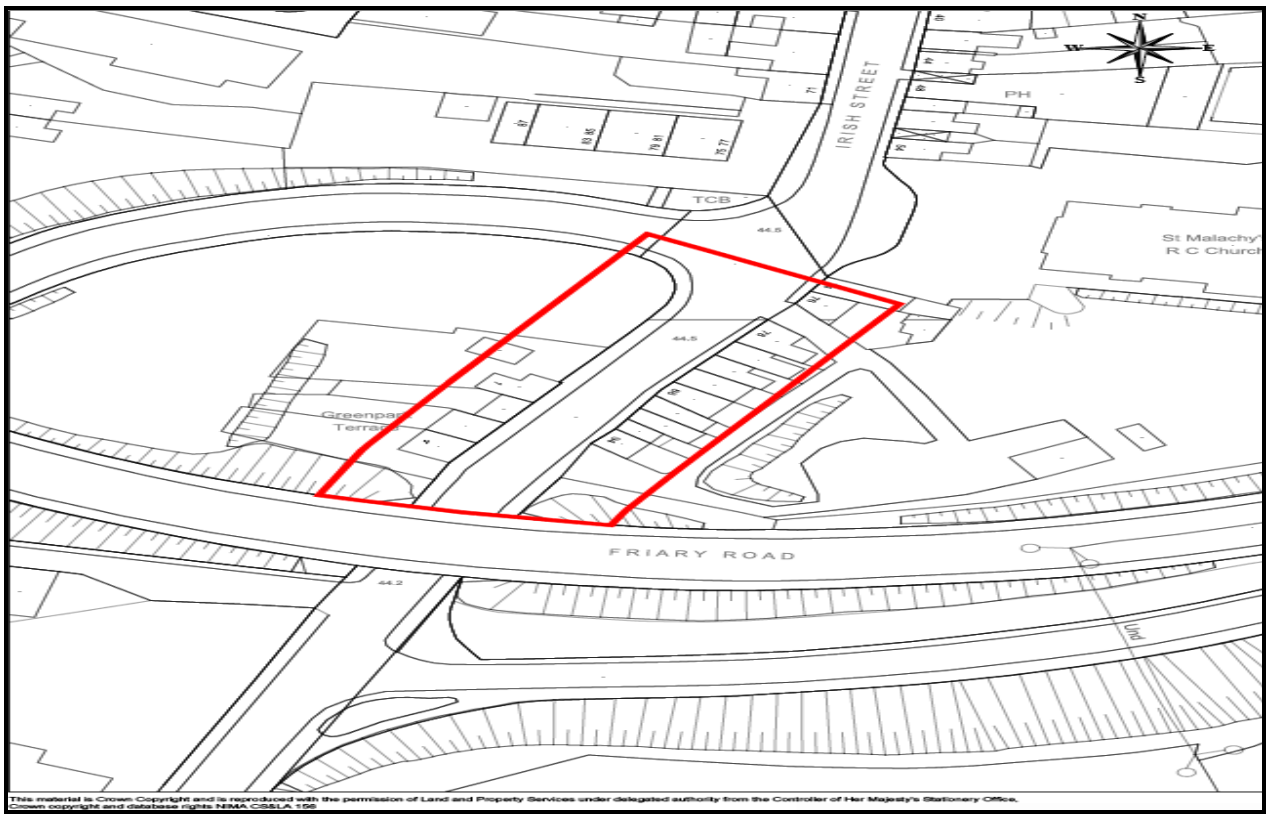
All of the aforementioned AQMAs are related to annual mean NO2. None of these areas are in any way unusual and are all arterial routes within relatively small urban settlements which experience congestion. They are localised points where traffic flow slows at peak times and where receptors are located. These points have been identified through previous screening and assessment and therefore have been subject to monitoring. They are merely indicative of the emissions from road traffic throughout the Borough, region and UK as a whole.

Figure 1.1 – Maps and Photographs of AQMA Boundaries



Mall West / Railway Street, Armagh AQMA

Mall West / Railway Street, Armagh AQMA



Greenpark Terrance AQMA

Greenpark Terrance AQMA

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Armagh has one automatic monitoring station located in the district which is part of the AURN and is wholly operated by the Council on behalf of DAERA / DEFRA. This is at Lonsdale Road in Armagh City and monitors PM_{10} and NO_2 emissions. The information from this site is not essential to the Local Air Quality Management duties of the Council and therefore its operation and maintenance is entirely paid for by DAERA and DEFRA.

Calibrations are carried out on a fortnightly basis and are completed by the Council's Local Air Quality Management Officer under an annual contract from Bureau Veritas. Site audits are completed twice per year by AEAT on behalf of Defra.

The Council also had a maintenance contract with Environmental Monitoring Services (Dublin) for twice yearly inspections of the monitoring equipment and also to facilitate 24 call outs for emergency maintenance. This contract is now with We Care 4 Air.

Data from the automatic analysers is downloaded via modem by AEAT and Bureau Veritas. AEAT has responsibility for the management of the emissions data recorded by the monitors and they also complete all validation and ratification procedures.

Figure 2.1 – Map of Automatic Monitoring Site

Table 2.1 – Details of Automatic Monitoring Sites

Site Id	Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA?	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Worst-case Location?
AURN 1	Lonsdale Road	Roadside	H 876 458	PM_{10} & NO_2	Y	Y (20m)	3m	Y

2.1.2 Non-Automatic Monitoring Sites

During 2015 Armagh City, Banbridge and Craigavon Borough Council carried out monitoring of NO_2 by diffusion tubes at 16 sites within the Borough.

2.1.2.1 QA/QC

Lab supplying and analysing the tubes
The NO2 diffusion tubes were prepared and analysed by Environmental Scientifics Group Limited (ESG) until April and then by Gradko thereafter.

2.1.2.2 Preparation method used

ESG - The samples have been analysed in accordance with ESG's standard operating procedure ANU/SOP/1015 Issue 1. 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.

Gradko - Nitrogen dioxide in diffusion tubes by UV spectrophotometry. Tubes were prepared in 20% TEA/ Water. Analysed on UV 04 Camspec M550. The Overall M.U. is 7.8% +/- and the Limit of Detection 0.017ug NO2. This anaylsis was in accordance with the Gradko documented in-house laboratory method GLM7.

2.1.2.3 Results of laboratory precision and AIR-PT (formally WASP) proficiency testing scheme referenced in Paragraph 7.182 in LAQM.TG16

Table 1: Laboratory summary performance for AIR NO_2 PT rounds AR006, 7, 9, 10, 12, 13, 15 and 16

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO_2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of ≤ ± 2 as defined above.

AIR PT Round	AIR PT AR006	AIR PT AR007	AIR PT AR009	AIR PT AR010	AIR PT AR012	AIR PT AR013	AIR PT AR015	AIR PT AR016
Round conducted in the period	January – February 2015	April – May 2015	July – August 2015	October – November 2015	January – February 2016	April – May 2016	July – August 2016	September – October 2016
Aberdeen Scientific Services	100 %	100 %	75 %	100 %	100 %	100 %	100 %	100 %
Cardiff Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Edinburgh Scientific Services	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Environmental Services Group, Didcot [1]	87.5 %	100 %	100 %	100 %	100 %	75 %	75 %	100 %
Exova (formerly Clyde Analytical)	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Glasgow Scientific Services	100 %	100 %	100 %	100 %	75 %	100 %	0 %	100 %
Gradko International [1]	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Kent Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Kirklees MBC	75 %	100 %	100 %	100 %	100 %	100 %	100 %	NR [2]
Lambeth Scientific Services	25 %	100 %	100 %	100 %	100 %	100 %	100 %	75 %
Milton Keynes Council	100 %	100 %	100 %	100 %	50 %	100 %	100 %	75 %
Northampton Borough Council	100 %	100 %	100 %	100 %	50 %	100 %	NR [2]	75 %
Somerset Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
South Yorkshire Air Quality Samplers	100 %	100 %	100 %	75 %	100 %	100 %	75 %	100 %
Staffordshire County Council	100 %	100 %	75 %	75 %	75 %	75 %	100 %	NR [2]
Tayside Scientific Services (formerly Dundee CC)	100 %	NR [2]	NR [2]	NR [2]	100 %	NR [2]	100 %	NR [2]
West Yorkshire Analytical Services	100 %	75 %	75 %	75 %	75 %	100 %	NR [2]	50 %

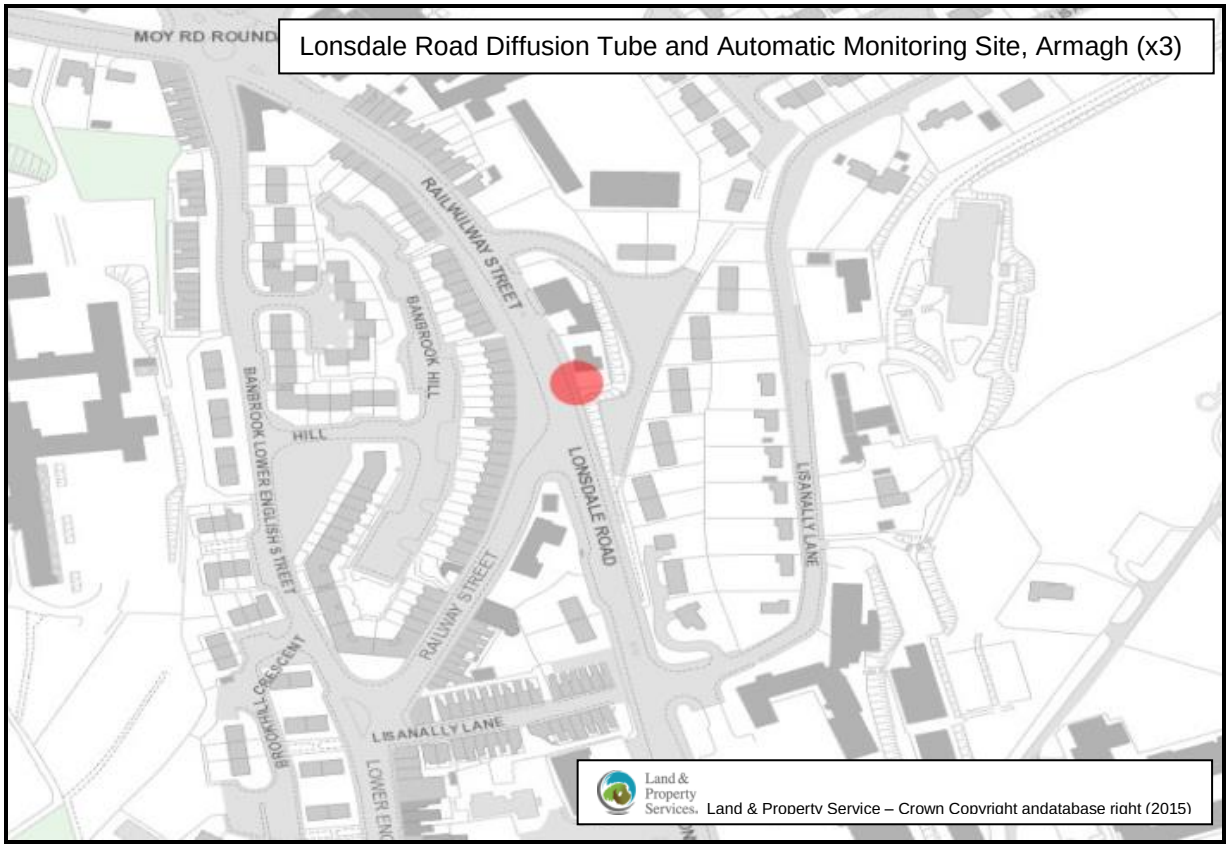
[1] Participant subscribed to two sets of test samples (2 x 4 test samples) in each AIR PT round.
[2] NR No results reported
[3] Kent Scientific Services, Cardiff Scientific Services and Exova (formerly Clyde Analytical) no longer carry out NO2 diffusion tube monitoring and therefore did not submit results.

The bias adjustment factor being applied to the annual means from the diffusion tubes

The NO_2 diffusion tubes were prepared and analysed by ESG and Gradko. The Council obtained the appropriate bias factor from the DEFRA Website. http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html A bias factors

0.79 and 0.87 respectively were taken from the drop down menus available on the excel spreadsheet matrix.

Figure 2.2 – Maps of Non-Automatic Monitoring Sites




Railway Street Diffusion Tube Monitoring Site, Armagh (x3)
MCCRORY'S STREET
RAILWAY STREET
BOYDS ROW
ALEXANDER ROAD
MOY RD ROUNDABOUT
RAILWAY STREET
BANBROOK HILL
BANBROOK LOWER ENGLISH STREET
HILL
LONSDALE ROAD
LISANALLY LANE
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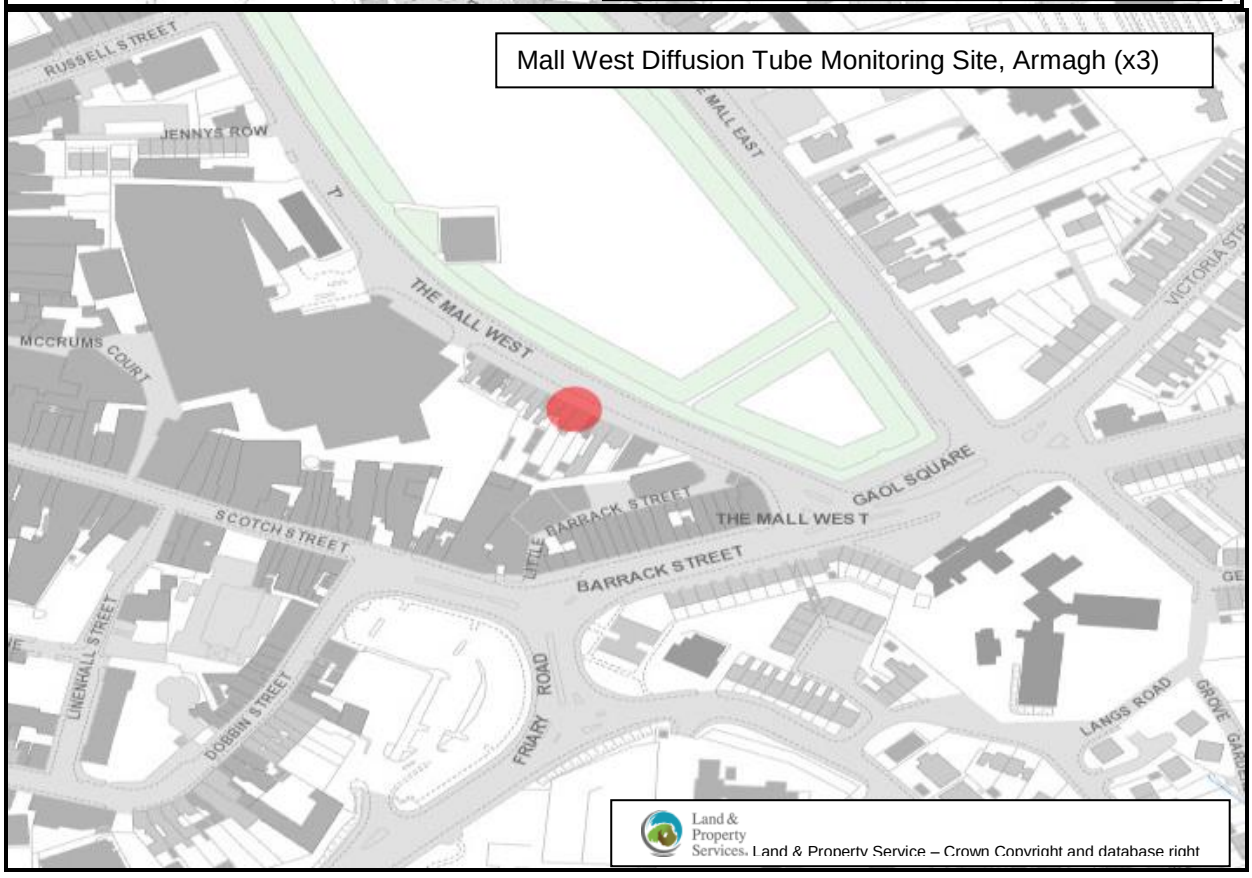
Mall West Diffusion Tube Monitoring Site, Armagh (x3)
RUSSELL STREET
JENNYS ROW
THE MALL EAST
THE MALL WEST
MCCRUMS COURT
VICTORIA STREET
GAOL SQUARE
SCOTCH STREET
LITTLE BARRACK STREET
THE MALL WEST
BARRACK STREET
LINENHALL STREET
DOBBIN STREET
FRIARY ROAD
LANGS ROAD
GROVE
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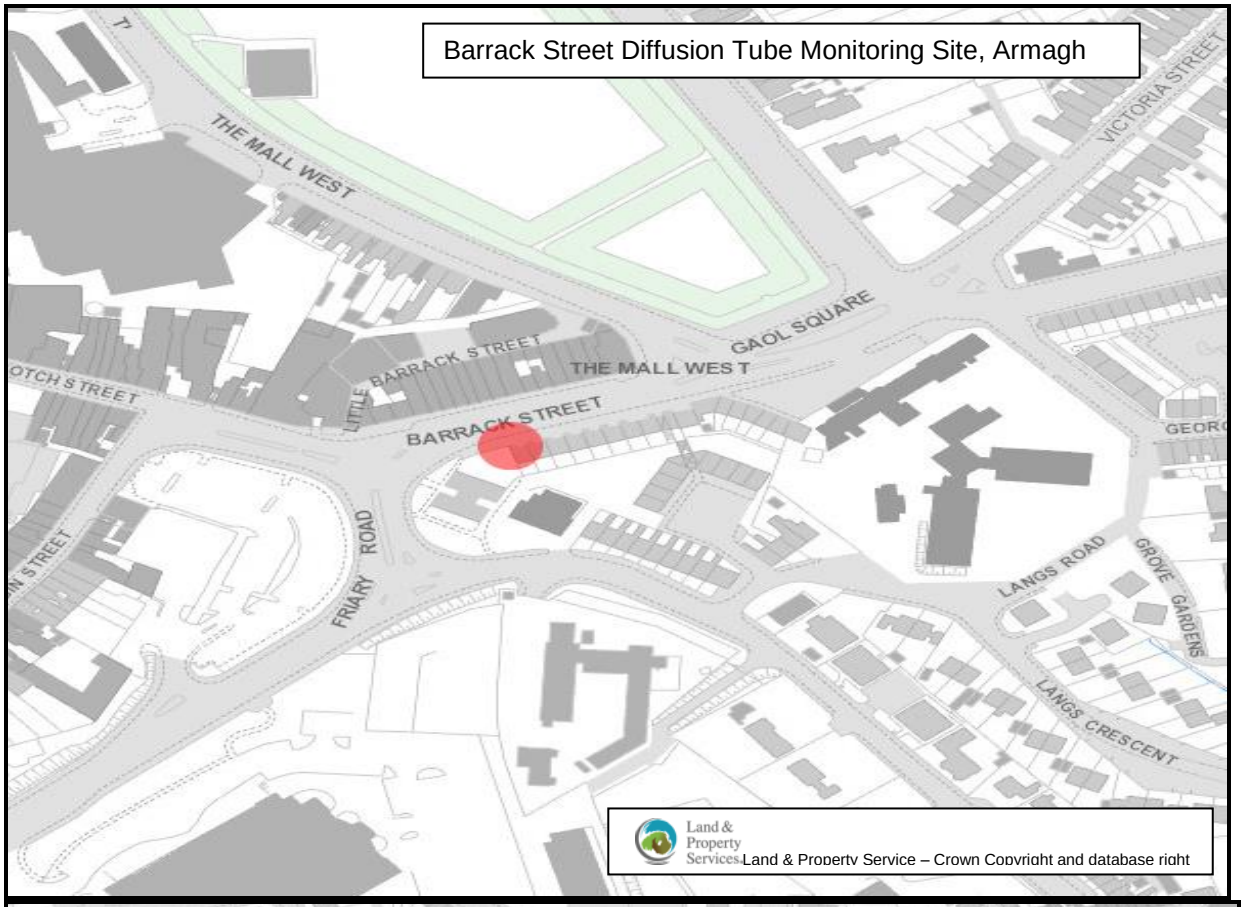
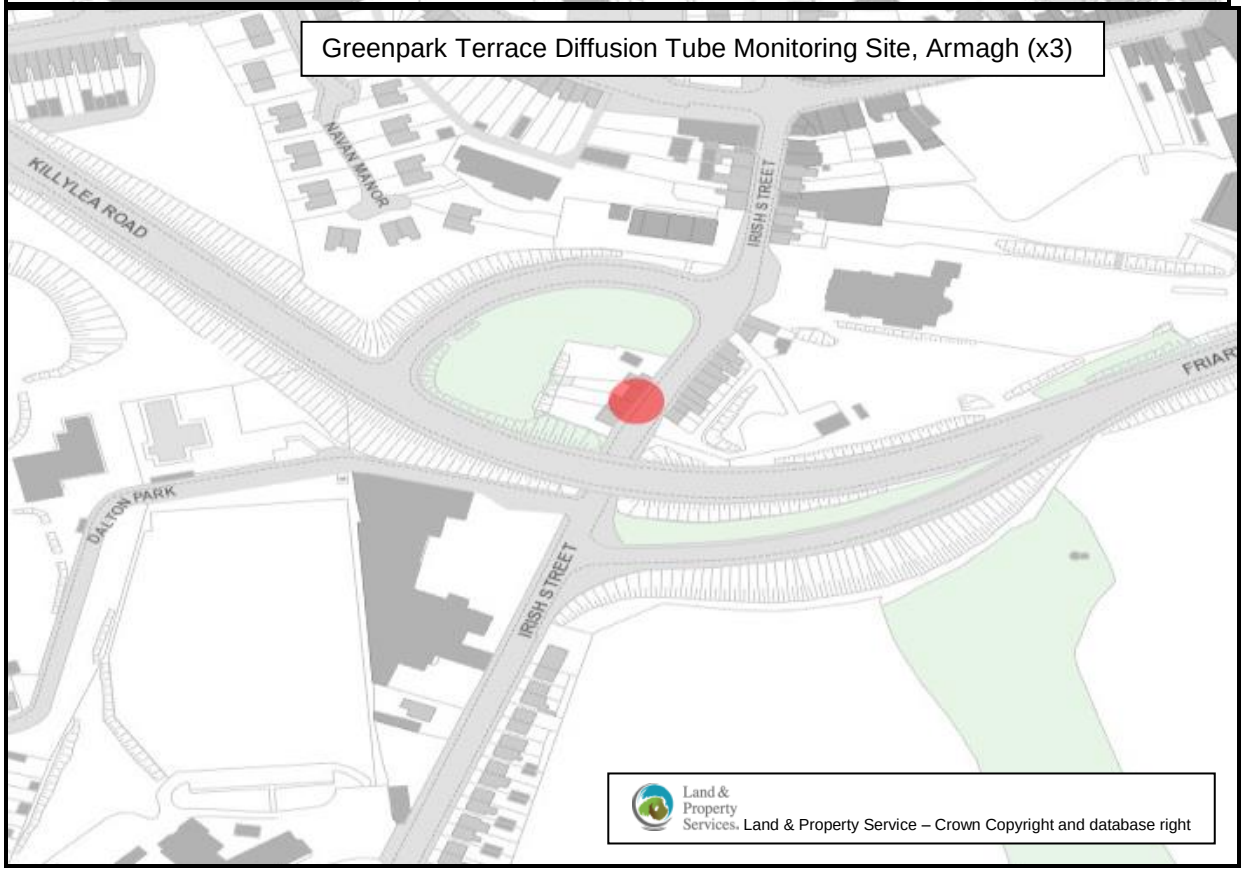

Barrack Street Diffusion Tube Monitoring Site, Armagh
THE MALL WEST
VICTORIA STREET
GAOL SQUARE
LITTLE BARRACK STREET
THE MALL WEST
BARRACK STREET
FRIARY ROAD
LANGS ROAD
GROVE GARDENS
LANGS CRESCENT
Land & Property Services
Land & Property Service – Crown Copyright and database right


Greenpark Terrace Diffusion Tube Monitoring Site, Armagh (x3)
KILLYLEA ROAD
NAVAN MANOR
IRISH STREET
DALTON PARK
IRISH STREET
Land & Property Services
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Greenfield Way Diffusion Tube Monitoring Site, Armagh
GREENFIELD DRIVE
GREENFIELD WAY
GREENFIELD PARK
GREENFIELD COURT
ASHLEY PARK
THORNLEIGH
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Desart Lane Diffusion Tube Monitoring Site, Armagh
DESART LANE LOWER
DESART LANE LOWER
THE HERMITAGE
DESART LANE
DUKES ROAD
DUKES GROVE
CATHEDRAL ROAD
CALLAN BRIDGE ROAD
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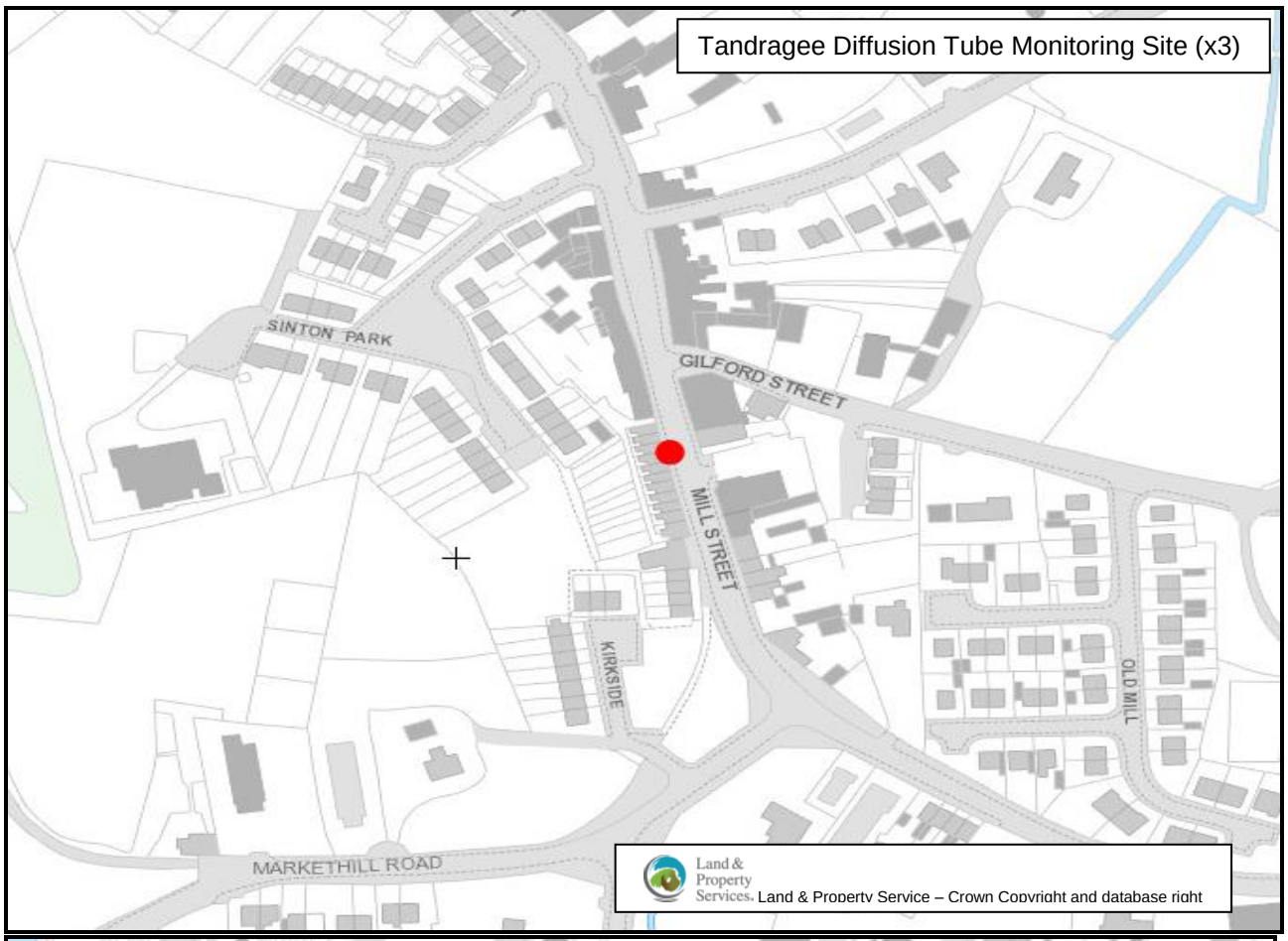

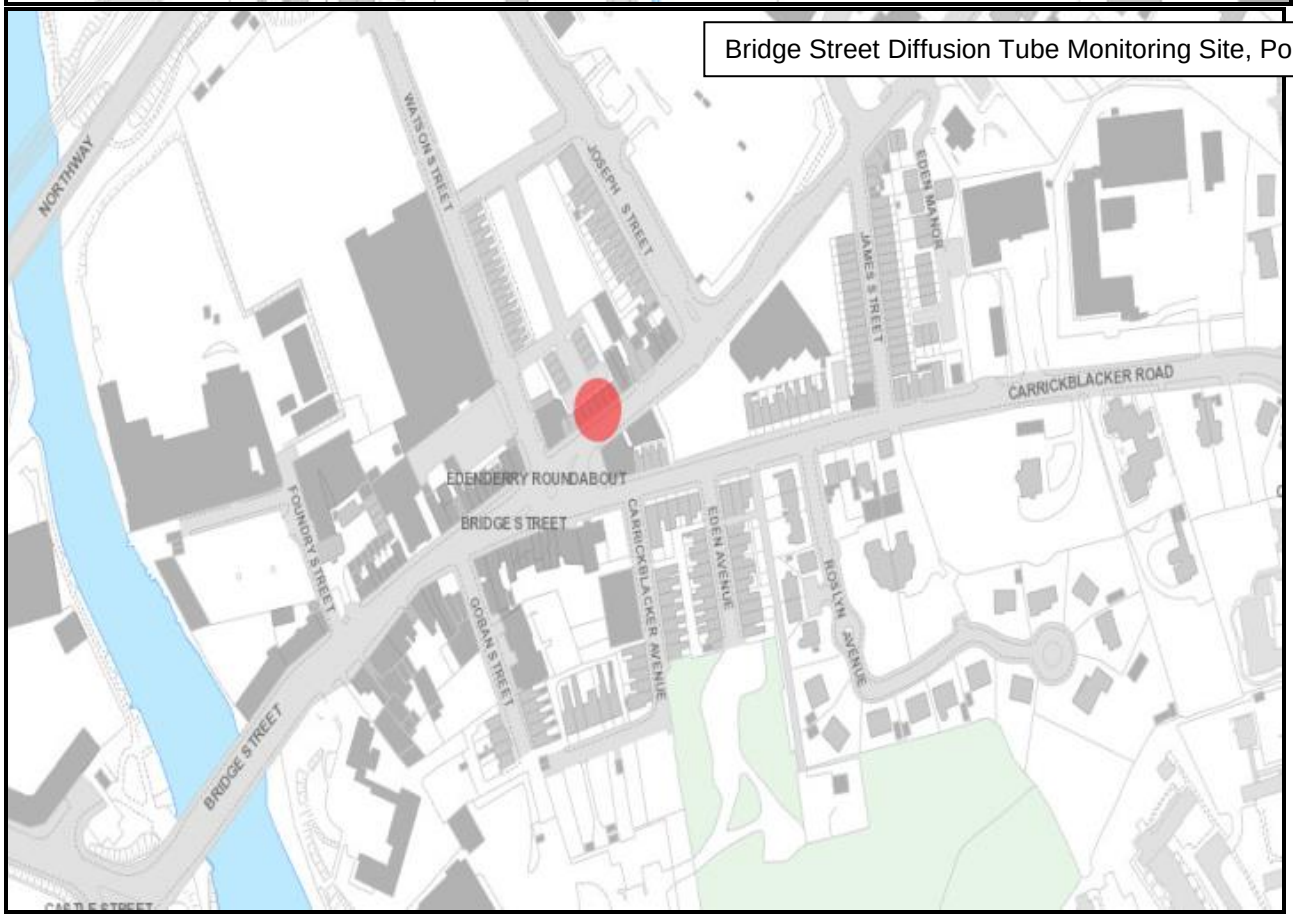

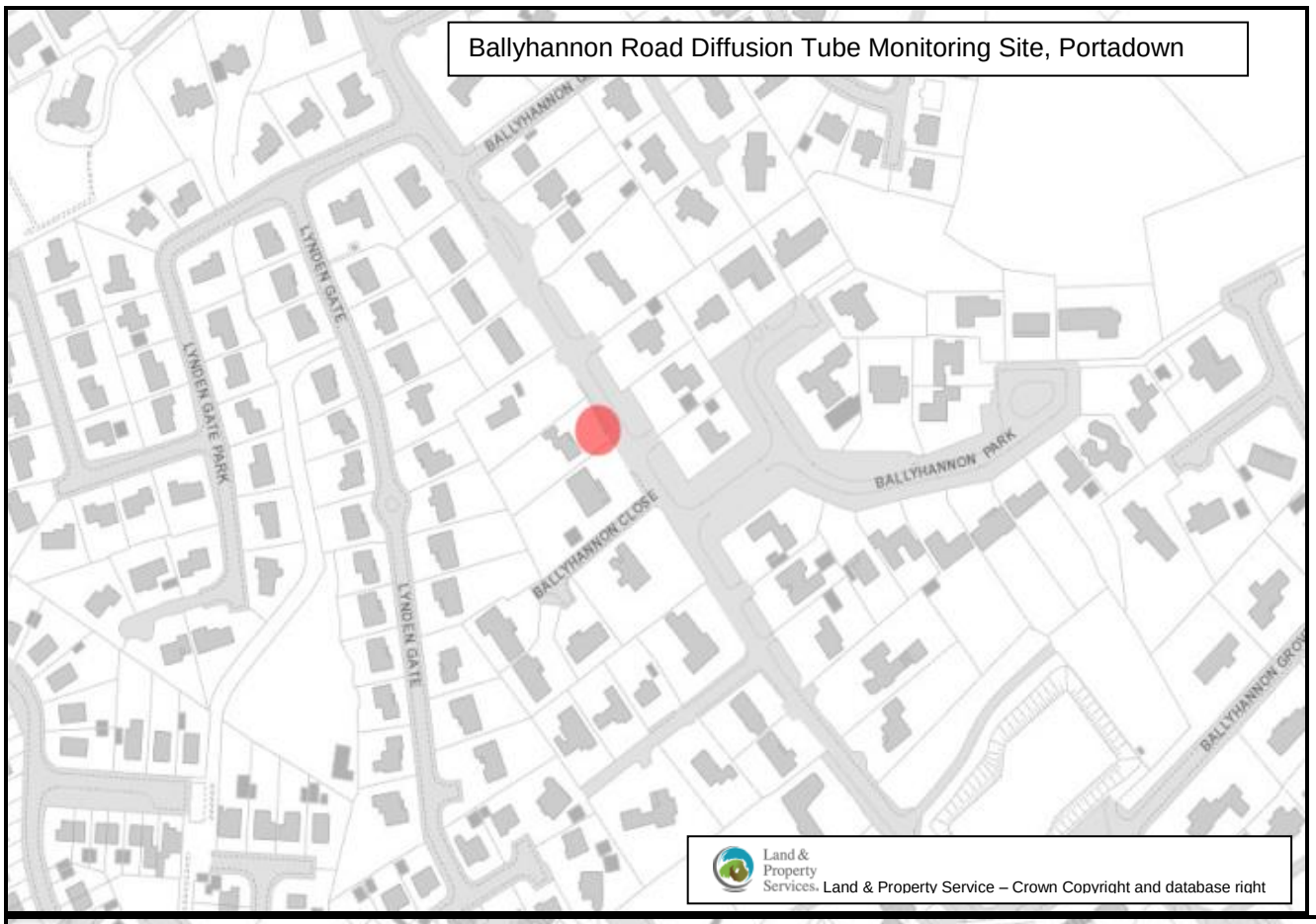
Ballyhannon Road Diffusion Tube Monitoring Site, Portadown
BALLYHANNON
LYNDEN GATE
LYNDEN GATE PARK
BALLYHANNON CLOSE
BALLYHANNON PARK
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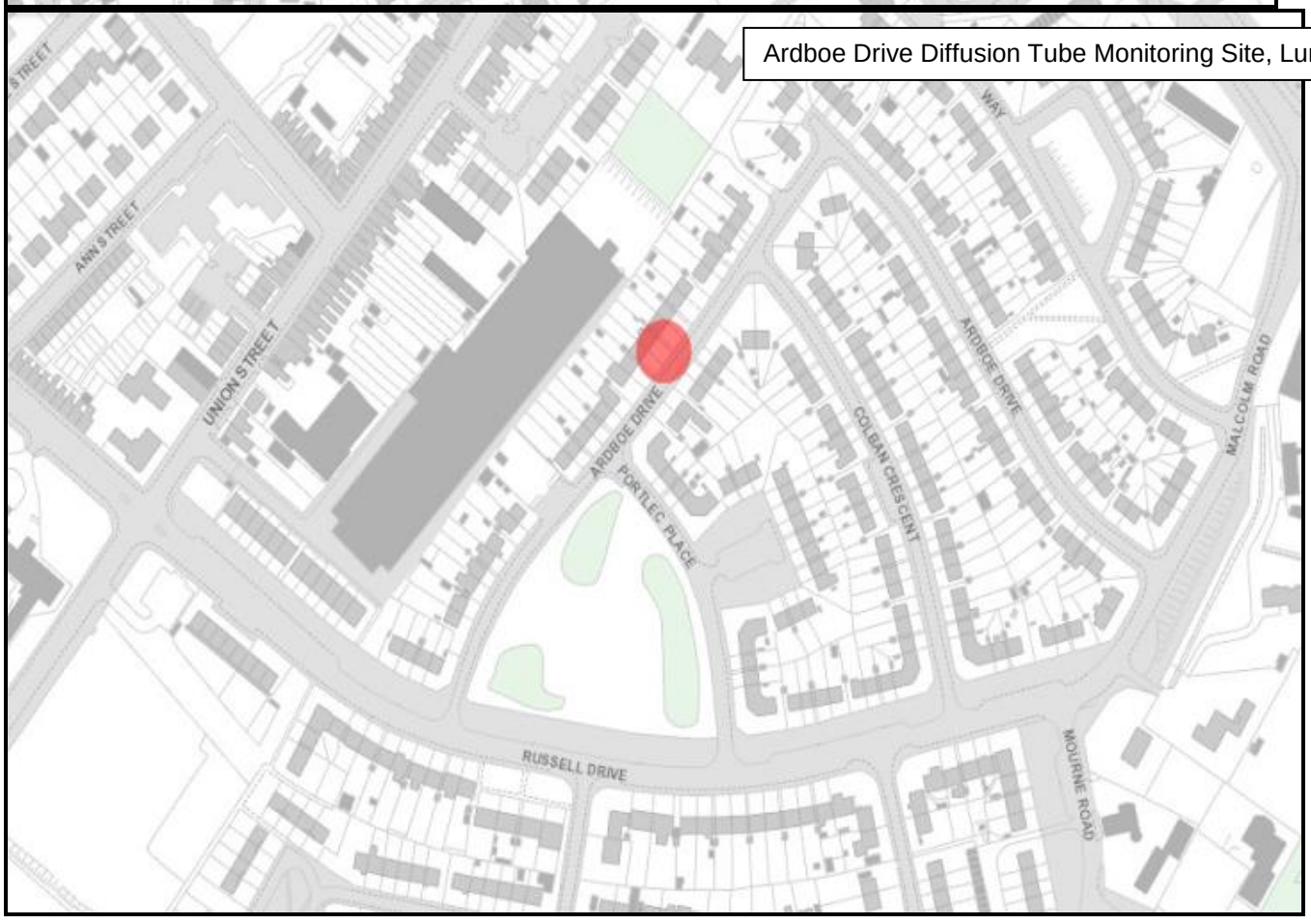
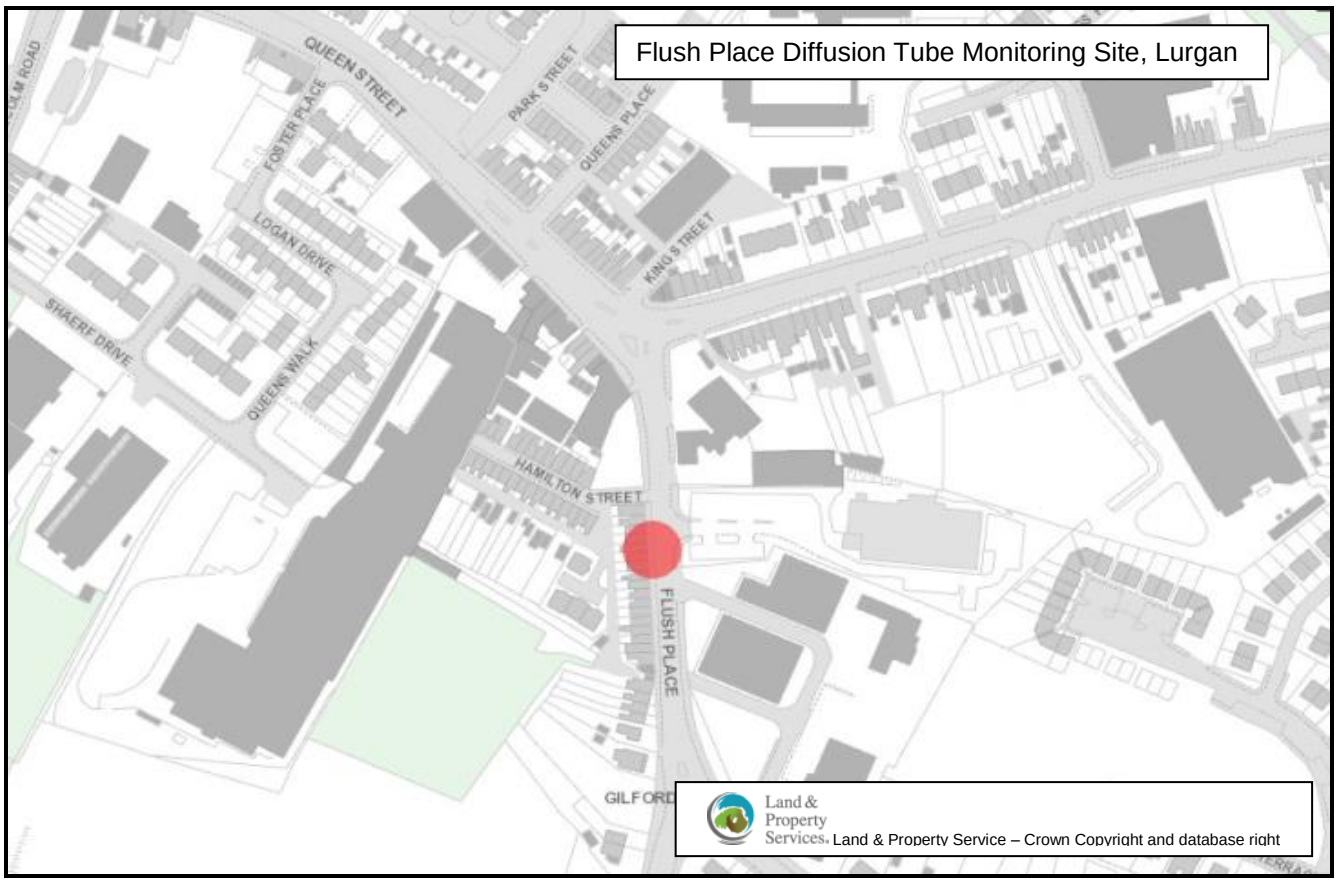

Ardboe Drive Diffusion Tube Monitoring Site, Lurgan
ANN STREET
UNION STREET
ARDBOE DRIVE
PORTLEC PLACE
COLEAN CRESCENT
MALCOLM ROAD
RUSSELL DRIVE
MOURNE ROAD


Flush Place Diffusion Tube Monitoring Site, Lurgan
QUEEN STREET
PARK STREET
QUEENS PLACE
FOSTER PLACE
LOGAN DRIVE
KING'S STREET
SHAERF DRIVE
QUEENS WALK
HAMILTON STREET
FLUSH PLACE
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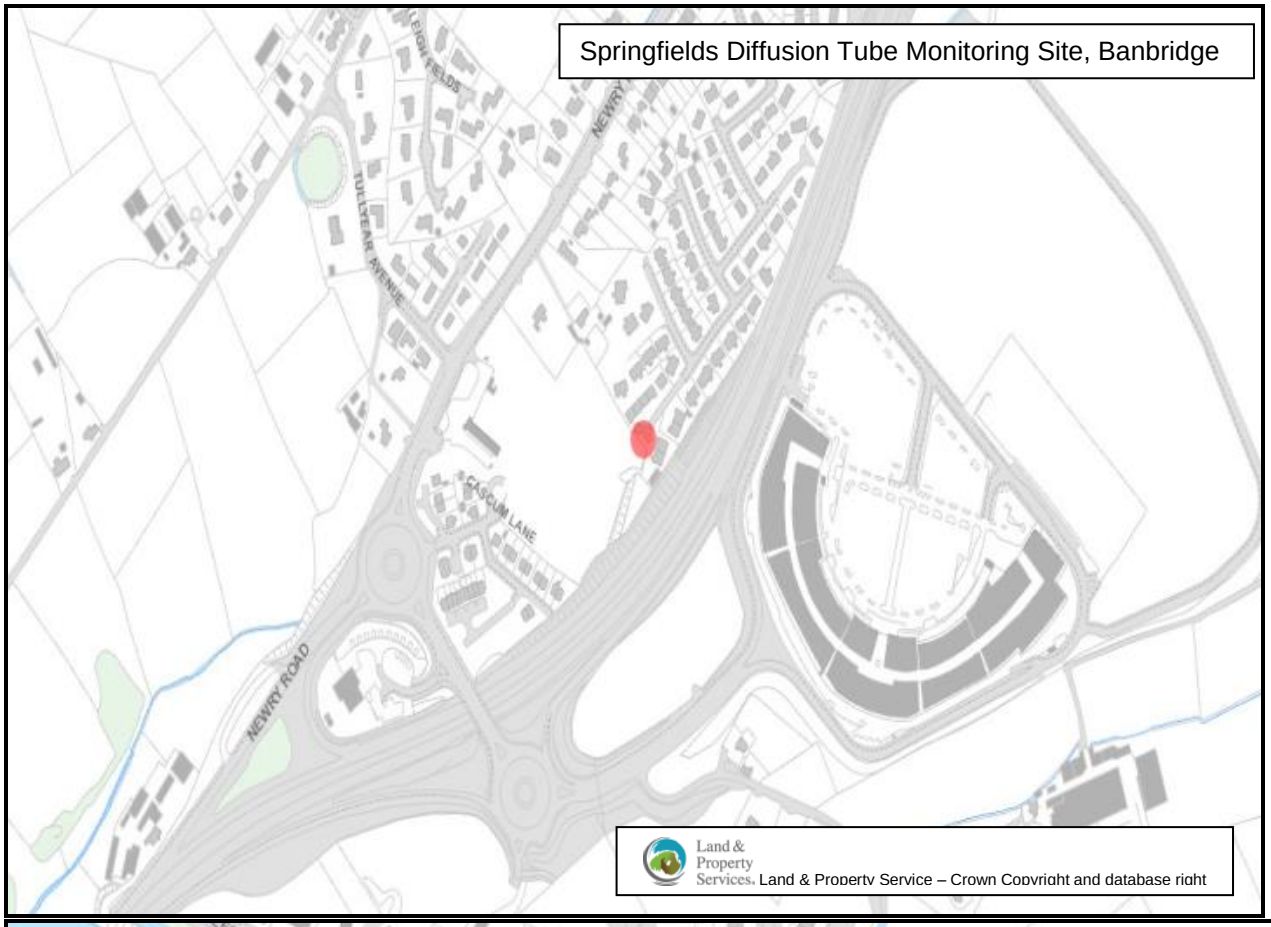
Springfields Diffusion Tube Monitoring Site, Banbridge
TULLYTEAR AVENUE
NEWRY ROAD
CASCUM LANE
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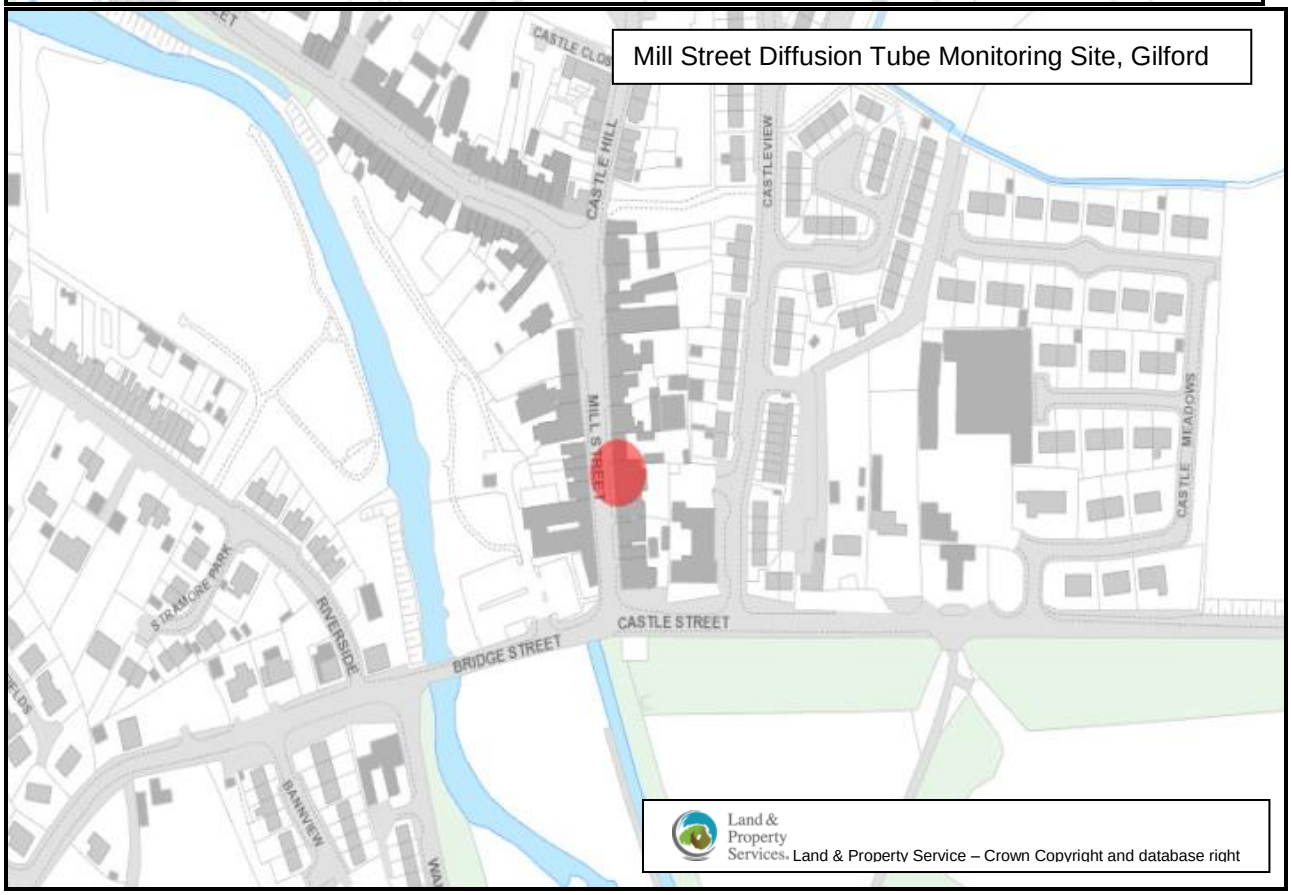
Mill Street Diffusion Tube Monitoring Site, Gilford
CASTLE HILL
CASTLEVIEW
MILL STREET
CASTLE MEADOWS
CASTLE STREET
BRIDGE STREET
RIVERSIDE
STRAMORE PARK
BANNVIEW
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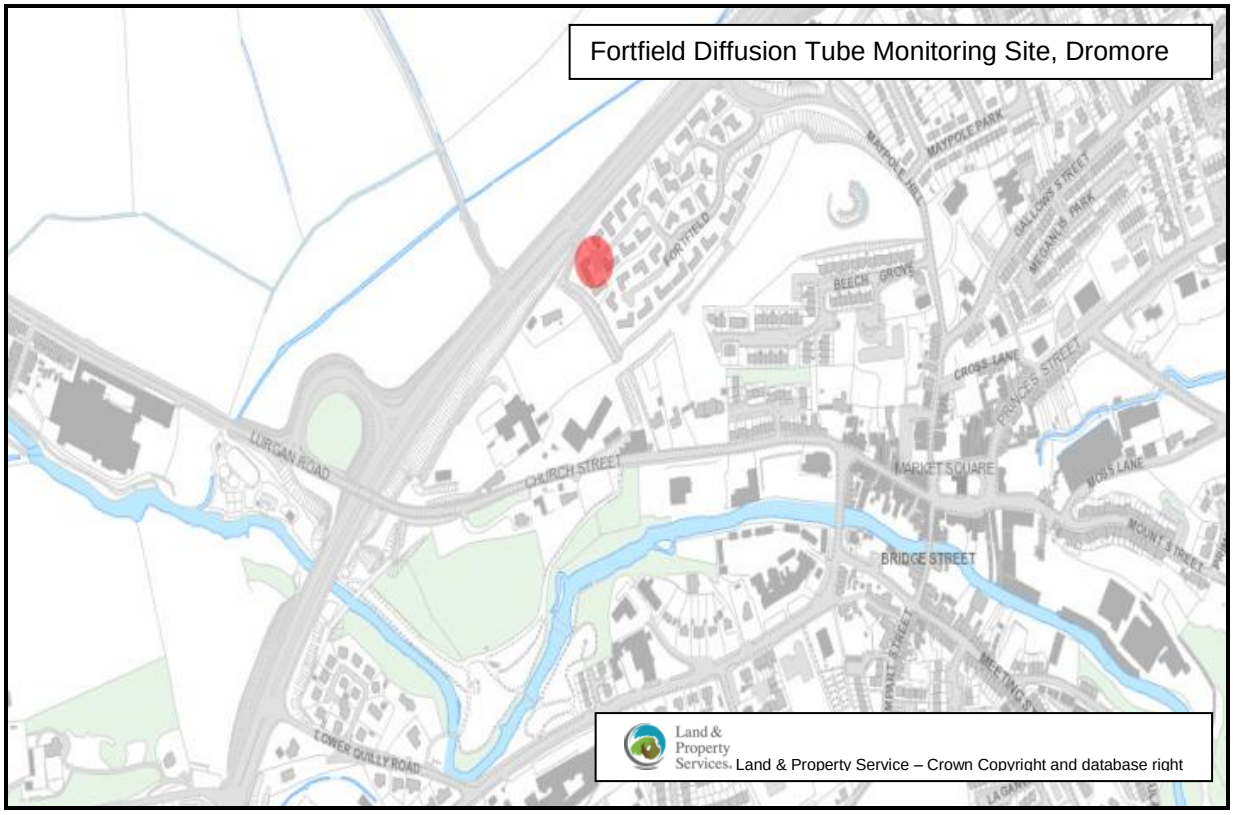
Fortfield Diffusion Tube Monitoring Site, Dromore
MAYPOLE PARK
MAYPOLE HILL
FORTFIELD
BEECH GROVE
GALLOWS STREET
MEGANLIS PARK
CROSS LANE
PRINCES STREET
LURGAN ROAD
CHURCH STREET
MARKET SQUARE
MOSS LANE
MOUNT STREET
BRIDGE STREET
RAMPART STREET
MEETING ST
LOWER QUILLY ROAD
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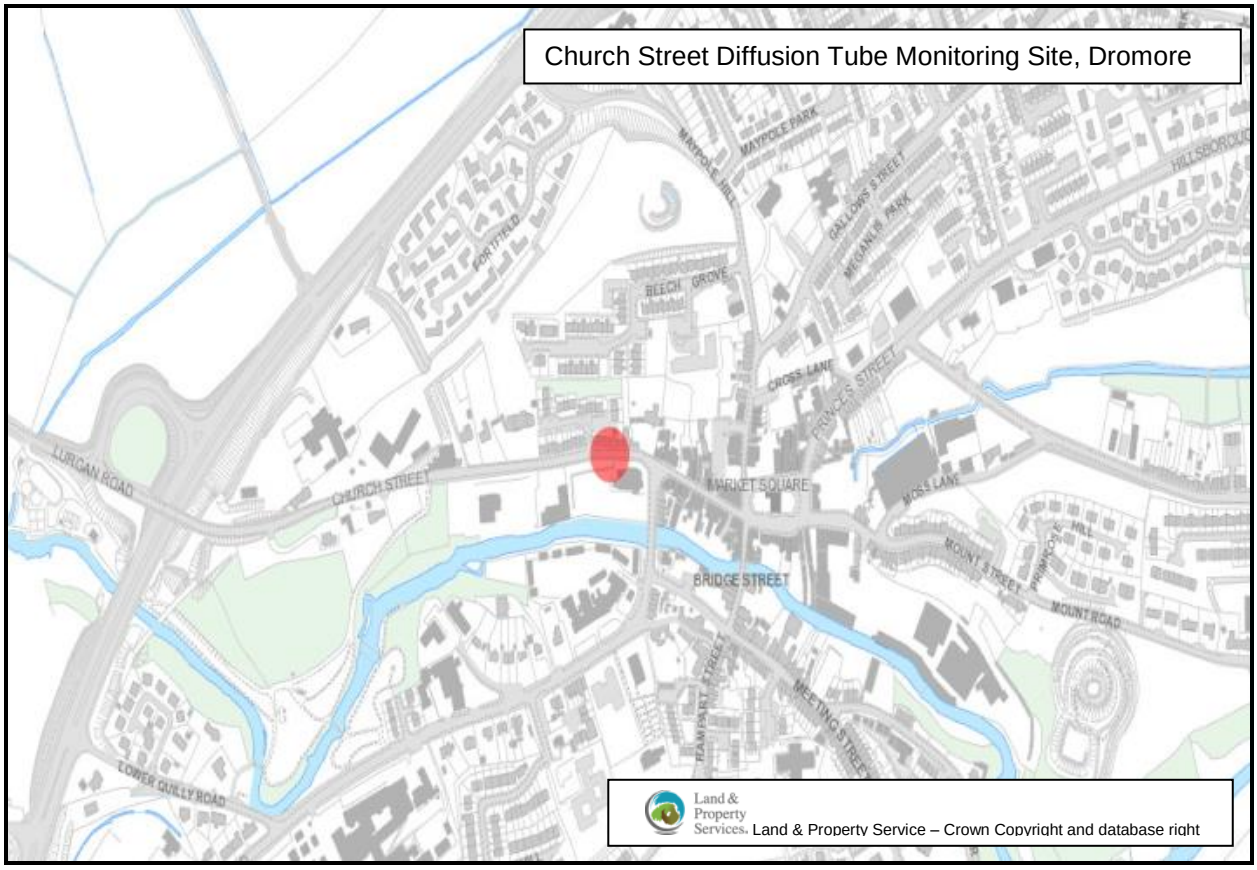
Church Street Diffusion Tube Monitoring Site, Dromore
MAYPOLE PARK
MAYPOLE HILL
FORTFIELD
BEECH GROVE
GALLOWS STREET
MEGANLIS PARK
HILLSBOROUGH
CROSS LANE
PRINCES STREET
LURGAN ROAD
CHURCH STREET
MARKET SQUARE
MOSS LANE
MOUNT STREET
PRIMROSE HILL
BRIDGE STREET
MOUNT ROAD
RAMPART STREET
MEETING STREET
LOWER QUILLY ROAD
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Table 2.2 – Details of Non- Automatic Monitoring Sites

Site Id	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height	Pollutants Monitored	In AQMA?	Is monitoring co-located 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?
1,2 & 3	Lonsdale Road (x3)	Roadside	28752	34584	2m	NO2	Y	Y	Y (20m)	3m	Y
4,5 &6	Mallview Terrace (x3)	Roadside	28783	34515	2m	NO2	Y	N	Y(<1m)	4m	Y
18	Barrack St	Roadside	28789	34505	2m	NO2	Y	N	Y(<1m)	2m	Y
14	Desart Lane	Urban Background	28679	34575	2m	NO2	N	N	Y(10m)	2m	Y
13	Greenfield Way	Urban Background	28878	34426	2m	NO2	N	N	Y(10m)	1.5m	Y
10,11 & 12	1 Green Park Terrace	Roadside	28733	34477	2m	NO2	Y	N	Y(<1m)	2.5m	N
7,8 & 9	Railway Street	Roadside	28745	34594	2m	NO2	Y	N	Y(<1m)	2m	Y
15,16 & 17	Tandragee	Roadside	30332	34585	2m	NO2	N	N	Y(<1m)	4.5m	Y
19	Bridge St, Portadown	Roadside	30155	35423	2m	NO2	N	N	Y(<1m)	2m	Y
20	Ardboe Drive	Urban Background	30812	35780	2m	NO2	N	N	Y(<1m)	15m	N
21	Ballyhannon Road	Urban Background	30317	35428	2m	NO2	N	N	Y(4m)	10m	N
22,23 & 24	Flush Place (x3)	Roadside	30882	35780	2m	NO2	Y	N	Y(<1m)	2m	Y
28	Mill St. Gilford	Roadside	30667	34839	2m	NO2	N	N	Y(<1m)	2m	Y
27	Church St Dromore	Roadside	32001	35339	2m	NO2	N	N	Y(<1m)	2m	Y
26	Fortfield Dromore	Urban Background	31980	35351	2m	NO2	N	N	Y(13m)	13m	N
25	Springfields Banbridge	Background	31190	34402	2m	NO2	N	N	Y(15m)	<1m	N

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.1.3 Nitrogen Dioxide (NO_2)

The Borough continues to have a number of areas where NO2 exceeds the objectives.

Automatic Monitoring Data

Funding for the AURN station operated by the Council for and on behalf of DAERA/DEFRA was withdrawn in year and as a result significant data gaps appeared.

Figure 2.3 Data obtained from AURN site Lonsdale Road Armagh in 2015

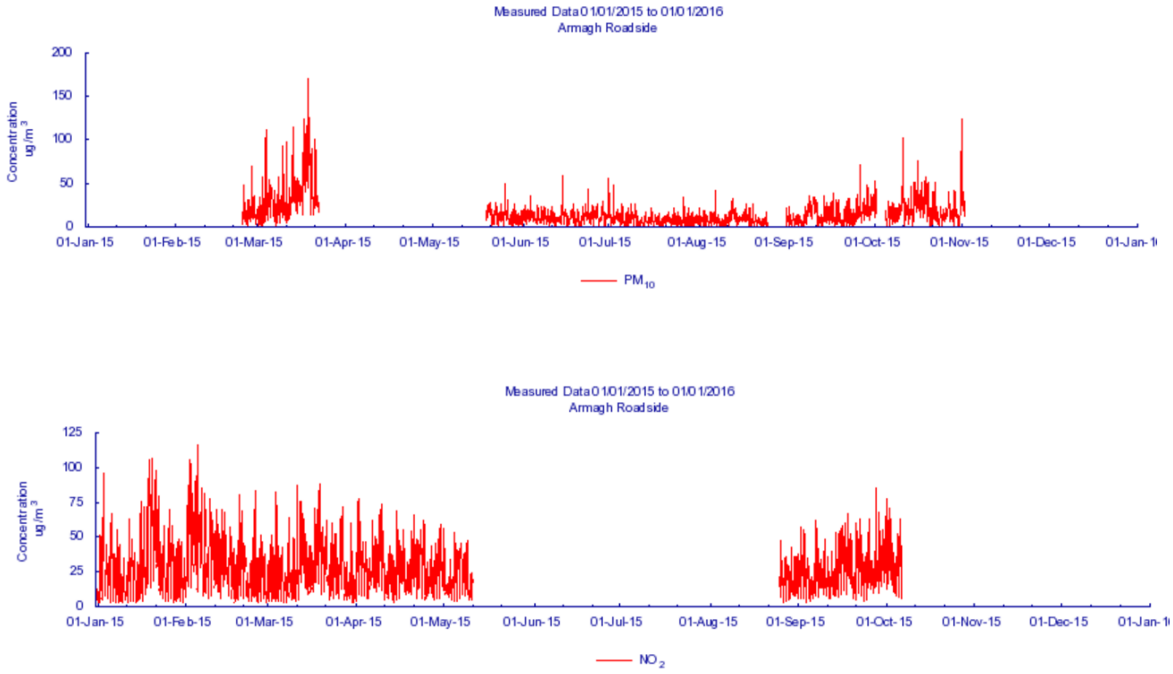


Table 2.3 – Results of Automatic Monitoring for NO_2: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2015 % [b]	Annual Mean Concentration (µg/m^3)				
					2011* [c]	2012* [c]	2013* [c]	2014* [c]	2015 [c]
AURN1	Roadside	Y		46	26	27	27	28	28

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

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

[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" as in Boxes 7.9 and 7.10 of LAQM.TG16, if valid data capture is less than 75%

* Annual mean concentrations for previous years are option

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

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2015 % [b]	Number of Hourly Means > 200µg/m^3				
					2011* [c]	2012* [c]	2013* [c]	2014* [c]	2015 [c]
AURN 1	Roadside	Yes		46	0	0	**0**	0	0

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

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

[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] If the data capture for full calendar year is less than 85%, include the 99.8th percentile of hourly means in brackets

* Number of exceedences for previous years is optional

Diffusion Tube Monitoring Data

The following results are presented for NO2 diffusion tube monitoring in 2015. The results show that the concentrations in urban roadside locations are relatively steady over time and similarly, albeit at a lower concentration, are steady for background locations too. This is not surprising as the source emissions are largely unaltered. Having previously moved to triplicate sampling at Mill Street, Tandragee to inform a Detailed Assessment of this area, the Council proposes to move to a declaration to encompass the Mill Street, Tandragee area into an AQMA.

Table 2.5 – Results of NO_2 Diffusion Tubes 2015

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2015 (Number of Months or %) [a]	2015 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.79(J-M) 0.87 (A-D) [b]
1,2 & 3	Lonsdale Rd	Roadside	Y	Triplicate and co-located	12	29
4,5 & 6	Mall West	Roadside	Y	Triplicate	12	35
7,8 &9	Railway St	Roadside	Y	Triplicate	12	40
10,11 & 12	Greenpark Tce	Roadside	Y	Triplicate	12	43
13	Greenfield Way	Roadside	N	-	11	9
14	Desart Lane	Background	N	-	12	13
15,16 & 17	Mill St Tandragee	Roadside	Y	Triplicate	12	42
18	Barrack St	Roadside	N	-	12	31
19	Bridge St Portadown	Roadside	N	-	11	31
20	Ardboe Dr Lurgan	Background	N	-	12	10
21	Ballyhannon Rd	Background	N	-	12	10
22,23 & 24	Flush Place	Roadside	N	Triplicate	12	33
25	Springfields Banbridge	Background	N	-	12	13
26	Fortfield Dromore	Background	N	-	12	12
27	Church St Dromore	Roadside	N	-	12	25

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2015 (Number of Months or %) [a]	2015 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.79(J-M) 0.87 (A-D) [b]
28	Mill St Gilford	Roadside	N	-	12	35

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

Underlined, annual mean > 60µg/m^3, indicating a potential exceedence of the NO_2 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 exceedence is measured at a monitoring site not representative of public exposure, NO_2 concentration at the nearest relevant exposure should be estimated based on the "NO_2 fall-off with distance" calculator (http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html), and results should be discussed in a specific section. The procedure is also explained in paragraphs 7.77 to 7.79 of LAQM.TG16.

Table 2.6 – Results of NO_2 Diffusion Tubes (2011 to 2015)

Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias [a]				
			2011 (Bias Adjustment Factor = 0.84)	2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.80)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.79(J-M) 0.87 (A-D))
1,2 & 3	Lonsdale Rd	Roadside	30	31	32	32	29
4,5 & 6	Mall West	Roadside	**43**	**40**	**40**	**41**	35
7,8 &9	Railway St	Roadside	**50**	**44**	**48**	**47**	**40**
10,11 & 12	Greenpark Tce	Roadside	**49**	**48**	**46**	**44**	**43**
13	Greenfield Way	Roadside				11	9
14	Desart Lane	Background	13	13	13	12	13
15,16 & 17	Mill St Tandragee	Roadside				**42**	**42**
18	Barrack St	Roadside	36	35	35	34	31
19	Bridge St Portadown	Roadside	34	39	38	35	31
20	Ardboe Dr Lurgan	Background	9	10	10	9	10
21	Ballyhannon Rd	Background	7	9	9	9	10
22,23 & 24	Flush Place	Roadside	36	39	36	38	33
25	Springfields Banbridge	Background	12	11	13	12	13
26	Fortfield Dromore	Background	11	11	11	11	12

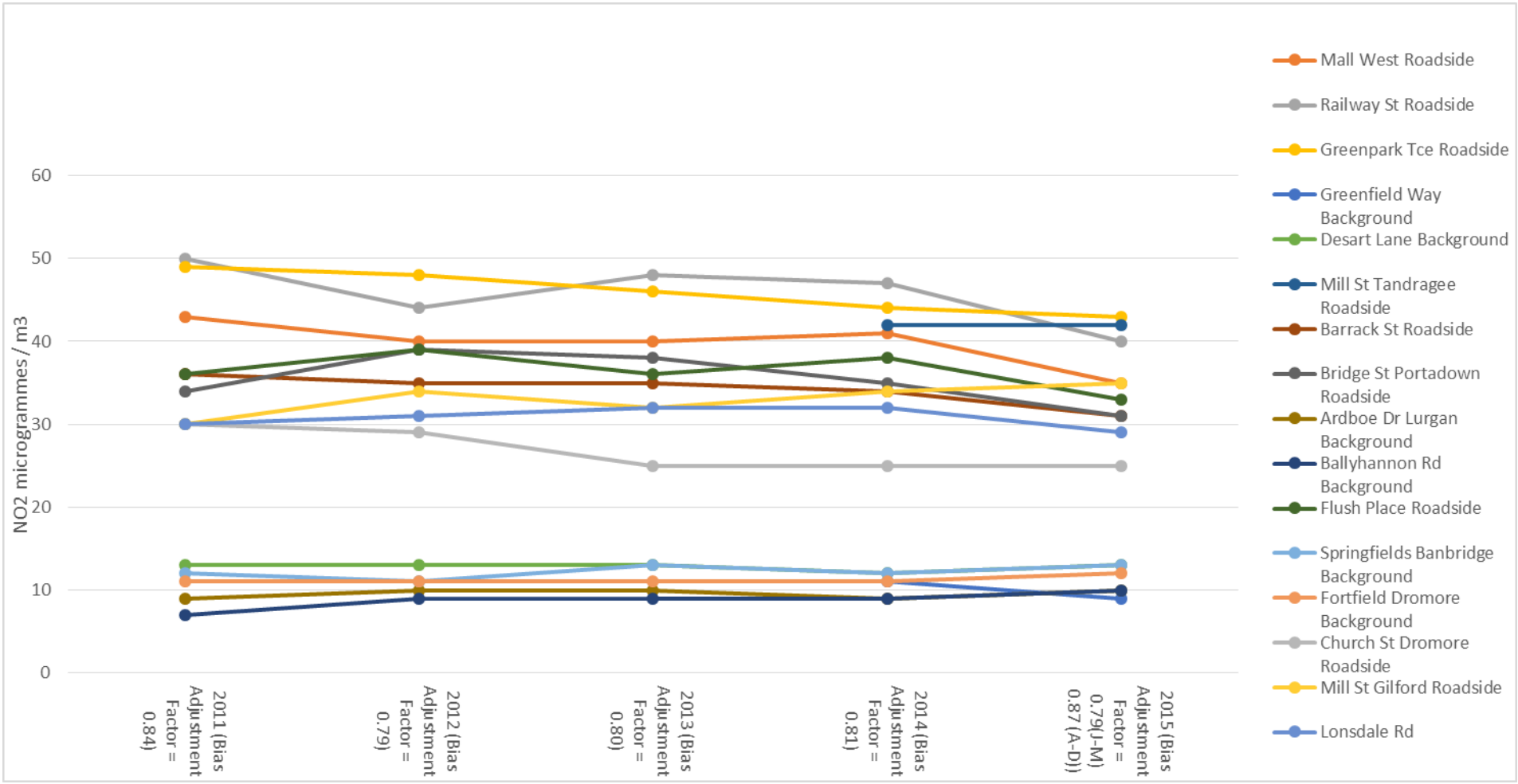
Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias [a]				
			2011 (Bias Adjustment Factor = 0.84)	2012 (Bias Adjustment Factor = 0.79)	2013 (Bias Adjustment Factor = 0.80)	2014 (Bias Adjustment Factor = 0.81)	2015 (Bias Adjustment Factor = 0.79(J-M) 0.87 (A-D))
27	Church St Dromore	Roadside	30	29	25	25	25
28	Mill St Gilford	Roadside	30	34	32	34	35

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

Underlined, annual mean > 60µg/m^3, indicating a potential exceedence of the NO_2 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



2.1.4 Particulate Matter (PM_{10})

Particulate matter is monitored at the Lonsdale Road AURN station wholly for the purposes of DAERA / DEFRA data collection. PM10 concentrations have never exceeded the objectives at this location despite its situation within an AQMA declared for traffic source NO2.

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 2015 % [b]	Confirm Gravimetric Equivalent (Y or N/A)	Annual Mean Concentration (µg/m^3)				
						2011* [c]	2012* [c]	2013* [c]	2014* [c]	2015 [c]
AURN 1	Roadside	Y	NA	50	Y	19	16	19	21	15

In bold, exceedence 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.TG16, if valid data capture is less than 75%

* Annual mean concentrations for previous years are optional

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

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2015 % [b]	Confirm Gravimetric Equivalent (Y or N/A)	Number of Daily Means > 50µg/m^3				
						2011* [c]	2012* [c]	2013* [c]	2014* [c]	2015 [c]
AURN 1	Roadside	Y	NA	50	Y	1(27)	8(27)	8(34)	1(33)	3(31)

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

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

[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] if data capture for full calendar year is less than 85%, include the 90.4th percentile of 24-hour means in brackets

* Number of exceedences for previous years is optional

2.1.5 Sulphur Dioxide (SO_2)

Not monitored

2.1.6 Benzene

Not monitored

2.1.7 Other Pollutants Monitored

Previously DAERA (as DOE NI) commissioned additional monitoring hosted by the Council in Armagh. The results of that study along with other work by Ricardo indicated significantly different emissions in NI when compared to the rest of the UK. We await any further response from central Government on this matter.

2.1.8 Summary of Compliance with AQS Objectives

Armagh City, Banbridge and Craigavon Borough Council has examined the results from monitoring in the Borough.

Concentrations within the AQMA still exceed the objective for nitrogen dioxide at the roadside corridor extending from Mall West to Railway Street, Armagh; on the underpass at Greenpark Terrace, Armagh; and on the incline/decline route on Mill Street through Tandragee and the AQMA should remain and be declared as appropriate.

3 New Local Developments

3.1 Road Traffic Sources.

3.2 Other Transport Sources

3.3 Industrial Sources

3.4 Commercial and Domestic Sources

3.5 New Developments with Fugitive or Uncontrolled Sources

Armagh City, Banbridge and Craigavon Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Armagh City, Banbridge and Craigavon Borough Council confirms that all the following have been considered:

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

4 Local / Regional Air Quality Strategy

This Council strongly encourages the development of a Regional Air Quality Strategy by central Government which ties in with a new national strategy containing measures which are likely to succeed in reducing national fleet emissions and hence localised manifestations of poor air quality.

This Council currently has 2 disparate AQMAs within the small urban centre of Armagh and a further to be declared on the arterial route within the small town of Tandragee. None of these locations are causative of the poor air quality they experience, they simply are discrete areas of land where the relationship between receptors and concentrations conjoin. There is no desire locally to implement punitive measures within these areas to address poor air quality, instead, should it be the desire of central Government to reduce the concentrations in such AQMAs across the UK – that a comprehensive system to reduce emissions from traffic is produced for the nation directly from HM Treasury policy.

This Council is minded to declare its entire area an AQMA and develop a wide-ranging Air Quality Strategy to tie in with all this Council's other commitments to health and environmental stewardship in order to demonstrate civic leadership and therefore lead our local businesses and residents (as well as those travelling through our Borough) in minimising adverse impacts. This Strategy will act as the Council's Action Plan to address all emissions across the Borough which manifest themselves in the AQMAs declared.

Local Government Reform in Northern Ireland took place in April 2015 and a paper on local Air Quality was taken to the Environmental Services Committee of the new Council in February 2016. The paper was warmly received and the work of the Environmental Health Department on Local Air Quality Management was endorsed, however, it must be recognised that there was impetus for locally applied restrictions at or near AQMAs. LAQM is far from the priority in Northern Ireland in the absence of a realistic central Government policy. Accordingly, the formal declaration for Mill Street in Tandragee has not yet been progressed. It is proposed that a declaration alongside a new Council Air Quality Strategy will be produced in 2017.

5 Planning Applications

This Council assessed the impact of several Anaerobic Digestion plants within the Borough and one new biomass dryer. Several small scale biomass heating systems were also assessed. A number of other large scale residential developments and retail/leisure developments which would attract high levels of traffic were also assessed. None of them were found to generate a significant LAQM impact.

This Council assessed the LAQM impact of several quarry amendment / extensions as well as a number of waste infrastructure sites. None were considered to have LAQM impacts at planning stage.

6 Air Quality Planning Policies

This Council is now in the process of preparing a Local Development Plan. Whilst air quality is unlikely to be considered of sufficient weight to merit priority within that plan it is and will remain a material consideration. Supplementary policies that may emerge in future years may have specific requirements in relation to air quality.

7 Local Transport Plans and Strategies

The Council has no statutory responsibility in relation to local transport plans or strategies as this lies wholly with central Government (presently with the Department for Infrastructure). For Armagh City, Banbridge and Craigavon Borough Council the air pollution issues identified in this progress report and previous assessments all relate to transport / traffic emission sources. Therefore, this Council is keen see air pollution as a key issue in transport planning locally (regionally).

The following information was obtained from the Department for Infrastructure website (accessed 22/05/2017):

"A new approach to regional transportation

The former Minister for Regional Development, Danny Kennedy MLA, launched a new approach to the long term development of regional transport in Northern Ireland in April 2012.

New approach

Launching the plans in a strategic document, Ensuring a Sustainable Transport Future - A New Approach to Regional Transportation, the publication sets out how the Department will develop regional transportation beyond 2015, when the current transport plans reach their conclusion.

Following the formal announcement, in a written statement to the Assembly, Danny Kennedy said:

"Transportation is a vital component in helping grow the economy. We need to invest every penny as wisely as possible. Our transport network must support the economy and act as a catalyst for growth."

The document lists three High Level Aims for transportation along with essential supporting Strategic Objectives. These cover the economy, society, and the environment. It shows how strategic transportation developments can be assessed to allow informed decisions making on future transportation investment.

The Minister continued:

"While we will deliver our existing plans for transport, with improved infrastructure, supported with investment in buses and trains, our New Approach gives a clear strategic focus for 2015 onwards.

"With balanced sustainable objectives, leading to clearer decision making on longer term investment we will progress in step with the Executive's priorities."

Potential projects

The New Approach will steer decision making on strategic transportation interventions and link to the Programme for Government and the Regional Development Strategy objectives.

Work is progressing on the implementation of the New Approach, and assessing the deliverability and affordability of potential projects for the 2016-19 budgetary period.

Assessments

We carried out a number of assessments as we developed the New Approach.

- *Habitats regulations assessment*

- *Post adoption statement*
- *Equality impact assessment*
- *Integrated impact assessment*
- *Strategic Environmental Assessment (SEA) - reports produced during the development of the RDS 2035*

Regional Transportation Strategy 2002-2012

The New Approach will be used to make decisions on transportation investment from 2015."

Armagh City, Banbridge and Craigavon Borough Council await the out-workings of the new approach and await to see the weight given to reducing the current emissions burden from transport (which is manifesting itself in discrete AQMAs across NI) whilst it the network must to quote the former Minister, "*support the economy and act as a catalyst for growth".*

Since the introduction of the Environment (NI) Order 2002, there have been no measures to significantly address the emissions from the UK fleet hence the fairly consistent results of monitoring by this and similar Councils in NI. It is acknowledged that as well as efforts to make public transport more accessible and efficient (with a particular emphasis on large urban centres), that a number of discrete road infrastructure improvements have led to better traffic management. The net benefit upon local air quality has not been seen.

This Council will use every opportunity to encourage a clear and meaningful approach to national traffic emissions and air quality management from central Government.

8 Implementation of Action Plans

Table 8.1 below provides an update on the Action Plan published by the legacy Armagh City & District Council. For clarity, this Action Plan addresses both the Mall West / Lonsdale Road / Railway Street AQMA as well as the Greenpark Terrace AQMA as both within the small urban city centre of Armagh.

In April 2015 funding for LAQM in this and other Councils in NI was decimated. This Council lost the Local Air Quality Management Officer employed by five pre-LGR Councils and his knowledge and skills as a result. That skills-set was not available elsewhere within the Council, it has not been replaced nor considered appropriate to out-source same.

As a result and given the limited outcomes from stakeholder engagement and action planning, this Council made a conscious effort to focus its attention to:

1. Maintaining monitoring network for LAQM to provide the evidence base to challenge and inform central Government;
2. To assist DAERA / DEFRA in maintaining the locally-hosted AURN network site towards their legislative requirements as a Member State; and
3. To use the influence of new planning control powers within Councils to ensure that no new developments would worsen air quality within the Borough.

To this end, stakeholder engagement has all-but ceased in relation to the Action Plan. It is acknowledged that a new Action Plan and approach is required to reflect the new Council and arrangements. This is discussed further in Chapter 4 “Local Strategies”.

The Action Plan that will address the new AQMA covering Tandragee will take a broad emissions reduction focus across the Borough and therefore this Council does not propose to have 3 essentially similar action plans dealing with the same generalised pollution source within a relatively small geographical area.

Table 8.1 – Action Plan Progress

The following table presents the current Action Plan previously developed by the Council to address the Mall West / Lonsdale Rd / Railway Street and Greenpark Terrace AQMAs. It has been novated to the new Council.

ACTION	Lead Authority	Impact	Indicator	To be achieved	Progress to date
1. Investigate the efficiency of the traffic lights at the junctions of Barrack Street, Mall West and Newry Road and improve the timings of the lights to aid traffic flow.	DfI Transport NI	Less congestion and faster speeds at junctions leading to an overall reduction in NO_2 levels.	DfI Transport NI to report back to AQMA Stakeholder Committee on possible efficiency measures. If implemented, changes will be assessed in the short term based on average queue lengths and number of journeys. Long Term reduction of NO2 in annual monitoring results	August 2012 On-Going	DfI Transport NI stated that the current system is the most efficient at moving traffic through the current AQMA. Any further developments at this location will depend on whether the gyratory system around the mall is implemented. 2017 no progress on gyratory implementation.
2. Investigate the efficiency of the roundabout at the junction of Mall West, Lonsdale Road, and to assess if other traffic control measures may be better suited to ease congestion	DfI Transport NI	Reduction in the overall level of traffic pollution on Mall West, Lonsdale Road and Railway Street. Co-ordinate efficient traffic flow in conjunction with lights at Barrack Street and Newry Road.	DfI Transport NI to report back to AQMA Stakeholder Committee on possible efficiency measures. . If implemented, changes will be assessed in the short term based on average queue lengths and number of journeys. Long Term reduction of NO2 in annual monitoring results	August 2012 On-Going	DfI Transport NI has stated that any scrutiny of the current junction layout will be taken under consideration if the gyratory system around The Mall is implemented. There are no other works planned at this location. 2017 no progress on gyratory implementation. New superstore adjacent received planning permission in 2015. Subject to traffic control conditions. Implementation awaited.
3. To use vehicles, fuel and technology which optimize the balance of efficient operations, output emissions and environmental impact, with regulatory compliance as a minimum standard.	Translink	Reduction in the overall level of traffic pollution in the AQMA and reduction in the numbers of highly polluting vehicles on the roads	To achieve an average road fleet age of 8 years and a retirement age of 12 years for coaches and 18 years for buses by 2013	2013	Translink continue to report regionally to its parent Department and adheres to emissions requirements of that Department. No stakeholder meetings in 2015 or 2016.

ACTION	Lead Authority	Impact	Indicator	To be achieved	Progress to date
4 Air Pollution Monitoring.	Armagh City, Banbridge and Craigavon Borough Council	Identification of long term trends in pollution and focus on areas of poor air quality	Long Term reduction of NO2 in annual monitoring results	On-Going	The Council has a well maintained and permanent system of air quality monitoring using diffusion tubes and an automatic analyser for DAERA. All monitoring sites reviewed at LGR in 2015
5. Investigate the feasibility of removing a number of the parking spaces on Mall West.	DfI Transport NI	Reduces pressure on vehicles using Mall West. Optimises traffic speeds and eradicates congestion on Mall West in both directions.	Number of Car Parking spaces reduced Long term reduction of NO2 in annual monitoring results	May 2012 On-Going	On-street parking was not transferred to Councils at LGR. This remains a matter for DfI Transport NI. It is understood there is no present intention to proceed with this action.
6. Investigate the feasibility of introducing a 'Pay & Display' system on Mall West	DfI Transport NI	Increased efficiency in traffic flow through the AQMA and town centre. Reduces congestion and encourages use of larger off-street car parks.	DfI Transport NI to report back to AQMA stakeholder committee on possible measures	May 2012	DfI Transport NI has reported back to the stakeholder committee that there are no plans to introduce a pay and display system in Armagh.
7. Complete a traffic assessment of Armagh City Centre and carry out DMRB assessment of AQMA Junctions	Armagh City, Banbridge and Craigavon Borough Council	Identification of long term trends in pollution and assesses requirement for improvements to road network	Long Term reduction of NO2 in annual monitoring results Reduced Traffic Flows (AADT) through Armagh City centre	April 2011	A traffic assessment was completed under the VISSIM project completed by the Council as part of plans for a new gyratory road system on The Mall. There has been no progress on this project to date.

ACTION	Lead Authority	Impact	Indicator	To be achieved	Progress to date
8. Investigate the possibility of designating a number of free parking spaces on Mall West for electric/hybrid vehicles only.	DfI Transport NI	Promotes the use of more environmentally friendly vehicles and the follow on reduction in road traffic pollution in the AQMA and Town Centre.	DfI Transport NI to report back to AQMA stakeholder committee on possible measures Long term reduction of NO2 in annual monitoring results	May 2012 On-Going	Although unfortunately not frequently used there are a number of electric vehicle charging points throughout the Borough. In relation to specific parking incentives, DfI Transport NI stated that there was no plan to proceed with this scheme at present.
9. To investigate the possibility of creating a Low Emissions Zone within Armagh City Centre	Armagh City, Banbridge and Craigavon Borough Council & DfI Transport NI)	Allow access for vehicles that meet the latest euro emissions standards to designated area within city.	DRD to report back to AQMA stakeholder committee on possible measures	May 2012	This option has been considered by the Council and ruled out due to the excessive costs and disadvantages of an LEZ weighed against the benefits. There is no political support at present for such an isolated measure in the absence of a UK national policy.
10. Investigate the possibility of Introducing a 'Park and Ride' scheme for shoppers and employees on the outskirts of Armagh	DfI Transport NI & Translink	Increases options for access to city centre and may reduce traffic congestion in Armagh overall. Helps to promote the benefits of public transport.	Percentage of parking spaces within Park and Ride facility being used on a daily basis Long term reduction of NO2 in annual monitoring results	On-Going On-Going	A Park & Ride site on the A3 Armagh to Portadown Road (near the Elim Church) has been constructed by DRDNI. 17 car parking spaces have been provided as well as an additional bus shelter, footway links and a pedestrian island were provided in conjunction with a recent resurfacing scheme. This is aimed at car-sharing towards Belfast and hence offers no benefit to Armagh concentrations.

ACTION	Lead Authority	Impact	Indicator	To be achieved	Progress to date
11. Ensure potential air quality issues are assessed with new developments before problems arise through consultation with the Northern Ireland Planning Service	Armagh City, Banbridge and Craigavon Borough Council	Reduces the possibility of further AQMA declarations and limits the degradation of air quality in future years.	Long term reduction of NO2 in annual monitoring results Number of consultations on planning application by Armagh City and District Council	On-Going On-Going	The Council continues to assess over 1000 planning applications each year having regard to its potential impact on air quality. A number near to the AQMAs have required additional control measures to minimise the air quality impact.
12. Air quality assessment of vehicle emissions	Armagh City, Banbridge and Craigavon Borough Council	Reduction in the numbers of highly polluting vehicles on the roads	Annual initiative to check emissions and promote efficient driving Long Term reduction of NO2 in annual monitoring results	On-Going	The last initiative of this type took place in 2013. Whilst highly visible in raising the profile of monitoring and emissions such initiatives are resource heavy and make negligible impact on driver behaviour.
13. Encourage the use of Staff Bicycles for short journeys within Armagh City	Armagh City, Banbridge and Craigavon Borough Council	Reduction in pollution from Council vehicles	Increased use of existing bikes owned by council for short journeys in city. Long term reduction of NO2 in annual monitoring results	On-Going On-Going	The Council's Environmental Health Department has a bicycle which may be used by EHO's to complete local visits.

ACTION	Lead Authority	Impact	Indicator	To be achieved	Progress to date
14. Investigate the use of alternative fuels where possible.	Armagh City, Banbridge and Craigavon Borough Council	Reduction in pollution from Council vehicles	Report to be produced by Council on the viability of using alternative fuels for Council vehicles Long term reduction of NO2 in annual monitoring results	May 2012 On-Going	Hybrid and low emission vehicles are used within the fleet where practicable and cost-efficient to do so.
15. Vehicle upgrading/renewal programme to comply with EURO 5 emission standards	Armagh City, Banbridge and Craigavon Borough Council	Reduction in pollution / noise from Council vehicles and increased fuel efficiency	Two new Bin Lorries purchased to replace two older models being removed from service Long term reduction of NO2 in annual monitoring results	December 2011 On-Going	The Council continues to have regard to emissions standards and renewal of the fleet. Vehciles now being purchased at Euro 6.
16. Develop better travel planning amongst Council employees	Travelwise NI	Reduction in vehicle pollution from Council staff travelling to and from work.	Travel plan produced and implemented by Council	May 2012	Insufficient support amongst legacy Councils to develop same.
17. Facilitate the development of Travel Plans for local schools and colleges	Travelwise NI	Reduction in pollution from vehicles used for school run	Number of travel plans produced and implemented by Schools and Colleges through Travelwise NI	On-Going	Resource lost in DAERA grant cuts

ACTION	Lead Authority	Impact	Indicator	To be achieved	Progress to date
22. Air dispersion modelling of sites where changes to air quality monitoring are proposed or for sites that have been identified where a breach of the air quality objectives may occur.	Armagh City, Banbridge and Craigavon Borough Council	Impact from Road Traffic Emissions on nearest Sensitive Receptors	Long Term reduction of NO2 in annual monitoring results	As Required	The Council has used ADMS Roads to model a section of road and declare an AQMA at Greenpark Terrace in Armagh City. Resource lost in DAERA cuts. No modelling capacity anymore.
23. Council lobbying for further electric vehicle recharging points within AQMA's.	Armagh City, Banbridge and Craigavon Borough Council	Reduced road traffic pollution in local atmosphere	Long term reduction of NO2 in annual monitoring results	On-Going	The Council engaged in the 'Plugged In Places' programme which resulted in 2 electric car recharging stations located in the city, including 1 at the Council Offices,
24. The Council will encourage the installation and of new and bicycle stands at large supermarkets located within Armagh and will promote the use of existing bicycle stands.	Armagh City, Banbridge and Craigavon Borough Council	Reduced road traffic pollution and promotion of sustainable / alternative modes of travel.	Long Term reduction of NO2 in annual monitoring results	On-Going	Surveys undertaken previously. No proactive resource exists anymore for this type of LAQM initiative as a result of DAERA cuts. Reactive requirements introduced via planning within new developments were adverse AQ impact likely.
25. The Council will promote the benefits of Electric and Hybrid Vehicles to staff and the general public	Armagh City, Banbridge and Craigavon Borough Council	Increase public awareness of Air Quality Management Area and general air pollution issues	Production of visual, verbal and written materials for dissemination to general public and/or highlighting air quality issues through various media	Annually as funding permits	There were 2 programmes instigated in 2013 to raise awareness of air quality issues. In Feb 2013 Armagh Council held an Electric Car Road-show at its offices where staff car exhaust emissions were also tested. In December 2013 The council erected a number of posters in strategic locations in Armagh City to promote sustainable travel. Methods i.e Walking, Cycling, Bus and CarSharing.
26. The Council will promote sustainable energy use which benefits local air quality through the STEM II project	STEM II (SGEHC)	Develop awareness of Air Quality issues and environmental impact of business operation on local air quality	Provision of environmental advice and production of guidance on reduction of air emissions.	2012 - 2015	STEM II and SGEHC lost at the same time as LGR

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9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

AQMAs remain as before.

9.2 Conclusions relating to New Local Developments

There are no new local developments requiring specific consideration in the next USA.

9.3 Other Conclusions

Central Government is in need of a new National Strategy to address traffic emissions in particular.

The Regional administration in NI is in need of a new Transport Strategy for the region.

This Council is in need of a new Action Plan / Strategy to address the existing AQMAs and the AQMA to be declared in Tandragee.

9.4 Proposed Actions

It is proposed to maintain the monitoring networks to provide the necessary evidence-base for any future Government actions.

A declaration is required to encompass the Tandragee area. This Council is minded to declare its entire area and subsequently produce an Action Plan / Strategy that addresses traffic emissions across the Borough as a whole and reflect the position of UK and regional Government.

10 References

LAQM Technical Guidance 2016

Appendices

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

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/17 V2

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

This spreadsheet will be updated at the end of June 2017
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[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@uk.bureauveritas.com or 0800 0327953

Analysed By[1]	Method (To undo your selection, choose (All) from the pop-up list)	Year[5] (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
ESG Didcot	50% TEA in acetone	2015		Overall Factor[3] (29 studies)				Use		0.79

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/17 V2

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
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Analysed By[1]	Method (To undo your selection, choose (All) from the pop-up list)	Year[5] (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2015		Overall Factor[3] (30 studies)				Use		0.87