



Lisburn & Castlereagh City Council

2016 Air Quality Progress Report

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

September 2016



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Report Reference number	LCCC PR 2016
Date	September 2016

Executive Summary

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

An updating and screening assessment (USA) is required to be prepared every three years by all local authorities in the UK with two interim progress reports. The last updating and screening assessment of air quality was undertaken in 2015, this report is the 2016 progress report for Lisburn and Castlereagh City Council and has been completed using the recommended template. The report is fully compliant with the applicable policy and technical guidance.

This report identified no exceedances with relevant exposure, of the Air Quality Strategy objectives for 2015 for any of the pollutants assessed. NO₂ is still the main source of concern within Lisburn & Castlereagh City Council (LCCC) as it is one of the main commuter belts of Greater Belfast. Sprucefield Court site situated next the M1 motorway was elevated in 2014, levels were reduced in 2015 at this location and generally across the whole LCCC area, this was more likely to be due to the mild blustery winter rather than a reduction in vehicle emissions. This is also true for the levels monitored from the automatic site and the diffusion tubes within the Air Quality management Area (AQMA) in Dundonald, although the opening of a new Park & Ride west of the AQMA may also have had a contributing factor. Monitoring shall continue within the AQMA and LCCC area to confirm a continued reduction in NO₂ before considering revoking the AQMA.

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1.1 Description of Local Authority Area

Lisburn & Castlereagh City Council (LCCC) has a population of 134,841, and an area of approximately 200 square miles. The area is of urban rural character and the predominant wind direction is from the Southwest. It is bounded to a number of other council areas and has the largest boundary of Belfast City Council. This has made LCCC a very popular residential area due to the ease of the commute to Belfast City Centre. Due to the number of neighbouring councils, there are several main arterial routes into Belfast City centre within LCCC, this has brought the area within Belfast metropolitan Transport plan, (www.infrastructure-ni.gov.uk/publications/belfast-metropolitan-transport-plan) Road transport remains one of the main concerns and solid fuel use as a secondary fuel is still quite common in the Lisburn area.





1.2 Purpose of Progress Report

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

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

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

1.3 Air Quality Objectives

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

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

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

1.4 Summary of Previous Review and Assessments

Local authorities in Northern Ireland amalgamated on 1st April 2015 creating 11 new councils. Lisburn & Castlereagh City Council (LCCC) is one of the new 11 councils. In September 2015 LCCC submitted an Update and Screening Assessment, reference was made in this report of the new boundaries and previous relevant reports.

Figure 1.1 – Map of AQMA Location

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

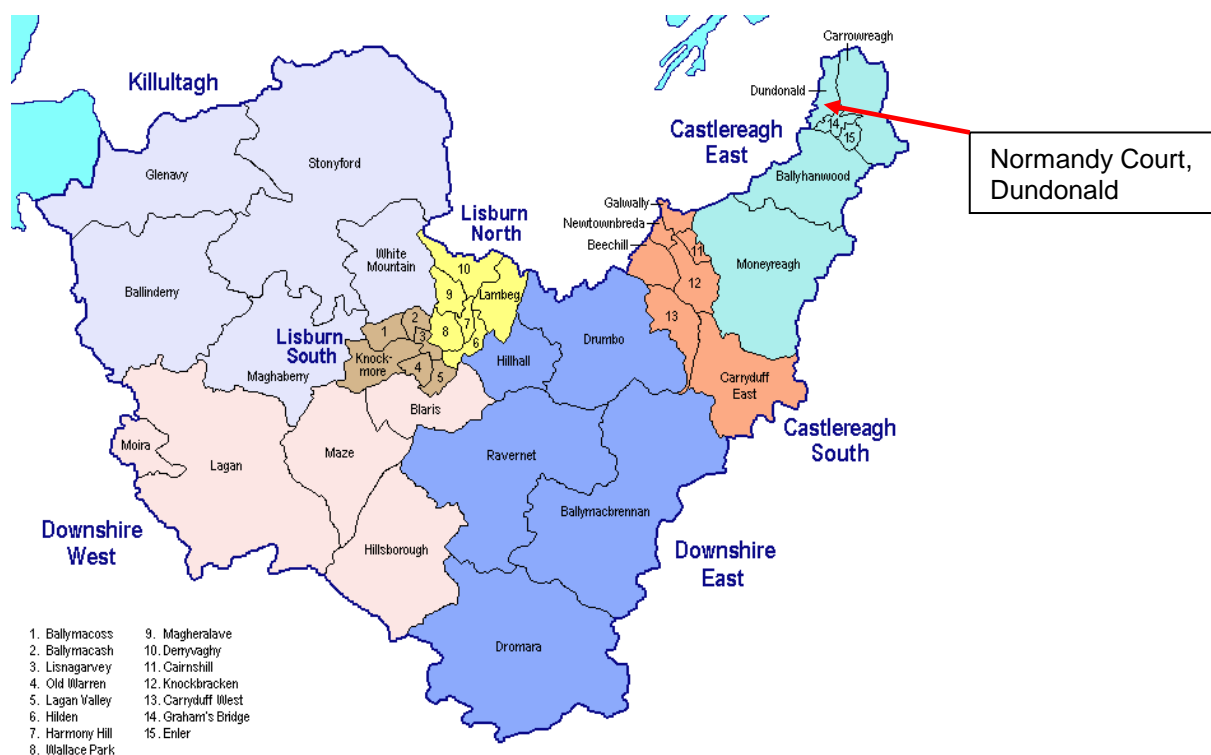
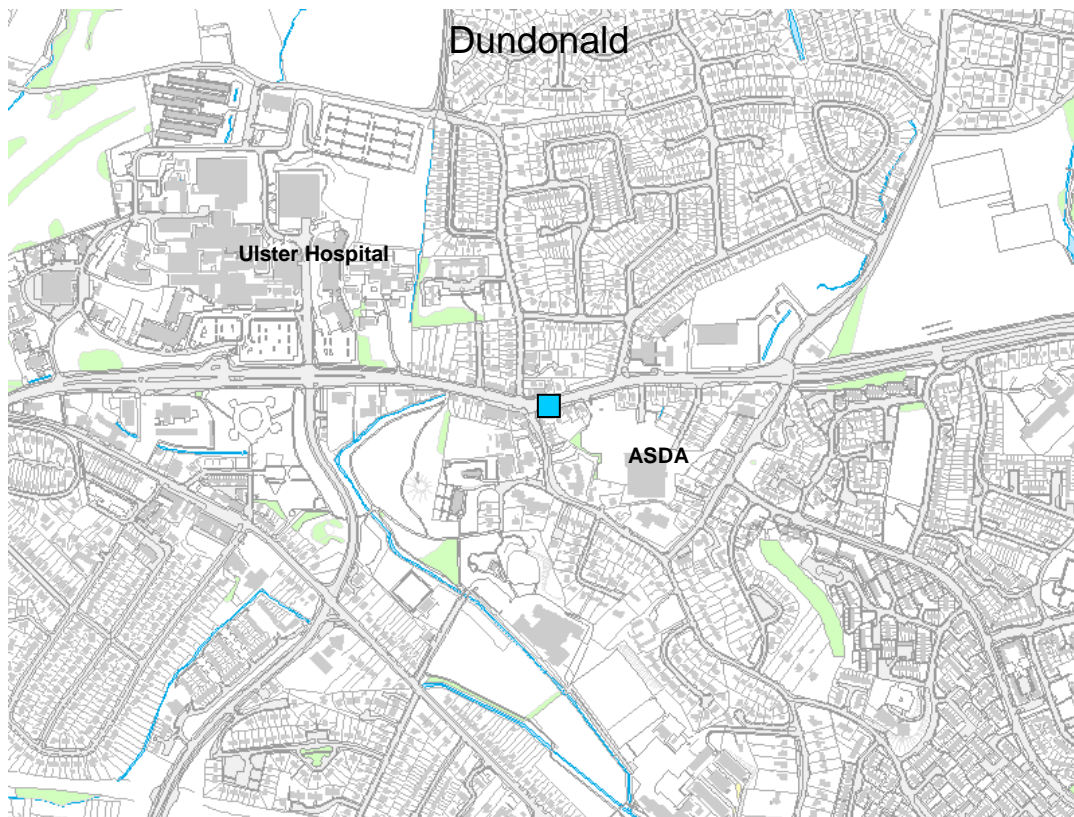


Figure 1.2 Map showing position of AQMA in Dundonald Village

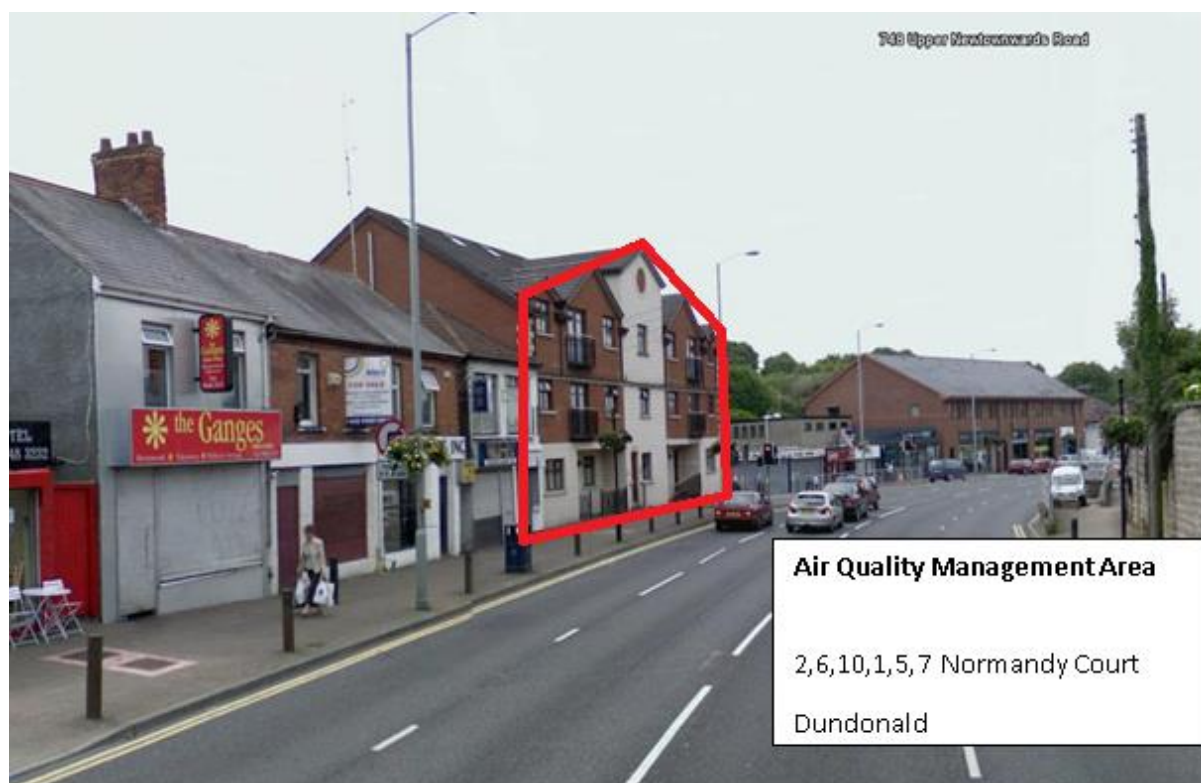


■ Normandy Court A20 Upper Newtownards Road, Dundonald

Figure 1.3 Ariel photograph showing position of AQMA in Dundonald Village



Figure 1.4 Photograph showing position of Normandy Court within AQMA



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Lisburn & Castlereagh City Council has two automatic monitoring sites.

Kilmakee Activity Centre Seymour Hill

Measuring, SO₂, PM_{2.5} and PM₁₀, this site also houses a Defra network PAH and black carbon monitor and therefore meets the requirements for the AURN specifications.

Data has been available from this site since Nov 2012. This site is now well established and the 2013 - 2015 data is included in this report.

Dundonald

Measuring NO_x using a chemiluminescence analyser, this site is within 30m of an AQMA. A co-location study for the NO₂ diffusion tubes is also carried out at this site. Results from this study were submitted to the national data base for 2015.

Manual calibrations are carried out every two weeks by the Local Air Quality officer. AQDM (Air Quality Data Management) are employed to ratify and validate the data. A specialist engineer is employed to service and maintain the site as required. Results and correction factors are detailed in Appendix A.

Map(s) of Automatic Monitoring Sites

Figure 2.1 - Position of Automatic monitoring sites within LCCC

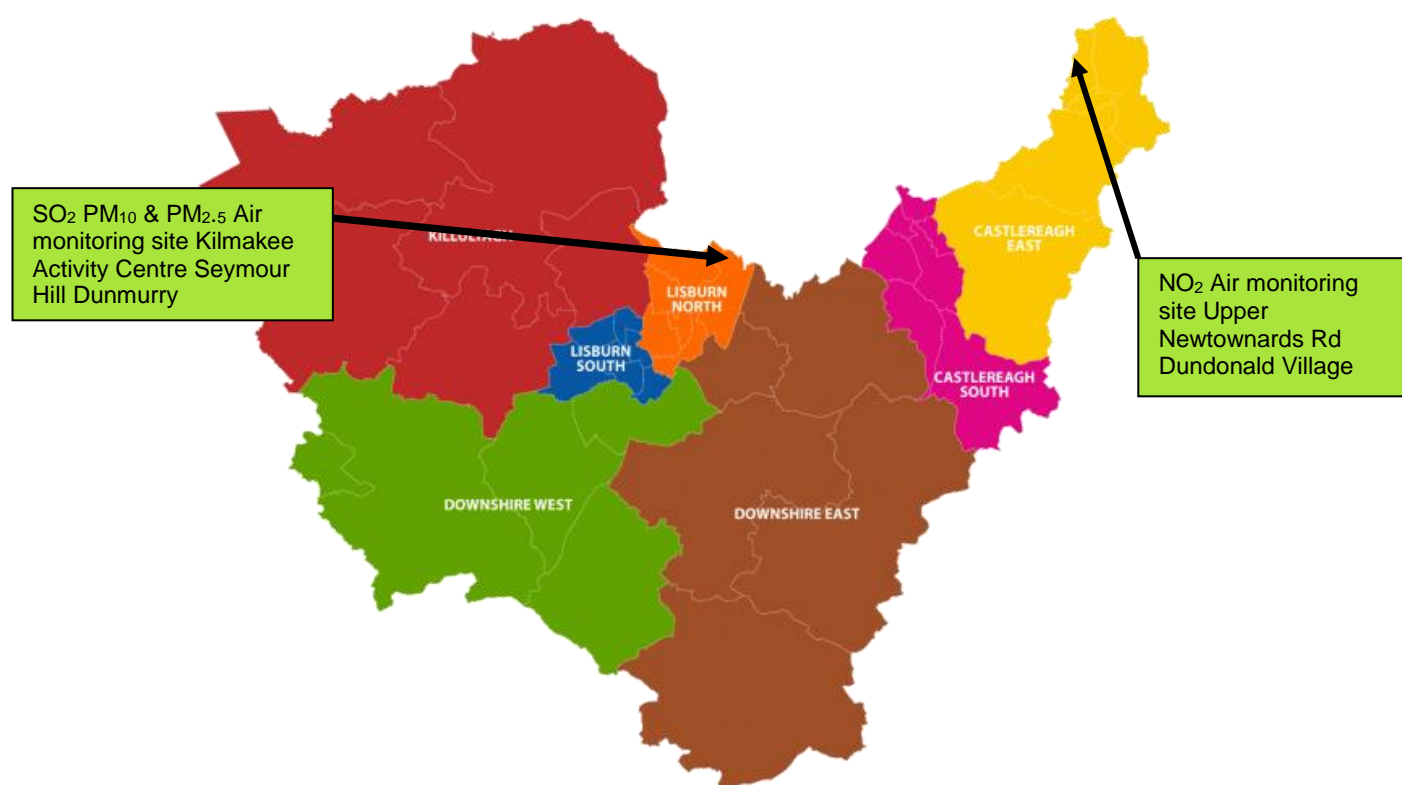


Figure 2.2 Position of Air monitoring site in Seymour Hill

▲ Kilmakee Activity Centre Seymour Hill



Figure 2.3 Position of Automatic Monitoring Site at Kilmakee Activity Centre

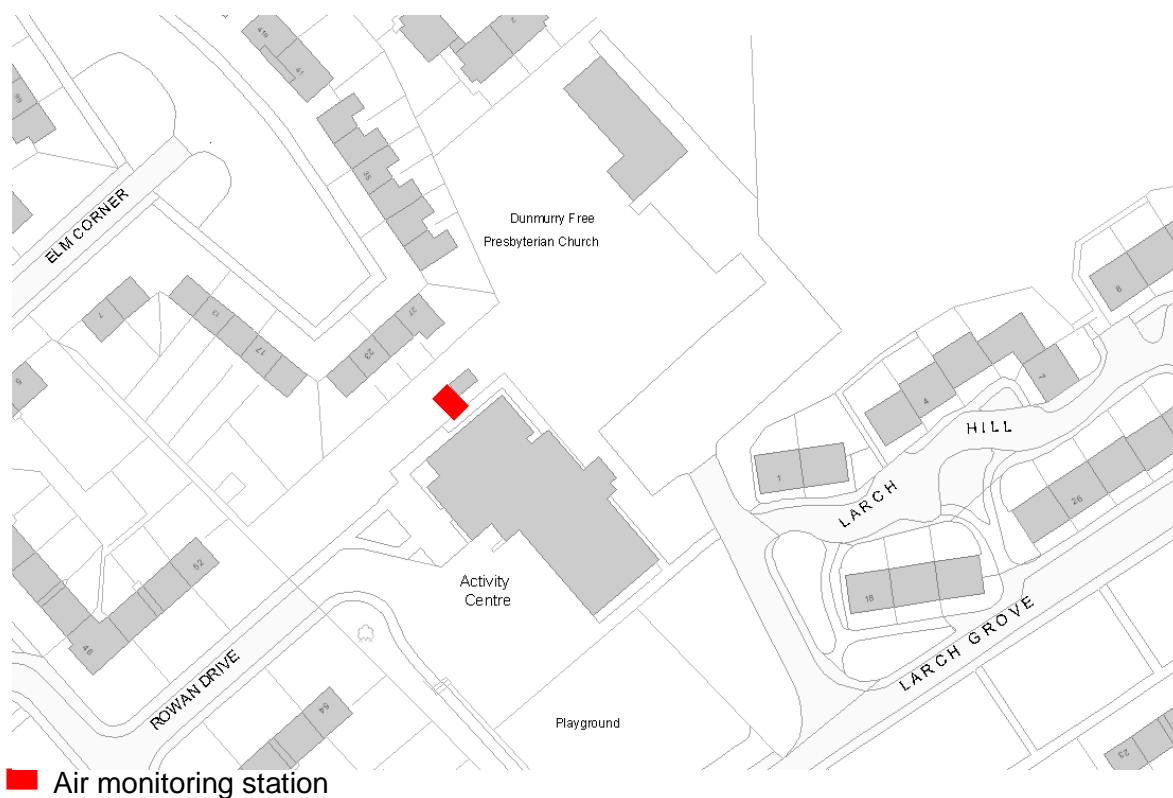
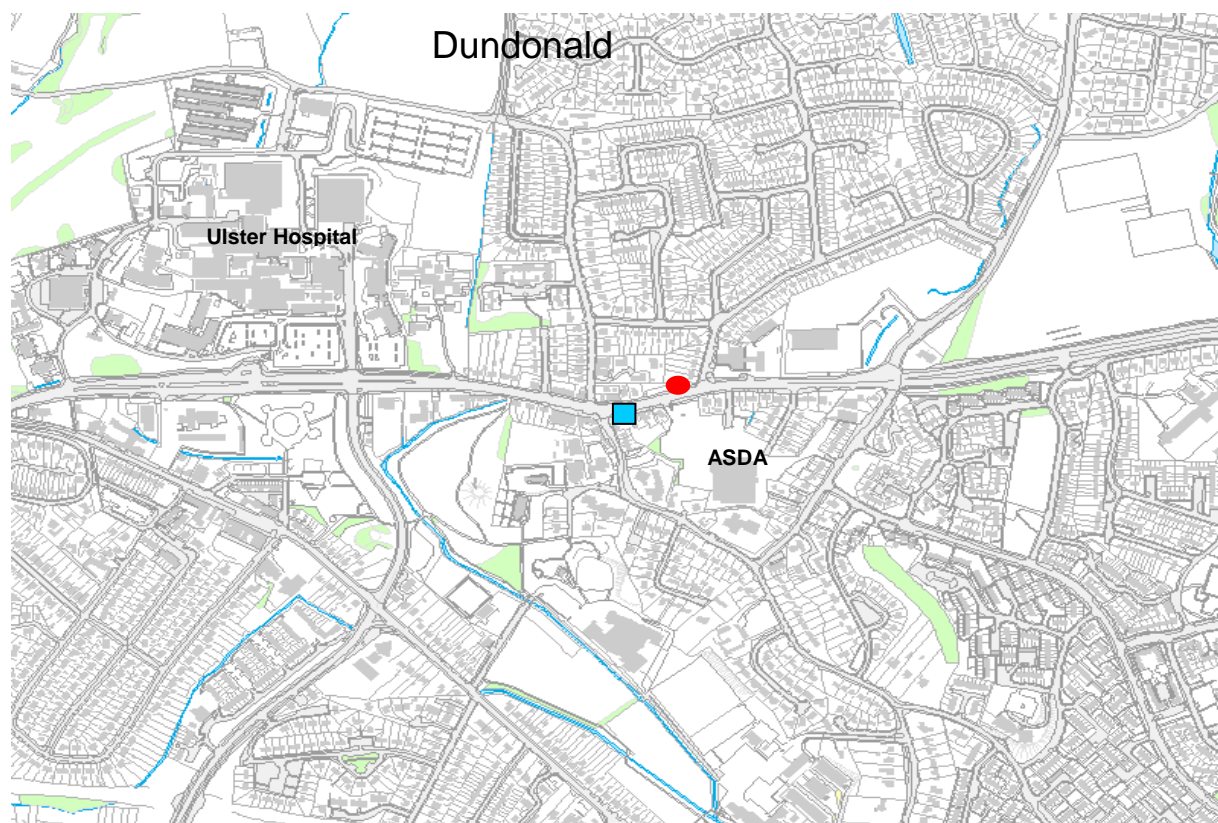


Figure 2.4 Picture of Automatic Monitoring Stations at Kilmakee Activity Centre



Figure 2.5 Position of automatic monitoring site in Dundonald Village



● Automatic monitoring site

■ AQMA

Figure 2.6 Picture of Automatic Monitoring Station in Dundonald Village



Table 2.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	Irish Grid Reference	Irish Grid Reference	Inlet Height (m)	Pollutants Monitored	In AQMA?	Monitoring Technique	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
	Kilmakee Activity Centre	Urban Background	E328956	N367973	2.5	PM ₁₀ , PM _{2.5} SO ₂	NO	TEOM FDMS UV Analyser	YES 10m	NA	YES
	Dundonald Village	Roadside	E342016	N374041	2.5	NO ₂ ,	NO	Chemiluminescence	YES 22m	3M	YES (30m from AQMA)

2.1.2 Non-Automatic Monitoring Sites

Lisburn and Castlereagh City Council has 19 NO₂ diffusion tubes at 12 roadside and background sites and a co-location study with the automatic station in Dundonald. Most are positioned along the main arterial routes into Belfast, triplicate tubes are positioned on the façade of Normandy Court within the AQMA and in April 2015 the single tube at Newtonbreda was changed to triplicate due to results being elevated since 2012. A co-location study is carried out at the automatic station in Dundonald. The results of this study were submitted into the national data base. The diffusion tube studies for the past five years do not show any particular trends. (See Fig. 2.16) Annual variation is more likely to be as a result of climatic conditions rather than changes in emissions. All other monitoring has shown results within the objectives.

The NO₂ diffusion tubes were supplied by Worcestershire Scientific Services and analysed by Gradko Environmental.

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

Below are maps of the diffusion tube sites. No new sites were identified in 2015.

Figure 2.7 – Map(s) of Non-Automatic Monitoring Sites

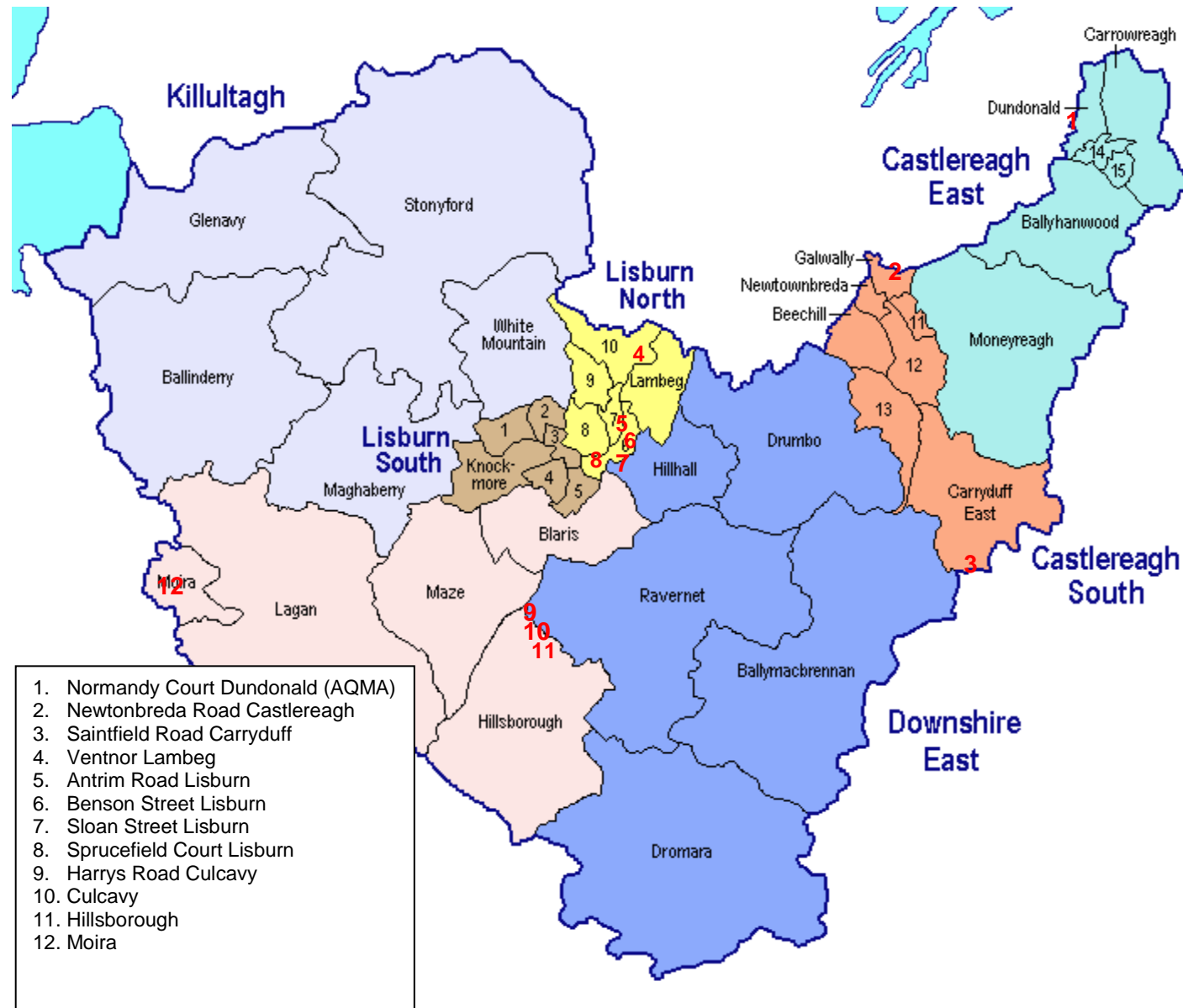


Figure 2.8 Position of tube 1. Dundonald village in AQMA



Figure 2.9 Picture of NO₂ Tubes in AQMA Normandy Court Dundonald



Figure2.10 Position of tubes Castlereagh area (Newtonbreda)

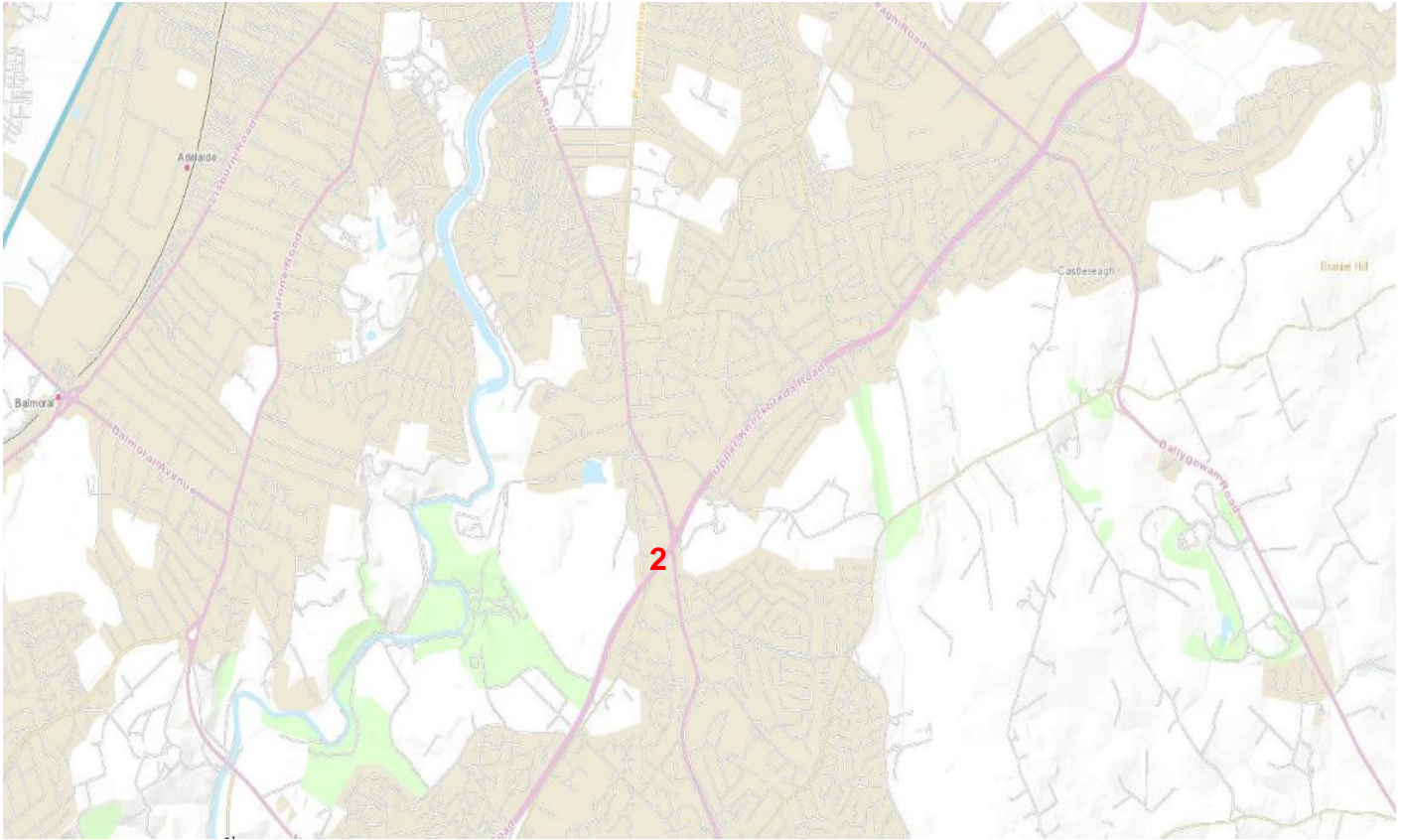


Figure2.11 Position of tube carryduff

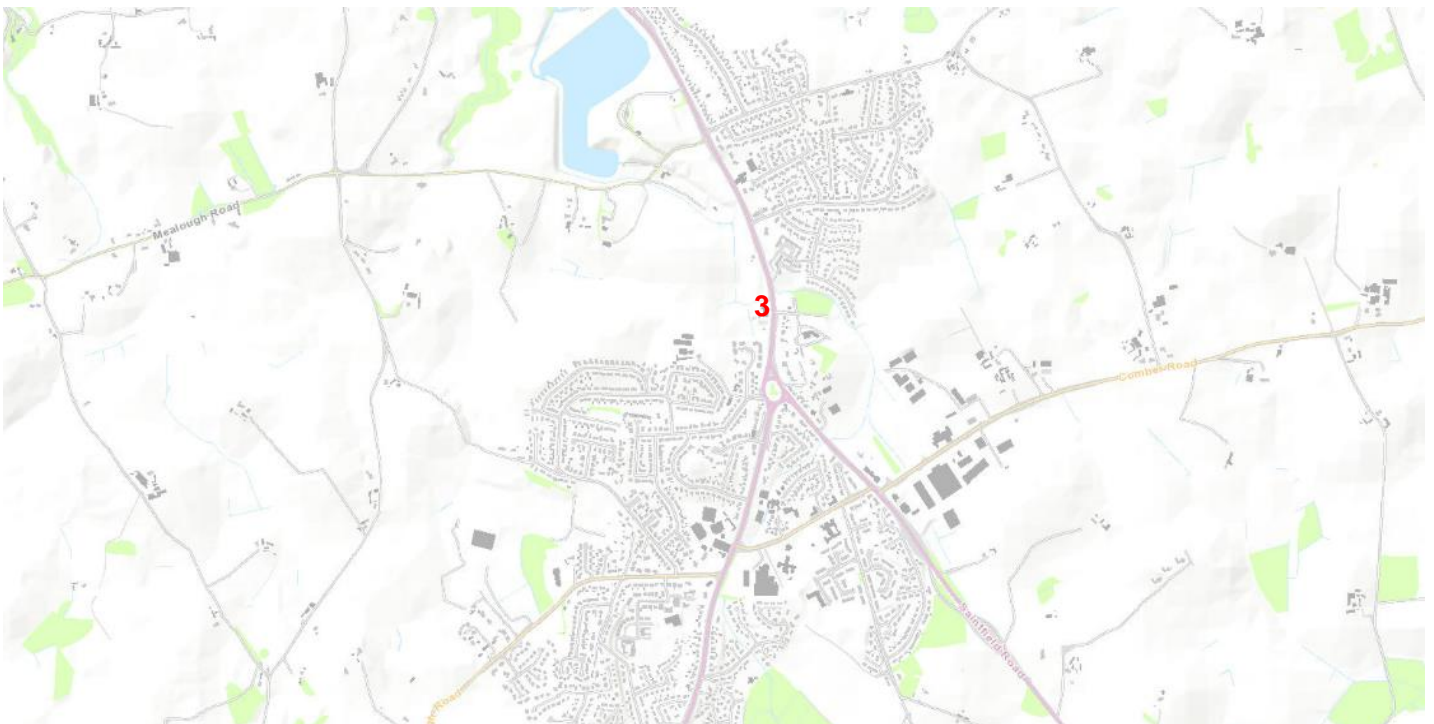


Figure2.12 Position of tube Lambeg

Figure 2.13 Position of tubes in Lisburn City

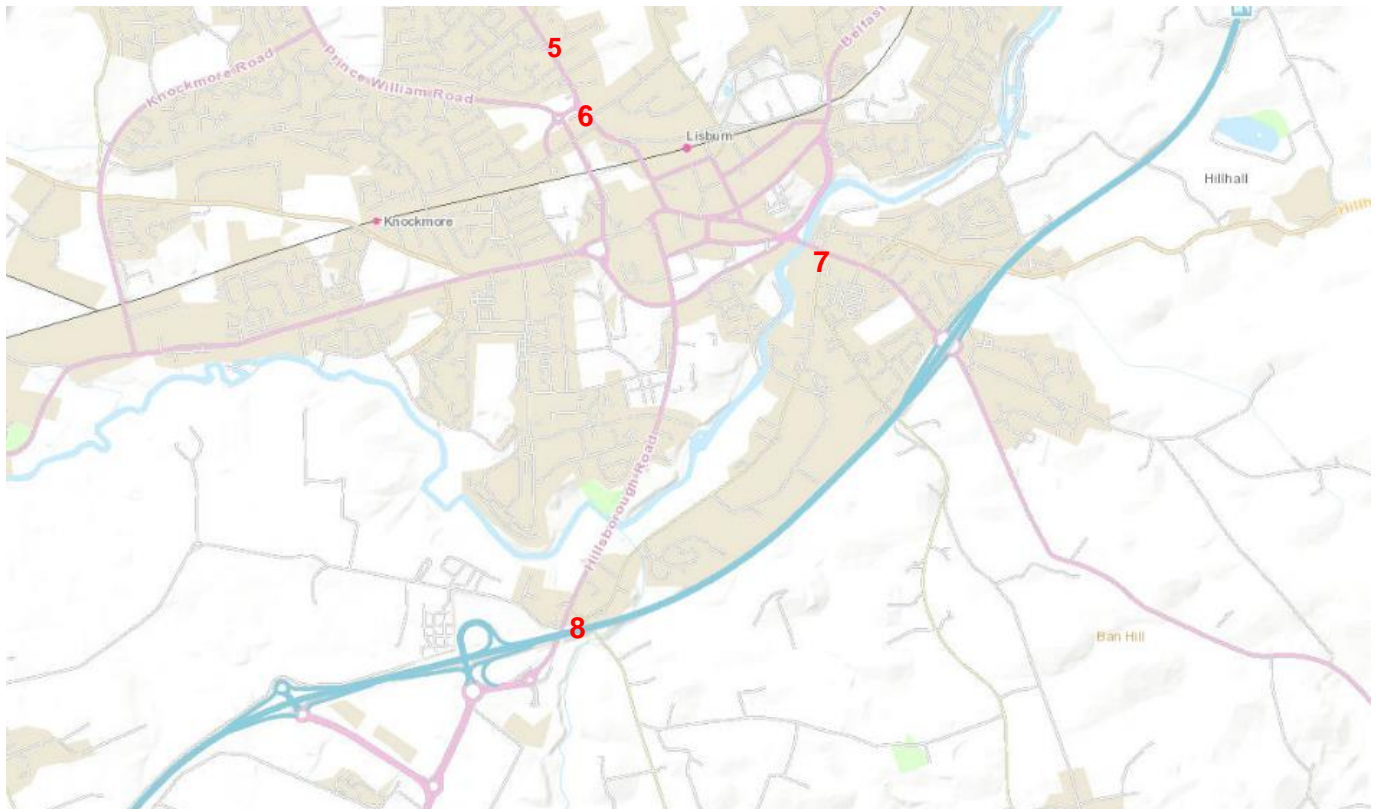


Figure 2.14 Map of tubes in Culcavy and Hillsborough

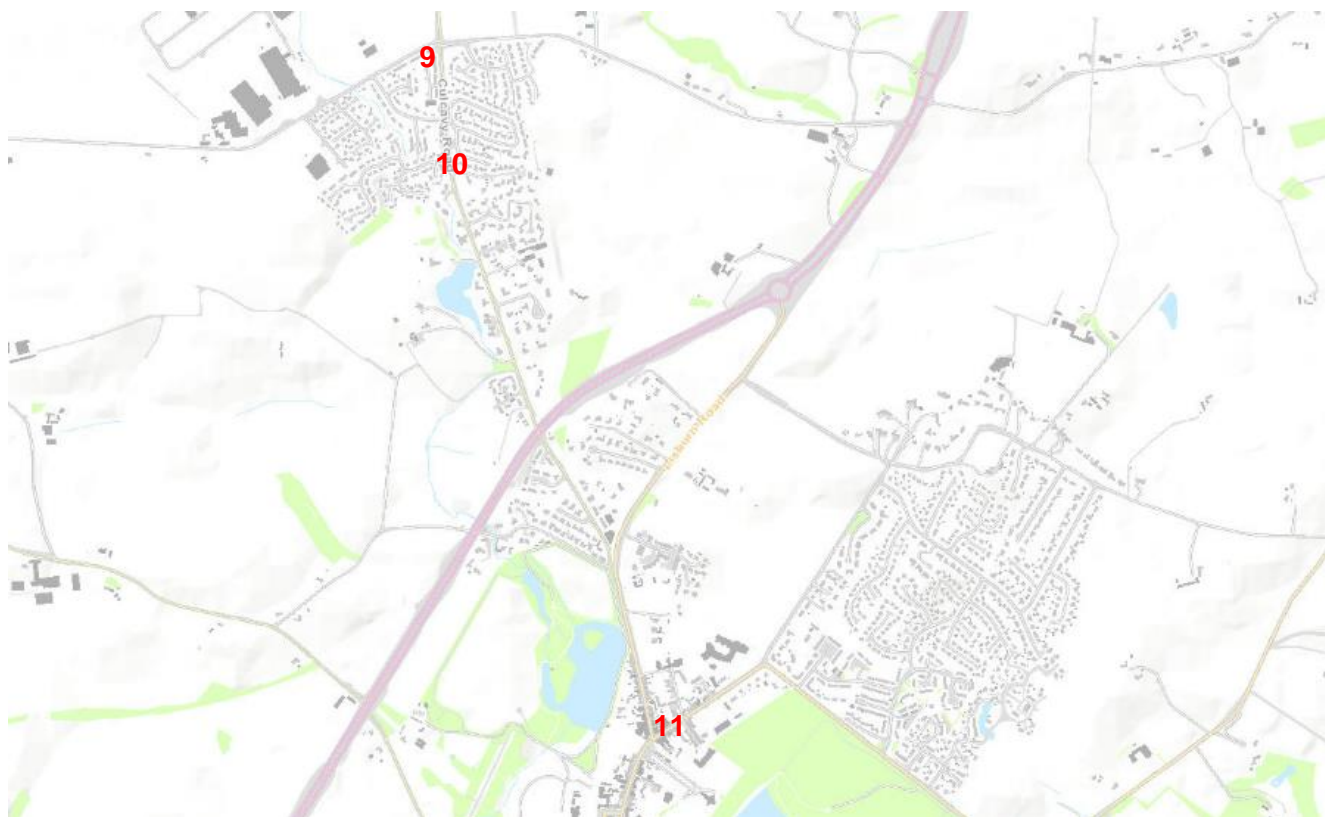


Figure 2.15 Position of tube in Moira



Table 2.2 – Details of Non- Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
1	Normandy Court Dundonald (AQMA)	Roadside	341991	374013	3m	NO ₂	Yes	No	Yes (0m)	0.5m	Yes
2	Newtonbreda Road Castlereagh	Roadside	335246	370061	2.5m	NO ₂	No	No	Yes (12m)	2.5m	Yes
3	Saintfield Road Carryduff	Roadside	336832	365625	2m	NO ₂	No	No	Yes (70m)	10m	Yes
4	Ventnor Pk Lambeg	Background	326900	362013	2.5m	NO ₂	No	No	No (6m)	0.5m	No
5	Antrim Rd Lisburn	Roadside	326313	364621	2.5m	NO ₂	No	No	Yes (7m)	1m	Yes
6	Benson Street Lisburn	Roadside	326090	364619	2m	NO ₂	No	No	Yes (0.1m)	Yes	Yes
7	Sloan Street Lisburn	Roadside	327236	364102	2.5m	NO ₂	No	No	Yes (1.5m)	2m	Yes

Lisburn & Castlereagh City Council

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?
8	Sprucefield Court Lisburn	Roadside	327586	363586	2m	NO ₂	No	No	Yes (1m)	15m	Yes
9	Harry's Road Culcavy	Roadside	323811	360577	3m	NO ₂	No	No	Yes (10m)	5m	Yes
10	Culcavy Road Culcavy	Roadside	323849	360318	2.5m	NO ₂	No	No	Yes (10m)	2m	Yes
11	Hillsborough	Roadside	324404	358876	2m	NO ₂	No	No	Yes (0.1m)	1m	Yes
12	58-62 Main Street Moira	Roadside	314994	360589	3m	NO ₂	No	No	Yes (4m)	1.5m	Yes

2.2 Comparison of Monitoring Results with Air Quality Objectives

No exceedances of the AQS objectives have been identified from the monitoring data collected since the last Update and Screening Assessment. All monitored pollutant concentrations have been well below their respective air quality objective limits at relevant exposure. In the following section results are presented for NO₂ at the automatic and diffusion tube sites and compared with the objective. The diffusion tube site within the AQMA showed decreased levels of NO₂ and the Newtonbreda Road site also showed a reduction in 2015.

2.2.1 Nitrogen Dioxide (NO₂)

In the following section results are presented for NO₂ at the automatic and diffusion tube sites and compared with the objective. The automatic site is 30m from the AQMA (Normandy Court); diffusion tubes are located on the façade of Normandy Court. All sites meet the objective at relevant exposure.

Automatic Monitoring Data

Table 2.3 presents the annual mean concentrations of NO₂ determined at the automatic site in 2015 from the hourly measurements.

Table 2.3 – Results of Automatic Monitoring for NO₂: 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	2012	2013	2014	2015
Castlereagh Dundonald	Roadside	N (within 30M)	N/A	90.7%	39	30	32	37	29

Trends in Annual Mean NO₂ Concentrations Measured at Automatic Monitoring Sites

The automatic station was installed in Dundonald in 2008 because of high results from NO₂ tubes at the Upper Newtownards Road site at Normandy Court. Results have been consistent at this site except for a slight decrease in 2012 and 2013 and again in 2015 but this was probably due to climatic conditions rather than changes in emissions.

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

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2015 % ^b	Number of Hourly Means > 200µg/m ³				
					2011	2012	2013	2014	2015
Normandy Court Dundonald (AQMA)	Roadside	Y	N/A	90.7%	5	3	0	5	0

Diffusion Tube Monitoring Data

Results at the NO₂ diffusion tube sites, situated within the council area are shown below in Table 2.5. They are sited in accordance with the technical guidance LAQM.TG (09)

A diffusion tube co-location study was carried out at the Dundonald automatic site. The results of this study were submitted into the national data base. The 2015 local bias was **0.80**. A decision was made to apply the national figure of **0.88** as 27 studies were included and therefore a more accurate figure.

All diffusion tube sites are below the objective.

Details of the QA/QC for the diffusion tubes and the reason for the use of the bias adjustment factor **0.88** can be found in Appendix A

The Newtonbreda Road site which had been elevated since 2012 showed a reduction in 2015, this site was changed from a single tube to triplicate in April 2015 to give a more accurate average.

Results from Sprucefield Court site were elevated in 2014. Monitoring has been carried out at this site for a number of years as the M1 motorway runs behind the dwelling, levels have remained consistently below the objective and remained so in 2015.

The Normandy Court site within the AQMA also showed a reduction in NO₂, the new Park & Ride in Dundonald opened in December 2014, which may have contributed to the reduction in levels. The Park & Ride is not being used to full capacity however, it is assumed this will improve over time. LCCC will continue to monitor NO₂ in Dundonald, and if this early indicator shows a trend in reduced levels LCCC will revoke the AQMA.

Trends for the 12 diffusion tube sites within the Council area are shown in Figure 2.16

Table 2.5 – Results of NO₂ 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 = 0.88 ^b (annual UK objective 40 µg/m ³)
1	Normandy Court Dundonald (AQMA)	Roadside	Y	triplicate	12 months	34.75
2	Newtonbreda Road Castlereagh	Roadside	N	triplicate	12 months	34.10
3	Saintfield Road Carryduff	Roadside	N	single	12 months	14.03
4	Ventnor Pk Lambeg	Background	N	single	12 months	13.12
5	Antrim Rd Lisburn	Roadside	N	single	11 months	26.51
6	Benson Street Lisburn	Roadside	N	single	12 months	24.62
7	Sloan Street Lisburn	Roadside	N	single	12 months	29.81
8	Sprucefield Court Lisburn	Roadside	N	single	12 months	32.27
9	Harry's Road Culcavy	Roadside	N	single	11 months	19.19
10	Culcavy Road Culcavy	Roadside	N	single	12 months	14.43
11	Hillsborough	Roadside	N	single	12 months	25.82
12	58-62 Main Street Moira	Roadside	N	single	12 months	25.86

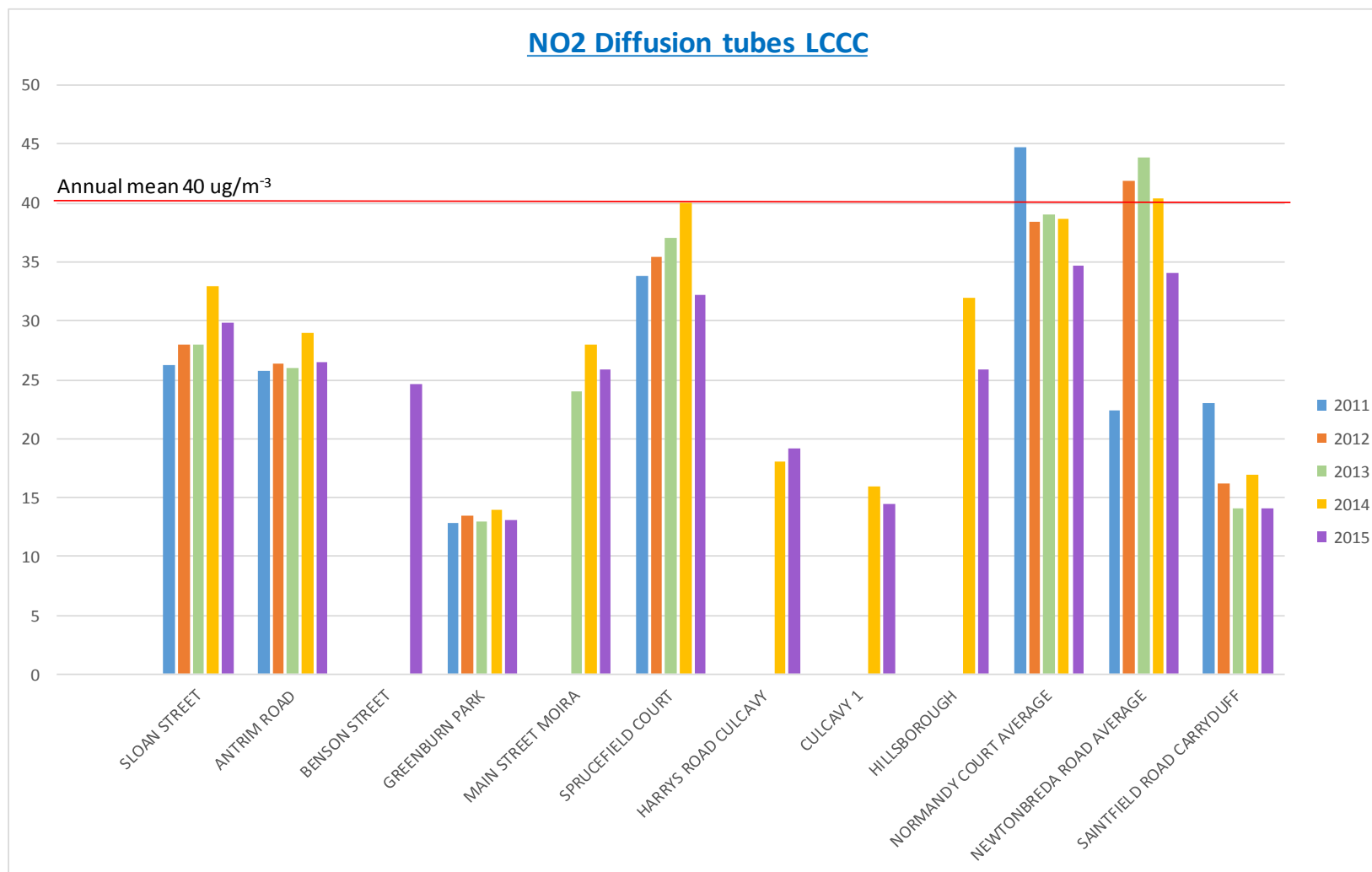
Table 2.6 – Results of NO₂ Diffusion Tubes (2011 to 2015)

Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m ³) - Adjusted for Bias ^a				
			2011 (b) (Bias Adjustment Factor = 0.83 , 0.71)	2012 (Bias Adjustment Factor = 0.75)	2013 (Bias Adjustment Factor = 0.80)	2014 (Bias Adjustment Factor = 0.86)	2015 (Bias Adjustment Factor = 0.88)
1	Normandy Court Dundonald (AQMA)	Y	45	38	39	39	34.75
2	Newtonbrea Road Castlereagh	N	22	42	44 a(36)	40 a(33)	34.10
3	Saintfield Road Carryduff	N	23	16	14	17	14.03
4	Ventnor Pk Lambeg	N	18	13	26	14	13.12
5	Antrim Rd Lisburn	N	26	26	33	29	26.51
6	Benson Street Lisburn	N	N/A			29	24.62
7	Sloan Street Lisburn	N	26	28	28	33	29.81
8	Sprucefield Court Lisburn	N	34	35	37	40	32.27
9	Harry's Road Culcavy	N	N/A			18	19.19
10	Culcavy Road Culcavy	N	N/A			16	14.43
11	Hillsborough	N	N/A			32	25.82
12	58-62 Main Street Moira	N				28	25.86

(a) figure in red are the distance calculated figures

(b) different bias adjustment figure used for the previous Castlereagh sites from the Lisburn sites

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



2.2.2 Particulate Matter (PM₁₀)

Automatic monitoring of PM₁₀ in 2015 was undertaken at Kilmakee Activity Centre, Rowan Drive, Seymour Hill situated between Lisburn City and Belfast City.

This location is also the site for the AURN PAH and Black Carbon monitors, chosen for the high use of secondary solid fuel use.

In 2015 measurements were recorded using a TEOM instrument, the results are ratified and adjust accordingly by AQDM, the data management company. Summaries of this data, with regard to annual and hourly mean objectives, are presented below.

An FDMS TEOM monitoring PM_{2.5} was installed alongside the PM₁₀ analyser, in June 2015 this was decommissioned as funding was no longer available and results did not exceed the target value.

All results remain below the objective.

Table 2.7 – Results of Automatic Monitoring for PM₁₀: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA ?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2015 % ^b	Confirm Gravimetric Equivalent (Y or N/A)	Annual Mean Concentration (µg/m ³)				
						2011	2012	2013	2014	2015
Kilmakee Activity Centre (PM ₁₀)	Urban Background	N	N/A	89.6%	Y	N/A	N/A	18	16	14

Figure 2.5 – Trends in Annual Mean PM₁₀ Concentrations

PM₁₀ has remained consistently low in Dunmurry

Table 2.8 – Results of Automatic Monitoring for PM₁₀: Comparison with 24-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2015 % ^b	Confirm Gravimetric Equivalent (Y or N/A)	Number of Daily Means > 50µg/m ³				
						2011	2012	2013	2014	2015
Kilmakee Activity Centre (PM ₁₀)	Urban Background	N	N/A	89.6%	Y	N/A	N/A	5	0	0

2.2.3 Sulphur Dioxide (SO₂)

Lisburn and Castlereagh City Council have an SO₂ automatic site situated at Kilmakee alongside the PM₁₀ and PAH analysers, installed at the end of 2012. This site was chosen due to secondary high solid fuel use in the area, and it is adjacent to relevant exposure. There were no exceedences of the air quality objective in 2015.

The data has been fully ratified by AQDM.

Details of the QA/QC are available in Appendix A

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

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2015 % ^b	Number of: ^c		
					15-minute Means > 266µg/m ³	1-hour Means > 350µg/m ³	24-hour Means > 125µg/m ³
Kilmakee Activity Centre Dunmurry	Urban Background	N	100	90.6%	0	0	0

Figure 2.6 – Trends in SO₂ Concentrations

Results have remained very low at this site.

2.2.4 Benzene

No monitoring of Benzene is carried out in 2014.

2.2.5 Other Pollutants Monitored

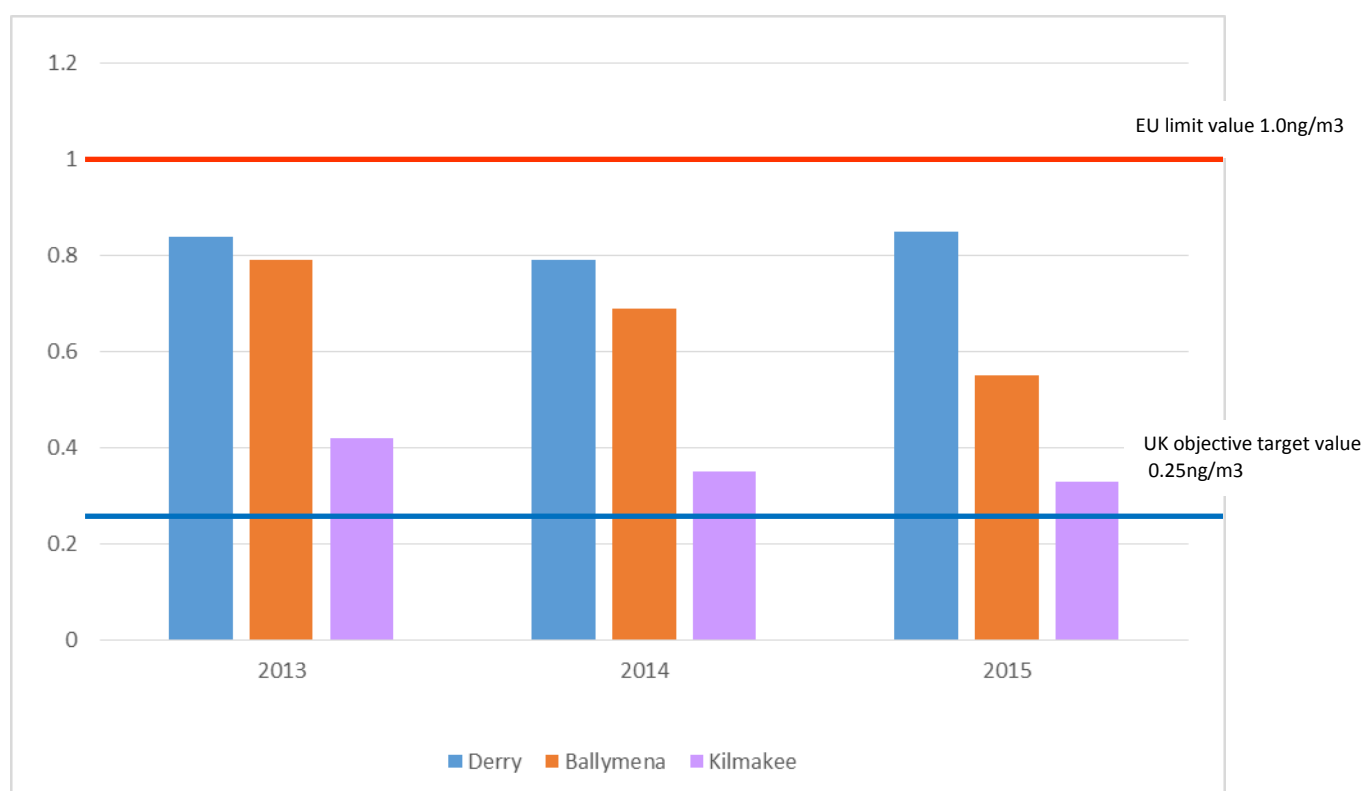
Polycyclic aromatic hydrocarbons (PAH)

The national network monitoring for PAH includes three monitoring sites in Northern Ireland, Kilmakee Activity Centre, Seymour Hill in LCCC is one of these. The UK National Air Quality Objective for PAHs is an annual average of 0.25ng /m³, the EU limit value for PAHs is an annual average of 1ng BaP/m³. The Kilmakee site is below the EU objective but over the UK non-mandatory objective. Results have shown an annual decrease due to the conversion from solid fuel heating to gas within the area.

The following table shows the results in 2015.

Site	2013 ng/m ³ annual mean	2014 ng/m ³ annual mean	2015 ng/m ³ annual mean
Derry	0.84	0.79	0.85
Ballymena	0.79	0.69	0.55
Kilmakee	0.42	0.35	0.33

Lisburn & Castlereagh City Council



PM_{2.5}

Automatic monitoring of PM_{2.5} has been carried out at Kilmakee alongside the PM₁₀ using TEOM FDMS, and the reported ratified data included in appendix A. The analyser was decommissioned in June 2015

Radiation Monitoring

Radiation monitoring has been carried out in Lisburn & Castlereagh City Council on a quarterly basis the 2015 results are shown in the table below:

Site	10/02/2015 Gy hr-1	30/04/2015 Gy hr-1	30/07/2015 Gy hr-1	21/10/2015 Gy hr-1
Derriaghy(96)	0.07	0.08	0.07	0.07
Carryduff(97)	0.08	0.07	0.08	0.08

2.2.6 Summary of Compliance with AQS Objectives

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

Concentrations within the AQMA are not exceeding the objective for NO₂ in 2015 at Normandy Court, AQMA shall remain until a trend in reduction is shown.

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

Lisburn & Castlereagh City 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.

Lisburn & Castlereagh City 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 Planning Applications

The following planning application were commented on by the Environmental Health department in relation to Air Quality

Air Quality Assessments Completed

1. LA05/2016/0700/O – Cemetery at lands and North of NO. 10 Quarterland Road sandwiched between Carnaghliass Road, and Quarterland Road, Dundrod (08/07/16)

No issues identified

2. LA05/2015/0041/F – 53 dwelling at lands at Blaris Road, Lisburn immediately opposite and to the south of Rivergate Lane Lisburn and to the north of Junction 7 M1 Motorway (17/12/15)

No issues identified

Significant application

3. Y/2009/0303/RM - Residential development of 510 dwellings at lands surrounding 9 Millmount Road. Reconsultation (15/03/16)

AQ report requested but not yet provided

4. LA05/15/0444/PAD - Mixed use development at lands at the former rolls Royce factory, upper Newtownards Road, Carrowreagh Road, Dundonald (04/08/15)

AQ report requested at the subsequent planning stage

5. LA05/2016/0451/PAD - Proposed change of use from vacant industrial/commercial site to crematorium with associated car parking and landscaping at 0-25 City Business Park, McKinsty Road, Dunmurry BT17 9HU (13/05/16)

AQ report requested at the subsequent planning stage

6. LA05/2016/0668/PAD - Proposed cemetery extension to approved cemetery at lands opp 9 Lisburn Road, Moira (bound by Lisburn Road and Lisnabilla Road) (06/07/16)

AQ report requested at the subsequent planning stage

5 Local Transport Plans and Strategies

Lisburn & Castlereagh City Council falls within the Belfast Metropolitan Area Plan and therefore the Belfast Metropolitan Transport plan, <https://www.infrastructure-ni.gov.uk/publications/regional-strategic-transport-network-transport-plan-2015>

This included the development of the Belfast Rapid Transport System with one of the routes leading from the new Park & Ride in Dundonald into Belfast City Centre.



Belfast Rapid Transit



Objectives of BRT

The Department for Regional Development is implementing the first phase of the new Belfast Rapid Transit (BRT) system which will help to address the current and future transport needs in Belfast and support sustainable economic growth and regeneration.

BRT will provide a modern, safe, efficient and high quality public transport service which will encourage people to travel by public transport instead of by car. It will help to integrate communities and link people to jobs, shops, leisure, health and education services. The first phase of BRT will connect East Belfast, West Belfast and Titanic Quarter via the city centre.

Key Features of BRT

Services

- Operating approximately 05:30 - 23:30 weekdays and later at weekends subject to demand.
- Faster and more reliable journey times with high frequency services.
- Integration with other forms of transport and other public transport services.
- Direct services between East and West Belfast.
- Replace Metro 4 and 10 services with feeder services connecting to residential areas in the Dundonald & Colin Areas.

Vehicles

- Modern high capacity buses with easy access.
- High quality passenger environment with advanced ticketing and information systems.
- Advanced hybrid engine technology producing less noise and emissions.



Halts and interchanges

- High quality materials and appearance.
- Real time passenger information.
- CCTV for safety and security.

- Facilitate easier boarding.
- Ticket machine and validator.
- Spaced approximately 400m apart on the routes.



Bus lanes

- Extensive bus lanes along the routes with anticipated operating hours of 07:00 - 19:00hrs, Monday to Saturday.
- Traffic lights giving priority for BRT vehicles at junctions.
- Improved pedestrian crossing facilities.
- Improved road surfaces for smoother journeys.

Fares and fare collection

- Use of Smartcard and new technologies.
- Off-board ticketing integrated with other public transport services.
- Concessionary fares will apply.



The Routes

CITI route - from the city centre, via Queen Elizabeth Bridge, along Queen's Quay and Queen's Road to Titanic Quarter, returning via Queen's Road, Queen's Quay, Station Street, Bridge End and Queen's Bridge.

EWAY route - from the city centre along Albertbridge Road and Upper Newtownards Road to a new park and ride site at Dunlady Road in Dundonald.

WWAY route - from the city centre along Divis Street, Falls Road, Andersonstown Road and Stewartstown Road to McKinsty Road Roundabout via a new transport hub at Colin Town Centre.

BRT Project Timeline

2013 - 2014

Detailed Design

Start work on routes and Park & Ride facilities

[This will include road widening and resurfacing along sections of the routes]

2015-2018

Finish work on routes and Park & Ride facilities

Introduce bus lanes

[Bus lanes will generally operate during morning and evening rush hours until 2018 when they will convert to 12 hour operation]

Finalise operations plan

Purchase BRT vehicles

Install halts

2018

BRT operational

6 Implementation of Action Plans

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

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

A survey carried out by TransportNI indicated the Park & Ride situated east of the AQMA in Dundonald could have a possible reduction in road traffic vehicles by 20%. The reduction in 2015 of NO₂ was 10.8%, monitoring shall continue within the AQMA to enable a trend in reduction to be established.

The secure Park & Ride pictured below opens at 6.30 am and is locked at 7.30 pm, however there is an unsecured area where access is available 24 hours.

Figure 2.17 Pictures of the new Park & Ride Dundonald



dundonald
park & ride.

Operating every 15 - 20 minutes during peak times,
Monday - Friday • 7am - 7pm.

Park **FREE** and
travel from
£3.00*
per day

* £3.00 a day (two single smartlink journeys at £1.50 each)

Plan your journey or download a timetable: translink.co.uk
Download the app 'Translink NI' from Google Play & App Store

Translink Contact Centre: 028 90 66 66 30

let's go together
translink.co.uk

Translink

Valid from Friday 1 July 2016 until further notice

dundonald park & ride.

Dundonald Park & Ride Departure Points



Belfast City Centre Departure Points

Route	Departure Points	
1 Antrim Road	1 Castlereagh Road	3 Lisburn Road
2 Shore Road	4 Cregagh Road	5 Falls Road
3 Hollywood Road	6 Ormeau Road	7 Shankill Road
4 Upper N'ards Rd	8 Malone Road	9 Oldpark Road



Other Services

40, 90A, 91	26, 25A, 25B, 25C, 630	Colin's P&R
65, 66, 67	69, 90, 91, 92, 93A, 94	East Belfast P&R
77, 78, 79	12, 13A, 13B, 14, 14A, 14B, 50	29, 29C, 30, 30A

From Dundonald Park & Ride

Metro 4X - Last pick up at Ballyhackamore

via Cherry Hill, Ulster Hospital, Rospatrick, Knock Road, Ballyhackamore, Corniswater, Templemore Avenue, Central Station, May Street

Service	Time
4X	0708
4X	0728
4X	0748
4X	0808
4X	0828
4X	0848
4X	0913
7	1005
7	1105
7	1205
7	1305
7	1405
4X	1513
4X	1613

From Belfast City Centre

Metro 4X - First set down at Ballyhackamore

via Albert Clock, Central Station, Templemore Avenue, Corniswater, Ballyhackamore, Ormeau, Greenwald Primary, Dundonald House, Ulster Hospital, Burton Avenue

Service	Time
7	0935
7	1035
7	1135
7	1235
7	1335
4X	1433
4X	1513
4X	1553
4X	1623
4X	1653
4X	1713
4X	1733
4X	1803
4X	1843

Park & Ride open Monday to Friday 7am-7pm
No Saturday or Sunday Service

Ulsterbus services depart Laganaside Buscentre

Metro 4X departs Donegall Square West

Plan your journey or download a timetable: translink.co.uk
Download the app 'Translink NI' from Google Play & App Store

Google play AppStore Windows

Translink Contact Centre: 028 90 66 66 30

let's go together
translink.co.uk



Figure 2.18 Secured area of the Park & Ride



Figure 2.19 Unsecured area of the Park & Ride



Table 9.1 – Action Plan Progress

Action Plan Measure	Lead Authority	Original Timescale	Implementation	On Target	Comments
1.LCCC to investigate using cleaner more sustainable vehicles	Lisburn & Castlereagh City Council	July 2014	No. of vehicles purchased meeting EURO 5 standard rating. Purchase of electric vehicles for trial use within Environmental Health.	Yes	LCCC continues to only purchase vehicles meeting EURO 5 classification. Two electric vans purchased in 2012 and charging points installed for use within the Environmental Health department.
2.Continue to provide Eco bus driver training	Translink	On-going	No of drivers trained and devices fitted	Yes	All drivers have received Eco-Driving Training and Eco-Driving is a continual part of their CPC training.
3.Continue to purchase EURO 5 Classified vehicles and sustainable transport methods	Translink	On-going	Continue to upgrade vehicles	Yes	Translink continue to upgrade their vehicles and consider more sustainable transport links
4.LCCC to introduce/Encourage Sustainable travel	Lisburn & Castlereagh City Council	September 2013	Production of Green Travel Plan		Castlereagh Borough Council's Travel Plan has included: <ul style="list-style-type: none">• Bike to Work Scheme
5.Park & Ride Scheme	TransportNI	June 2014	Park & Ride Scheme Implemented	Yes	The Park & Ride opened in Dundonald in December 2014 and although not yet used to full capacity in 2015 levels of NO ₂ reduced through Dundonald village.
6. Comment on planning applications to ensure that all relevant air quality issues are highlighted and mitigation measures are considered wherever possible	Lisburn & Castlereagh City Council	On-going	No. of plans commented on	Yes	Environmental Health comments on all planning applications in respect any loss of amenity and includes Air quality issues, requesting an air quality assessment when necessary.
7.Promote Sustainable initiatives in conjunction with Travelwise NI	Travelwise NI	On-going	Initiatives undertaken	Yes	LCCC have been working with Travelwise NI in relation to Bike to Work Week and walk to school initiatives.

7 Conclusions and Proposed Actions

7.1 Conclusions from New Monitoring Data

All monitoring sites at relevant exposure within the Council Area have shown a decrease in NO₂ and no exceedances of the air quality objectives in 2015. Lisburn & Castlereagh City Council will continue monitoring at key locations in 2016 and submit a progress report in 2017, to establish if the reduction was due to climatic conditions in 2015 or reduced emissions.

The NO₂ levels within the AQMA reduced in 2015, this coincides with the opening of the new 520 space Park & Ride site in Dundonald on 1st December 2014. Dundonald Park & Ride forms a key part of the new Belfast Rapid Transit system which is scheduled to start services in 2018. This is a positive early indicator for reduced vehicle emissions in Dundonald village. Lisburn & Castlereagh City Council shall continue monitoring within the AQMA in 2016 to establish a trend in reductions.

7.2 Conclusions relating to New Local Developments

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

7.3 Proposed Actions

No monitoring sites with relevant exposure within the Council Area have shown exceedances of the air quality objectives and no new sites have been identified. LCCC shall continue monitoring at key locations in 2016 and submit a progress report in 2017.

8 References

TG (2009) Part IV of the Environment Act 1995. Local Air Quality Management:
Technical

Guidance LAQM.TG(09). Guidance prepared by the Department for Environment,
Food and Rural Affairs and the Devolved Administrations,
February 2009

Appendices

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

QA/QC Data of automatic sites

Lisburn City & Castlereagh City Council commissioned AQDM Technology to provide the QA/QC of the automatic measurements of NO₂, SO₂, PM₁₀, and PM_{2.5} for the Kilmakee, Seymour Hill and Dundonald A20 sites. Local authority staff act as the local site operator and visit the sites on a weekly basis carrying out any manual calibration or filter changes required. The sites were repaired as necessary and Wecare4air were contracted to service the sites.

Automatic station reports produced by the data Management Company

Produced by AQDM on behalf of Lisburn

LISBURN Seymour Hill, Kilmakee Activity Centre 2015

These data have been fully ratified by AQDM to LAQM TG(09) standards

Air Quality Statistics (Kilmakee Activity Centre)

Pollutant	PM ₁₀ ⁺	PM _{2.5} [~]	SO ₂	Wind Dir	Wind Speed
Number Very High #	0	0	0	-	-
Number High #	0	0	0	-	-
Number Moderate #	0	4	0	-	-
Number Low #	327	148	31649	-	-
Maximum 15-min mean	-	115 µg m ⁻³	88 µg m ⁻³	-	2.1 m/sec
Maximum hourly mean	124 µg m ⁻³	115 µg m ⁻³	21 µg m ⁻³	-	1.0 m/sec
Maximum running 8-hr mean	92 µg m ⁻³	90 µg m ⁻³	15 µg m ⁻³	-	0.3 m/sec
Maximum running 24-hr mean	60 µg m ⁻³	48 µg m ⁻³	10 µg m ⁻³	-	0.3 m/sec
Maximum daily mean	47 µg m ⁻³	44 µg m ⁻³	6 µg m ⁻³	-	0.3 m/sec
90.4 th percentile of daily means [†]	23 µg m ⁻³	-	-	-	-
90 th percentile of daily means [†]	22 µg m ⁻³	-	-	-	-
98.08 th percentile of daily means [†]	34 µg m ⁻³	-	-	-	-
Average	14 µg m ⁻³	12 µg m ⁻³	1 µg m ⁻³	-	0.1 m/sec
Data capture	89.6 %	41.4 %	90.6 %	94.9 %	94.9 %

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

† Percentile required for data capture < 90%

* PM₁₀ in gravimetric units µg m⁻³

+ PM₁₀ as measured by a TEOM

~ PM_{2.5} as measured by a FDMS (decommissioned June 2015)

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

Air Quality Exceedences

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Max Conc	Number	Days	Allowed	Exceeded
PM ₁₀ Particulate Matter (Gravimetric)	Daily mean > 50 µg m ⁻³	47 µg m ⁻³	0	0	35 days	No
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg m ⁻³	14 µg m ⁻³	0	-	-	No
PM _{2.5} Particulate Matter *	Annual mean > 25 µg m ⁻³	12 µg m ⁻³	0	-	-	No
Sulphur Dioxide	15-minute mean > 266 µg m ⁻³	88 µg m ⁻³	0	0	35 15 mins	No
Sulphur Dioxide	Hourly mean > 350 µg m ⁻³	21 µg m ⁻³	0	0	24 hours	No
Sulphur Dioxide	Daily mean > 125 µg m ⁻³	6 µg m ⁻³	0	0	3 days	No
Sulphur Dioxide	Annual mean > 20 µg m ⁻³	1 µg m ⁻³	0	-	-	No

CASTLEREAGH DUNDONALD 2015

These data have been fully ratified by AQDM to LAQM TG(09) standards

Site Description

Near the Upper Newtownards Road but not quite classed as a roadside site

Air Quality Statistics

Pollutant	NO ₂	NO	NO _x
Number Very High #	0	-	-
Number High #	0	-	-
Number Moderate #	0	-	-
Number Low #	7944	-	-
Maximum 15-min mean	183 µg m ⁻³	489 µg m ⁻³	928 µg m ⁻³
Maximum hourly mean	157 µg m ⁻³	429 µg m ⁻³	812 µg m ⁻³
Maximum running 8-hr mean	110 µg m ⁻³	224 µg m ⁻³	448 µg m ⁻³
Maximum running 24-hr mean	88 µg m ⁻³	168 µg m ⁻³	345 µg m ⁻³
Maximum daily mean	77 µg m ⁻³	127 µg m ⁻³	258 µg m ⁻³
Average	29 µg m ⁻³	25 µg m ⁻³	67 µg m ⁻³
Data capture	90.7 %	90.7 %	90.7 %

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

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

NO_x mass units are NO_x as NO₂ µg m⁻³

Air Quality Exceedences

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Max Conc	Number	Days	Allowed	Exceeded
Nitrogen Dioxide	Annual mean > 40 µg m ⁻³	29 µg m ⁻³	0	-	-	No
Nitrogen Dioxide	Hourly mean > 200 µg m ⁻³	157 µg m ⁻³	0	0	18 hours	No

QA/QC of Diffusion Tube Monitoring

In 2015 the NO₂ tubes were supplied by Worcestershire Scientific Services, prepared and analysed by Gradko International Limited, using the preparation method 20%TEA/Water. Gradko International Ltd. participates in the AIR-PT/WASP scheme, Quarterly summaries of participating laboratories' performance can be found here:

[http://laqm.defra.gov.uk/documents/LAQM-AIR-PT-Rounds-1-12-\(April-2014-February-2016\)-NO2-report.pdf](http://laqm.defra.gov.uk/documents/LAQM-AIR-PT-Rounds-1-12-(April-2014-February-2016)-NO2-report.pdf)

Diffusion Tube Bias Adjustment Factors

Factor from Local Co-location Studies

A co-location study was carried out at the Dundonald site and the data submitted to the national data base <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>

The local bias adjustment figure was **0.80**.

A decision was made to apply the national figure of **0.88** to all the NO₂ diffusion tubes as 27 studies were included in the study and therefore a more accurate figure.

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 06/16						
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 2016	
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											Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.	
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 ² shown in blue at the foot of the final column.								
If a laboratory is not shown, we have no data for this laboratory.		If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data.	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@uk.bureauveritas.com or 0800 0327953								
Analysed By		Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ³	Bias Adjustment Factor (A) (Cm/Dm)	
-T		-T	-T									
Gradko		20% TEA in water	2015	R	Ards and North Down Borough Council	12	38	26	48.6%	G	0.67	
Gradko		20% TEA in water	2015	UC	Breckland Council	12	30	29	1.5%	G	0.99	
Gradko		20% TEA in water	2015	R	Cheltenham Borough Council	12	35	35	2.7%	G	0.97	
Gradko		20% TEA in water	2015	R	Lisburn & Castlereagh City Council	10	36	29	24.8%	G	0.80	
Gradko		20% TEA in water	2015	R	Luton Borough Council	12	46	44	6.0%	G	0.94	
Gradko		20% TEA in water	2015	R	Monmouthshire County Council	12	41	37	11.0%	G	0.90	
Gradko		20% TEA in water	2015	B	Pembrokeshire Council	10	4	3	36.7%	G	0.73	
Gradko		20% TEA in water	2015	R	City of Lincoln Council	12	39	33	17.9%	G	0.85	
Gradko		20% TEA in water	2015	R	Borough Council of King's Lynn and West Norfolk	12	29	22	32.5%	G	0.75	
Gradko		20% TEA in water	2015	R	Cheshire West and Chester	10	38	40	-5.2%	G	1.06	
Gradko		20% TEA in water	2015	R	Dudley MBC	12	47	50	-5.9%	G	1.06	
Gradko		20% TEA in water	2015	R	Dudley MBC	12	40	35	14.0%	G	0.88	
Gradko		20% TEA in water	2015	R	Dudley MBC	12	34	31	10.0%	G	0.91	
Gradko		20% TEA in water	2015	UB	Dudley MBC	11	23	19	20.9%	G	0.83	
Gradko		20% TEA in water	2015	KS	Marylebone Road Intercomparison	12	102	81	26.2%	G	0.79	
Gradko		20% TEA in water	2015	UB	Liverpool	12	20	22	-9.0%	G	1.10	
Gradko		20% TEA in water	2015	R	Preston City Council	12	29	27	8.9%	G	0.92	
Gradko		20% TEA in water	2015	R	Thurrock Borough Council	12	28	23	22.5%	G	0.82	
Gradko		20% TEA in water	2015	R	Gateshead Council	11	33	34	-1.2%	G	1.01	
Gradko		20% TEA in water	2015	R	Gateshead Council	12	28	27	3.9%	G	0.96	
Gradko		20% TEA in water	2015	R	Gateshead Council	10	36	32	11.5%	G	0.90	
Gradko		20% TEA in water	2015	KS	New Forest DC	11	47	36	31.1%	P	0.76	
Gradko		20% TEA in water	2015	R	New Forest DC	11	33	25	31.7%	G	0.76	
Gradko		20% TEA in water	2015	UC	Southampton City Council	12	28	29	-3.5%	G	1.04	
Gradko		20% TEA in water	2015	R	Wokingham Borough Council	11	36	33	7.9%	G	0.93	
Gradko		20% TEA in water	2015	R	Brighton & Hove City Council	9	47	38	24.1%	G	0.81	
Gradko		20% TEA in water	2015	R	NOTTINGHAM CITY COUNCIL	12	40	39	4.3%	G	0.96	
Gradko		20% TEA in water	2015		Overall Factor ² (27 studies)					Use	0.88	