2018 Updating and Screening Assessment for Causeway Coast and Glens Borough Council

In fulfilment of Environment (Northern Ireland) Order 2002

Local Air Quality Management

Date: February 2024

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Executive Summary

The new Council of Causeway Coast and Glens Borough Council was formed under Local Government Reform on 1st April 2015, merging Legacy Councils; Ballymoney, Coleraine, Limavady and Moyle.

Within the Borough of Causeway Coast and Glens monitoring of nitrogen dioxide (NO_2) has been undertaken since 2008. This monitoring was undertaken as a result of desktop and stage 1 assessments carried out in the preceding years. Nitrogen dioxide from traffic emissions was identified as a significant pollutant which required detailed investigation.

An Air Quality Management Area (AQMA) was declared within the legacy Limavady District Council, along Dungiven Main Street, in 2009 as levels were in excess of the annual mean concentration of $40ugm^{-3}$.

A continuous automatic monitor was installed along Main Street on 4th August 2010 in order to monitor Nitrogen dioxide pollutant concentrations (see below).

Passive monitoring has been undertaken in other legacy Council locations within the Borough to ensure that levels did not increase.

This report details the air quality information/data gathered by Causeway Coast and Glens Borough Council within the year 2017 and compares it with air quality pollutant levels obtained in previous years as far back as 2013.

The action plan derived by legacy Limavady Borough Council, now Causeway Coast and Glens Borough Council, had identified the only long-term solution to the elevated levels due to road traffic within the Dungiven AQMA as being the construction of a bypass in Dungiven.

This bypass has been alluded to for decades, and up until 2018 no progress had been made. The bypass was to form part of a wider dualling scheme of the A6 from Drumahoe to Dungiven, but financial constraints up until then had meant that the project was delayed.

In previous reports it was documented that most of the traffic going through Dungiven was through traffic. These vehicles did not stop in the town to access businesses or dwellings. Local traffic only accounted for a small proportion of the daily volumes.

It is envisaged that the bypass will divert through traffic, a significant percentage of which are HGV's, away from the town, and that significant improvements in air quality will be achieved.

Monitoring will continue within the existing AQMA as NO_2 levels remain high.

No further detailed assessments have been deemed necessary to evaluate air quality within the Borough. This will be reviewed in the next Progress Report, or if Council become aware of any new developments which have the potential to adversely impact air quality.

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1.0 Introduction

1.1 Description of Local Authority Area

Causeway Coast and Glens Borough Council is located along the North and East coasts of Northern Ireland and encompasses the former Councils of Ballymoney, Coleraine, Limavady and Moyle. The land area is approximately 2000km^2.

The council area is a mix of market towns, commercial, small industrial hubs, and open countryside.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in the Environment (Northern Ireland) Order 2002, the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether the air quality objectives are likely to be achieved.

Where exceedances are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

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 (milligrams per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

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

Pollutant	Air Quality Objective Concentration	Air Quality Objective Measured as	Date to be achieved by
Benzene	16.25µg/m^3	Running annual mean	31.12.2003
Benzene	3.25µg/m^3	Running annual mean	31.12.2010
1,3-Butadiene	2.25µg/m^3	Running annual mean	31.12.2003
Carbon monoxide	10.0mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5µg/m^3	Annual mean	31.12.2004
Lead	0.25µg/m^3	Annual mean	31.12.2008
Nitrogen dioxide	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
Nitrogen dioxide	40µg/m^3	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
Particles (PM_{10}) (gravimetric)	40µg/m^3	Annual mean	31.12.2004
Sulphur dioxide	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
Sulphur dioxide	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
Sulphur dioxide	266µg/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

Desktop assessments were carried out within legacy Councils (Ballymoney, Coleraine, Limavady and Moyle) to determine if the defined air quality pollutant levels were likely to exceed the National Air Quality Objective levels as set out within the Air Quality Regulations (NI) 2003.

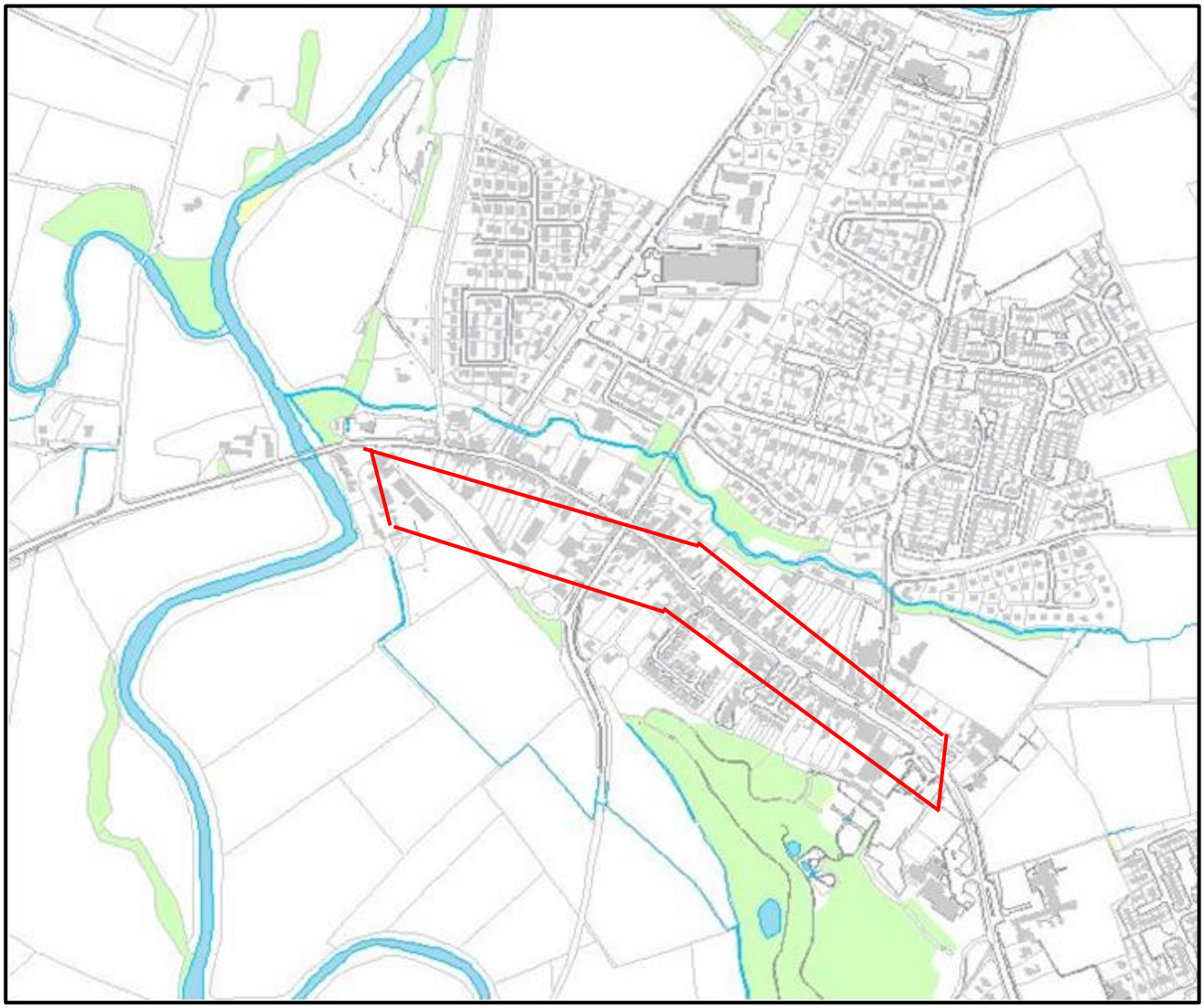
Of particular interest for these Councils were nitrogen dioxide from traffic emissions, particulate matter (PM_{10}) and sulphur dioxide. Particulate matter and sulphur dioxide emissions are associated with industrial processes and the burning of fossil fuels. Following on from these desktop assessments further analysis of pollutants was carried out. Fuel use surveys, DMRB (design manual for roads and bridges) assessments and passive monitoring (nitrogen dioxide for road traffic emissions) were carried out to assess levels.

In terms of the legacy Councils, Air Quality Management Areas (AQMAs) were declared:

- Legacy Limavady Borough Council - Main Street Dungiven for nitrogen dioxide (NO_2), road traffic pollutant emission source.
- Legacy Ballymoney Borough Council - Glebeside, Ballymoney for particulates (PM_{10}), domestic fossil fuel emission source. (The Glebeside AQMA was undeclared as houses in this estate had been converted over to gas).

The AQMA within Dungiven is the only one remaining in place.

Figure 1.1 Map of AQMA Boundary – (red boundary line)



2.0 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Causeway Coast and Glens Borough Council has a continuous NO_2 monitor within the AQMA in Dungiven. It has been operational since 2010. The monitor is audited and serviced on an annual basis by contractors and the data is ratified. The continuous monitor in Dungiven had broken down and was replaced by Council in March 2017. No automatic data is available for 2016. Passive monitoring has however continued to gauge if the annual mean concentration of nitrogen dioxide is being exceeded.

Figure 2.1 Map of Automatic Monitoring Site

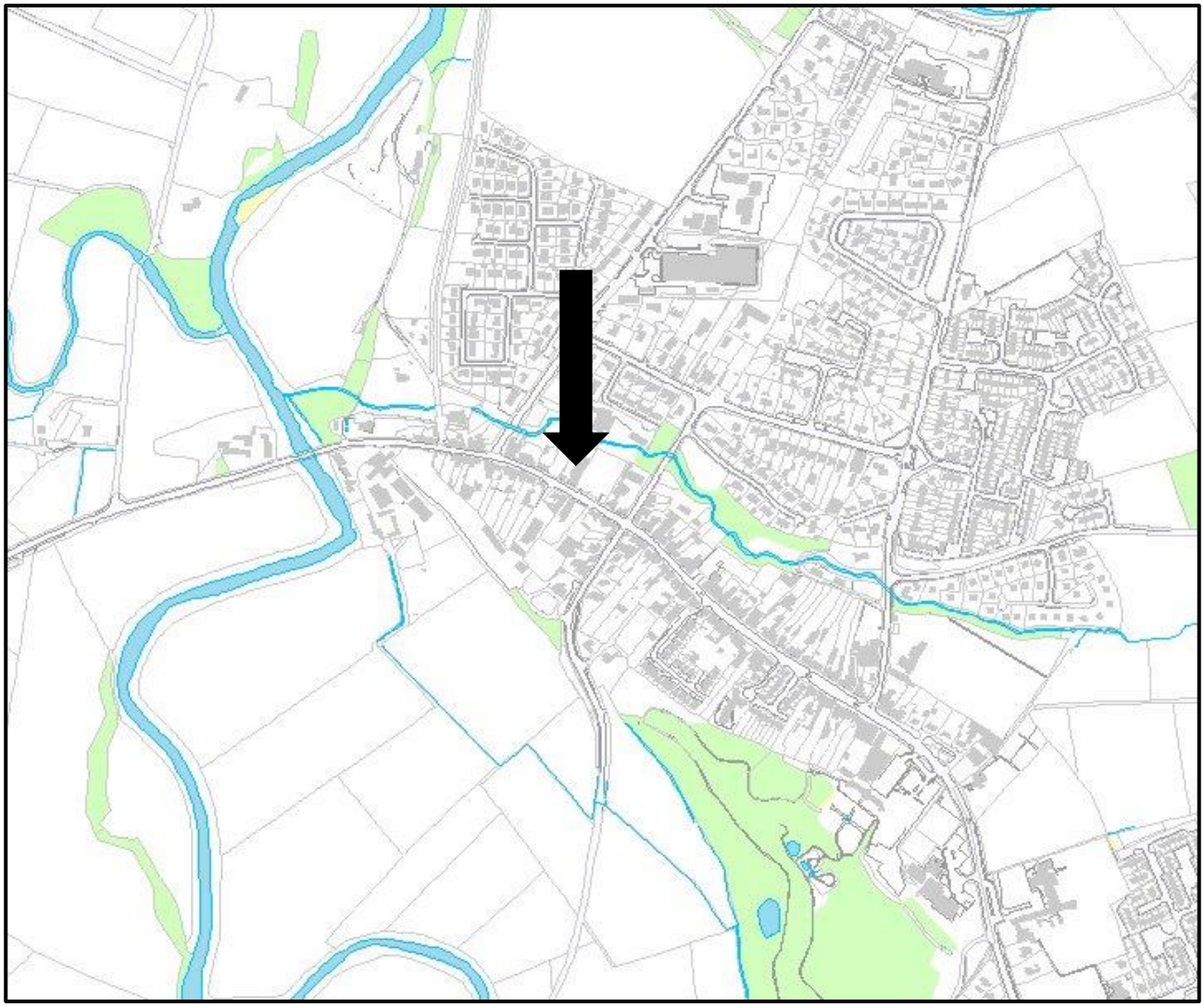


Table 2.1 Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Inlet Height (m)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road (m) *(N/A if not applicable)*	Does this location represent worst-case exposure?
Dungiven AQMA	Main Street	Urban roadside	084499	570421	2.0	NO_2	Y	Chemiluminescent	Y	1m	Y

2.1.2 Non-Automatic Monitoring Sites

Nitrogen dioxide (NO_2) and nitric oxide (NO) are both oxides of nitrogen and are collectively referred to as nitrogen oxides.

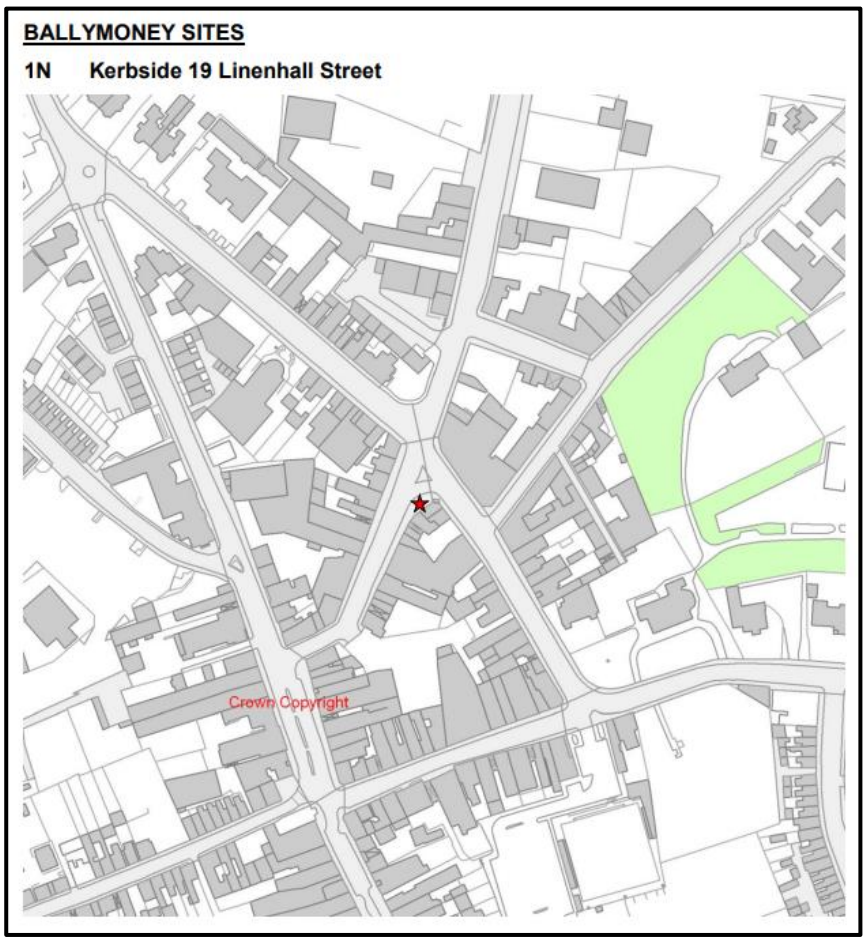
All combustion processes produce nitrogen oxide emissions, largely in the form of nitric oxide, which is then converted to nitrogen dioxide mainly as a result of reactions with ozone in the atmosphere.

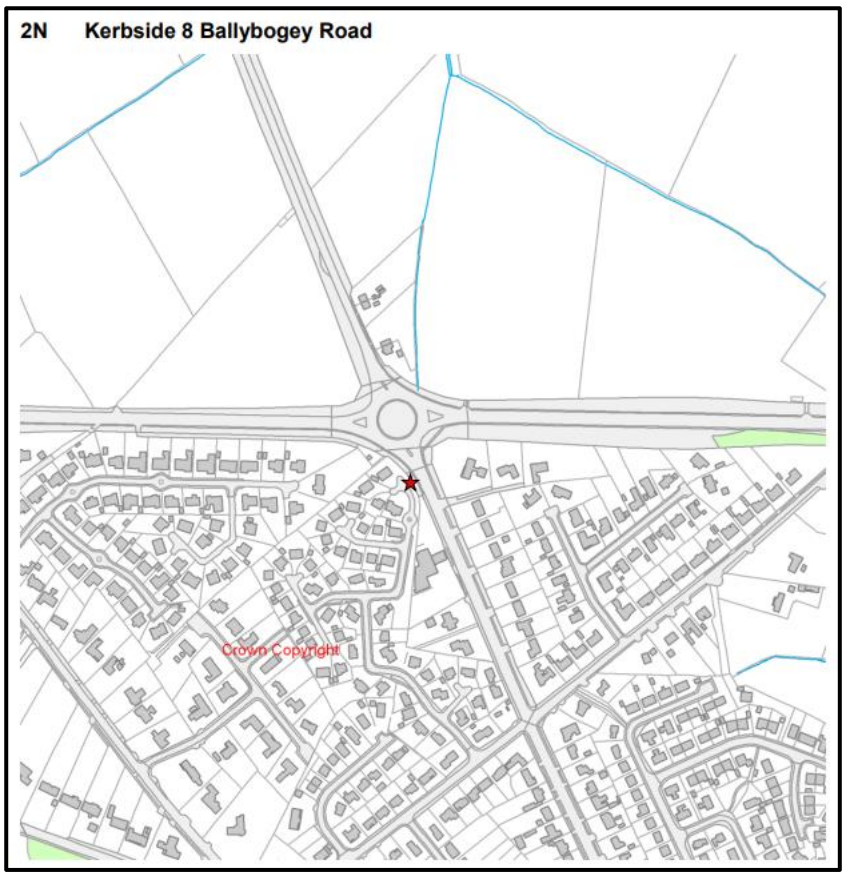
Exposure to high concentrations of nitrogen dioxide is reported to sensitize asthmatics to allergens, such as irritant chemicals, house dust mites and pollen.

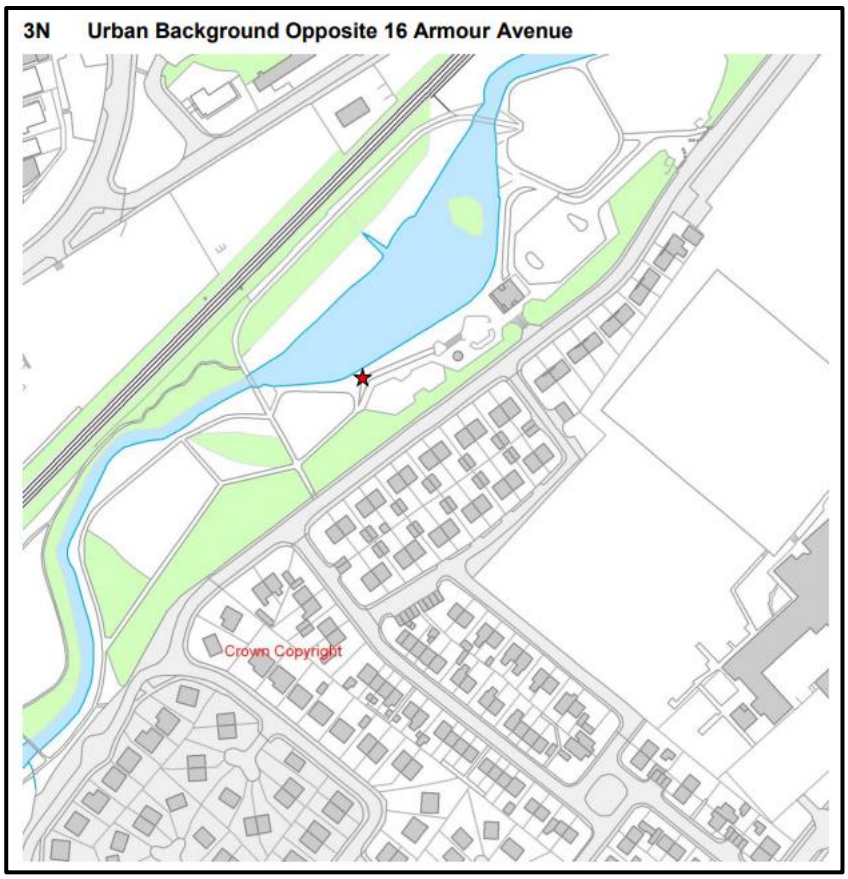
In urban areas, particularly close to major roads, motor vehicles account for the largest proportion of nitrogen oxide emissions. The contribution of road transport to nitrogen oxide emissions has declined significantly in recent years because of various national policy measures.

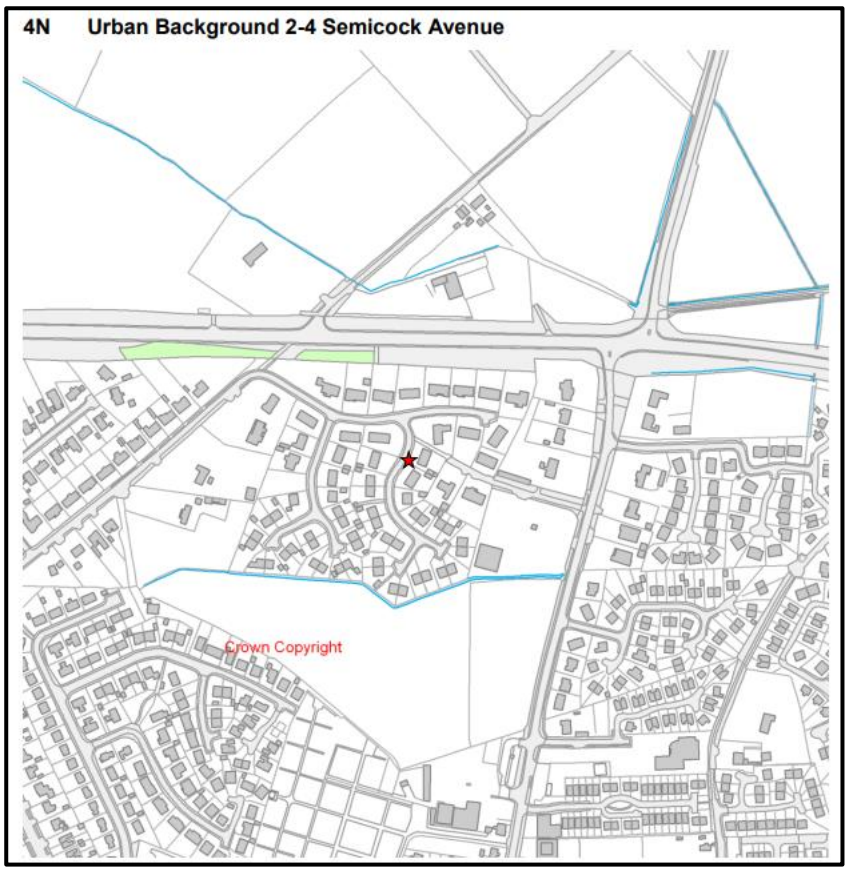
Five passive diffusion sites are located within the AQMA in Dungiven (Figure 2.2) to supplement the data collected by the continuous monitor (Table 2.1).

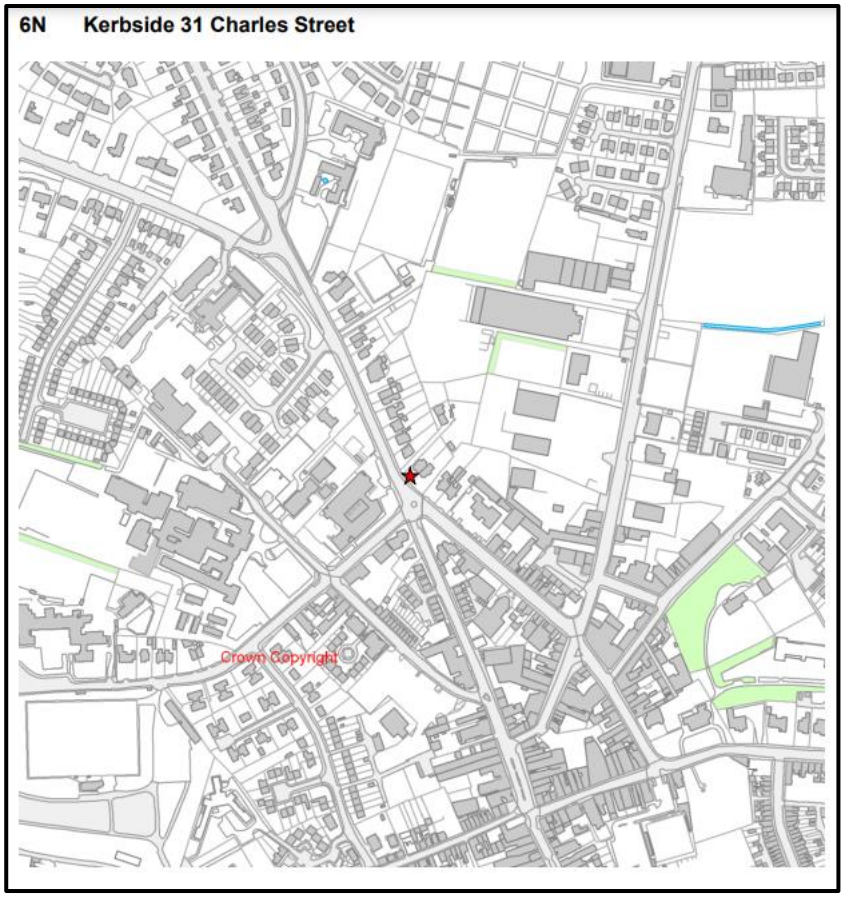
Figure 2.2 Map of Non-Automatic Monitoring Sites




2N Kerbside 8 Ballybogey Road
Crown Copyright

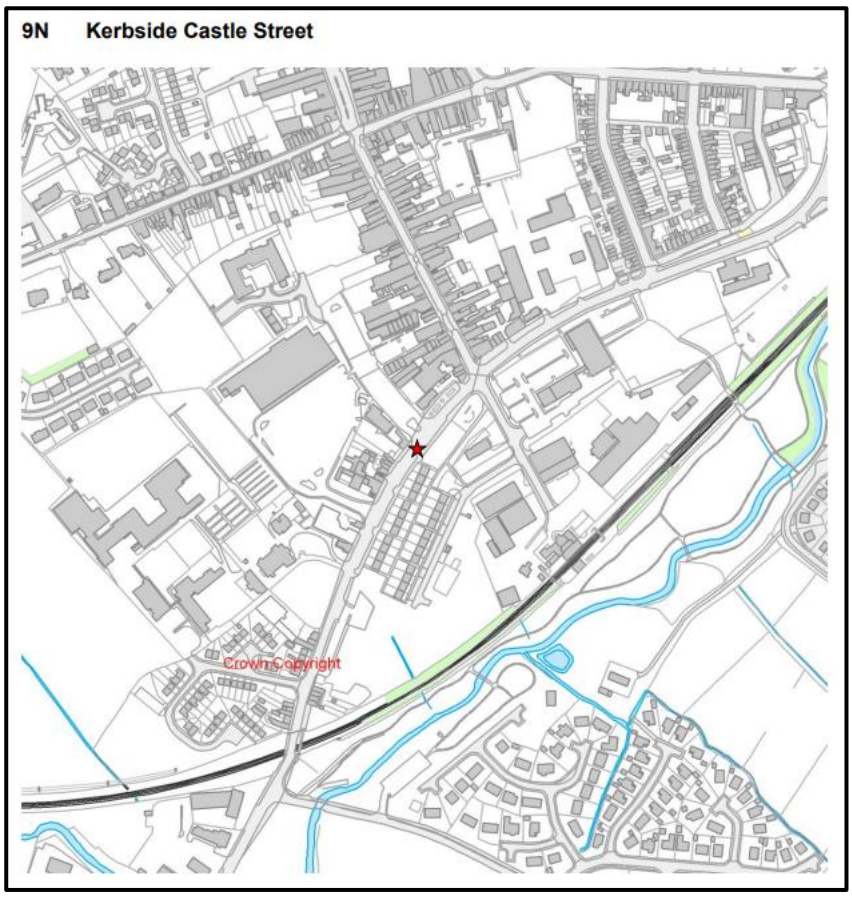

3N Urban Background Opposite 16 Armour Avenue
Crown Copyright

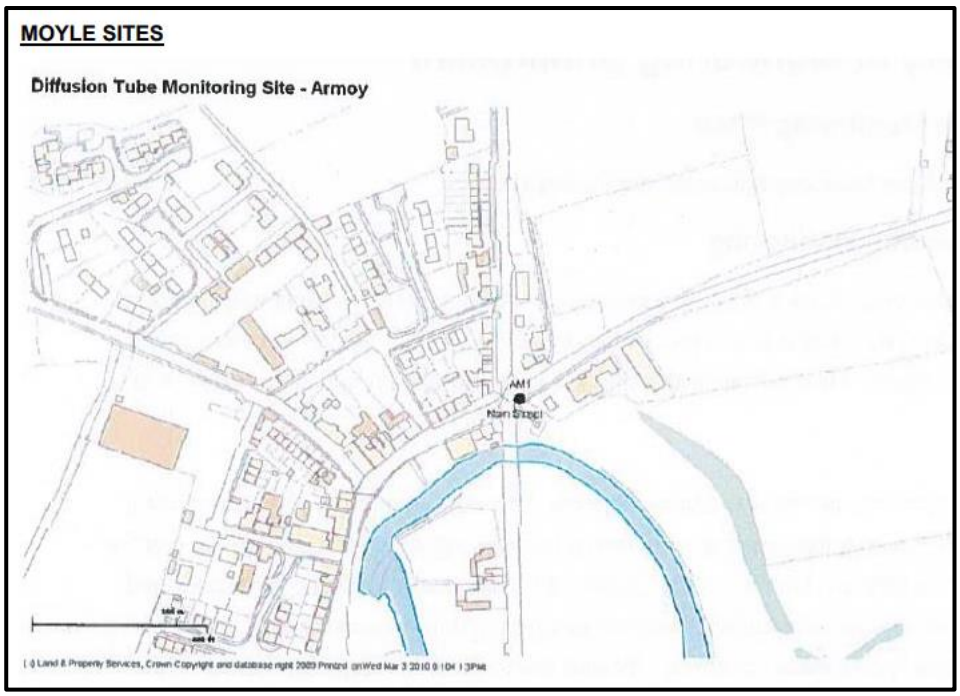

4N Urban Background 2-4 Semicock Avenue
Crown Copyright

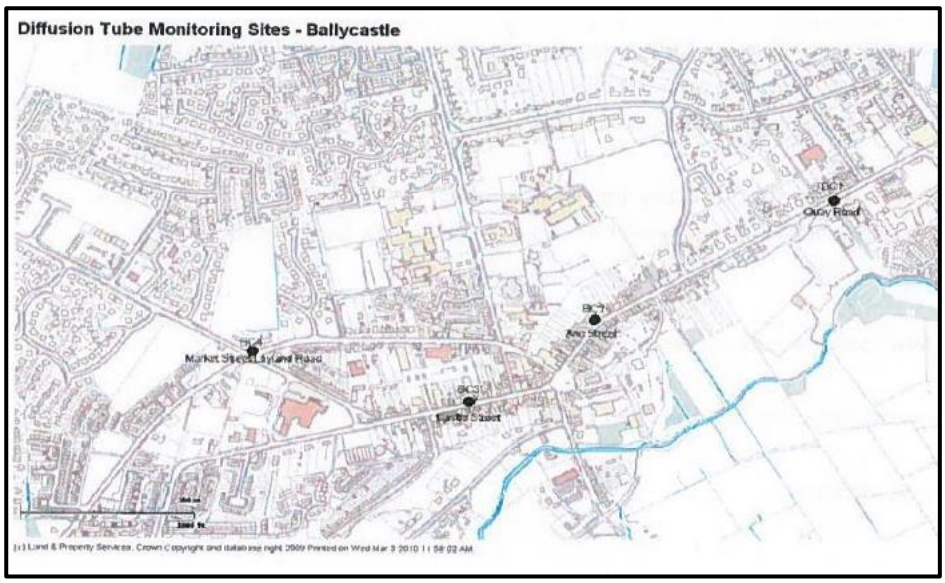

6N Kerbside 31 Charles Street
Crown Copyright

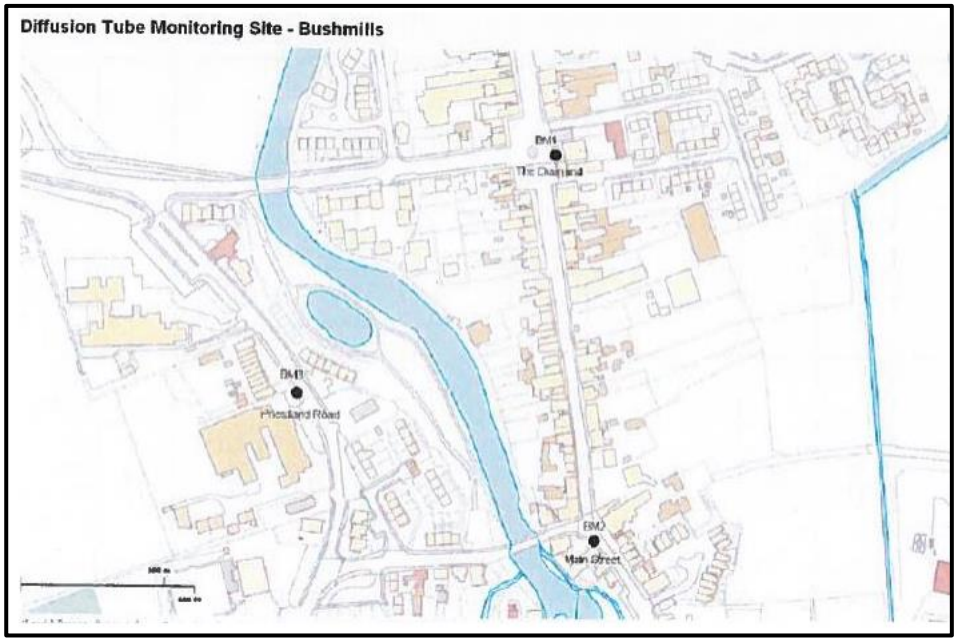
7N Kerbside Opposite 51 Queen Street

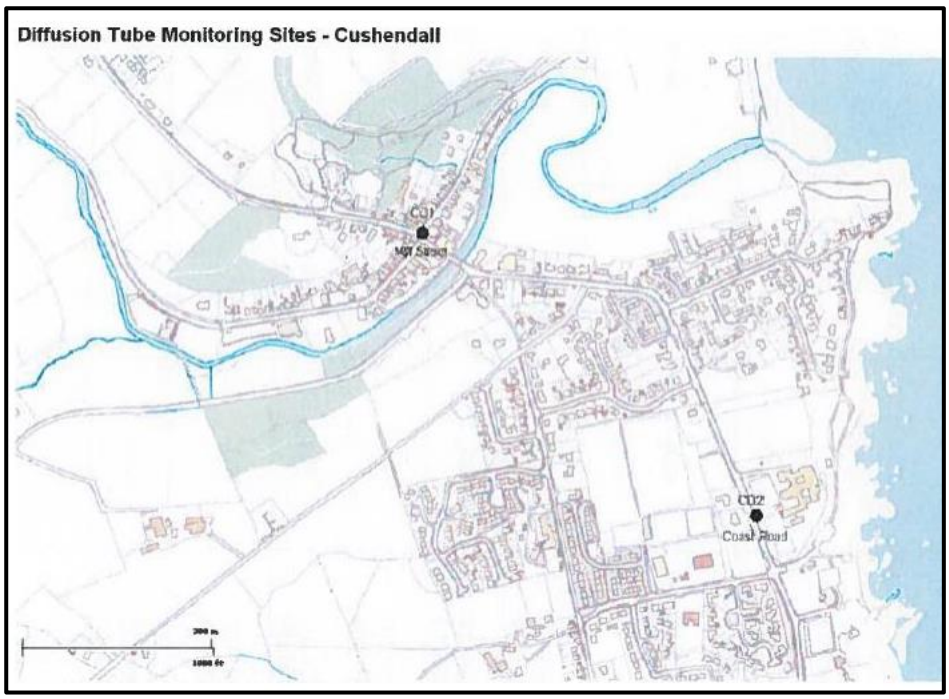
8N Kerbside Meetinghouse Street

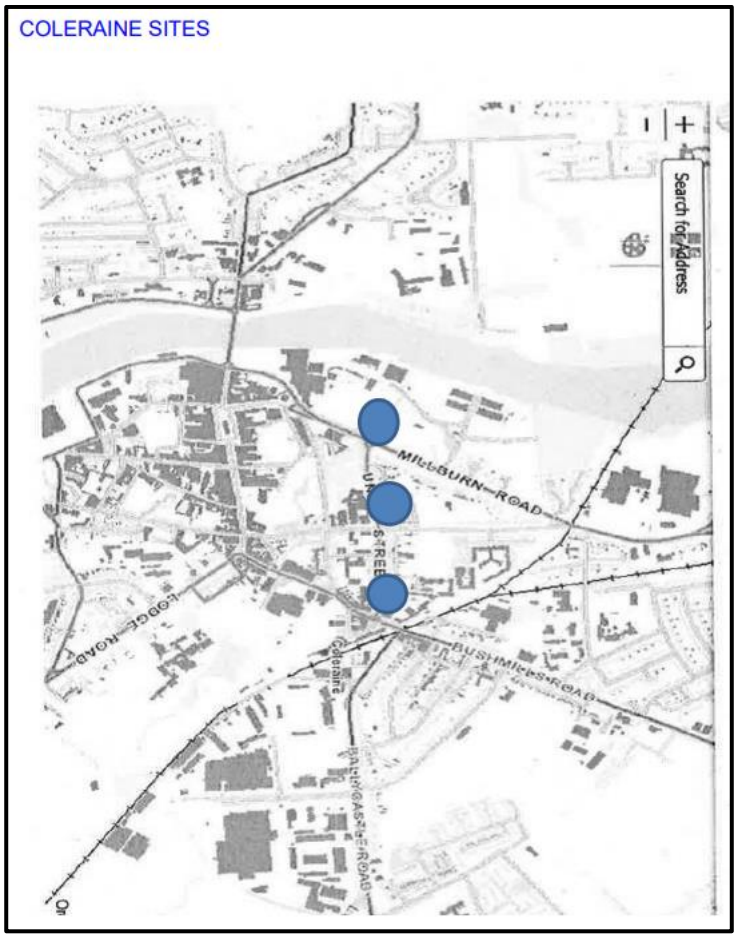

9N Kerbside Castle Street
Crown Copyright


MOYLE SITES
Diffusion Tube Monitoring Site - Armoy
AM1


Diffusion Tube Monitoring Sites - Ballycastle
Quay Road
Market Street/Lylands Road


Diffusion Tube Monitoring Site - Bushmills
The Diamond
Priestland Road
Main Street





Limavady Sites - Dungiven

Diffusion tubes are a type of passive sampler; they absorb the pollutant to be monitored directly from the surrounding air. Diffusion tubes represent a simple and cost-effective method of monitoring air quality in an area, to give a good general indication of average pollution concentrations. They are particularly useful for assessment against annual mean objectives.

Monitoring sites are chosen to provide data on locations where there is relevant public exposure and where possible, are close to the nearest receptor to the busy road or road junction of interest. The sites are subject to periodic review.

Diffusion tubes are placed out in accordance with and adherence to the DEFRA – Exposure Calendar and Methodology. At the end of the monitoring period the tubes are collected, documentation completed and then sent to the appointed laboratory (Gradko Environmental) to undergo analysis.

On completion of analysis, the results are emailed to the Environmental Protection Team and are recorded for use in the results tabulation for the applicable year.

Results obtained from diffusion tube analysis require correction for possible positive bias (over-read), or negative bias (under-read). The preparation method used was an absorbent of 20% TEA (Triethanolamine) in water. The bias adjustment factor for Gradko and the

technique in 2017 is 0.87. This factor is based on 39 studies and is taken from the DEFRA website at: http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html.

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?
BM	6N	Kerbside	31 Charles Street		2.5	NO_2	N	N	Y (10m)	1m	Y
	7N	Kerbside	Opp. 51 Queen Street		2.5	NO_2	N	N	Y (15m)	1m	Y
	8N	Kerbside	Meetinghouse Street		2.5	NO_2	N	N	Y (15m)	1m	Y
	9N	Kerbside	Castle Street		2.5	NO_2	N	N	Y (10m)	1m	Y
M	1	Roadside	311978	441022	2.5	NO2	No	No	Y (12M)	1.6	Y
	2	Roadside	311505	4408028	2.5	NO2	No	No	Y (10m)	5.25	Y
	3	Roadside	311290	440659	2.5	NO2	No	No	Y(10m)	1.6	Y
	4	Roadside	310912	440761	2.5	NO2	No	No	Y (6m)	2.5	Y
	5	Roadside	323685	427677	2.5	NO2	No	No	Y(15m)	1.4	Y
	6	Roadside	324177	427237	2.5	NO2	No	No	Y (12m)	4.1	Y
	7	Roadside	294076	440884	2.5	NO2	No	No	Y (20m)	1.3	Y
	8	Roadside	294103	440626	2.5	NO2	No	No	Y (8m)	1.2	Y
	9	Roadside	293777	440755	2.5	NO2	No	No	Y (14m)	2.8	Y
	10	Roadside	306815	432803	2.5	NO2	No	No	Y (30m)	2.0	Y
C	1	Urban centre	284876	432701	2.5	NO2	No	No	Y (3m)	1m	Y
	2	Urban centre	285075	432722	2.5	NO2	No	No	Y(3m)	1m	Y
	3	Urban centre	285247	432709	2.5	NO2	No	No	Y (4m)	1m	Y
L	Dungiven	Urban background	268957	409535	2.5	NO_2	Y	N	Y (1m)	1m	Y
	Dungiven	roadside	268887	409482	2.5	NO_2	Y	N	Y (1m)	1m	Y

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
	Dungiven	roadside	268852	409502	2.5	NO_2	Y	N	Y (1m)	1m	Y
	Dungiven	roadside	268742	409543	2.5	NO_2	Y	N	Y (1m)	1m	Y
	Dungiven	roadside	268981	409387	2.5	NO_2	Y	N	Y (1m)	2m	Y
	Dungiven	roadside	269190	409219	2.5	NO_2	Y	N	Y (1m)	2m	Y
	Dungiven	roadside	269051	409338	2.5	NO_2	Y	N	Y (1m)	2m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

Automatic Monitoring Data

The continuous NO_2 monitor was replaced in March 2017. The monitor is audited and serviced on an annual basis by contractors and the data is ratified. Results of Trends in Annual Mean NO2 Concentrations Measured at Automatic Monitoring Sites in relation to the National Air Quality Objective for Nitrogen Dioxide (NO2) Annual mean concentration 40ugm^{-3} are shown in Table 2.3.

Table 2.3 - Monthly Data Captures 2017 (%)

Pollutant – Nitrogen Dioxide											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	98	100	100	100	100	100	100	100	100

The NO_2 annual mean and hourly mean objectives (2017) were exceeded, as shown below. The NO_2 annual means and annual data captures are shown below. The AQS annual mean objection is 40ugm^{-3} and the annual data capture target is 85%.

Station	Annual Data Capture %	Annual Mean 40ugm^{-3}	Objective Exceeded
Dungiven	75	46	Yes

The NO_2 annual mean was not annualised using the methodology in the Technical Guidance TG (16) (7.129), since the data capture was 75% or greater and there was at least 3 months of monitoring data.

The NO_2 hourly mean AQS Objective is 200 ugm^{-3}. The number of exceedances are shown below. There is an annual allowance of 18hours.

Station	Number of Hourly Means >200 ugm^{-3}	Objective Exceeded
Dungiven	0	No

Table 2.4 – Automatic Monitoring Data: Monthly Means Pollutant Results 2017 – Nitrogen Dioxide (ugm^{-3})

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	**40**	**48**	37	37	**44**	**44**	**42**	**60**	**59**

Dungiven AQMA Main Street - Nitrogen Dioxide Results Summary (2013 – 2017)

National Air Quality Objective for Nitrogen Dioxide (NO_2):

- Annual mean concentration 40ugm^{-3}
- Hourly mean 200 µgm^{-3} not to be exceeded more than 18 times a year

YEAR	Annual mean concentrations	Hourly mean
2017	**46ugm^3**	No exceedances
2016	**44ugm^3**	No exceedances
2015	35ugm^3	No exceedances
2014	35ugm^3	No exceedances
2013	-	-

Figures underlined and in bold, represent an exceedance of the Air Quality objective.

Table 2.5 Results of Automatic Monitoring for Nitrogen Dioxide: Annual Mean NO_2 Monitoring Results ($\mu g/m^3$) for Comparison with the Annual Mean Objective

Site ID	Site Type	Within AQMA? Which AQMA?	Valid Data Capture for period of monitoring %[a]	Valid Data Capture 2017 % [b]	2013* [c]	2014* [c]	2015* [c]	2016* [c]	2017 [c]
Dungiven AQMA	Urban roadside	Dungiven AQMA	75%.	75%.	37ugm^{-3}	35ugm^{-3}	35ugm^{-3}	**44ugm^{-3}**	**46ugm^{-3}**

In bold, exceedance 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 optional

Year 2017 Summary: AQMA – NO_2 Levels, Main Street, Dungiven

NO_2 - annual data capture was 75%. The annual mean was 46 µg m^{-3} which exceeded the annual mean objective: 40µg m^{-3}.

There were no exceedances of the NO_2 hourly limit of 200 µg m^{-3}. There is an annual allowance of 18 hours, so the Objective was not exceeded.

Diffusion Tube Monitoring Data

NO_2 data for 12 months was captured in 2013-2017.

Passive Monitoring results for NO_2 outside of the AQMA in Dungiven in 2017 are shown in Table 2.6. Due to reorganisation and restructuring of NI Councils, data prior to 2015 is not available. Table 2.7 shows the results of Dungiven Nitrogen Dioxide Diffusion Tubes in 2017. Passive monitoring results for each of the passive sites for the past five years are shown in Table 2.8. The results shown have been adjusted to reflect relevant bias adjustments.

Table 2.6 - Passive Monitoring outside of AQMA, Dungiven – NO_2 Diffusion Tubes Data Capture (2017)

Location	Year	Annual mean NO_2 concentration (ugm-^{3})	NO_2 Air Quality Objective (ugm-^{3})	Comment
Coleraine	2017	26.5	40	No exceedances
Moyle	2017	24.4	40	No exceedances
Ballymoney	2017	23.94	40	No exceedances

Passive monitoring discontinued in these areas in 2017 as NO_2 levels were consistently below the NO_2 air quality objective of 40ugm^{-3}.

Table 2.7 - Results of Dungiven Nitrogen Dioxide Diffusion Tubes in 2017

Site ID	Site Type	Within AQMA? Which AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2017 (Number of Months or %) [a]	2017 Annual Mean Concentration (µg/m^3) - Bias Adjustment factor = 0.89 [b]
Dungiven B	Roadside	Y	Triplicate		34.6
Dungiven C	Roadside	Y	Triplicate		45.7
Dungiven D	Roadside	Y	Triplicate		40.1
Dungiven E	Roadside	Y	Triplicate		28.2
Dungiven F	Roadside	Y	Triplicate		33.3
Dungiven G	Roadside	Y	Triplicate		39.8

During 2018, several of the monitoring sites across Causeway Coast and Glens Borough Council were decommissioned/reorganised. Therefore, the site locations going forward from 2018 will not tally with the previous locations utilised for monitoring sites.

2.2.2 Particulate Matter (PM_{10})

Causeway Coast and Glens Borough Council do not monitor PM_{10}.

2.2.3 Sulphur Dioxide

Causeway Coast and Glens Borough Council do not monitor Sulphur Dioxide.

2.2.4 Benzene

Causeway Coast and Glens Borough Council do not monitor Benzene.

2.2.5 Other pollutants monitored

Not applicable.

2.2.6 Summary of Compliance with AQS Objectives

Causeway Coast and Glens Borough Council has examined the results from monitoring in the Borough. Available data (NO_2 concentrations) at monitoring locations selected outside of the AQMA up to 2018 are shown to fall below the air quality objectives, therefore there is no need to proceed to a Detailed Assessment.

3.0 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Causeway Coast and Glens Borough Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, which have not been adequately considered in previous rounds of Review and Assessment.

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

The technical guidance indicates that consideration should be given to busy streets where there are many shops, outdoor cafes, bars etc., where persons are likely to be exposed within 5m of the kerb for 1-hour or more. Busy streets are those where there are 10,000 or more vehicle movements per day. Consideration should be given to the traffic flow, the vehicle speed and the percentage of vehicle types. Following a review of the Northern Ireland Traffic Count Data (OpenDataNI, 2023) no further areas were identified in the Causeway Coast and Glens Borough Area.

Causeway Coast and Glens Borough Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

3.3 Roads with a High Flow of Buses and/or HGVs.

The technical guidance indicates that consideration should be given to roads where the traffic flows are less than 20,000 vehicle movements per day and there is an unusually high percentage of HGV and/or buses. An unusually high proportion is in the region of 20%. Roads with relevant exposure within 10m should be considered. Northern Ireland Traffic Count Data (OpenDataNI, 2022) indicates that there were no roads within Causeway Coast and Glens Borough Council which convey 20,000 vehicle movements per day and have an unusually high percentage of HGV's (>20%). The largest percentage of HGV's was recorded on the A6 to the west of Dungiven. The percentage here was 12.5%.

Causeway Coast and Glens Borough Council confirms that there are no new/newly identified roads with high flows of HGVs/buses.

3.4 Junctions

Pollutant concentrations are generally higher close to junctions where the combined impact of traffic emissions from two roads and/or the elevated emissions due to stopping and starting. The technical guidance suggests identifying busy junctions and determining if they are new or have been previously assessed. A 'busy' junction is defined as one which experiences 10,000 vehicle movements per day or more. Relevant exposure is deemed to be within 10m of the kerb. Information such as traffic speed, %HDV's including HGV's and buses should be considered. Following a review using published traffic data and online mapping tools no new 'busy' junctions were identified within the Borough Causeway Coast and Glens.

Causeway Coast and Glens Borough Council confirms that there are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

Causeway Coast and Glens Borough Council confirms that there are no other new/proposed roads, within this criterion.

3.6 Roads with Significantly Changed Traffic Flows

Causeway Coast and Glens Borough Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

3.7 Bus and Coach Stations

Technical guidance TG (16/22) indicates that assessment is required where bus stations or sections of bus stations are not enclosed and where there is relevant exposure, including at nearby residential properties. The guidance requires assessment where there is relevant exposure within 10m of any part of the bus station where buses are present and where the number of bus movements is greater than 2500 per day. There are no bus stations within the Causeway Coast and Glens Borough area that fall into this category.

Causeway Coast and Glens Borough Council confirms that there are no relevant bus stations in the Local Authority area.

4.0 Other Transport Sources

4.1 Airports

City of Derry airport partially falls within the edge of the Borough. This small regional airport is within 1000m of residential properties. The Technical Guidance indicates that assessment is required where:

- There is relevant exposure within 1000m of the airport boundary and
- the annual throughput of passengers/freight equates to 10 million passengers per year

City of Derry airport's website indicates that in 2009 350,000 passengers passed through the airport. In 2011 this increased to 405,697 passengers (UK AIP at NATS/ Statistics from UK Civil Aviation Authority). In 2015 it was reported that in the past year, numbers of passengers had fallen to 350,257 (Belfast Telegraph, 2015). In 2019 the airport's transported 203,777 passengers (City of Derry Airport, 2022); this represented a 9.7% decrease in the number of passengers from the previous year.

There is currently no freight transport in or out of the airport.

There is therefore no requirement to assess nitrogen dioxide levels originating from the airport.

Causeway Coast and Glens Borough Council confirms that there are no relevant airports within the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

The main Belfast to Derry/Londonderry railway line passes through the Borough with stops including Bellarena, Castlerock, Coleraine and Ballymoney. There is also a train line from Coleraine to Portrush with 4 stops in total.

The technical guidance requires Council to identify locations where diesel or steam locomotives regularly stop for periods of 15 minutes or more, where relevant exposure is within 15m of the stationary locomotive and to establish the number of trains per day which might affect these locations and the typical duration that engines may be left running when stationary. The guidance indicates that a detailed assessment may be required where there are three or more occasions when there might be a stationary locomotive with its engine running for 15 minutes or more. All trains in Northern Ireland are diesel; there are no steam trains operated by Translink, the rail service provider.

Causeway Coast and Glens Borough Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

4.2.2 Moving Trains

Table 7.2 within technical guidance TG (16/22) lists those rail lines with heavy traffic of diesel trains. None of these required for consideration are within Causeway Coast and Glens Borough Council.

Causeway Coast and Glens Borough Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m of the railway track.

4.3 Ports (Shipping)

Causeway Coast and Glens Borough Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

5.0 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

Causeway Coast and Glens Borough Council confirms that there have been new industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

Air quality pollutants relevant to the developments were required to have been addressed through the planning /development control processes and/or as necessary fall within the regulatory control under the Pollution Prevention and Control (Industrial Emissions) Regulations (NI) 2013 in terms of air pollutant controls.

5.1.2 Existing Installations where Emissions have Increased substantially, or new Relevant Exposure has been introduced

There are no existing installations where emissions have increased substantially, or new relevant exposure has been introduced.

Causeway Coast and Glens Borough Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

There have been no new installations within the Borough and no significant changes made to any existing installations with no previous air quality assessment.

Causeway Coast and Glen Borough Council confirms that there are no new or significantly changes installations which would fall within this category.

6.0 Major Fuel (Petrol) Storage Depots

There are no major fuel (petrol) storage depots within the Local Authority area.

6.1 Petrol Stations

Technical guidance TG (16/22) requires identification of all petrol stations with an annual throughput of more than 2000m^3 of petrol with a busy road nearby. A busy road is defined as one with more than 30,000 vehicle movements per day.

Causeway Coast and Glens Borough Council confirms that there are no petrol stations meeting the specified criteria**.**

7.0 Poultry Farms

Technical guidance TG (16/22) states that the following farms should be considered for PM_{10} if there is relevant exposure within 100m:

- Those with 400,000 birds if mechanically ventilated
- Those with 200,000 birds if naturally ventilated, and
- Those with 100,000 turkeys

A review of the DAERA Public Register (Pollution Prevention and Control (Industrial Emissions) Regulations (NI) 2013) within the Causeway Coast and Glens Borough Council area (Schedule 1 Section 6.9, Part A (a) (i) “Intensive Farming”) installations concluded that there are no poultry farms within the Borough which fall into any of the above categories.

Causeway Coast and Glens Borough Council confirms that there are no poultry farms meeting the specified criteria.

8.0 Commercial and Domestic Sources

8.1 Biomass Combustion – Individual Installations

Causeway Coast and Glens Borough Council confirms that no biomass combustion plant in the Local Authority area were identified as needing further modelling/monitoring.

8.2 Biomass Combustion – Combined Impacts

The technical guidance states that there may be the potential that many small combustion units including domestic solid fuel burners may attribute to elevated levels of pollutants. Whilst acceptable individually, they could in combination lead to unacceptably high PM_{10} levels in areas where PM_{10} levels are close to or above the national air quality objective.

Councils are required to identify 500mx500m grid squares where housing densities are highest and there are service sector biomass combustion appliances. To quantify the impact of domestic appliances within the grid square each type of appliance should be identified. Once identified calculations should be used in conjunction with Table 5.3 within the guidance to determine the annual domestic emission level for each grid square.

Regarding those units in the service sector, the floorspace occupied within each grid square for each of solid fuel burning plants is identified. Again, the annual service sector emission level per hectare should be calculated and this, along with the domestic emission level, will indicate the total emission level within the grid square.

Estimations of the fraction of space within the grid square occupied by solid fuel burning premises can then be used to determine the emission density for each grid square (kg emissions/500x500m square).

If the source exceeds the threshold, detailed assessment is required.

Causeway Coast and Glen Borough Council has assessed the biomass combustion plant within the district and concluded that it will not be necessary to proceed to a Detailed Assessment.

8.3 Domestic Solid-Fuel Burning

Causeway Coast and Glens Borough Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

9.0 Fugitive or Uncontrolled Sources

Particulate matter (PM_{10})

Dust emissions can give rise to elevated levels of PM_{10}. These emissions may arise from operations such as quarries, landfills, coal and material stockpiles, major construction works and waste management sites. Consideration should be given to any air quality studies which have been carried out with regard to such operations, and if there is relevant exposure. The distance of any receptor should be assessed from source as opposed to the site boundary.

To determine accurately the impact such activities would have on PM_{10} emissions, local authorities should assess any existing air quality assessments carried out in relation to specific sites and determine if exposure falls under the definition of 'near'. 'Near' is defined in relation to local background PM_{10} concentrations. For the 2004 National air quality objective level 'near' is defined as

- 1000m if [background] >28ugm^{-3}
- 400m if [background] >26ugm^{-3}
- 200m for any [background]

These distances are from source which may not always coincide with the site boundary.

If the relevant exposure is within 50m of an off-site road used to access the site and there are visible deposits on the road, then these sections of road which may extend up to 1000m from the site entrance are considered as 'near', as long as the background concentration is above 25ugm^{-3} for the 2004 objective levels.

History of complaints regarding dust and visual inspection of emissions and evidence of dust being carried out onto roadways from such sites should be considered.

If there is relevant exposure and if there is either a history of complaint and/or visual emissions detailed assessment is required.

Within the Causeway Coast and Glens Borough there are several quarries, and these would have been subject to previous review and assessment in terms of the technical guidance.

There are two landfill sites operating within the Borough, one of which is council owned at the Craigahulliar site and one privately owned by RiverRidge Recycling Ltd., located outside Garvagh. There are in total four closed landfills within the Borough.

A review of the relevant planning data and PPC permitted installations was carried out pertaining to quarry and landfill sites and no additional sites which would require inclusion

were identified. Included in this review was a screening of relevant complaints held by the Council.

Causeway Coast and Glens Borough Council confirms that there are no potential sources of fugitive/uncontrolled particulate matter emissions in the Local Authority area.

10.0 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

This Update and Screening Assessment has indicated that aside from the AQMA, no new issues have arisen which would require either a detailed or further assessment for any pollutants. The AQMA will remain in place and monitoring will continue.

10.2 Conclusions from Assessment of Sources

No significant issues have been identified beyond the existing AQMA which require any additional investigation or monitoring. Regarding potential sources, no new issues have been identified since the last USA report.

10.3 Proposed Actions

No new issues of concern have been identified. Monitoring, (passive and automatic) will continue within the AQMA in Dungiven. No detailed assessments or further assessments are required regarding any of the pollutants.

11.0 References

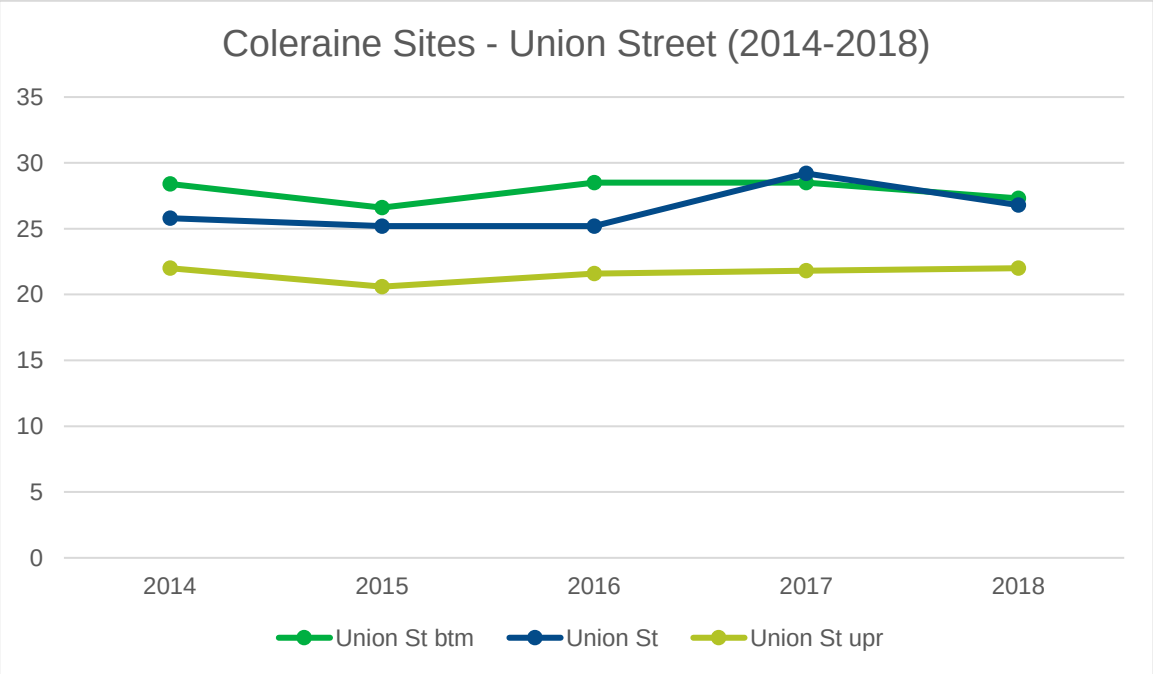
- Air Quality Regulations (Northern Ireland) 2003. Available at: https://www.legislation.gov.uk/nisr/2003/342/contents/made
- Belfast Telegraph (2015) Traffic rise at Belfast airports as City of Derry falls. Available at: https://www.belfasttelegraph.co.uk/business/news/traffic-rise-at-belfast-airports-as-city-of-derry-falls-30920265.html
- Causeway Coast and Glens Borough Council (2018). Passive diffusion monitoring of NO_2 with Causeway Coast and Glens Borough Council 2014-2018
- City of Derry Airport (2022) Facts and Figures. Available at: https://www.cityofderryairport.com/about-us/facts-figures/
- DAERA Pollution Prevention and Control permitted processes. Available at: https://public-registers.daera-ni.gov.uk/pollution-prevention-control
- DEFRA (2008). Diffusion Tubes for Ambient NO2 Monitoring: Practical Guidance for Laboratories and Users
- DEFRA (2016). Local Air Quality Management Technical Guidance (TG16)
- DEFRA (2022). Local Air Quality Management Technical Guidance (TG22)
- DEFRA in partnership with the Scottish Executive, Welsh Assembly Government and DOE Northern Ireland (2007). The Air Quality Strategy for England, Scotland, Wales and Northern Ireland.
- NISRA. 2021 Census. Available at: https://www.nisra.gov.uk/statistics/census/2021-census
- The Environment (Northern Ireland) Order 2002. Available at: https://www.legislation.gov.uk/nisi/2002/3153/contents
- Open Data NI (2022). Northern Ireland Traffic Count Data. Available at; https://www.opendatani.gov.uk/dataset/northern-ireland-traffic-count-data

12.0 Appendix

Appendix A. Cessation of passive diffusion monitoring of NO_2 within Causeway Coast and Glens Borough Council 2014-2018

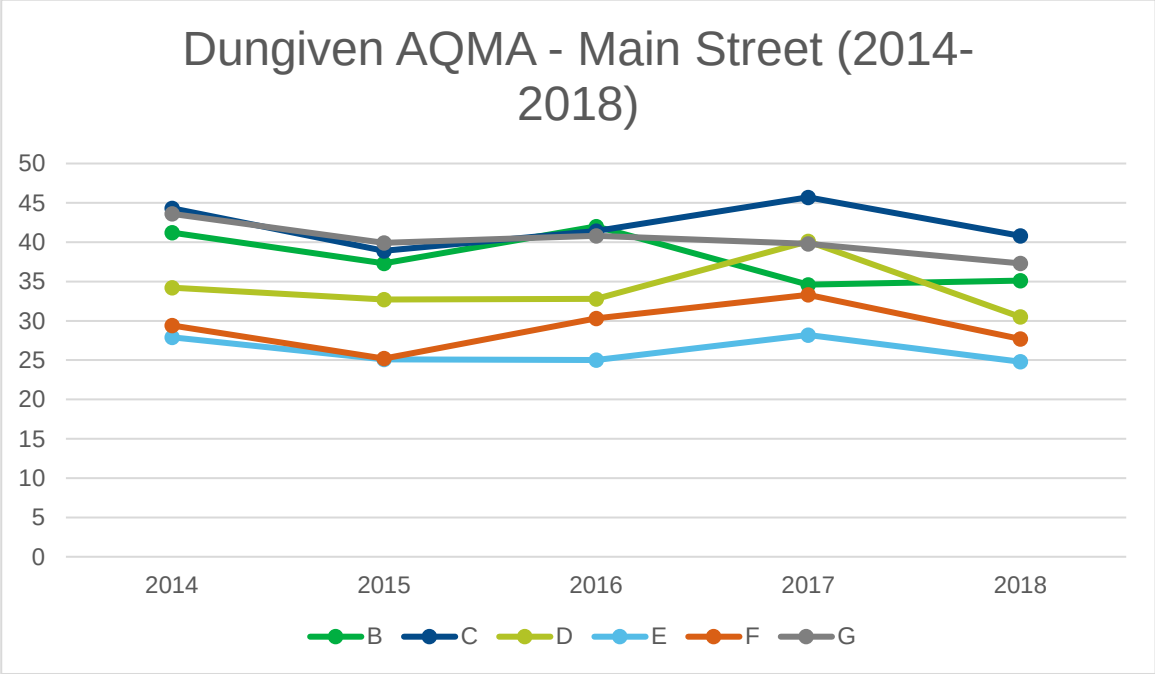
Analysis of passive NO_2 monitoring data throughout the Borough has shown that since 2014 pollutant levels in the legacy Coleraine, Ballymoney and Moyle areas have remained below the annual mean concentration of 40ugm^{-3}. The annual mean objective level continues to be exceeded within the AQMA in Dungiven (please refer to graphs below). Based on these findings, it is proposed to continue monitoring within the AQMA only.

Coleraine



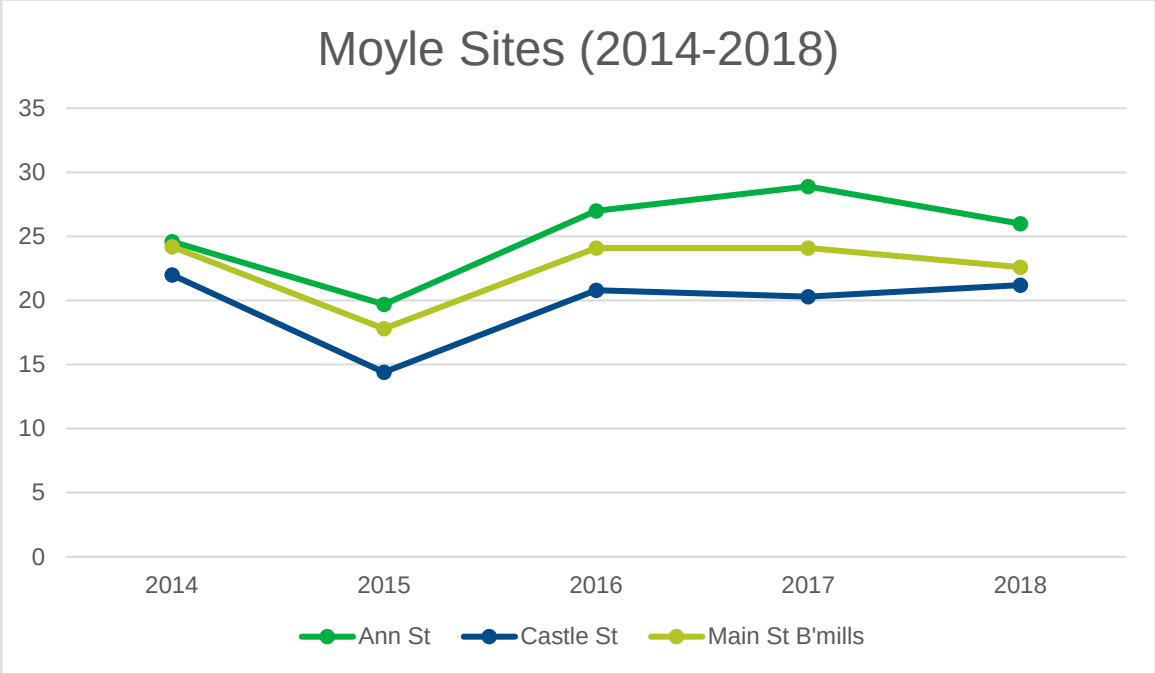
Levels of NO_2 in the Union Street area of Coleraine have been relatively constant over the past 5 years. The annual mean concentration has not been exceeded at any of the sites.

Dungiven AQMA Main Street



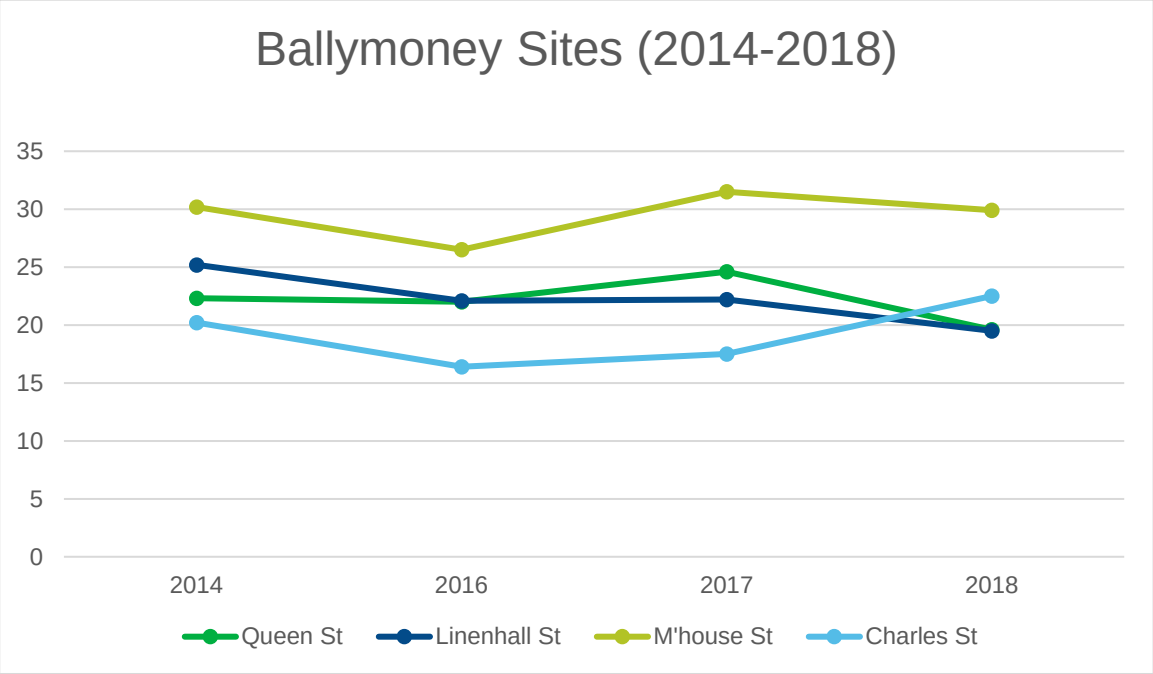
The annual mean objective level of 40ugm^{-3} continues to be exceeded at two monitoring sites within the Dungiven AQMA. These two sites, C & G, correspond with two junctions which lead onto Main Street. Location C where the Ballyquin Road meets Main Street is often where traffic builds up when traffic on Main Street is attempting to turn right onto the Ballyquin Road. Similarly, traffic builds up close location C in periods of high traffic flow and when traffic is attempting to make a right turn off Main Street onto New Street.

Moyle



NO_2 objective levels are not exceeded at any of the Moyle sites. Levels within Ann Street and Castle Street in Ballycastle and Main Street Bushmills do not exceed 30ugm^{-3}

Ballymoney



NO_2 levels at the monitoring sites within Ballymoney have all been below the annual mean concentration of 40ugm^{-3} over the past 5 years.

It had been suggested that additional NO_2 monitoring should be carried out within the one-way system in Coleraine town centre (Brook St/Long Commons/Tesco/Hanover Place). Previous reports compiled by the legacy Coleraine office state that the Environmental Health Department had previously conducted monitoring in these streets. Monitoring was carried out in Long Commons as far back as 2002 when levels were measured at 23.4ugm^{-3} (Stage 2 Review & Assessment 2002). Within the USA published in 2012 Table 2.4 lists monitoring data collected for these areas. This is summarised below.

Street Name	**2009 (ugm^{-3})**	**2010 (ugm^{-3})**	**2011 (ugm^{-3})**
Brook Street	33.14	29.65	27.21
Long Commons	20.36	24.66	19.47
Tesco	22.86	27.23	20.91
Hanover Place	23.84	25.72	21.92

The data clearly shows that levels were significantly lower that the annual mean objective level. These areas were screened out at this time as needing no further attention. This data, and the fact that automotive technologies have improved since this monitoring was undertaken demonstrates that there is no relevant exposure to high concentrations of NO_2 within these locations.

Recommendation

As limits are not exceeded at any of these passive monitoring sites, we will discontinue use as of 31 March 2020. Passive monitoring will continue within the AQMA in Dungiven.