



Belfast
City Council

Air quality

Belfast City Council

2026 Air Quality Progress Report

In fulfilment of Environment (Northern Ireland) Order 2002

Local Air Quality Management

30 August 2026

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Executive Summary

Belfast City Council has completed this 2026 Progress Report in accordance with the provisions of Part III of The Environment (Northern Ireland) Order 2002 and the Northern Ireland Local Air Quality Management Policy Guidance document LAQM.PGNI (09).

In undertaking this report, council Air Quality Officers have completed a review of recent ambient air quality monitoring data across the city in order to identify locations where new or existing exceedances of Air Quality Strategy Objectives and European Commission Limit Values are occurring. The review has also identified those locations where ambient air quality has improved, and exceedances are no longer occurring.

In addition, a Detailed Assessment for the city was completed during 2023. This project was undertaken mainly to address the emerging pollutant of concern, fine particulate matter (PM_{2.5}), but it also considered nitrogen dioxide (NO₂) and particulate matter (PM₁₀) concentrations, all in terms of national and European air quality standards and objectives, and the 2021 World Health Organisation (WHO) '[Global Air Quality Guidelines](#): particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide' publication.

There are four Air Quality Management Areas (AQMAs) presently declared across the city for a combination of exceedances of the nitrogen dioxide (NO₂) annual and hourly mean Air Quality Strategy objectives, associated principally with emissions from road transport. A review of monitoring data for these Air Quality Management Areas, and for the city generally, indicates that there have been improvements in ambient nitrogen dioxide concentrations across Belfast over recent years; however, there are still some nitrogen dioxide hotspots within / close to AQMA 1 (M1 Motorway / A12 Westlink corridor), with continuing exceedances of nitrogen dioxide (NO₂) annual mean Air Quality Strategy objective.

The conclusions of the council's 2023 Detailed Assessment confirmed that based upon predicted / modelled annual mean nitrogen dioxide (NO₂) and particulate matter (PM₁₀) concentrations for a 2028 forward projection year, all annual mean and shorter-term average concentrations are predicted to be below the UK AQOs for nitrogen dioxide (NO₂) and

particulate matter (PM₁₀) at locations of relevant human health exposure within the Belfast City Council area.

For a base year of 2019 (pre-Covid), there were no predicted exceedances of UK AQO for particulate matter throughout the city; the only exceedances of UK AQOs were predicted in relation to annual mean nitrogen dioxide concentrations at sensitive receptor locations within, or near to the boundaries of the existing Air Quality Management Areas (AQMA) along the M1 Motorway / A12 Westlink corridor (AQMA 1) and East Bridge Street / Cromac Street (AQMA 2).

The Detailed Assessment's conclusion was therefore that consideration should be given to revocation of the Ormeau Road AQMA (AQMA No. 4) and the Upper Newtownards Road AQMA (AQMA No. 3). More information concerning the detailed assessment was provided within our 2023 Progress Report and 2024 Updating and Screening Report.

The council had noted DAERA's recommendations, included within its appraisal letter of 20th November 2024, and reiterated within its 28th November 2025 appraisal letter, in relation to the outcome and conclusions of the council's 2024 Updating and Screening Assessment (USA), and 2025 Progress Report. The Department has recommended that the council should progress with the revocation of AQMA No. 2, Cromac Street and Albertbridge Road, AQMA No. 3 Upper Newtownards Road and AQMA No. 4 Ormeau Road, due to continual compliance with the 40 µgm⁻³ NO₂ annual mean objective. DAERA additionally highlighted that the M1 Motorway / A12 Westlink corridor AQMA No. 1 could be amended to revoke the designation for the 200 µgm⁻³ 1-hour mean NO₂ objective, as compliance has been achieved for the past 5 years. The council was recommended to consider these actions prior to the next Progress Report. Further to 9th January 2024 meeting of the People and Communities Committee meeting, however, the council has decided not to move to revoke any of its Air Quality Management Areas at this juncture but to continue to work with competent authorities and other city partner organisations to further improve ambient air quality within Belfast.

We note that, in its appraisal letter of 28th November 2025, DAERA repeated its advice on moving to revoke AQMAs 3 and 4, as outlined in the LAQM Technical Guidance (LAQM.TG(22)), in order to enable the council to focus its monitoring efforts in other areas.

Monitored levels of benzene (C₆H₆) and sulphur dioxide (SO₂) continue to remain well below the respective objective concentrations and show no reasons for concern at this time. There have been no monitored exceedances of Air Quality Strategy objectives for any pollutant, other than nitrogen dioxide (only within AQMA 1), in recent years across the city, and no new emission sources have been identified that would have the potential to alter this position.

Numerous new developments have been commenced throughout Belfast during 2025. These developments were identified as an aspect of the planning process and where necessary, Air Quality Impact Assessments were received. The air quality impacts for these developments were then assessed, and any necessary development specific ambient air quality mitigation measures were identified and requested by way of planning conditions, as part of the planning process.

Additionally, the council, its competent authority partners, Translink, Belfast Harbour and other significant transport organisations and partners from across the city are continuing to work on the delivery or completion of the various air quality improvement measures detailed within the Belfast City Air Quality Action Plan 2021-2026.

The aim of the current Air Quality Action Plan is to continue to reduce nitrogen dioxide (NO₂) emissions from transport sources and to promote and enable a shift towards more sustainable modes of transport in order to achieve compliance with UK Air Quality Strategy objectives for NO₂. Where necessary, an additional aim of the Action Plan is to identify, develop and implement mitigation measures to address concentrations of fine particulate matter (PM_{2.5}) across the city. Chapter 8 (Table 8.1) provides information on progress with the 2021-2026 Belfast City Air Quality Action Plan.

It should be noted that this report is the final Progress Report to be developed in connection with the current 2021-2026 Belfast City Air Quality Action Plan. Upon completion of the current Air Quality Action Plan at the end of 2026, in consideration of recent monitoring data and trends, and having regard to air quality guidelines for ambient air quality as recommended by the World Health Organisation, in its 2021 Global Air Quality Guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide publication, Belfast City Council will engage with competent authority partners, Translink, Belfast Harbour and other significant transport organisations and partners from across the city concerning development of a new Air Quality Action Plan for the city. It should be noted that DAERA is consulting upon a new Clean Air Strategy for Northern Ireland which is scheduled to run until 2032. An aspect of this Strategy is the proposed tightening of existing annual average particulate matter (PM₁₀ and PM_{2.5}) limits, targets and objectives in Northern Ireland. Particulate matter may therefore have to be considered as an aspect of any new Belfast City Air Quality Action Plan.

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1 Introduction

1.1 Description of Local Authority Area

Belfast is the capital city of Northern Ireland and as such, the city, and its wider metropolitan area, is the largest settlement in the region and the second largest city on the island of Ireland with an estimated population in 2025 of around 348,005. The city lies at the head of Belfast Lough in the lower reaches of the Lagan Valley and is flanked by the Black Mountain to the west and the Castlereagh Hills to the east. The Belfast City Council district area sits at the heart of the growing population of the wider Belfast Metropolitan Urban Area, which also comprises part of the surrounding areas of Lisburn and Castlereagh City Council, North Down and Ards District Council, Antrim and Newtownabbey District Council and Mid and East Antrim District Council.

In terms of historical ambient air quality issues, Belfast used to experience sustained elevated levels of sulphur dioxide (SO₂) and particulate matter (PM₁₀), associated principally with the widespread use of solid fuel for domestic heating. However, through the introduction of the Council's smoke control programme in the late 1960s, the Clean Air (Northern Ireland) Order 1981 and more recent availability of natural gas to domestic, commercial and industrial sectors, concentrations of particulate matter (PM₁₀) and sulphur dioxide (SO₂) have declined substantially to the extent that we do not experience exceedances of any air quality strategy objectives, or indeed European Commission limit values, for either of these pollutants. Accordingly, the number of locations where we monitor these ambient pollutants has been reduced over recent years in accordance with the government's risk and exposure-based approach to local air quality management.

Although Belfast city does not experience exceedances of any air quality strategy objectives for particulate matter (PM₁₀), we are aware of growing concerns around the effects of fine particulate matter (PM_{2.5}) on human health. Therefore, although not included within regulations at present for Northern Ireland councils, Belfast City Council has proactively opted to report PM_{2.5} monitoring data as part of this Progress Report. The council is also aware of a recent public consultation on the Draft Air Quality (Amendment) Regulations (Northern Ireland) 2026, to tighten annual average particulate matter (PM₁₀ and PM_{2.5}) limits, targets and objectives in Northern Ireland. This consultation was issued by the Department

of Agriculture, Environment and Rural Affairs (DAERA) and published on the Department's website on 8 June 2026 at the following link:

<https://www.daera-ni.gov.uk/consultations/consultation-draft-air-quality-amendment-regulations-northern-ireland-2026>.

The consultation closed for submissions on 31st August 2026.

Moreover, we are aware of the evidence from national studies showing that domestic solid fuel burning contributes more than previously thought to particulate emissions. The contribution from solid fuel combustion to fine particulate matter (PM_{2.5}) concentrations has been also recognised within the UK Clean Air Strategy 2019 and the Clean Air Strategy NI Public Discussion Document, DAERA, November 2020. Therefore, Belfast City Council decided to undertake a detailed assessment for the city, for particulate matter (PM₁₀), fine particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂) pollutants. This project was concluded in March 2023, and the outcomes of the assessment were presented within the council's 2023 Progress Report and referred to in the council's 2024 Updating and Screening Assessment Report and its 2025 Progress Report.

Over recent times, emissions of nitrogen oxides, associated principally with road transport, have become a more prominent ambient air pollutant. This is a similar situation to that experienced in many other major cities and conurbations across the United Kingdom. Accordingly, as a result of the first round of the review and assessment process, which was completed in 2004, Belfast City Council opted to declare four Air Quality Management Areas across the city. We published our first Air Quality Action Plan for the city back in 2006 and it was completed substantially in 2010, with around 90% of planned actions delivered to schedule. Of the outstanding 10% of actions, it was considered that the majority of these would have had limited additional impact within our Air Quality Management Areas.

In order to address the remaining 'hot spot' areas of elevated nitrogen dioxide, the council along with relevant partners developed a 2015-2020 Air Quality Action Plan (AQAP) for the city that contained a manageable number of proven air quality mitigation measures. This AQAP concluded at the end of 2020. A final review of the implementation of the various mitigation measures included within the 2015-2020 AQAP was undertaken and reported by the council to the Department of Agriculture Environment and Rural Affairs (DAERA) as part of the council's 2023 Progress Report, submitted to DAERA in June 2023.

Whilst previous AQAPs have delivered continuing improvements in ambient air quality across the city, a limited number of nitrogen dioxide (NO₂) hotspots still remain. Moreover, fine particulate matter (PM_{2.5}) has emerged as an additional ambient air pollutant of concern for the city.

Accordingly in 2021, the council, competent authorities and other partner organisations developed a new Air Quality Action Plan for the city; the Plan was approved by DAERA and Defra's independent technical appraisers in February 2022 and may be viewed on the Belfast City Council website as follows: <https://www.belfastcity.gov.uk/documents/belfast-city-air-quality-action-plan-2021-2026>

The aim of the Belfast City Air Quality Action Plan 2021-2026 is to continue to reduce nitrogen dioxide (NO₂) emissions from transport sources and to promote and enable a shift towards more sustainable modes of transport in order to achieve compliance with UK Air Quality objectives for nitrogen dioxide. Where necessary, an additional aim of this Action Plan is to identify, develop and implement mitigation measures to address concentrations of fine particulate matter (PM_{2.5}) across the city. Chapter 8 (Table 8.1 Action Plan Progress) of this 2026 Progress Report provides information on progress with the 2021-2026 Belfast Air Quality Action Plan.

1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process, as set out within Part III Air Quality of The Environment (Northern Ireland) Order 2002, the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and relevant Northern Ireland Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess ambient air quality within their areas, and to determine whether or not air quality objectives are being achieved or are likely to be achieved by the respective 'to be achieved' date. 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 that it and competent authorities intend to put in place in pursuit of the objectives.

For Local Authorities in Northern Ireland, Progress Reports continue to be required in the intervening years between three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the LAQM process. They are not, however, intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if a Progress Report identifies the risk of exceedance of an Air Quality Objective, the Local Authority is advised that it 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 within Northern Ireland are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, No. 342, (<https://www.legislation.gov.uk/nisr/2003/342/contents/made>), and are detailed in the following Table 1.1. This table shows the objectives in units of microgrammes per cubic metre ($\mu\text{g}/\text{m}^3$), and milligrams per cubic metre (mg/m^3) for carbon monoxide, together with the number of exceedances in each year that are permitted (where applicable) and the date by which they were to be achieved.

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

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

1.4 Summary of Previous Review and Assessments

As part of its ongoing review and assessment process, Belfast City Council completed a 2nd and 3rd stage review and assessment of ambient air quality throughout the city in early 2004. This assessment concluded that modelled and monitored exceedances of short and longer-term objectives for both nitrogen dioxide (NO₂) and particulate matter (PM₁₀) were occurring in the city and would be likely to continue to do so in some locations beyond 2010. Consequently, in August 2004, the council, in consultation with other relevant and competent authorities, declared four Air Quality Management Areas (AQMAs), comprising of the M1 Motorway and A12 Westlink corridor; Cromac Street to the junction of Short Strand, Woodstock Link and the Albertbridge Road; the Upper Newtownards Road; and the Ormeau Road.

The M1 Westlink / A12 Westlink corridor AQMA was declared on the basis that annual and hourly-mean nitrogen dioxide concentrations would exceed 31st December 2005 Air Quality Strategy objectives. In addition, particulate matter (PM₁₀) annual and 24-hour mean concentrations were predicted also to exceed relevant objectives at this location. The three other Air Quality Management Areas were declared on the grounds that the annual mean nitrogen dioxide (NO₂) objective would be exceeded at these locations during 2005 and beyond. A subsequent source apportionment study, completed for each of the Air Quality Management Areas, indicated that the principal source of the exceedances was emissions associated with road transport.

Current Air Quality Management Areas are described and depicted in more detail as follows:

1. The M1 / Westlink corridor from the Belfast City boundary at Sir Thomas and Lady Dixon Park to the end of the Westlink at the junction with Great George's Street and York Street including Stockman's Lane and Kennedy Way. This area was declared for predicted exceedances of both the nitrogen dioxide and particulate material annual mean air quality strategy objectives, as well as exceedances of the particulate matter 24-hour mean objective and the nitrogen dioxide 1-hour mean objective. This AQMA was revoked for exceedances of particulate matter objectives in September 2015, but remains of concern in respect of the annual mean air quality objective for nitrogen dioxide.
2. Cromac Street to the junction with East Bridge Street and then from East Bridge Street to the junction with the Ravenhill and Albertbridge Roads and Short Strand.

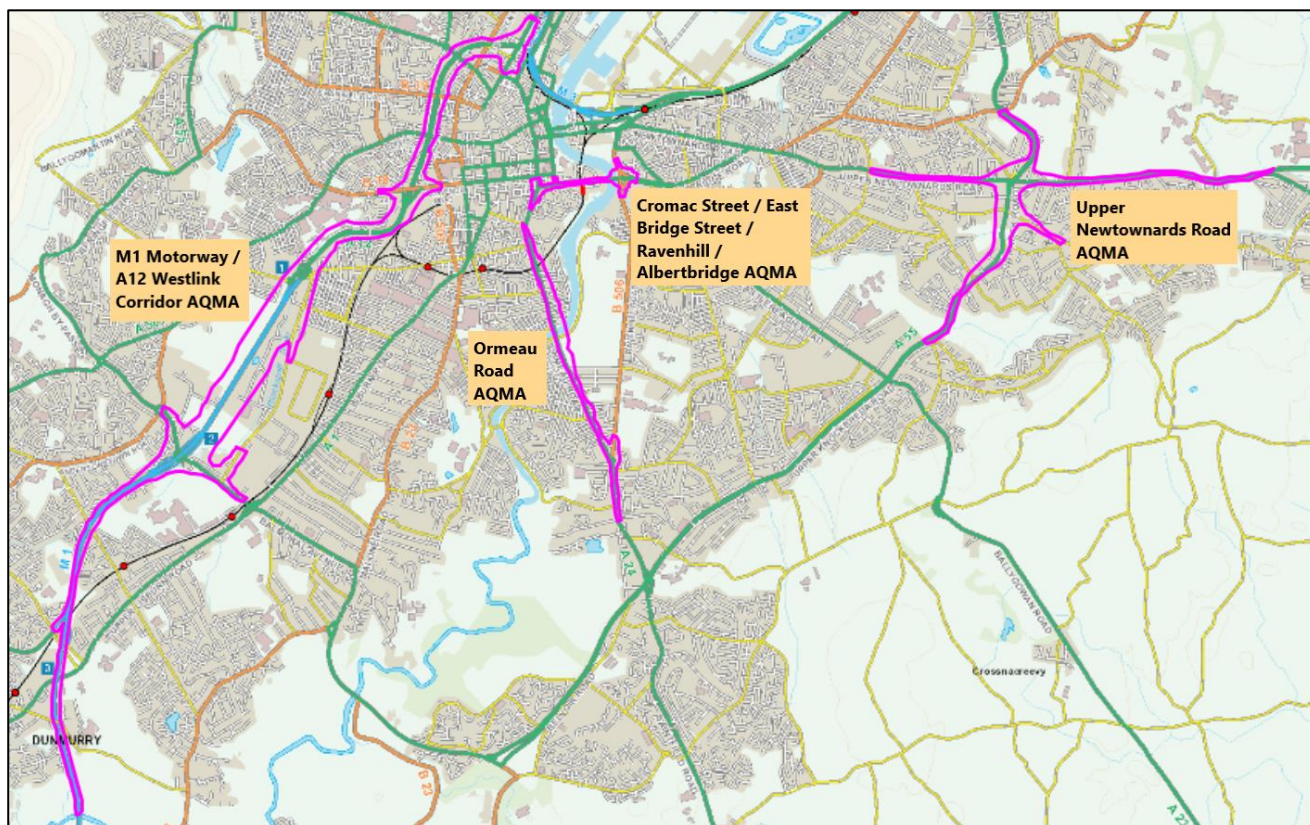
This AQMA was declared for predicted exceedances of the nitrogen dioxide annual mean Air Quality Strategy objective.

3. The Upper Newtownards Road from the North Road junction to the Belfast City boundary at the Ulster Hospital, incorporating the Knock Road to the City boundary at Laburnum Playing Fields and Hawthornden Way. This AQMA was declared for predicted exceedances of the nitrogen dioxide annual mean Air Quality Strategy objective.
4. The Ormeau Road from the junction with Donegall Pass to the city boundary at Galwally. This area was declared for predicted exceedances of the nitrogen dioxide annual mean Air Quality Strategy objective.

The boundaries of these Air Quality Management Areas are denoted in pink in the following Figure 1.1 and were set to take account of atmospheric dispersion modelling uncertainties.

Please note that the Belfast City Council boundary was revised in 2015 as a consequence of the reform of local government in Northern Ireland. The above-mentioned AQMAs were declared on the basis of the previous council boundary.

Figure 1.1– Map(s) of AQMA Boundaries



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A further detailed air quality review and assessment was completed by Belfast City Council in 2010, informed by the outcome of the 2009 Updating and Screening Assessment. Accordingly, the 2010 Detailed Assessment considered the potential for exceedances of nitrogen dioxide objectives at a number of further locations across the city, including at the junction of the Sydenham Bypass with the Lower Newtownards Road, Shaftesbury Square, Donegall Road and Albertbridge Road, and at locations throughout the city centre. Although atmospheric dispersion modelling studies, undertaken as part of the detailed review and assessment process, did suggest exceedances of the nitrogen dioxide annual mean objective at some of the above-mentioned locations, the review and assessment identified that there was no relevant public exposure at these locations during 2010. As a result, the 2010 Detailed Air Quality Review and Assessment for Belfast City Council concluded that there was no need to declare further Air Quality Management Areas or to expand or revoke the existing AQMAs. This conclusion was accepted by DAERA.

Ambient air quality monitoring results, as presented in previous annual progress and updating and screening assessment reports, had identified sustained improvements in particulate matter (PM₁₀) concentrations within the M1 Motorway / A12 Westlink Air Quality Management Area, confirming that it had been in compliance with the particulate matter (PM₁₀) objectives for a number of years. This resulted in the M1 Motorway / A12 Westlink AQMA being revoked for exceedances of particulate matter 24-hour and annual mean objectives in September 2015.

The current stage (Round 9) of the Review and Assessment process requires that a Progress Report be completed for submission by 30th June 2026. This report therefore addresses the requirements of the May 2025 Defra LAQM.TG(22) technical guidance publication in identifying any significant changes that have occurred since the previous round of Review and Assessment, which may have the potential to adversely affect local ambient air quality.

For reference and additional background information, historical Belfast City Council air quality review and assessment reports are listed in the following table, and are also available to download from the Department of Agriculture, Environment & Rural Affairs (DAERA) for Northern Ireland 'Northern Ireland Air' website via the follow weblink: <https://www.airqualityni.co.uk/reports/district-council-reports-1>

Table 1.2 – Historical Belfast City Council Air Quality Reports

• Belfast City Council Progress Report 2025 - Published: 28 th November 2025
• Belfast - Updating and Screening Assessment - 2024 - Published: 10 th September 2024
• Belfast City Council 2023 Air Quality Progress report - Published: 10 th January 2024
• Belfast City Council 2022 Air Quality Progress Report - Published: 15 th February 2023
• 2021 Updating and Screening Assessment for Belfast City Council - Published: 1 st October 2021
• Belfast - Progress Report - 2020 - Published: 11 th November 2020
• Belfast - Progress Report - 2019 - Published: 11 th November 2020
• Belfast - Updating and Screening Assessment - 2018 - Published: 17 th December 2018
• Belfast - Progress Report - 2017 - Published: 17 th November 2017
• Belfast - Progress Report - 2016 - Published: 21 st October 2016
• Belfast - Updating and Screening Assessment - 2015 - Published: 21 st October 2016
• Belfast - LAQM Progress Report - 2014 - Published: 14 th November 2014
• Belfast - LAQM Progress Report - 2013 - Published: 1 st April 2013
• Belfast - Updating and Screening Assessment report - 2012 - Published: 3 rd October 2012
• Belfast - Progress Report - 2011 - Published: 30 th April 2011
• Belfast - Detailed Assessment - September 2010 - Published: 30 th September 2010
• Belfast - Progress Report - 2010 - Published: 30 th April 2010
• Belfast - Updating and Screening Assessment - 2009 - Published: 30 th April 2009
• Belfast - Joint Air Quality Progress and Action Plan Progress Report - 2007 - Published: 30 th April 2007
• Belfast - Detailed Assessment - April 2007 - Published: 30 th April 2007
• Belfast - Joint Air Quality Progress and Action Plan Progress Report - 2008 - Published: 10 th June 2008
• Belfast - Updating and Screening Assessment - 2006 Appendix - Published: 31 st July 2006
• Belfast - Updating and Screening Assessment - 2006 - Published: 31 st July 2006
• Belfast - Health Impact Assessment of the Draft Air Quality Action Plan for Belfast - Published: 1 st May 2006
• Belfast - Progress Report - Published: 1 st September 2005

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Belfast City Council operates four automatic monitoring stations across the city in order to help inform its air quality management processes and to provide real time information to the public in relation to air pollution levels across the city and within our Air Quality Management Areas.

Accordingly, to ensure that the data from our sites is both accurate and representative, the monitors at each site are calibrated on a bi-weekly (Stockman's Lane AURN affiliate site) or on a four-weekly basis by the council's technical staff, in accordance with the procedures detailed in the Defra Automatic Urban and Rural Network (AURN) local site operators' manual. In addition, data management, quality assurance and quality control and service and maintenance support are provided by appointed contractors. The data from our sites is made available to the Department of Agriculture, Environment and Rural Affairs (DAERA) and is reported on the 'Northern Ireland Air' website in near real time (<https://www.airqualityni.co.uk/>). Under the current LAQM regime, and for the purpose of LAQM reporting, pollutant concentrations should be reported to an accuracy of 1 decimal place. Automatic monitoring data presented in this report relates to the calendar year (i.e. January – December). 2025 data capture levels exceeded the Department's 75% data capture threshold for the calculation of annual statistics at three council sites; one site (Ormeau Road) had to be closed in May 2025 due to residential construction works being undertaken directly adjacent to the monitoring enclosure. Consequently, 2025 data capture levels at the Ormeau Road site were 35.9%, below the 75% threshold. It was therefore necessary to annualise the nitrogen dioxide data as per the requirements of Box 7-9 of LAQM.TG (22). We are currently re-establishing this monitoring site at a nearby location. Further information regarding our QA/QC procedures and processes has been provided in Appendix A to this report.

In addition to the council's automatic monitoring sites, the UK Environment Agency and DAERA operate an AURN urban background monitoring site at Lombard Street in Belfast City Centre. Unfortunately, during 2025, data capture levels at the Belfast Centre site were

below the Department's 75% data capture threshold for nitrogen dioxide (69.7%); consequently, it was necessary to annualise the data from this monitoring site (Box 7-9 of LAQM.TG (22)).

In relation to correction of our automatic monitoring data, this process is generally of principal concern with regard to the treatment of particulate matter monitoring data. In September 2019, the Belfast Centre site replaced the FDMS equipped TEOMs with a Palas Fidas 200, which complies with Defra's UK PM Pollution Climate standard. Government equivalence tests have determined that both of types of equipment meet the equivalence criteria, and on that basis, no correction factors need to be applied to this monitoring data.

The Stockman's Lane site is equipped with a Met One Instruments 1020 Beta Attenuation Monitor (BAM) with a heated inlet for monitoring particulate matter (PM₁₀). Government technical guidance highlights that a BAM, equipped with a heated inlet, also meets the equivalence criteria for PM₁₀ monitoring, provided that the results are corrected for slope. This correction involves dividing measured concentrations by a factor of 1.035. It should be noted that the data presented on the DAERA Northern Ireland Air website and in this report have already been corrected to the reference equivalent.

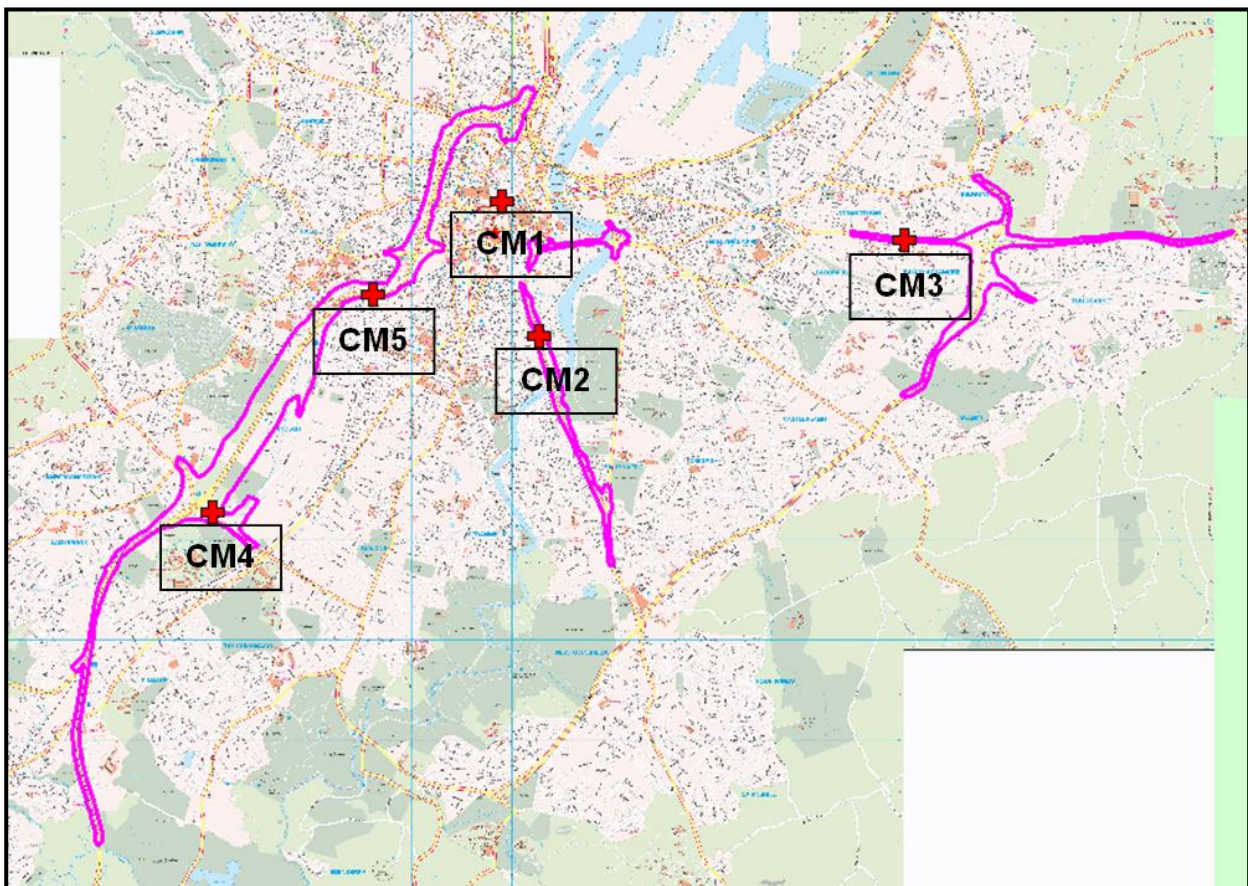
During 2019, Belfast City Council replaced ageing NOx API M200A analysers at two of its monitoring sites, namely the Upper Newtownards Road and Stockman's Lane with more modern T200 variants. In addition, the unheated BAM 1020 particulate matter (PM₁₀) analyser at Stockman's Lane was also replaced with a heated inlet variant in order to continue to collect high quality data and to achieve >90% data collection rates throughout the year. In 2020, the council also replaced a further aged API M200 NOx analyser at the Ormeau Road site.

During 2022, we progressed with the upgrade of our analyser communication systems (including modems) at our four monitoring sites. AQMSs were consequently updated from GSM modems to 4G IP Routers, and the T200 analysers were upgraded to use NumaView diagnostic and communications software.

During 2025, Belfast City Council replaced its ageing NO_x API M200A analyser at the A12 Westlink / Roden Street site with a more modern API N200 model. In addition, due to a significant instrument fault, the BAM 1020 particulate matter (PM₁₀) analyser at Stockman's Lane was also replaced with a similar model, which was provided by the UK Environment Agency.

A location map showing automatic monitoring site locations across the Belfast City Council area is presented in the following Figure 2.1, with further site-specific monitoring details provided in Table 2.1.

Figure 2.1 – Map of Automatic Monitoring Sites



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Table 2.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS 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?
CM1	Belfast Centre AURN site Lombard Street	Urban Background	333898	374358	4.0	Nitrogen dioxide, sulphur dioxide, carbon monoxide, ozone and particulate matter (PM ₁₀ and PM _{2.5}) Benzene, Black Carbon, Heavy Metals	N	Chemiluminescence, UV Fluorescence, IR Absorption, UV Absorption, Light-Scattering Monitor (Palas Fidas 200) Benzene sampler Aethalometer Digitel aerosol	Y (Monitoring site is located in a city centre pedestrian precinct)	26 m	Y
CM2	Belfast Ormeau Road	Roadside	334272	373012	1.3	Nitrogen dioxide	Y	Chemiluminescence	Y (6 m)	3 m	Y
CM3	Belfast Upper Newtownards Road	Roadside	337911	373972	1.3	Nitrogen dioxide	Y	Chemiluminescence	Y (7 m)	2 m	Y
CM4	Belfast Stockman's Lane	Roadside	331010	371252	3.0	Nitrogen dioxide and particulate matter (PM ₁₀)	Y	Chemiluminescence Beta Attenuation Monitor	Y (10 m)	3 m	Y
CM5	Belfast Westlink Roden Street	Roadside	332609	373434	2.6	Nitrogen dioxide	Y	Chemiluminescence	Y (17 m)	5 m	Y

2.1.2 Non-Automatic Monitoring Sites

The government's risk and exposure-based approach to local air quality management means that Belfast City Council's principal focus has been on addressing citywide ambient nitrogen dioxide (NO₂) levels over recent years. Accordingly, in order to understand how nitrogen dioxide levels are varying across the city and in addition to our automatic analysers, the council operates a range of passive diffusion tubes for nitrogen dioxide at a range of both background and roadside locations across the city.

The NO_x diffusion tube monitoring network has changed considerably since the declaration of the Air Quality Management Areas in 2004. In 2025, the extensive council monitoring network comprised 79 diffusion tubes throughout the city at 71 locations, which generate annual mean NO₂ data to assist in the review and assessment process and to aid developers in conducting air quality impact assessments, where deemed necessary.

The council regularly reviews its monitoring locations and relocates or discontinues tubes from areas of sustained low nitrogen dioxide annual mean concentrations. In 2025, we removed 4 tubes (Nos. 25 (Whitewell Road), 74 (Ardmore Park), 107 (Springfield Road) and 117 (Ladas Drive)) from the network, due to consistently low concentrations recorded or changes to 'relevant exposure' locations; we relocated three tubes (Nos. 15 (Shaftesbury Square), 33 (Great Victoria Street) and 121 (412 Whitewell Road)), along the same roads, but closer to relevant exposure (residential properties), and we added two tubes (Nos. 122 (Westlink / Divis Street) and 123 (Shankill Road, Spectrum Centre)). All locations are detailed in Figure 2.2 and Table 2.2.

Nitrogen dioxide diffusion tubes comprise a small clear plastic tube containing a chemical reagent supported on stainless steel grids that absorb the pollutant directly from the surrounding ambient air. In this case, triethanolamine is used as the reagent to monitor levels of ambient nitrogen dioxide. Belfast City Council's diffusion tubes are exposed for successive four or five-week periods, in general accordance with the Defra Diffusion Tube Monitoring Calendar (<https://laqm.defra.gov.uk/air-quality/air-quality-assessment/diffusion-tube-monitoring-calendar/>) and, as a result, they provide a good general indication of average nitrogen dioxide concentrations, thereby allowing a comparison with the nitrogen dioxide annual mean objective.

To ensure that experimental error is minimised in the preparation and analysis of its nitrogen dioxide diffusion tubes, Belfast City Council has appointed Gradko International Ltd. to supply, analyse and report data for its diffusion tubes. Gradko employs a 20% triethanolamine solution for monitoring ambient nitrogen dioxide and adheres to the requirements of the government's 'Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users' publication.

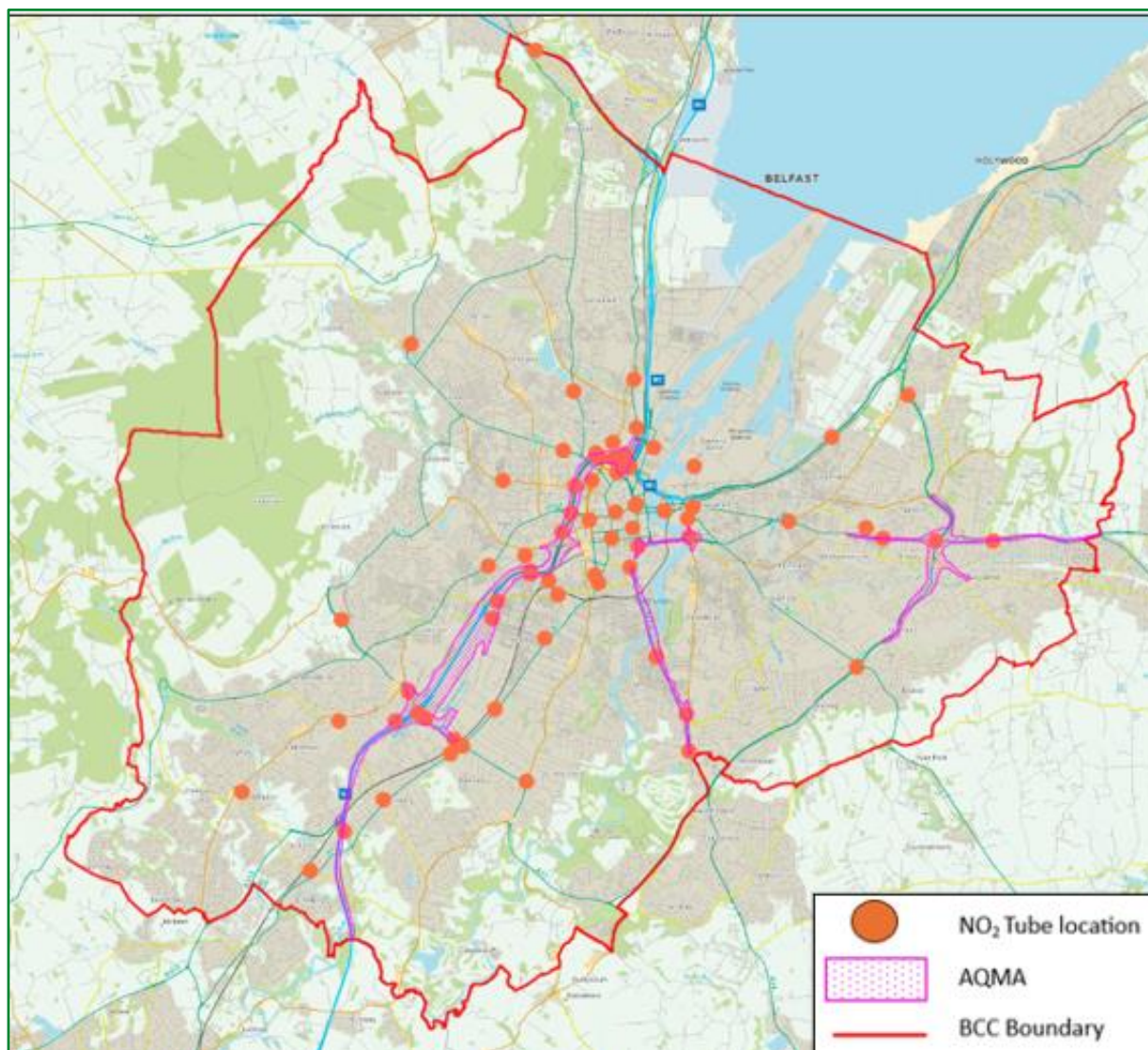
To further ensure that its diffusion tube monitoring data is as accurate as possible, the council co-locates a number of diffusion tubes with reference method compliant chemiluminescent nitrogen dioxide analysers at the Lombard Street, Upper Newtownards Road, A12 Westlink / Roden Street and Stockman's Lane monitoring sites. This process allows a bias adjustment factor (with a 95% confidence interval as an estimate of the uncertainty on the bias adjustment factor) to be calculated and used to correct the diffusion tube monitoring data.

In the case of the diffusion tube data presented in this report, the monitoring data has been corrected using a local bias adjustment factor derived from three of the above-mentioned co-location studies (Upper Newtownards Road, Westlink / Roden Street and Stockman's Lane monitoring sites). The Lombard Street AURN site (Belfast Centre) was unable to be considered as part of the 2025 co-location study due to the relatively low nitrogen dioxide automatic data capture rate (70%). This monitoring site is operated by the UK Environment Agency and DAERA.

The bias adjustment calculation and data scaling were undertaken using Defra's new Diffusion Tube Data Processing Tool. Outputs from the spreadsheet for treatment of Belfast City Council's 2025 diffusion tube monitoring data are included in Appendix A to this report.

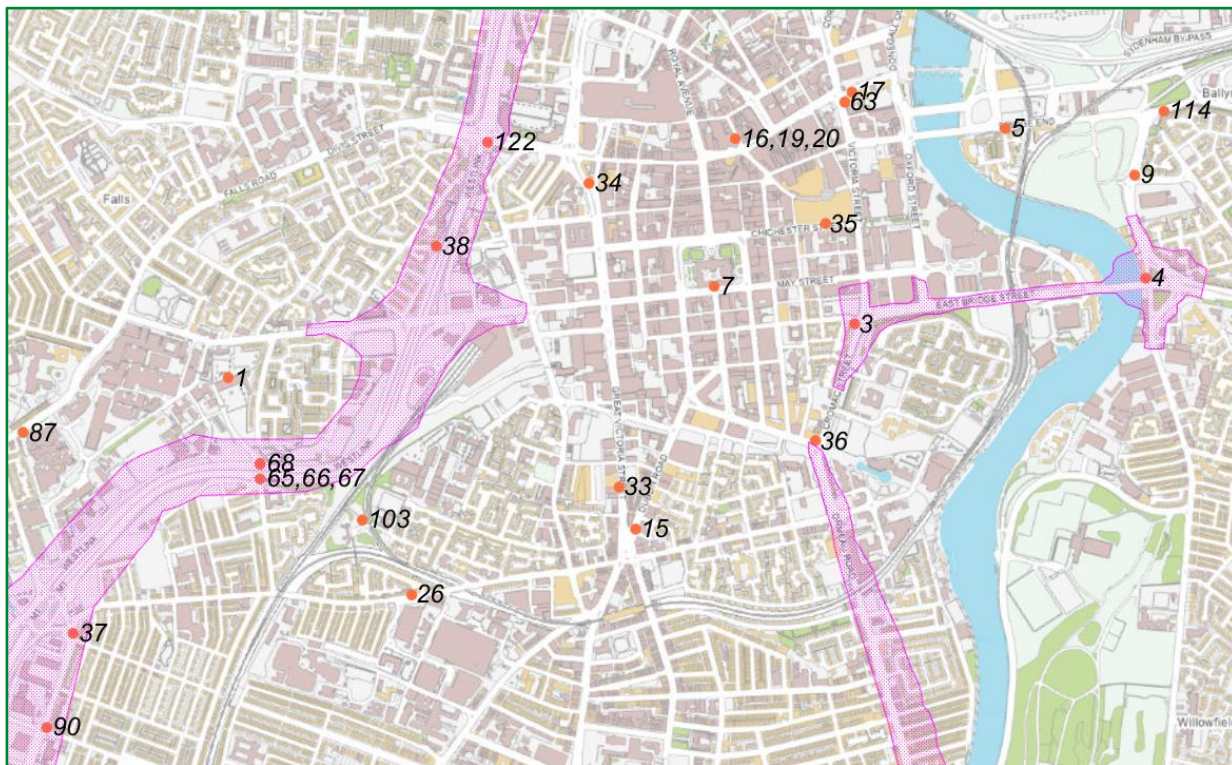
Figure 2.2 – Maps of Non-Automatic Monitoring Sites.

Belfast City Council Boundary



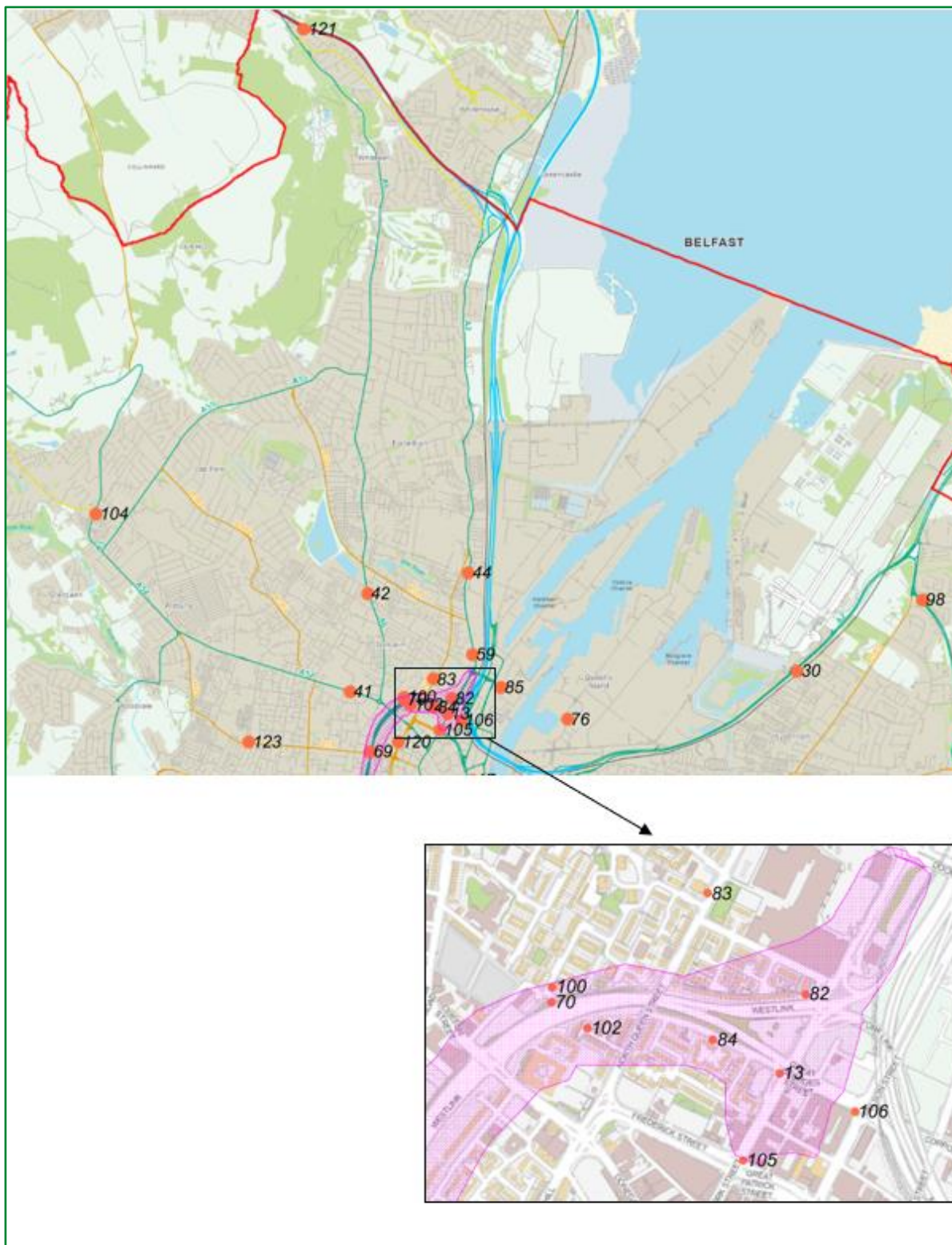
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Belfast City Centre



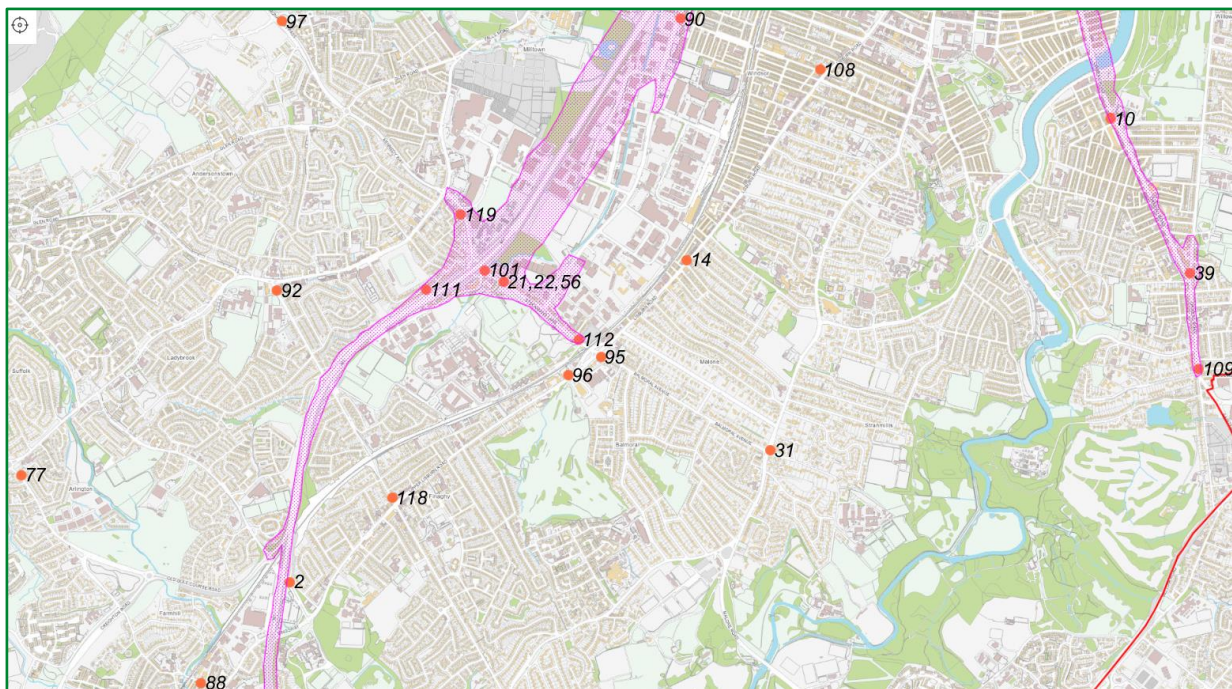
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North Belfast



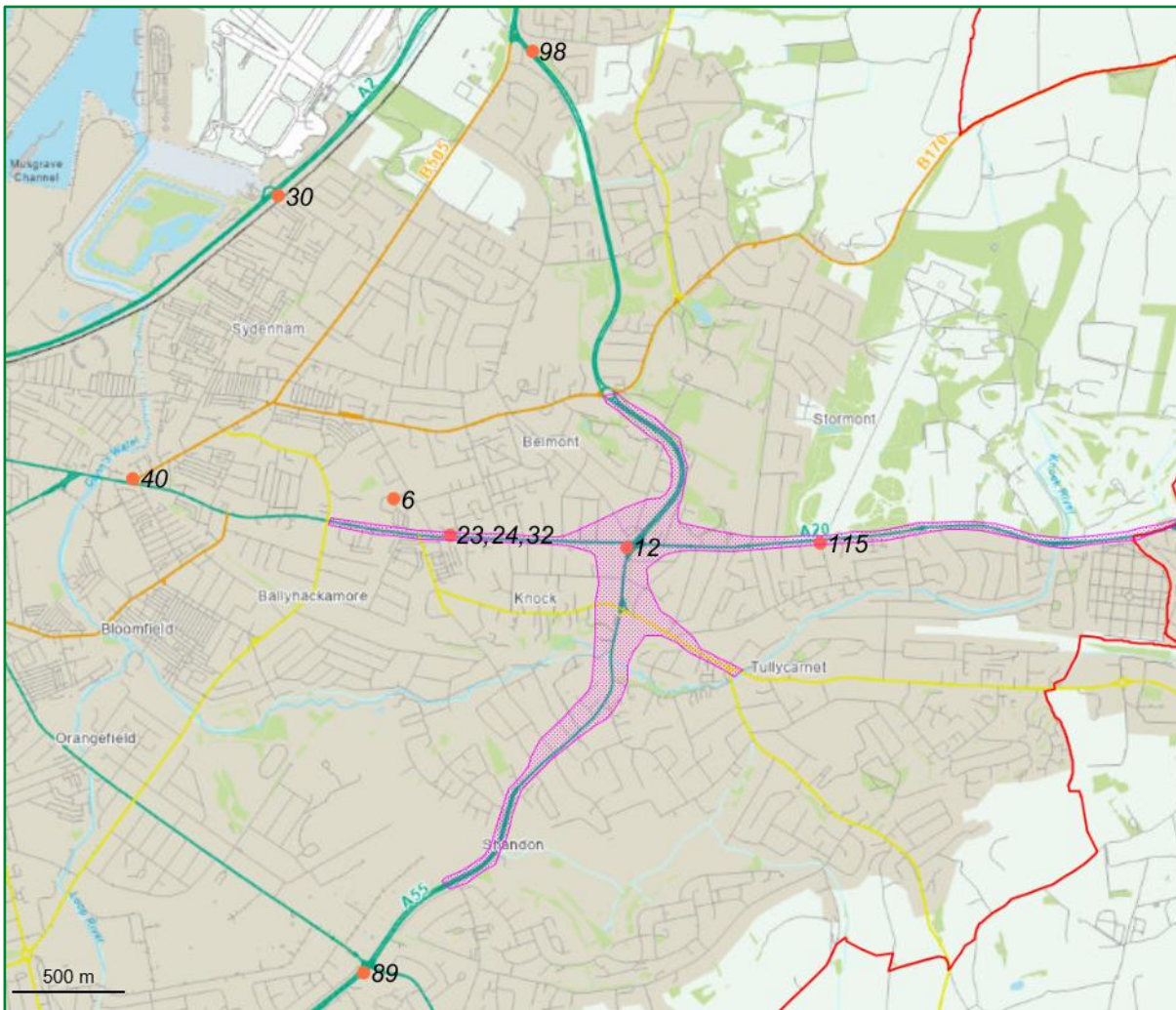
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Southwest Belfast



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East Belfast



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Table 2.2 – Details of Non-Automatic Monitoring Sites

Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
1	Royal Victoria Hospital	Urban Background	332522	373708	NO ₂	No	68.0	82.0	No	3.2
2	Black's Road	Roadside	329780	369528	NO ₂	Yes - AQMA 1	26.0	2.0	No	2.7
3	61 Cromac Street	Roadside	334220	373853	NO ₂	Yes - AQMA 2	12.0	2.5	No	3.0
4	Albertbridge Road	Roadside	335013	373979	NO ₂	Yes - AQMA 2	10.0	1.5	No	3.0
5	Queen's Bridge	Roadside	334630	374385	NO ₂	No	10.0	1.5	No	3.0
6	58 Earlswood Road	Urban Background	337681	374133	NO ₂	No	3.0	65.0	No	3.0
7	Donegall Square South	Roadside	333840	373956	NO ₂	No	173.0	6.0	No	3.0
9	Short Strand	Roadside	334983	374260	NO ₂	No	24.0	1.0	No	3.0
10	301 Ormeau Road	Roadside	334499	372186	NO ₂	Yes - AQMA 4	0.1	7.5	No	3.0
12	Knock Road	Roadside	338718	373918	NO ₂	Yes - AQMA 3	17.0	1.5	No	2.5
13	Great George's Street	Kerbside	333981	375102	NO ₂	Yes - AQMA 1	9.0	0.5	No	3.0

Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
14	Lisburn Road	Roadside	332063	371376	NO ₂	No	3.0	3.5	No	2.7
15	Shaftesbury Square / Botanic Studios	Kerbside	333627	373298	NO ₂	No	5.0	1.0	No	2.7
16, 19, 20	Lombard Street	Urban Background	333898	374358	NO ₂	No	167.0	26.0	Yes	4.0
17	Albert Clock	Roadside	334213	374485	NO ₂	No	3.0	3.0	No	3.1
21, 22, 56	Stockman's Lane	Roadside	331009	371251	NO ₂	Yes - AQMA 1	14.0	2.5	Yes	3.0
23, 24, 32	Ballyhackamore	Roadside	337930	373972	NO ₂	Yes - AQMA 3	35.0	2.0	Yes	3.0
26	Donegall Road	Kerbside	333018	373120	NO ₂	No	2.5	1.0	No	2.7
30	Station Road	Roadside	337168	375485	NO ₂	No	19.0	2.0	No	2.7
31	Malone Road	Roadside	332544	370283	NO ₂	No	12.0	2.5	No	3.0
33	Great Victoria Street / GO Garage	Kerbside	333548	373772	NO ₂	No	6.0	1.0	No	3.2
34	College Square East	Roadside	333501	374236	NO ₂	No	3.0	3.0	No	3.0
35	Chichester Street	Roadside	334140	374126	NO ₂	No	3.0	3.0	No	3.5
36	Cromac & Ormeau Avenue (AQMA)	Kerbside	334114	373536	NO ₂	Yes - AQMA 2	3.0	0.5	No	2.5

Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
37	Broadway	Roadside	332100	373015	NO ₂	Yes - AQMA 1	6.0	1.0	No	3.0
38	Albert Street / Westlink (AQMA)	Roadside	333085	374065	NO ₂	Yes - AQMA 1	6.0	16.0	No	3.0
39	Ormeau Road (junction with Ravenhill Road) (AQMA)	Roadside	334957	371298	NO ₂	Yes - AQMA 4	5.5	3.0	No	3.0
40	Upper Newtownards Road & Hollywood (AQMA)	Roadside	336516	374226	NO ₂	No	24.0	2.0	No	3.0
41	Crumlin Road	Roadside	333101	375295	NO ₂	No	20.0	3.0	No	3.0
42	262 Antrim Road	Roadside	333258	376186	NO ₂	No	6.0	2.0	No	2.7
44	Shore Road (Ivan Street end)	Roadside	334177	376375	NO ₂	No	2.5	5.0	No	3.0
59	York Street	Roadside	334214	375638	NO ₂	No	5.0	3.5	No	2.7
63	Queen's Square / Victoria Street	Roadside	334193	374457	NO ₂	No	0.1	7.0	No	2.7
65, 66, 67	Westlink AQMS	Roadside	332610	373434	NO ₂	Yes - AQMA 1	22.0	5.0	Yes	2.6
68	Opposite Westlink AQMS	Kerbside	332610	373474	NO ₂	Yes - AQMA 1	49.0	1.0	No	2.5
69	Peters Hill	Kerbside	333281	374755	NO ₂	Yes - AQMA 1	48.0	1.0	No	3.5 (above the canyon)

Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
70	Henry Place	Kerbside	333588	375224	NO ₂	Yes - AQMA 1	17.0	1.0	No	3.5 (above the canyon)
76	Titanic Quarter	Roadside	335073	375049	NO ₂	No	5.0	1.5	No	2.7
77	Poleglass (Upper Dunmurry Lane)	Roadside	328237	370138	NO ₂	No	5.0	3.0	No	2.7
82	Molyneaux Street	Roadside	334025	375238	NO ₂	Yes - AQMA 1	2.5	11.0	No	2.7
83	North Queen Street	Roadside	333857	375412	NO ₂	No	9.5	3.0	No	2.7
84	Great George's Street / Portland Place	Roadside	333866	375160	NO ₂	Yes - AQMA 1	5.5	4.0	No	2.7
85	Sailor Town / Dock Street	Roadside	334468	375340	NO ₂	No	15.0	4.0	No	2.7
87	RVH, Falls Road	Roadside	331964	373558	NO ₂	No	6.0	3.0	No	2.7
88	Dunmurry Lane	Roadside	329273	368947	NO ₂	No	4.0	2.0	No	2.7
89	Upper Knockbreda Road	Kerbside	337547	372019	NO ₂	No	23.0	0.5	No	2.5
90	Tates Avenue / Glenmachan Street	Roadside	332028	372759	NO ₂	Yes - AQMA 1	8.0	2.5	No	2.5
92	Andersonstown Road	Roadside	329707	371200	NO ₂	No	10.0	2.0	No	2.5
95	Balmoral Avenue	Roadside	331568	370818	NO ₂	No	8.5	2.5	No	2.7

Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
96	Upper Lisburn Road (Kings Hall)	Roadside	331379	370712	NO ₂	No	4.5	3.5	No	2.7
97	Monagh Bypass	Roadside	329737	372743	NO ₂	No	6.5	3.0	No	2.7
98	Knocknagoney (2 Garnerville Park)	Roadside	338297	376131	NO ₂	No	7.0	2.0	No	2.7
100	Henry Place 2	Roadside	333589	375251	NO ₂	Yes - AQMA 1	-9.0	27.0	No	2.5
101	Stockmans Lane Roundabout	Roadside	330900	371316	NO ₂	Yes - AQMA 1	4.5	3.0	No	2.5
102	North Queen Park	Roadside	333650	375180	NO ₂	Yes - AQMA 1	-7.0	15.0	No	2.5
103	Blythefield Park (Bentham Drive)	Roadside	332885	373323	NO ₂	No	40.0	15.0	No	2.5
104	Ligoniel Crossroads	Roadside	330800	376914	NO ₂	No	13.0	1.5	No	3.0
105	Ulster University	Kerbside	333918	374952	NO ₂	Yes - AQMA 1	6.5	1.0	No	2.5
106	M3 Motorway / Offramp	Kerbside	334110	375036	NO ₂	No	0.5	4.0	No	2.5
108	Lisburn Road and Tates Avenue Junction	Roadside	332825	372465	NO ₂	No	2.7	2.5	No	2.5
109	444 Ormeau Road (Galwally Park)	Roadside	335005	370749	NO ₂	Yes - AQMA 4	7.0	3.0	No	2.5

Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
111	73a Owenvarragh Park	Roadside	330562	371205	NO ₂	Yes - AQMA 1	3.0	2.0	No	2.5
112	1 Stockman's Lane	Roadside	331440	370918	NO ₂	Yes - AQMA 1	8.0	2.0	No	2.5
114	Strand Walk	Kerbside	335061	374433	NO ₂	No	11.0	1.0	No	2.5
115	Stormont	Roadside	339583	373935	NO ₂	Yes - AQMA 3	8.0	2.5	No	2.5
118	Finaghy Road North	Roadside	330367	370009	NO ₂	No	7.0	1.5	No	2.7
119	28 Kennedy Way	Roadside	330763	371636	NO ₂	Yes - AQMA 1	20.0	1.5	No	2.7
120	Carrick Hill	Roadside	333539	374844	NO ₂	No	-2.0	5.0	No	2.5
121	412 Whitewell Road	Roadside	332686	381325	NO ₂	No	18.0	7.5	No	3.0
122	Westlink / Divis Street	Kerbside	333225	374347	NO ₂	Yes - AQMA 1	5.0	1.0	No	2.5
123	Shankill Road (Spectrum Centre)	Kerbside	332187	374843	NO ₂	No	6.0	1.0	No	2.7

* Please note that the various site IDs relate to current monitoring locations across the city. Over the preceding years, some sites may have relocated or monitoring discontinued. For these reasons, site IDs may be non-sequential.

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO₂)

Automatic Monitoring Data

Tables 2.3 and 2.4 summarise recent monitoring data from the council's nitrogen dioxide automatic analysers for 2025 and preceding years from 2021. In addition, trends in annual mean monitoring data for nitrogen dioxide are summarised in Figure 2.3.

All automatic monitoring sites in Belfast measured NO₂ annual mean concentration below 40 µg/m³ during 2025. Moreover, there were no NO₂ 1-hour means above 200 µg/m³ recorded in Belfast during 2025.

Belfast Centre (Lombard Street) AQMS

The Belfast Centre AURN site is an urban centre / urban background site, situated in a substantially pedestrianised area of Belfast City Centre, and operated by the UK Environment Agency and DAERA. Urban background sites are located such that the pollution levels monitored are not influenced significantly by any single source or street, but rather by the integrated contribution from all sources upwind of the station e.g. by all traffic, combustion sources etc. Accordingly, there were no exceedances of any nitrogen dioxide air quality objectives recorded at the Belfast Centre AURN during 2025, with the annual mean being 18.9 µg/m³; less than half of the 40 µg/m³ annual mean objective value. As 2025 automatic data capture levels at the Belfast Centre site were below the Department's 75% data capture threshold for nitrogen dioxide (69.7%), annualisation of data from this site was required and undertaken in accordance with LAQM.TG(22) guidance. The highest nitrogen dioxide hourly mean in 2025 was 108 µg/m³; substantially less than the 200 µg/m³ AQO hourly mean value (18 exceedances permitted per annum).

Ormeau Road AQMS (AQMA 4)

The Belfast Ormeau Road monitoring site had to be closed in May 2025 due to residential construction works undertaken directly adjacent to the monitoring enclosure. Consequently, 2025 data capture levels at the Ormeau Road site were 35.9%; substantially below the 75% threshold. It was necessary therefore to annualise the nitrogen dioxide data as per the requirements of Box 7-9 of LAQM.TG (22). In summer 2026, we relocated the Ormeau Road monitoring site to an adjacent new permanent monitoring location; approximately 20m away

on the opposite side of Shaftesbury Avenue, but still along the main Ormeau Road carriageway.

The monitoring data demonstrates that nitrogen dioxide concentrations at the Ormeau Road monitoring site have been significantly below the annual mean air quality objective since 2014. Moreover, dispersion modelling undertaken as part of Belfast City Council Detailed Assessment for the city (finalised in 2023) predicted that 2019 (base year) and 2028 (future year) annual mean NO₂ concentrations within AQMA 4, which covers Ormeau Road from the junction with Donegall Pass to the Belfast City boundary at Galwally, would be below the UK AQO level at all locations of relevant human health exposure.

At this stage, however, the council has decided not to move to revoke the Ormeau Road Air Quality Management Area, and instead to continue to monitor within this AQMA and in other city locations in order to work towards further improving ambient air quality, having regard to air quality guidelines for ambient air quality as recommended by the World Health Organisation, in its 2021 Global Air Quality Guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide publication.

Upper Newtownards Road AQMS (AQMA 3)

Annual mean concentrations of nitrogen dioxide at the Upper Newtownards Road site have been below the annual mean air quality objective since 2011, meaning that the nitrogen dioxide annual mean objective is being consistently achieved along the Upper Newtownards Road. As a result of the Covid-19 pandemic restrictions, and since 2020, there has been a marked reduction in nitrogen dioxide concentrations, due to significant reductions in traffic numbers. Nitrogen dioxide annual mean results (21.3 µg/m³) for 2025 are lower than pre-pandemic annual mean data and significantly below the 40 µg/m³ annual mean objective level.

In addition, the Knock Road non-automatic roadside diffusion tube, located at the busy junction of the Upper Newtownards Road, Hawthornden Way and the Knock Road (Upper Newtownards Road AQMA worst case location) recorded exceedances of the annual mean objective in previous years up until 2016. The 2017 calendar year was the first year when the annual mean concentration at the Knock Road junction fell below the air quality objective (36 µg/m³), which was still the case in 2025 (26.7 µg/m³). Consequently, there have not

been any monitored exceedances of the air quality objectives for NO₂ identified within this AQMA over the last nine monitoring years.

Moreover, it should be noted that the Belfast Rapid Transit Glider commenced operation along this route from September 2018. In order to facilitate operation of the Glider, a bus lane was established on the Upper Newtownards Road, Albertbridge Road and East Bridge Street, which operates from 07.00 to 19.00, Monday to Saturday inclusive. Glider operations together with introduction of the associated bus lane are likely to have had a beneficial impact on traffic movements and pollution levels along the Upper Newtownards Road, Albertbridge Road and East Bridge Street

The abovementioned nitrogen dioxide monitoring data for this Upper Newtownards Road AQMA No. 3, and the outcome of the council's detailed assessment, which also confirmed that modelled 2019 (base year) and 2028 (future year) annual mean NO₂ concentrations within AQMA No. 3 would be below the annual mean objective, indicate that this AQMA could be revoked.

At this stage, however, the council has decided not to move to revoke the Upper Newtownards Road Quality Management Area, and instead to continue to monitor within this AQMA and in other city locations in order to work towards further improving ambient air quality, having regard to air quality guidelines for ambient air quality as recommended by the World Health Organisation, in its 2021 Global Air Quality Guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide publication.

Stockman's Lane AQMS (AQMA 1)

Unfortunately, despite completion of significant structural improvements to the M1 Motorway and A12 Westlink corridor, nitrogen dioxide concentrations at Stockman's Lane have historically remained high. 2020 was the first year, however, when the annual mean concentration (33 µg/m³) fell below the objective level of 40 µg/m³, likely due to Covid-19 travel restrictions. Whilst reductions in nitrogen dioxide annual mean concentrations at the Stockman's Lane site had been following a relatively consistent declining trend (the 2019 nitrogen dioxide annual mean was 45 µg/m³, which is a ~8% reduction from the 2018 annual mean of 49 µg/m³), the Covid-19 pandemic had an obvious impact on 2021 and 2022 annual mean concentrations. The 2021 annual mean (36 µg/m³) and 2022 annual mean (36.4

$\mu\text{g}/\text{m}^3$) nitrogen dioxide concentrations were about 20% lower than the 2019 (pre-pandemic) levels. The 2023 annual mean ($35.6 \mu\text{g}/\text{m}^3$) and 2024 annual mean ($33.3 \mu\text{g}/\text{m}^3$) concentrations continued this downward trend. The 2025 concentration of $33.5 \mu\text{g}/\text{m}^3$ is broadly equivalent to the 2024 annual mean.

Although concentrations recorded at this automatic station are now much lower than the $40 \mu\text{g}/\text{m}^3$ annual mean objective, one roadside diffusion tube (Diffusion tube No. 101 - Stockman's Lane Roundabout), located near to the Stockman's Lane AQMS, recorded a 2025 NO_2 annual mean concentration of $36.7 \mu\text{g}/\text{m}^3$. The 2025 nitrogen dioxide annual mean concentration at this diffusion tube monitoring location was therefore marginally above the $36 \mu\text{g}/\text{m}^3$ (i.e. within 10% of the NO_2 annual mean objective for NO_2 passive diffusion tube monitoring) threshold, established in Box 3-2 AQMA Process Diagram of LAQM.TG(22) (May 2025) for revocation of an AQMA.

The council's 2023 Detailed Assessment had also suggested elevated nitrogen dioxide annual mean concentrations at this location. Therefore, we will continue monitoring at this location (within the M1 Motorway / A12 Westlink Corridor Air Quality Management Area) to identify any potential further exceedances and to better establish nitrogen dioxide concentrations and trends.

There were no NO_2 1-hour mean concentrations above $200 \mu\text{g}/\text{m}^3$ recorded at the Stockmans Lane AQMS location during 2025; the maximum hourly mean nitrogen dioxide concentration in 2025 was $132 \mu\text{g}/\text{m}^3$.

A12 Westlink / Roden Street AQMS (AQMA 1)

As shown in Table 2.3, the 2025 nitrogen dioxide annual mean ($31.1 \mu\text{g}/\text{m}^3$) monitored at the A12 Westlink / Roden Street site was higher than in the previous five years. However, this annual mean concentration is still noticeably lower than the 2019 pre-pandemic level ($34 \mu\text{g}/\text{m}^3$) and comfortably below the annual mean objective of $40 \mu\text{g}/\text{m}^3$.

Consideration of nitrogen dioxide concentrations for 2025 indicate that monthly mean values were higher in most months throughout 2025 when compared to 2024. This increase in nitrogen dioxide concentrations may be due to an increase in traffic flow along the A12 Westlink corridor. It is noted that Annual Average Daily Traffic flows close to A12 Westlink / Roden Street AQMS location have increased significantly since the 2020 Covid pandemic

<https://www.infrastructure-ni.gov.uk/sites/default/files/2026-04/2024-traffic-and-travel-information-report.pdf>).

There were, however, no NO₂ 1-hour mean concentrations above 200 µg/m³ recorded at this AQMS location during 2025; the maximum hourly mean nitrogen dioxide concentration in 2025 was 142 µg/m³.

The nitrogen dioxide annual mean air quality objective has not been exceeded at the A12 Westlink / Roden Street automatic monitoring site since 2011. However, one roadside diffusion tube, located at Henry Place, further along the A12 Westlink corridor, has recorded exceedances of the annual mean objective over the past several years, including in 2025 (44.7 µg/m³). There were also three other tubes located along the A12 Westlink corridor that recorded annual mean concentrations above 36 µg/m³ during 2025. The council will therefore continue monitoring within the Westlink Corridor / M1 Air Quality Management Area (AQMA 1) to identify further improvements in nitrogen dioxide concentrations and any emerging trends.

Historically, modelled and monitored exceedances of the 1-hour mean objective for nitrogen dioxide were encountered only in the vicinity of the M1 Motorway / A12 Westlink corridor. As a result, this is the only Air Quality Management Area within Belfast that has been declared on the basis of exceedances of the 1-hour objective.

From ambient nitrogen dioxide monitoring data for the Stockman's Lane and A12 Westlink / Roden Street monitoring sites, as summarised in Table 2.4, it can be seen that the number of exceedances of the hourly mean objective has substantially decreased over recent years, both now demonstrating compliance with the 200 µg/m³ objective, not to be exceeded more than 18 times per year - since 2013. In fact, there have been no recorded nitrogen dioxide 1-hour mean concentrations greater than 200 µg/m³ at either monitoring site since 2019.

DAERA, in their letter of 20th November 2024, concerning an appraisal of the council's 2024 Updating and Screening Assessment (USA) highlighted that there had been no exceedances of the 1-hour NO₂ objective recorded within any declared AQMA for the last five years presented within the 2024 USA. DAERA and their technical assessors therefore advised the Council to consider revocation of the 1-hour NO₂ designation for the M1 Motorway / A12 Westlink corridor AQMA.

At that stage, however, the council has decided not to move to revoke the M1 Motorway and A12 Westlink corridor Air Quality Management Area (No. 1) for exceedances of the nitrogen dioxide 1-hour mean objective, and instead to continue to monitor within this AQMA and in other city locations in order to work towards further improving ambient air quality, having regard to air quality guidelines for ambient air quality as recommended by the World Health Organisation, in its 2021 Global Air Quality Guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide publication. The council notes that the WHO air quality guidelines for nitrogen dioxide that were not re-evaluated, and consequently remain valid, include the 200 µg/m³ guideline value, assessed over a 1-hour averaging time period.

Table 2.3 – Results of Automatic Monitoring for NO₂: Comparison with Annual Mean Objective

Site Name	Site Type	Within AQMA? Which AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2025 % ^b	Annual Mean Concentration (µg/m ³)				
					2021*	2022*	2023*	2024*	2025 ^c
Belfast Centre (Lombard Street)	Urban Background	N	74.0	69.7	21	21.1	18.8 ^c	18.1 ^c	18.9 ^c
Belfast Ormeau Road	Roadside	Y (CM2)	98.9	35.9	18	18.8	18.0	17.5	18.4 ^c
Belfast Upper Newtownards Road	Roadside	Y (CM3)	92.4	92.4	21	22.2	21.0	20.6	21.3
Belfast Stockman's Lane	Roadside	Y (CM4)	96.9	96.9	36	36.4	35.6	33.3	33.5
Belfast Westlink / Roden Street	Roadside	Y (CM5)	99.5	99.5	28	27.9	28.5	27.1	31.1

^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.TG(22), if valid data capture is less than 75%

* Annual mean concentrations for previous years are optional

Figure 2.3 – Trends in Annual Mean NO₂ Concentrations Measured at Automatic Monitoring Sites

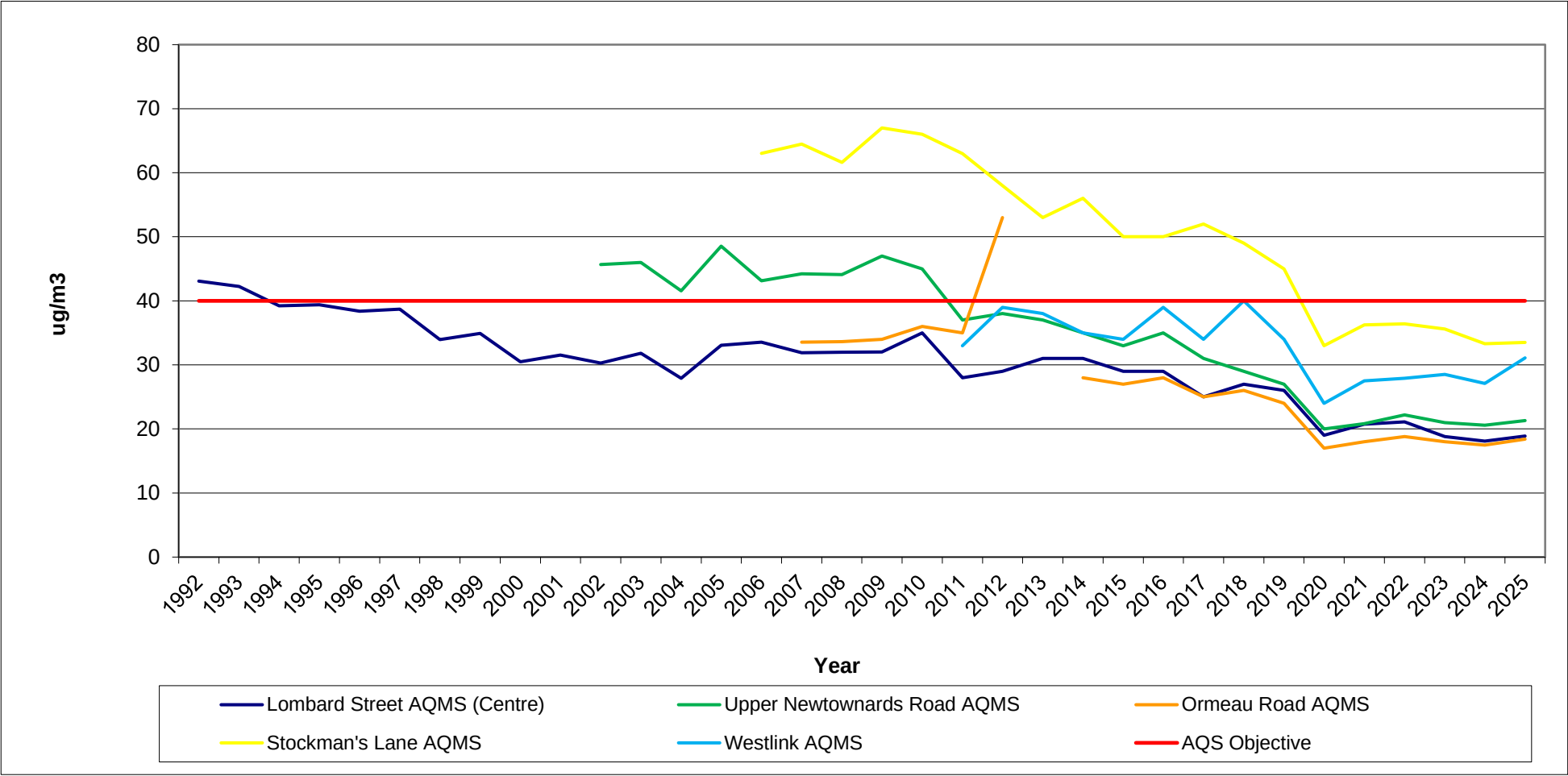


Table 2.4 – Results of Automatic Monitoring for NO₂: Comparison with 1-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2025 % ^b	Number of Hourly Means > 200 µg/m ³				
					2021* ^c	2022* ^c	2023* ^c	2024* ^c	2025 ^c
Belfast Centre (Lombard Street)	Urban Background	N	74.0	69.7	0	0(93) ^c	0(84) ^c	0(82) ^c	0(81) ^c
Belfast Ormeau Road	Roadside	Y	98.9	35.9	0	0	0	0	0(90) ^c
Belfast Upper Newtownards Road	Roadside	Y	92.4	92.4	0	0	0	0	0
Belfast Stockman's Lane	Roadside	Y	96.9	96.9	0	0	0	0	0
Belfast Westlink / Roden Street	Roadside	Y	99.5	99.5	0	0	0	0	0

In bold, exceedance of the NO₂ hourly mean AQS objective (200 µg/m³ – 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 exceedances for previous years is optional

Diffusion Tube Monitoring Data

In order to obtain a better understanding of how concentrations of nitrogen dioxide (NO₂) are varying across the city over time, and to investigate those locations where previous rounds of the review and assessment process have highlighted areas of concern, Belfast City Council has placed 79 diffusion tubes at 71 human health relevant receptor locations across the city. Data from these diffusion tubes for 2025 have been summarised in Table 2.5 alongside historical data, where it is available, in Table 2.6.

In terms of the outcome of the 2025 nitrogen dioxide diffusion tube monitoring, it is noted that concentrations at most locations are broadly comparable to, or slightly higher in comparison to 2024 results. However, they are still significantly lower than 2019 pre-pandemic concentrations.

Since the 2025 Progress Report, council officers have removed 3 tubes (Nos. 74 (Ardmore Park), 107 (Springfield Road) and 117 (Ladas Drive)) from the network, due to consistently low concentrations recorded or changes to 'relevant exposure' locations; we relocated three tubes (Nos. 15 (Shaftesbury Square), 33 (Great Victoria Street) and 121 (412 Whitewell Road)), along the same roads, but closer to relevant exposure (residential properties), and we added two tubes (Nos. 122 (Westlink / Divis Street) and 123 (Shankill Road, Spectrum Centre)). All locations are detailed in Figure 2.2 and Table 2.2

Only two exceedances of the 40 µg/m³ annual mean air quality objective were recorded during 2025; at a location next to the junctions of the M3 Motorway / M2 Motorway / Nelson Street (Diffusion tube No. 106 – 46.4 µg/m³) and at Henry Place at the A12 Westlink corridor (Diffusion tube No. 70 – 44.7 µg/m³).

Diffusion tube monitoring site No. 106 at the M3 off slip is located immediately next to a dominant road transport NO₂ pollution source, and at a worst-case location (complex junction). In 2025, the diffusion tube monitoring site was re-located nearer to the façade of a newly completed student residential accommodation development, having in previous years, been located further away from the façade, at construction hoardings at the boundary of the construction site. Accordingly, for previous years, and taking account of the separation distance from the monitoring location to the façade of the residential development, the Defra Diffusion Tube Processing Tool had indicated no exceedances of the nitrogen dioxide annual mean objective were likely at the façade of the residential development. However,

the Diffusion Tube Processing Tool has predicted an annual mean NO₂ concentration of 45.3 µg/m³ at the façade of this residential premises during 2025, indicating an exceedance of the 40 µg/m³ annual mean objective. It is noted, however, that relevant residential receptors are located on the first floor (> +8.5m above ground level) and above floors of the development, and not at the ground floor mezzanine level. Moreover, the Air Quality Impact Assessment, submitted as part of the applications for this development (LA04/2016/1252/F and LA04/2021/2893/F), demonstrated that residential occupants of the development would not be exposed to air pollution concentrations exceeding the respective AQ objectives, taking account of the locations of residential receptors at floors above the ground floor mezzanine level. We will, however, continue to monitor nitrogen dioxide at this location to better understand ambient concentrations and trends.

In 2025, diffusion tube monitoring site no. 70 at Henry Place, located on a fenceline immediately above the A12 Westlink, recorded an exceedance of the nitrogen dioxide annual mean air quality objective (44.7 µg/m³). However, Defra NO₂ distance correction calculations for this location indicate no exceedance of the 40 µg/m³ annual mean at the nearest relevant residential receptor location; at flats situated some 18 m back from the fenceline (26.5 µg/m³). This distance correction assessment is confirmed by 2025 monitoring results for diffusion tube monitoring site No. 100 (Henry Place 2), situated at a façade of the above-mentioned flats, which recorded a 'distance corrected' nitrogen dioxide annual mean concentration of 33.9 µg/m³ in 2025.

In addition, for the 2025 monitoring year, there were nine overall diffusion tube monitoring sites (No. 13 - Great Georges Street, Nos. 21, 22 & 56 - Stockman's Lane AQMS, No. 68 - opposite Westlink AQMS, No. 70 - Henry Place, No. 101 - Stockman's Lane Roundabout, No. 106 - M3, No. 114 - Strand Walk, No. 121 – Whitewell Rd and No. 122 Westlink / Divis Steet), located at roadside / kerbside locations, where annual mean nitrogen dioxide concentrations were above the 36 µg/m³ (within 10% of the annual mean objective of 40 µg/m³) threshold for revocation of an AQMA.

A summary of fall-off with distance calculations from the Diffusion Tube Data Processing Tool are presented in Table A.4 (Appendix A)

Table 2.5 – Annual Results Summary

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	NO ₂ Mean Concentrations (µg/m³)												Simple Annual Mean (µg/m³)			Comment
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.92) and Annualised	Distance Corrected to Nearest Exposure	
1	332522	373708	28.7	23.8	20.8	19.4	14.5	13.9	9.2	15.7	18.2	16.4	23.3	24.7	19.0	17.5	-	
2	329780	369528	40.5	33.7	33.7	30.9	30.1	31.2	29.0	27.7	32.5	33.4	40.3	34.2	33.1	30.4	-	
3	334220	373853	35.5	32.8	32.3	30.9	27.6	23.0	17.5	24.8	25.4	25.5	33.7	29.8	28.2	25.9	-	
4	335013	373979		26.1	24.6	27.2	22.4	19.6		21.1	22.5	23.2	30.6		24.1	22.2	-	
5	334630	374385		27.5	30.3	29.3	24.2	17.3	17.4	24.2	21.6	24.3	31.3		24.7	22.7	-	
6	337681	374133	20.2	15.1	14.5	11.5	8.4	8.2	7.0	7.9	10.5	11.9	16.2	16.8	12.3	11.3	-	
7	333840	373956		30.9	32.9	31.4	29.1	25.6	20.9	27.5	25.0		52.2	26.3	30.2	27.7	-	
9	334983	374260	45.3	36.0	37.0	33.5	36.4	31.2	28.0	30.1	34.4	32.5	38.5	38.4	35.1	32.2	-	
10	334499	372186	35.4	27.2	27.6	23.8	22.8	22.7	18.4	22.4	20.0	23.9	26.7	26.4	24.8	22.7	-	
12	338718	373918	39.4	30.4	30.3	30.8	27.4	27.6	22.0	26.3	22.7	29.0	32.3	31.0	29.1	26.7	-	
13	333981	375102	45.5	46.6	47.6			37.7	31.3	40.0	35.3		45.4	43.8	41.5	38.0	25.3	

14	332063	371376	29.8	25.0	29.5	23.5	23.6	17.9	18.1	21.0	23.2	24.7	32.2	28.8	24.8	22.7	-	
15	333627	373298		31.4	33.1	29.3	25.9	23.5	17.6	25.8	27.0			29.2	27.0	24.7	-	
16	333898	374358	24.9	17.9	23.8	22.4	20.7	16.9	14.0	20.5	18.7	19.3	26.8	27.9	-	-	-	Triplicate Site with 16, 19 and 20 - Annual data provided for 20 only
19	333898	374358	28.4	23.9	24.9	25.3	20.9	15.5	14.5	20.4	20.8	20.6	25.9	26.9	-	-	-	Triplicate Site with 16, 19 and 20 - Annual data provided for 20 only
20	333898	374358	26.0	25.2	25.7	25.5	22.2	16.8	13.6	21.3	19.7	20.0	25.9	26.2	21.9	20.1	-	Triplicate Site with 16, 19 and 20 - Annual data provided for 20 only
17	334213	374485		38.8	35.8	39.7	29.9	29.1	23.0	31.8	35.3		37.1	35.6	33.6	30.8	-	
21	331009	371251	42.0	36.7	39.3	36.8	39.3	42.1	34.1	38.8	46.2	47.8	39.9	35.2	-	-	-	Triplicate Site with 21, 22 and 56 - Annual data

																		provided for 56 only
22	331009	371251	45.2	38.5	39.6	36.0	39.5	42.5	34.5	38.5	44.9	43.5	41.1	41.6	-	-	-	Triplicate Site with 21, 22 and 56 - Annual data provided for 56 only
56	331009	371251	47.2	40.2	37.5	38.3	39.1	43.5	33.8	39.0	44.6	44.7	42.0	38.9	40.3	37.0	26.0	Triplicate Site with 21, 22 and 56 - Annual data provided for 56 only
23	337930	373972	31.3		24.5	20.7	20.0	17.9	15.5	16.6	21.0	18.7	22.8		-	-	-	Triplicate Site with 23, 24 and 32 - Annual data provided for 32 only
24	337930	373972	30.0		22.1	21.8	19.6	16.2	15.6	15.7	19.2	22.4	23.2		-	-	-	Triplicate Site with 23, 24 and 32 - Annual data provided for 32 only

32	337930	373972	31.7		24.9	22.4		17.5	15.9	17.0	20.2	22.3	26.4	24.1	21.4	19.6	-	Triplicate Site with 23, 24 and 32 - Annual data provided for 32 only
26	333018	373120		29.4	34.5	33.5	28.6	25.7	21.8	25.9	27.2		34.3	31.9	29.3	26.9	-	
30	337168	375485	25.1	25.9	23.2	15.4	17.0	12.0	32.7	13.4	7.0	16.9	18.5	17.7	18.7	17.2	-	
31	332544	370283	35.0	29.0	30.8	31.0	27.4	21.5	17.4	22.9	28.3	21.7	28.6		26.7	24.5	-	
33	333548	373772	40.6	32.9	35.3	31.0	23.4	23.3	21.9	26.1	29.1	28.7	36.4	33.0	30.1	27.6	-	
34	333501	374236		37.1	37.6	39.0	32.4	23.4	21.2	30.0	32.3	27.8	34.2	37.8	32.1	29.4	-	
35	334140	374126	37.4	37.7	38.6			31.1	26.0	31.3	30.1	32.3			33.0	32.4	-	
36	334114	373536		33.9	37.9	33.4	31.8	26.6	26.1	26.2	30.9	31.0	36.5	36.6	31.9	29.3	-	
37	332100	373015	48.0	35.4		36.7	30.5	31.9		32.4	36.7	34.2	38.2	38.5	36.3	33.3	-	
38	333085	374065		37.8	33.2	45.0	32.7	26.4	18.6	30.5	29.4	26.3	32.9	33.3	31.5	28.9	-	
39	334957	371298		27.5	30.8	21.4	17.7	21.7	17.5	17.1	22.5	23.7	29.2	26.7	23.3	21.3	-	
40	336516	374226	32.4	26.3	24.1	25.2	18.2	18.5	15.7	17.3	19.3	20.0	23.8	25.1	22.2	20.3	-	
41	333101	375295	33.3	30.1	28.4	27.4	24.5	21.4	18.5	22.4	24.9	24.2	29.4	31.5	26.3	24.2	-	

42	333258	376186		28.6	26.9	26.3	21.1	18.0	16.7	20.6	23.6	22.5	28.7	30.2	23.9	21.9	-	
44	334177	376375	32.6	32.8	29.8	31.1	23.8	21.9	18.2	23.8	27.7	24.9	29.1	29.7	27.1	24.9	-	
59	334214	375638		40.7	38.1	41.9	34.8	27.7	21.9	35.4	33.0	30.4	36.4	39.5	34.5	31.7	-	
63	334193	374457	33.3	33.9	33.9	38.0	29.9	22.6	21.1	29.2	26.9	26.2	30.9	30.8	29.7	27.3	-	
65	332610	373434	34.2	37.7	40.8	38.5	39.5	18.0	25.6	30.1	26.2	28.5	37.1	38.4	-	-	-	Triplicate Site with 65, 66 and 67 - Annual data provided for 67 only
66	332610	373434	35.6	38.6	37.1	34.8	37.2	26.2	25.1	32.0	26.6	29.5	38.6	36.5	-	-	-	Triplicate Site with 65, 66 and 67 - Annual data provided for 67 only
67	332610	373434	32.8	38.7	41.1	36.8	35.4	24.3	25.1	32.0	27.5	32.2	37.1	37.3	33.1	30.4	-	Triplicate Site with 65, 66 and 67 - Annual data provided for 67 only
68	332610	373474	53.8	45.3	37.0	44.0	33.7	43.7	30.2	38.1	45.4	41.3	43.7	39.8	41.3	37.9	18.7	

69	333281	374755	43.7	38.2	30.9	48.2	40.6	30.2	23.9	36.3	33.6	30.6	41.8		36.2	33.2	-	
70	333588	375224	63.1	53.6	44.1	47.8	41.2	50.6	31.0	45.6	53.4	46.8	52.5	55.1	48.7	44.7	26.5	
76	335073	375049		21.0	26.3	19.3	19.5	14.0	14.1	17.1	20.3	18.3	26.0	23.7	20.0	18.3	-	
77	328237	370138	27.8	21.7	21.8	18.7	16.0	18.9	17.9	16.7	21.2	21.2	24.2	22.6	20.7	19.0	-	
82	334025	375238	36.4	36.2	36.6	40.7	34.6	29.5	22.0	32.1	34.3	29.2	34.6	36.4	33.5	30.8	-	
83	333857	375412		40.0	34.9	33.0	30.6	24.7	18.5	27.4	34.9		33.4		30.8	28.3	-	
84	333866	375160	34.4	36.9	39.3	56.5	32.7	23.2	22.7	28.4	25.3	24.6	36.8	38.5	33.3	30.5	-	
85	334468	375340	31.7	30.8	31.8	31.4	30.1	20.4	21.1	25.1	23.9	23.9	33.3	31.3	27.9	25.6	-	
87	331964	373558	36.8	31.9	31.7	36.6	26.2	26.2	20.8	29.5	31.9	29.2	35.4	36.4	31.1	28.5	-	
88	329273	368947			25.6	23.8		37.2	12.9	18.7	19.1	18.6	24.8	24.9	22.8	20.9	-	
89	337547	372019	30.4	27.1	29.1	24.4	24.6	21.7	20.5	21.2		25.2	28.3	24.8	25.2	23.1	-	
90	332028	372759	46.9	38.4	39.0	34.4	37.4	33.7	28.6	37.2	36.7	40.6	48.9	42.4	38.7	35.5	-	
92	329707	371200	35.4	26.1		25.0	22.0	21.8	18.0	22.0	25.8	23.5	31.4	29.5	25.5	23.4	-	
95	331568	370818	36.9	34.8	37.7	32.9	32.7	28.3	22.6	28.6	29.1	28.6	35.7	34.0	31.8	29.2	-	
96	331379	370712		23.1	22.9	21.1	18.7	15.6	15.7	18.8	18.0	20.7	24.3	24.2	20.3	18.6	-	

97	329737	372743	27.0	24.1	19.5	22.8	18.7	23.7	17.8	21.6	18.8	23.2	24.0	23.1	22.0	20.2	-	
98	338297	376131	44.2	29.6	36.9	29.6	32.6	34.3	13.5	27.5	36.8	38.1	37.8	32.9	32.8	30.1	-	
100	333589	375251	41.4	40.7	29.5	36.8	22.7	29.1	18.5	27.5	36.6		35.6	40.3	32.6	29.9	33.9	
101	330900	371316		39.2	43.4	37.3	38.7	39.7	39.8	33.9	40.2	41.1	44.0	42.6	40.0	36.7	31.2	
102	333650	375180	34.4	33.9	34.0	30.7	24.7			23.1	25.5	15.8	32.3	35.9	29.0	26.6	30.3	
103	332885	373323	28.6	24.8	28.2	25.2	24.9	16.1	14.4	20.1	20.2	21.0	27.9	28.2	23.3	21.4	-	
104	330800	376914		18.5		18.4	13.7		10.1	12.1	13.4	12.2	15.9	16.5	14.5	13.3	-	
105	333918	374952	35.4	36.3	33.9	39.0	32.7	19.7	19.9	27.8	29.1	29.1		37.4	30.9	28.4	-	
106	334110	375036	59.2	52.7	51.5	50.0	47.3	51.5	47.0	29.4	53.7	54.9	56.0	53.2	50.5	46.4	45.3	
108	332825	372465	34.6	34.1	39.5	34.9	34.6	25.3	24.7	28.4	25.8		35.2	31.7	31.7	29.1	-	
109	335005	370749	35.2	25.6	26.8	28.1	28.3	22.0	20.0		23.6	24.1	30.1	31.2	26.8	24.6	-	
111	330562	371205	32.7	33.4		29.9	21.2	18.4	13.3	22.4	23.5	19.7	27.8	29.3	24.7	22.6	-	
112	331440	370918	47.6	37.3	40.8	42.7	38.1	35.5	30.1	31.4	41.6	38.6	42.7	36.6	38.6	35.4	-	
114	335061	374433	50.5	42.9	31.7	46.9	41.7	40.0	29.2	31.2	41.4	38.5	43.6	39.2	39.7	36.4	25.7	
115	339583	373935	22.0	16.1	17.2	13.9	11.7		10.3	9.3	11.4	14.1	17.5	18.8	14.8	13.5	-	

118	330367	370009		34.9	36.6	34.3	28.5	21.8	18.5	26.8	26.5	28.0	34.3	33.7	29.4	27.0	-	
119	330763	371636	39.7	35.5	39.0	42.1	30.7	26.4	22.6	28.5	33.7	25.9	35.4	36.0	32.9	30.2	-	
120	333539	374844	33.4	31.8	29.4	30.6	27.8	19.4	15.3	24.6	24.6	24.0	29.7	33.6	27.0	24.8	26.4	
121	332686	381325	28.2	27.5	26.8	47.2	44.4	39.6	44.0	43.3	39.3	48.6	41.2	42.9	39.4	36.2	24.5	
122	333225	374347							29.7	38.5	42.7	40.7	47.2	43.1	40.3	39.0	29.8	
123	332187	374843						23.3	18.3	22.8	24.9	23.3	27.5	29.8	24.3	24.1	-	

In bold, exceedance of the NO₂ annual mean AQS objective of 40 µg/m³

Underlined, annual mean > 60 µg/m³, indicating a potential exceedance of the NO₂ hourly mean AQS objective

^a Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG(22), if full calendar year data capture is less than 75%

^b If an exceedance is measured at a monitoring site not representative of public exposure, NO₂ concentration at the nearest relevant exposure should be estimated based on the [NO₂ fall-off with distance calculator](#), and results should be discussed in a specific section. The procedure is also explained in paragraphs 7.82 to 7.85 of LAQM.TG(22)

Table 2.6 – Results of NO₂ Diffusion Tubes (2021 to 2025)

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2025 (%)	Annual Mean Concentration (µg/m ³) - Adjusted for Bias ^a				
						2021 (Bias Adjustment Factor = 0.79)	2022 (Bias Adjustment Factor = 0.81)	2023 (Bias Adjustment Factor = 0.80)	2024 (Bias Adjustment Factor = 0.82)	2025 (Bias Adjustment Factor = 0.92)
1	Royal Victoria Hospital	332522	373708	Urban Background	100.0	18.1	16.6	15.9	14.4	17.5
2	Black's Road	329780	369528	Roadside	100.0	30.7	31.5	30.5	29.0	30.4
3	61 Cromac Street	334220	373853	Roadside	100.0	24.5	26.2	25.1	24.0	25.9
4	Albertbridge Road	335013	373979	Roadside	75.0	20.8	21.0	20.5	20.9	22.2
5	Queen's Bridge	334630	374385	Roadside	82.7	23.1	24.4	23.0	22.5	22.7
6	58 Earlswood Road	337681	374133	Urban Background	100.0	12.3	10.7	10.8	10.2	11.3
7	Donegall Square South	333840	373956	Roadside	82.7	23.4	25.5	26.8	24.4	27.7
9	Short Strand	334983	374260	Roadside	100.0	32.8	31.7	30.7	30.2	32.2
10	301 Ormeau Road	334499	372186	Roadside	100.0	23.5	23.2	23.3	21.4	22.7
12	Knock Road	338718	373918	Roadside	100.0	26.0	25.2	25.8	23.4	26.7
13	Great George's Street	333981	375102	Kerbside	75.0	36.3	35.1	36.5	33.7	38.0

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Captured 2025 (%)	Annual Mean Concentration (µg/m³) - Adjusted for Bias ^a				
						2021 (Bias Adjustment Factor = 0.79)	2022 (Bias Adjustment Factor = 0.81)	2023 (Bias Adjustment Factor = 0.80)	2024 (Bias Adjustment Factor = 0.82)	2025 (Bias Adjustment Factor = 0.92)
14	Lisburn Road	332063	371376	Roadside	100.0	22.4	23.1	22.6	21.9	22.7
15	Shaftesbury Square / Botanic Studios	333627	373298	Kerbside	75.0	26.4	26.7	27.1	25.0	24.7
16, 19, 20	Lombard Street	333898	374358	Urban Background	100.0	21.1	21.0	20.9	18.8	20.1
17	Albert Clock	334213	374485	Roadside	82.7	28.1	28.7	28.6	27.4	30.8
21, 22, 56	Stockman's Lane	331009	371251	Roadside	100.0	33.4	37.8	36.4	35.2	37.0
23, 24, 32	Ballyhackamore	337930	373972	Roadside	92.3	19.8	19.8	19.7	19.4	19.6
26	Donegall Road	333018	373120	Kerbside	82.7	24.8	24.0	24.7	23.7	26.9
30	Station Road	337168	375485	Roadside	100.0	17.2	17.1	16.6	15.5	17.2
31	Malone Road	332544	370283	Roadside	90.4	26.3	23.9	25.5	24.8	24.5
33	Great Victoria Street / GO Garage	333548	373772	Kerbside	100.0	28.3	29.5	30.8	30.3	27.6
34	College Square East	333501	374236	Roadside	92.3	27.5	27.9	28.0	26.2	29.4

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2025 (%)	Annual Mean Concentration (µg/m³) - Adjusted for Bias ^a				
						2021 (Bias Adjustment Factor = 0.79)	2022 (Bias Adjustment Factor = 0.81)	2023 (Bias Adjustment Factor = 0.80)	2024 (Bias Adjustment Factor = 0.82)	2025 (Bias Adjustment Factor = 0.92)
35	Chichester Street	334140	374126	Roadside	65.4	32.1	33.2	30.2	30.2	32.4
36	Cromac & Ormeau Avenue (AQMA)	334114	373536	Kerbside	92.3	23.4	24.1	23.9	25.6	29.3
37	Broadway	332100	373015	Roadside	82.7	30.2	33.1	32.6	29.5	33.3
38	Albert Street / Westlink (AQMA)	333085	374065	Roadside	92.3	22.8	24.5	26.3	25.6	28.9
39	Ormeau Road (junction with Ravenhill Road) (AQMA)	334957	371298	Roadside	92.3	26.7	27.1	22.1	21.8	21.3
40	Upper Newtownards Road & Hollywood (AQMA)	336516	374226	Roadside	100.0	20.2	20.0	18.5	19.5	20.3
41	Crumlin Road	333101	375295	Roadside	100.0	23.2	22.7	22.4	21.4	24.2
42	262 Antrim Road	333258	376186	Roadside	92.3	26.5	25.9	26.1	22.1	21.9
44	Shore Road (Ivan Street end)	334177	376375	Roadside	100.0	23.9	23.2	23.2	23.1	24.9

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2025 (%)	Annual Mean Concentration (µg/m³) - Adjusted for Bias ^a				
						2021 (Bias Adjustment Factor = 0.79)	2022 (Bias Adjustment Factor = 0.81)	2023 (Bias Adjustment Factor = 0.80)	2024 (Bias Adjustment Factor = 0.82)	2025 (Bias Adjustment Factor = 0.92)
59	York Street	334214	375638	Roadside	92.3	29.7	30.8	30.1	26.2	31.7
63	Queen's Square / Victoria Street	334193	374457	Roadside	100.0	34.3	32.4	26.3	25.4	27.3
65, 66, 67	Westlink AQMS	332610	373434	Roadside	100.0	30.1	28.8	29.4	27.9	30.4
68	Opposite Westlink AQMS	332610	373474	Kerbside	100.0	31.8	36.0	35.2	29.3	37.9
69	Peters Hill	333281	374755	Kerbside	90.4	32.3	30.5	30.7	31.1	33.2
70	Henry Place	333588	375224	Kerbside	100.0	45.7	42.0	43.0	39.1	44.7
76	Titanic Quarter	335073	375049	Roadside	92.3	17.2	18.3	17.5	18.1	18.3
77	Poleglass (Upper Dunmurry Lane)	328237	370138	Roadside	100.0	18.1	19.3	18.2	17.6	19.0
82	Molyneaux Street	334025	375238	Roadside	100.0	28.3	29.6	29.4	26.5	30.8
83	North Queen Street	333857	375412	Roadside	75.0	28.8	26.7	28.4	26.6	28.3
84	Great George's Street /Portland Place	333866	375160	Roadside	100.0	26.9	26.7	26.9	26.3	30.5

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2025 (%)	Annual Mean Concentration (µg/m³) - Adjusted for Bias ^a				
						2021 (Bias Adjustment Factor = 0.79)	2022 (Bias Adjustment Factor = 0.81)	2023 (Bias Adjustment Factor = 0.80)	2024 (Bias Adjustment Factor = 0.82)	2025 (Bias Adjustment Factor = 0.92)
85	Sailor Town / Dock Street	334468	375340	Roadside	100.0	23.9	23.2	24.2	22.9	25.6
87	RVH Falls Road	331964	373558	Roadside	100.0	28.1	27.2	26.3	24.3	28.5
88	Dunmurry Lane	329273	368947	Roadside	75.0	19.2	18.8	18.4	17.0	20.9
89	Upper Knockbreda Road	337547	372019	Kerbside	92.3	24.2	24.3	23.3	21.5	23.1
90	Tates Avenue/ Glenmachan Street	332028	372759	Roadside	100.0	21.0	27.8	33.0	31.3	35.5
92	Andersonstown Road	329707	371200	Roadside	92.3	25.0	22.8	22.0	22.3	23.4
95	Balmoral Avenue	331568	370818	Roadside	100.0	28.1	28.9	28.6	27.7	29.2
96	Upper Lisburn Road (Kings Hall)	331379	370712	Roadside	92.3	20.3	19.5	18.4	18.5	18.6
97	Monagh Bypass	329737	372743	Roadside	100.0	18.0	18.4	19.1	18.5	20.2
98	Knocknagoney (2 Garnerville Park)	338297	376131	Roadside	100.0	33.5	32.0	31.1	30.3	30.1
100	Henry Place 2	333589	375251	Roadside	90.4	26.9	28.8	26.0	24.3	29.9

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2025 (%)	Annual Mean Concentration (µg/m³) - Adjusted for Bias ^a				
						2021 (Bias Adjustment Factor = 0.79)	2022 (Bias Adjustment Factor = 0.81)	2023 (Bias Adjustment Factor = 0.80)	2024 (Bias Adjustment Factor = 0.82)	2025 (Bias Adjustment Factor = 0.92)
101	Stockmans Lane Roundabout	330900	371316	Roadside	92.3	32.6	39.2	36.3	36.2	36.7
102	North Queen Park	333650	375180	Roadside	82.7	28.3	25.4	24.9	23.8	26.6
103	Blythefield Park (Bentham Drive)	332885	373323	Roadside	100.0	20.2	19.8	19.2	18.6	21.4
104	Ligoniel Crossroads	330800	376914	Roadside	75.0	<u>N/A</u>	13.5	13.0	13.3	13.3
105	Ulster University	333918	374952	Kerbside	92.3	<u>N/A</u>	29.8	30.3	26.9	28.4
106	M3	334110	375036	Kerbside	100.0	<u>N/A</u>	45.8	42.3	41.3	46.4
108	Lisburn Road and Bates Avenue Junction	332825	372465	Roadside	90.4	<u>N/A</u>	31.7	29.2	28.1	29.1
109	444 Ormeau Road (Galwally Park)	335005	370749	Roadside	92.3	<u>N/A</u>	<u>N/A</u>	24.2	24.2	24.6
111	73a Owenvarragh Park	330562	371205	Roadside	92.3	<u>N/A</u>	<u>N/A</u>	19.5	19.1	22.6
112	1 Stockman's Lane	331440	370918	Roadside	100.0	<u>N/A</u>	<u>N/A</u>	32.8	32.7	35.4

Diffusion Tube ID	Site Name	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture 2025 (%)	Annual Mean Concentration (µg/m³) - Adjusted for Bias ^a				
						2021 (Bias Adjustment Factor = 0.79)	2022 (Bias Adjustment Factor = 0.81)	2023 (Bias Adjustment Factor = 0.80)	2024 (Bias Adjustment Factor = 0.82)	2025 (Bias Adjustment Factor = 0.92)
114	Strand Walk	335061	374433	Kerbside	100.0	<u>N/A</u>	<u>N/A</u>	35.6	33.6	36.4
115	Stormont	339583	373935	Roadside	92.3	<u>N/A</u>	<u>N/A</u>	17.6	11.3	13.5
118	Finaghy Road North	330367	370009	Roadside	92.3	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	28.5	27.0
119	28 Kennedy Way	330763	371636	Roadside	100.0	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	29.1	30.2
120	Carrick Hill	333539	374844	Roadside	100.0	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	21.0	24.8
121	412 Whitewell Road	332686	381325	Roadside	100.0	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	36.2
122	Westlink / Divis Street	333225	374347	Kerbside	51.9	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	39.0
123	Shankill Road (Spectrum Centre)	332187	374843	Kerbside	59.6	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	24.1

In bold, exceedance of the NO₂ annual mean AQS objective of 40 µg/m³

^a Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG(22), 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



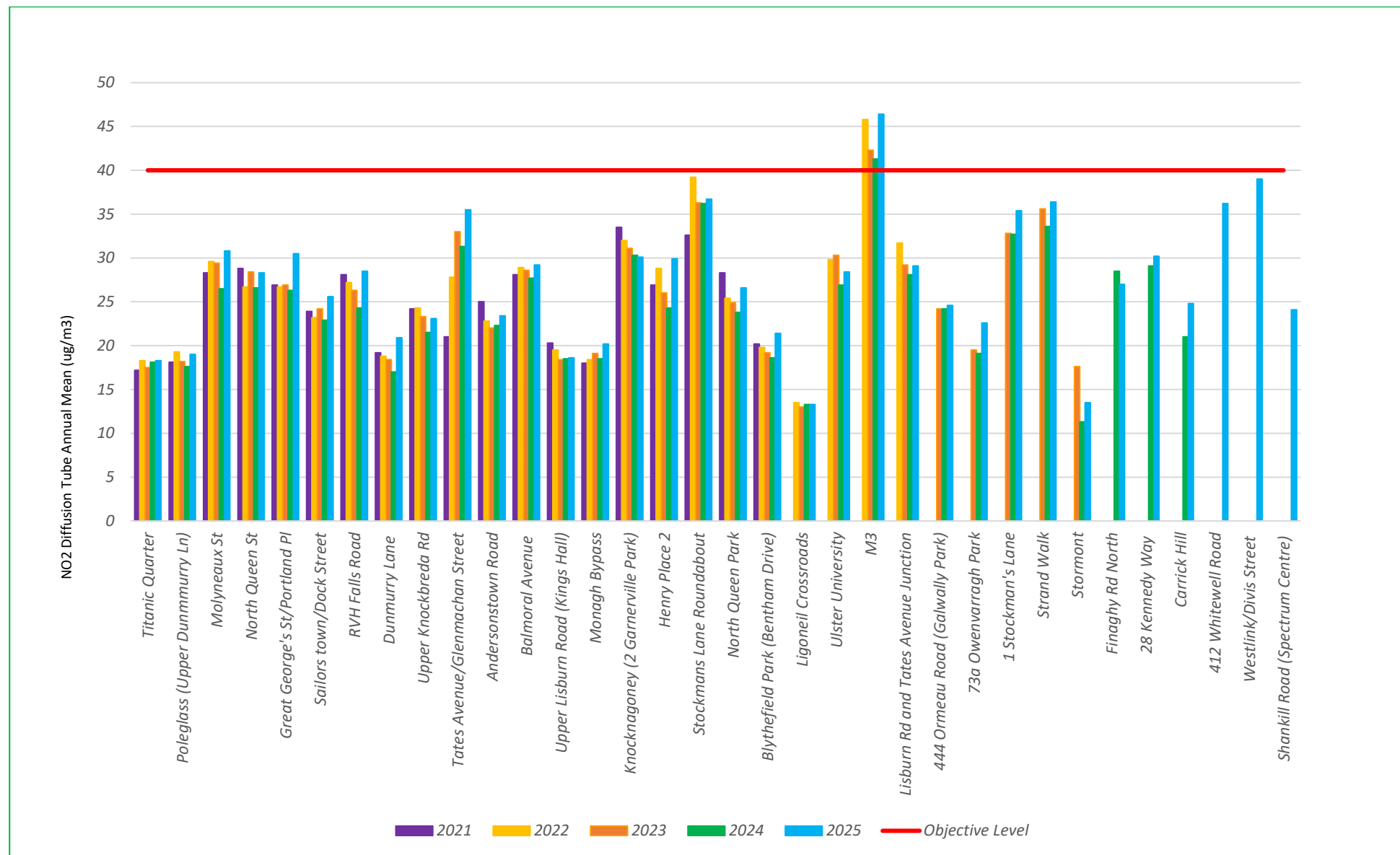
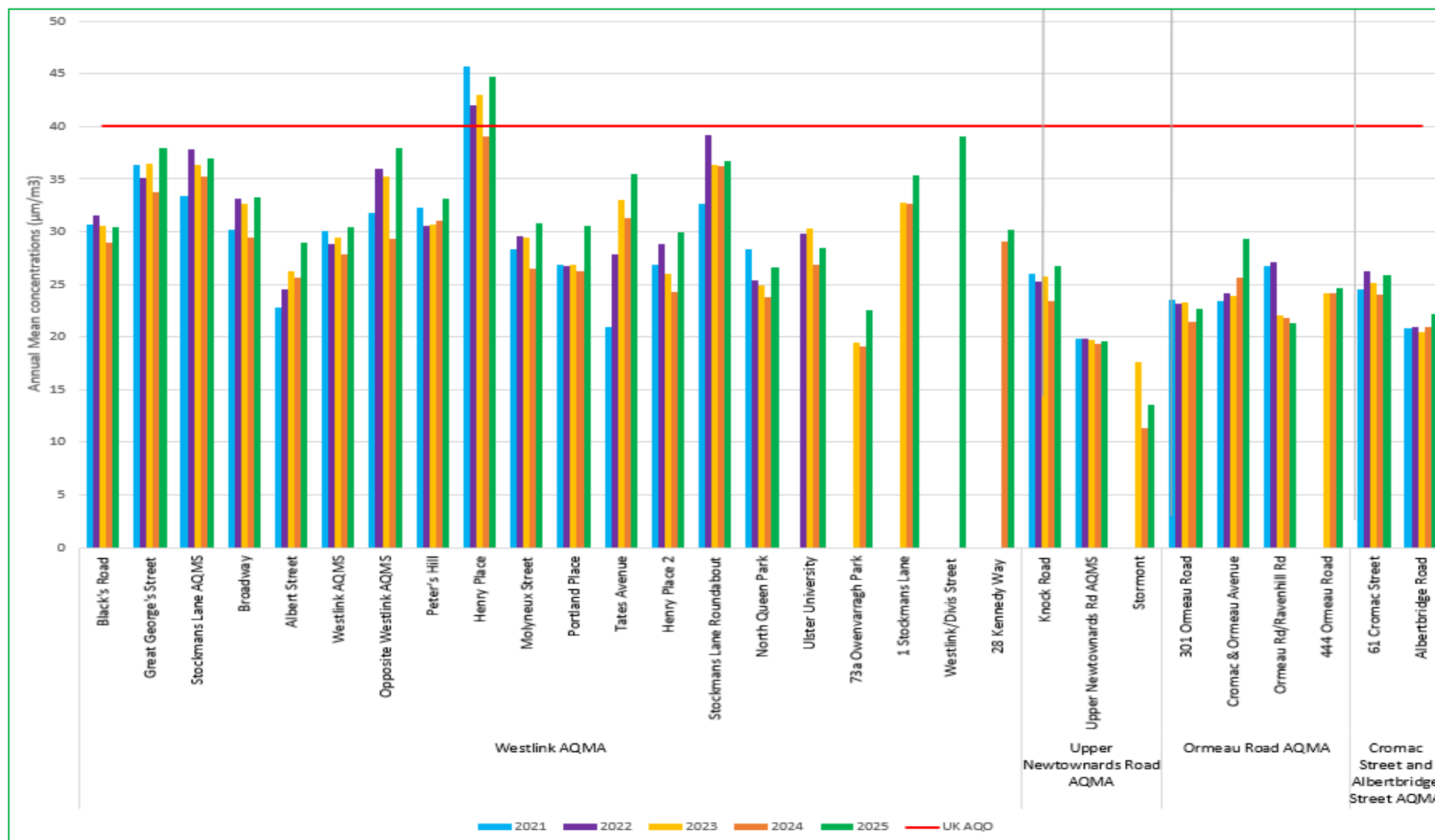


Figure 2.5 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites within AQMAs



2.2.2 Particulate Matter (PM₁₀)

As a result of a historic reliance upon solid fuel for domestic heating, Belfast used to experience frequent exceedances of the 24-hour and annual mean objectives for particulate matter (PM₁₀) across the city. However, with completion of the city's smoke control programme and the widespread availability of natural gas to all sectors, emissions of particulate matter have decreased significantly since around 2000. As a result, the council was able to decommission its Belfast Clara Street particulate matter (PM₁₀) monitoring site in east Belfast in 2007.

However, as domestic and industrial emissions were addressed, so emissions of particulate matter from road transport along the M1 Motorway and A12 Westlink corridor gained in prominence. Upon completion of the council's first review and assessment of air quality in 2004, it was concluded that the M1 Motorway and A12 Westlink corridor should be declared as an Air Quality Management Area on the basis of modelled and monitored exceedances of the 24-hour and annual mean objectives for particulate matter.

As highlighted in the subsequent 2006 Air Quality Action Plan for Belfast, a range of structural improvements, designed to relieve traffic congestion, were completed for the M1 Motorway and A12 Westlink corridor. As a result, monitored levels of particulate matter began to decline within this Air Quality Management Area (Figure 2.6).

In terms of exceedances of the 40 µg/m³ particulate matter annual mean objective, there have been no exceedances of the annual mean objective within this AQMA since 2008. Monitoring data from the Belfast Westlink site at Roden Street, which was established in 2010 and is located within the M1 Motorway / A12 Westlink Air Quality Management Area, indicated no exceedances of particulate matter objectives up until 2014 whereupon PM₁₀ monitoring was discontinued at this site. Particulate matter monitoring continues however at the Stockman's Lane site.

On the basis of historical monitoring data, which demonstrated sustained improvements in particulate matter, the council revoked the M1 Motorway / A12 Westlink Air Quality Management Area for exceedances of the particulate matter annual, and 24-hour mean objectives in September 2015.

The particulate matter 24-hour mean data, as summarised in Table 2.8, has remained comfortably below the objective at all monitoring sites during recent years.

2025 results, with an annual mean of $18.9 \mu\text{g}/\text{m}^3$ recorded at the Stockman's Lane site are similar to previous several years' results - with and without Covid-19 restrictions. It is considered that more information is required to accurately investigate the impact of the Covid-19 lockdowns and subsequent behaviours on particulate matter concentrations; the consistency in annual means recorded at the Stockman's Lane monitoring site could be due to increased levels of 'working from home' during the pandemic, which may have resulted in increased domestic combustion processes, replacing commercial combustion particulate matter emissions, which are likely to have been reduced due to Covid-19 restrictions.

Figure 2.6 shows that the 2025 levels of PM_{10} recorded at Stockman's Lane ($18.9 \mu\text{g}/\text{m}^3$) and Belfast Centre ($13.4 \mu\text{g}/\text{m}^3$) sites are similar to several previous years. Overall, there were no exceedances of the 24 hour and annual mean objectives for particulate matter (PM_{10}) in Belfast during 2025.

Moreover, during 2023, Belfast City Council completed a Detailed Assessment for the city, for PM_{10} , $\text{PM}_{2.5}$ and NO_2 pollutants. Detailed atmospheric dispersion modelling was undertaken for a 2019 base year and for a 2028 forward projection year for PM_{10} .

The outcome of the detailed assessment for PM_{10} indicated that there were no predicted exceedances of the relevant PM_{10} AQOs in either the 2019 base year or 2028 forward projection year. The outcome and conclusions of this 2023 Detailed Assessment are in accordance with the conclusions of previous Updating and Screening Assessments, Progress Reports and Detailed Assessments undertaken by the council in respect of PM_{10} .

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 2025% ^b	Confirm Gravimetric Equivalent (Y or N/A)	Annual Mean Concentration (µg/m ³)				
						2021* ^c	2022* ^c	2023* ^c	2024 ^c	2025 ^c
CM1 Belfast Centre (Lombard Street)	Urban Background	N	98	98	Y	13	13.9	12.6	12.8	13.4
CM4 Belfast Stockman's Lane	Roadside	Y (Westlink)	93	93	Y	19	18.2	16.6	18.0	18.9

In bold, exceedance of the PM₁₀ annual mean AQS objective of 40 µg/m³

^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.TG(22), if valid data capture is less than 75%

* Annual mean concentrations for previous years are optional

Figure 2.6 – Trends in Annual Mean PM₁₀ Concentrations

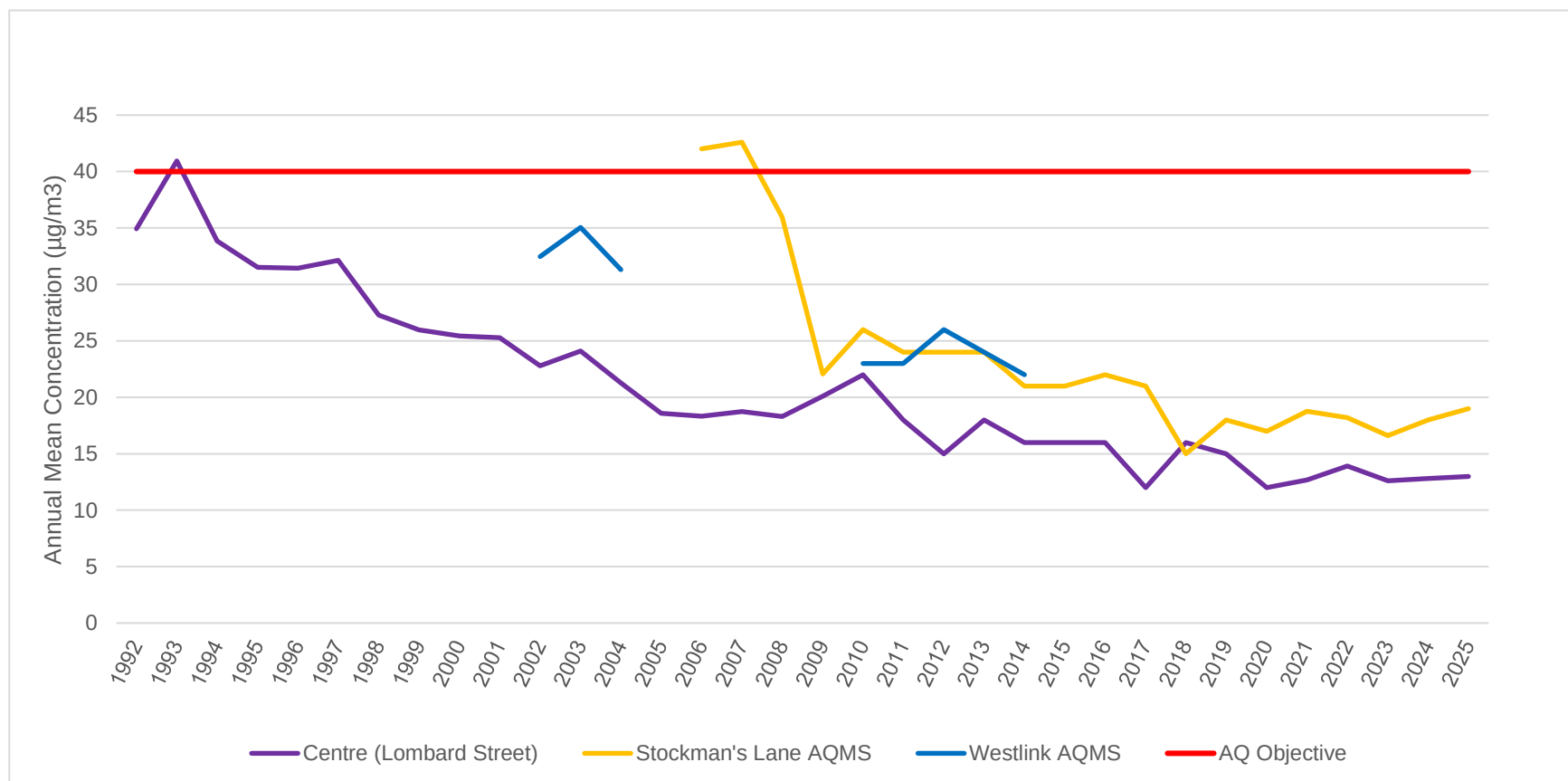


Table 2.8 – Results of Automatic Monitoring for PM₁₀: Comparison with 24-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2025 % ^b	Confirm Gravimetric Equivalent (Y or N/A)	Number of Daily Means > 50µg/m ³				
						2021* ^c	2022* ^c	2023* ^c	2024 ^c	2025 ^c
CM1 Belfast Centre (Lombard Street)	Urban Background	N	98	98	Y	0	4	1	0	1
CM4 Belfast Stockman's Lane	Roadside	Y (Westlink)	93	93	Y	1	7	0	1	3

In bold, exceedance of the PM₁₀ daily mean AQS objective (50 µg/m³ – 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 exceedances for previous years is optional

2.2.3 Sulphur Dioxide (SO₂)

As a result of a historic reliance upon solid fuel for domestic heating, Belfast City used to experience frequent and widespread exceedances of the 15-minute, 1-hour and 24-hour mean objectives for sulphur dioxide (SO₂). However, with completion of the city's smoke control programme and the widespread availability of natural gas to all sectors, levels of sulphur dioxide have decreased dramatically since 2000. There have been no monitored exceedances of any sulphur dioxide objective within the city since 2002. Sustained low levels of sulphur dioxide have meant that the council, in consultation with Defra, has been able to terminate ambient monitoring at all locations with the exception of the Belfast Centre AURN site at Lombard Street. No Air Quality Management Areas have been declared for sulphur dioxide across Belfast.

Recent sulphur dioxide monitoring data from the Belfast Centre site is summarised in Table 2.9. As indicated, no exceedances of any objective were observed during 2025.

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 2025 % ^b	Number of: ^c		
					15-minute Means > 266 µg/m ³	1-hour Means > 350 µg/m ³	24-hour Means > 125 µg/m ³
Belfast Centre (Lombard Street)	Urban Background	N	97	97	0	0	0

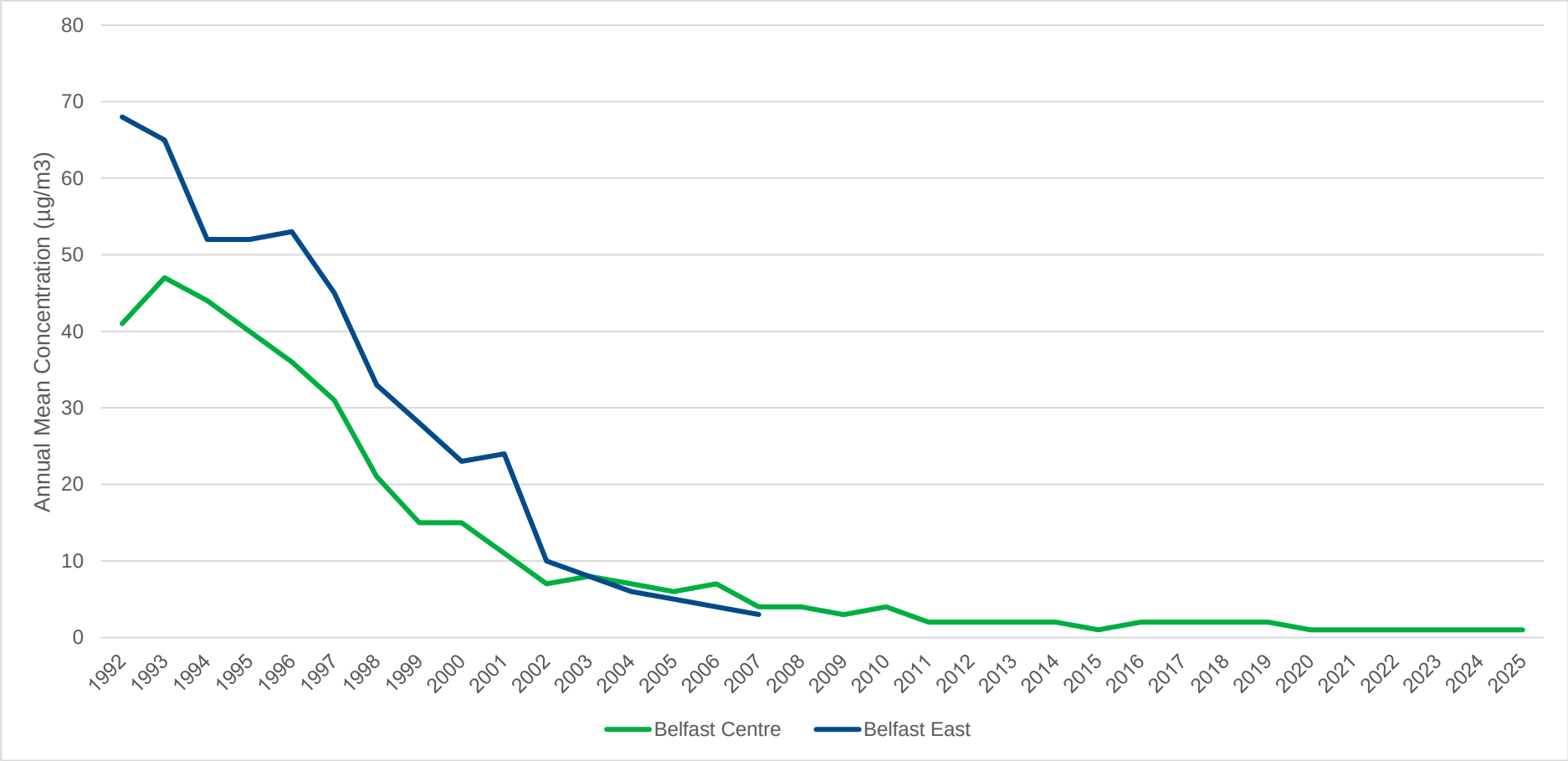
In bold, exceedance of the relevant AQS objective (15-min mean = 35 allowed/year; 1-hour mean = 24 allowed/year; 24-hour mean = 3 allowed/year)

^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 relevant percentile in bracket (in µg/m³): 15-min mean = 99.9th; 1-hour mean = 99.7th; 24-hour mean = 99.2th percentile.

Figure 2.7 – Trends in Annual Mean Sulphur Dioxide (SO₂) Concentrations



2.2.4 Benzene

Benzene concentrations have been monitored at the Belfast Centre Lombard Street AURN site and were monitored at the Belfast roadside site commencing from 2002. The Belfast Centre site monitors benzene exposure for the city centre, whilst the Belfast Roadside site monitored benzene concentrations on the Upper Newtownards Road up until its closure in October 2007. No exceedances of the 2010 Air Quality Strategy objective (3.25 µg/m³ running annual mean) nor the 2010 EU Limit Value (5 µg/m³ annual mean) for benzene have been recorded in Belfast since 2002.

Table 2.10 below, confirms that there have been no exceedances of the running annual mean of 3.25 µg/m³ for benzene within Belfast over recent years.

Table 2.10 – Benzene Annual Mean Concentrations for the Belfast Centre Site 2021 – 2025

Site ID	Site type	Within AQMA? Which AQMA?	Valid Data Capture 2025%	Running annual mean concentrations (µg/m ³)				
				2021	2022	2023	2024	2025
Belfast Centre (Lombard Street)	Urban Background	N	96	0.39	0.38	0.42	0.39	0.39

2.2.5 Other Pollutants Monitored

Fine Particulate Matter (PM_{2.5})

Fine particulate matter (PM_{2.5}) concentrations have been monitored at the Belfast Centre AURN site since 2008. Although it is not a statutory requirement for NI local authorities to currently report on PM_{2.5} levels, as this pollutant is not in scope of LAQM regulations, Belfast City Council has nevertheless included PM_{2.5} results for 2025 within this progress report - Table 2.11 and Figure 2.8 below.

The annual mean for this pollutant in 2025 was 7.9 µg/m³, which is substantially below the limit value of 25 µg/m³ and UK air quality annual mean objective of 20 µg/m³.

Although Belfast does not experience monitored exceedances of any air quality strategy objectives, we are aware of growing concerns around the effects of the PM_{2.5} fraction on human health. Therefore, although not included in Regulations at present for Northern Ireland councils, Belfast City Council has proactively opted to monitor and assess ambient PM_{2.5} concentrations within Belfast.

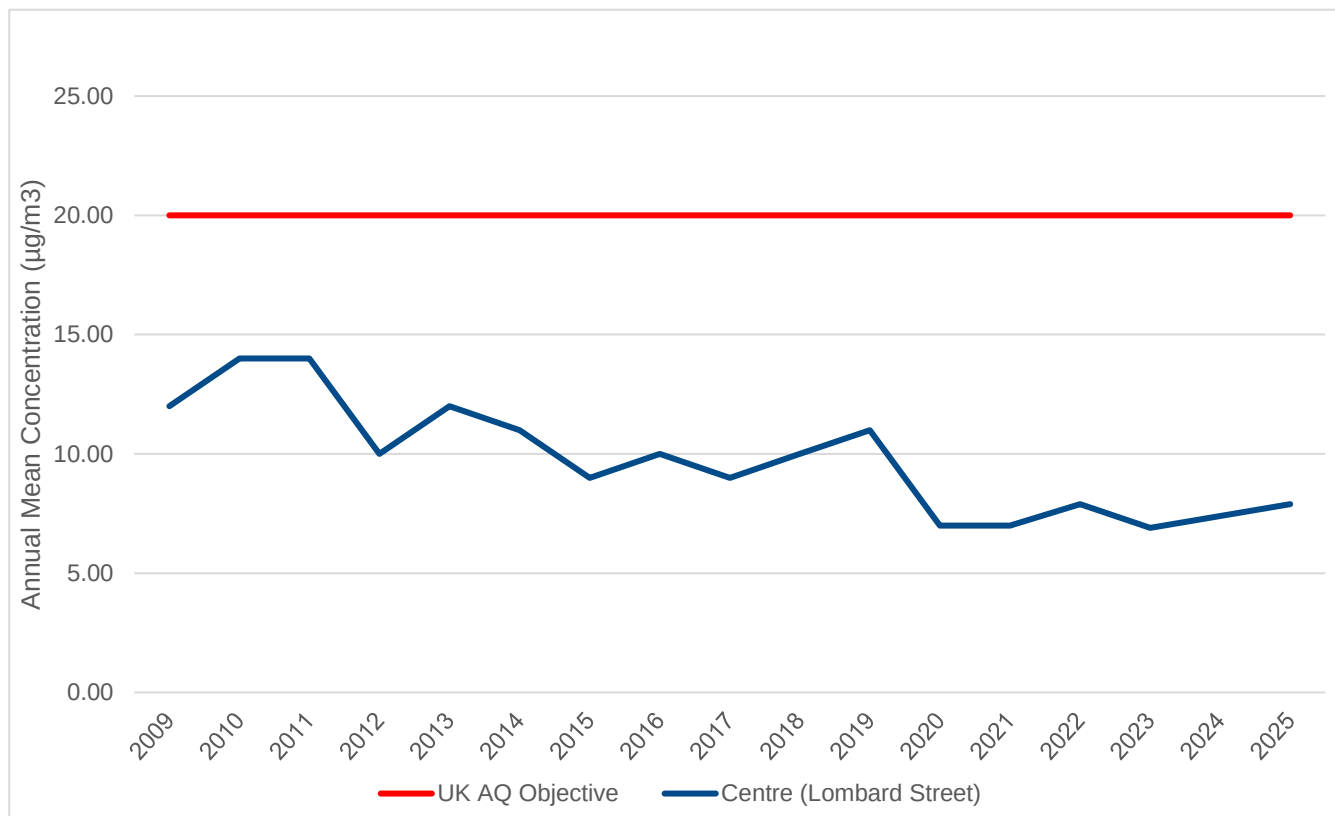
Moreover, Belfast City Council has recently completed a Detailed Assessment for the city, for PM₁₀, PM_{2.5} and NO₂ pollutants. Detailed atmospheric dispersion modelling was undertaken for a 2019 base year and for a 2028 forward projection year for PM_{2.5}. The dispersion modelling was validated, verified and adjusted using data from Belfast City Council various automatic particulate monitors, as well as additional PM_{2.5} monitoring undertaken by Zephyr small sensor air quality monitors.

The detailed atmospheric dispersion modelling indicated that there were no sensitive receptor locations where predicted 2019 annual mean PM_{2.5} concentrations were greater than 20 µg/m³. The highest predicted annual mean PM_{2.5} concentration in 2019 was 14.1 µg/m³, at a non-residential location. For 2028, there are similarly no predicted annual mean PM_{2.5} concentrations greater than 20 µg/m³ and therefore unlikely to be locations of exceedance of the UK annual mean PM_{2.5} AQO.

Table 2.11 – PM_{2.5} Annual Mean Levels for the Belfast Centre Site 2020-2024

Site ID	Site type	Within AQMA? Which AQMA?	Valid Data Capture 2025%	Annual mean concentrations (µg/m ³)				
				2021	2022	2023	2024	2025
Belfast Centre (Lombard Street)	Urban Background	N	98%	7.0	7.9	6.9	7.4	7.9

Figure 2.8 – Trends in Annual Mean PM_{2.5} Concentrations at Belfast Centre Monitoring Site.



Additional ambient air quality monitoring

Since 2021, Belfast City Council has also carried out an additional monitoring, using EarthSense Zephyr air quality monitors, across the city as part of the Detailed Assessment and School Streets Monitoring projects. The Zephyr monitor is an indicative grade air quality analyser and is used to monitor NO₂ using electrochemical sensors, and PM₁₀ and PM_{2.5} using optical particle counting sensors giving real-time results every minute. This additional non-LAQM monitoring methodology and results are summarised within Appendix B.

2.2.6 Summary of Compliance with AQS Objectives

Belfast City Council has examined the results from monitoring within its district. Concentrations of ambient pollutants, as prescribed in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland, outside of existing Air Quality Management Areas, are below the respective objectives at relevant receptor locations, except for one location near the existing AQMA 1 (diffusion tube 106). This location, with exceedance of NO₂ annual mean AQO at relevant receptor, will be closely monitored and AQMA 1 expanded if required.

A Detailed Assessment for the city for NO₂, PM₁₀ and PM_{2.5} concluded in March 2023, indicated that there were no predicted exceedances of any AQOs in relation to particulate matter (PM₁₀ and PM_{2.5}) for a 2019 base year and for a 2028 forward assessment year. In relation to NO₂, there were no predicted exceedances of the nitrogen dioxide UK annual mean objective for the 2028 (forward assessment year) however, there were some predicted exceedances of the 40 µg/m³ nitrogen dioxide annual mean objective at a number of sensitive receptor locations during 2019. However, all of these receptors are located within, or near to the boundaries of the existing Air Quality Management Areas (AQMA) along the M1 Motorway / A12 Westlink corridor (AQMA 1) and East Bridge Street / Cromac Street (AQMA 2).

On the basis of the various 2025 year ambient air pollution monitoring data provided within this Progress Report, and the conclusions of the 2023 Detailed Assessment, Belfast City Council will consider the need to amend the boundary of AQMA 1 and to revise or expand its monitoring locations.

The Council will continue to monitor air pollution conditions across the city in order to confirm that recent improvements in ambient air quality are sustained and that those locations where poorer air quality persists or emerges are identified and addressed. It is the Council's view however, that in consideration of the 2025 monitoring data and recent monitoring trends presented within this 2026 Progress Report, and in consequence of the conclusions of the council's Detailed Assessment, finalised in 2023, there is no need to proceed to a new Detailed Assessment at this time.

3 New Local Developments

3.1 Road Traffic Sources

The following road traffic sources, which may have an impact on air quality, have been considered since the last Updating and Screening Assessment:

- Narrow congested streets with residential properties close to the kerb.
- Busy streets where people may spend one hour or more close to traffic.
- Roads with a high flow of buses and/or HGVs.
- Junctions.
- New roads constructed or proposed since the last Updating and Screening Assessment.
- Roads with significantly changed traffic flows.
- Bus or coach stations.

Belfast City Council confirms that as there have been no significant changes to any of the above-mentioned transport related sources since the 2024 Updating and Screening Assessment, and there is consequently no need to proceed to a Detailed Assessment.

We would advise, however, the Department for Infrastructure (DfI) and Translink are continuing to finalise construction, public realm, and pedestrian access works at and around Grand Central Station (<https://www.translink.co.uk/bgcs>). The new transport hub, which opened in 2024, provides a new integrated public transport interchange for Belfast comprising a new station concourse, 26 bus stands, 8 railway platforms, bus maintenance and parking, a bus access bridge, cycle and taxi provision, car parking, a new public square, public realm improvements, highway improvements and infrastructure improvements.

Belfast City Council confirms that the abovementioned development ([LA04/2017/1388/F](#)) was considered through the Department for Infrastructure's strategic planning consultation process; an Air Quality Impact Assessment, submitted for the proposed station development, as an aspect of a wider Environmental Statement, demonstrated that the development will not have a significant adverse impact on ambient air quality and relevant human health receptors. In addition, we will engage with Translink and the DfI Strategic Planning Directorate concerning discharge of a planning condition concerning the nitrogen dioxide 1-hour mean objective in those parts of the bus station / railway station, etc. that are

not fully enclosed, and where members of the public might reasonably be expected to spend one hour or more.

3.2 Other Transport Sources

The following additional transport sources, which may have an impact on air quality, have been considered since the 2024 Updating and Screening Assessment:

- Airports.
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.
- Locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.
- Ports for shipping.

Belfast City Council confirms that as there have been no significant changes to any of the above-mentioned sources since the 2024 Updating and Screening Assessment, there is no need to proceed to a Detailed Assessment.

3.3 Industrial Sources

The following industrial sources, which may have an impact on air quality, have been considered since the 2024 Updating and Screening Assessment:

- Industrial installations: new or proposed installations for which an air quality assessment has been carried out.
- Industrial installations: existing installations where emissions have increased substantially, or new relevant exposure has been introduced.
- Industrial installations: new or significantly changed installations with no previous air quality assessment.
- Major fuel storage depots storing petrol.
- Petrol stations.
- Poultry farms.

Within Northern Ireland, the permitting of prescribed industrial activities under The Pollution Prevention and Control (Industrial Emissions) Regulations (Northern Ireland) 2013, as amended, is undertaken by both local authorities and the Industrial Pollution and

Radiochemical Inspectorate (IPRI) of the Department of Agriculture, Environment and Rural Affairs. IPRI has responsibility for the permitting of what are defined as Part A and B processes, whereas district councils permit Part C processes for emissions into the air.

IPRI have confirmed that there were no new or substantial changes to emissions for 2025 for the Belfast City Council area from those sites regulated by the Inspectorate.

Belfast City Council confirms, therefore, that there have been no other changes to any of the above-mentioned sources since the 2024 Updating and Screening Assessment, and that there is no consequent need to proceed to a Detailed Assessment.

3.4 Commercial and Domestic Sources

The following commercial and domestic sources, which may have an impact on ambient air quality, have been considered since the last Updating and Screening Assessment:

- Biomass combustion plant – individual installations.
- Areas where the combined impact of several biomass combustion sources may be relevant.
- Areas where domestic solid fuel burning may be relevant.
- Combined Heat and Power (CHP) plant.

Belfast City Council confirms that the above-mentioned installations are considered as an aspect of the council's planning process. Where necessary, an Air Quality Impact Assessment is requested to demonstrate that the development proposal will not have an unacceptable adverse impact on local ambient air quality or on relevant human health receptors. Further information on 2025 planning applications, which have required an Air Quality Impact Assessment, is provided within Section 4 of this 2026 Progress Report.

The Assessments submitted to date have demonstrated that the proposed developments will not have a significant adverse impact on ambient air quality in the vicinity of the development sites. Moreover, domestic background sources (which include domestic, commercial, and institutional space heating) were estimated as part of the council's Detailed Assessment, which was concluded in 2023, and reported within the 2024 Updating and

Screening Assessment. Accordingly, it is considered that there is no need to proceed to a new Detailed Assessment for commercial and domestic sources.

3.5 New Developments with Fugitive or Uncontrolled Sources

The following new developments with fugitive or uncontrolled sources, which may have an impact on air quality, have been considered since the last Updating and Screening Assessment:

- Landfill sites.
- Quarries.
- Unmade haulage roads on industrial sites.
- Waste transfer stations, etc.
- Other potential sources of fugitive particulate matter emissions.

Belfast City Council confirms that as there have been no significant changes to any of the above-mentioned sources or any new sources since the 2024 Updating and Screening Assessment, there is no need to proceed to a Detailed Assessment for fugitive or uncontrolled sources.

Belfast 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. Belfast City Council further confirms that all the following sources 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.

During 2025, Belfast City Council considered numerous planning applications for developments that had the potential to negatively impact upon ambient air quality.

Detailed or screening ambient air quality impact assessments were requested for all of the following proposed developments that in the council's view had the potential to have a negative impact on ambient air quality or to introduce new human health receptors into an area of existing poor ambient air quality. A summary of Planning Applications for which Air Quality Impact Assessments (AQIA) were submitted, in support of larger or more significant developments, is presented in Table 4.1. All applications can be viewed via the [Northern Ireland Planning Public Register](#) website.

Table 4.1 - Major New Developments which had the potential to have a negative impact on ambient air quality in the 2025 period.

Application Reference	Location	Proposal Description
LA04/2024/2044/F	Lands at 39 Corporation Street, Belfast, BT1 3BA	Erection of 895 room Purpose Built Managed Student Accommodation (PBMSA) across 9-20 storey building blocks with communal facilities, internal and external communal amenity space including landscaped courtyard and roof terraces and ancillary accommodation. With additional use outside term time (no more than 50% of the rooms) as short-term let accommodation and (no more than 50% of the rooms) accommodation for use by further or higher education institutions
LA04/2025/0088/F	Lands adjacent and southwest of Monagh Bypass, northwest of Nos. 17, 19 and 22 Black Ridge Gardens and c.150 metres southeast of Nos.	Proposed mixed use development (in lieu of the previously approved employment zone under LA04/2020/0804/F) comprising a three storey building of 36 no. Category 1 (over 55's) social housing apartments and 7 no. single storey Class B1/B2

	38 to 70 (evens) Black Ridge View (part of the wider Glenmona mixed-use development), Belfast	Business/Light Industrial Units. Development includes 2 no. access points, car parking, landscaping and all associated site work
LA04/2024/2145/F	Lands at North Foreshore / Giant's Park Dargan Road, Belfast, BT3 9LZ	Creation of a new Adventure Park comprising a community / visitor hub building including café, creche, flexible exhibition / community space, ancillary office space and maintenance yard. Development includes community gardens, BMX track, crazy golf, dog park, walking/running/cycle paths, outdoor amphitheatre, biodiversity zones, and recreational facilities. Associated landscaping and infrastructure (drainage, lighting, car / coach parking, WC block etc).
LA04/2025/0906/F	Lands adjacent and north of No. 219 Shore Road; and adjacent and east of Nos. 23 & 24 Oakmount Drive	Proposed residential development comprising 29 social housing units (including 25 dwellings and 4 apartments), landscaping, open space, access and ancillary site works
LA04/2024/2077/F	Adelaide Business Centre 2-6 Apollo Road, Belfast, BT12 6HP	Proposed change of use from office space (B1) and storage or distribution (B4) to Bowling Alley, Restaurant, Indoor Golf, Children's Soft Play, VR Zone & Amusements, Smoking Area, Car Parking and Associated Site Works. Proposal includes changes to elevations. (Amended Plans Received)
LA04/2025/0477/F	Northland House, 3-5 Frederick Street, Belfast, BT1 2LW	Six storeys building for Centre for Digital Health Technology (CDHT) research and development facility (Use Class B1), comprising laboratories, office spaces, communal meeting areas, public realm improvements to Frederick Street and associated works including demolition.

LA04/2024/2146/F	Lands at Irwin Way, Belfast Harbour Estate. Located approximately 140m northwest of 7 Airport Road West, Belfast and approximately 200m northeast 11 Airport Road West, Belfast, BT3 9ED.	Storage and Distribution Warehouse for the refurbishment and processing of gas cylinders (to include degassing zone, shot blasting area, powder coating and pressure testing zones & external secure storage area) with office and ancillary spaces, roof mounted PV, and, all associated site works including car parking, new vehicular and servicing access, EV charging stations, refuse store, external tanks and substation.
LA04/2024/1592/F	Marlborough House at no. 28-32 Victoria Street, Belfast and no. 8 and 10-12 Marlborough Street; 11 Prince's Street and 2-4 Prince's Court, Belfast, BT1 3GG	Residential development comprising the demolition of no. 8 Marlborough Street, partial demolition of existing Marlborough House, and the refurbishment of existing Listed Building (Princes Court) (3 storeys), for the erection of 103 no. apartments (mix of 1-bed, 2-bed and 3 bed units) (8 storeys), with provision of private amenity, and internal and external communal amenity spaces; and associated site and infrastructure works. (amended description)
LA04/2022/0809/F	Lands to the south and west of Woodland Grange to the north of Blacks Gate and to the east of Moor Park Mews Belfast.	Amendments to approved schemes ref. Z/2008/0993/F (erection of 53 No. dwellings) & ref. Z/2013/0120/F (erection of 46 No. dwellings); to reduce overall density from 99 No. dwellings to 92 No. dwellings and associated and ancillary works.
LA04/2025/1343/F	Vacant lands at junction of Shankill Road and North Boundary Street, and to the south of Boundary Walk.	Proposed erection of 4-storey apartment scheme (48 no. units) with associated parking (12 no. spaces), amenity provision and all associated works.
LA04/2024/0675/F	The Arches Centre 11-13 Bloomfield Avenue / 387-	Change of Use of first and second floor to 39 No. apartments; extension to second floor for 6 No. apartments and erection of

	389 Newtownards Road, Belfast, BT5 5AA	new third floor for 19 No. apartments (all social housing dwellings, 64 No. in total), and ancillary/associated works. Solar panels on roof (amended plans and description).
LA04/2024/2002/F	Vacant lands adjacent and southwest of Peter's Hill and Townsend Street junction, and to the north of Dayton Street, Belfast	Proposed 48 residential units comprising 45 no. apartments across 2 no. 4-5 storeys blocks and 3 no. townhouse dwellings, including on street layby parking, courtyard amenity space, covered bicycle and bin storage with landscaping and all associated site works.
LA04/2024/0910/F	70 Whitewell Road, Newtownabbey, BT36 7ES Site at Hazelwood Integrated College	Redevelopment of Hazelwood Integrated College to include demolition of existing building and development of new school campus, new sports pitch, outdoor play areas, car parking, hard and soft landscaping and retention and refurbishment of the Listed Building (Graymount House) and other associated site works including a temporary mobile village during the construction process
LA04/2025/0574/F	Surface level car park at lands to east of Lanyon Place Station Mays Meadow, Belfast, BT1 3NR	Erection of eight storey building comprising seven floors of grade A office accommodation, ground floor retail / business units together with car parking (15 no. spaces), cycle parking and plant areas: and public realm improvements including dedicated drop-off area to front of building

5 Air Quality Planning Policies

Most developments across the city are subject to the local development planning and the planning process, which provides an opportunity to identify and prevent potential air quality problems from arising in the first place.

In June 2009, and in view of the need for a consistent approach to air quality management as part of the planning process, Belfast City Council launched its '*Air quality and land use planning: A Belfast specific guidance note for developers and air quality consultants*' document. The document outlines what the council's Environmental Protection Unit, as an internal consultee to the Belfast Planning Service, will look for in forming its opinion on a proposed development and its potential impact on ambient air quality.

Since production of this Belfast specific guidance document, Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have produced their 2017 guidance document entitled, '*Land-Use Planning & Development Control: Planning For Air Quality Guidance from Environmental Protection UK and the Institute of Air Quality Management for the consideration of air quality within the land-use planning and development control processes*'. The council's Environmental Protection Unit now refers to the qualifying criteria set out in this document in order to determine when an Air Quality Impact Assessment is required.

Belfast Local Development Plan (LDP)

Belfast City Council is currently developing its Local Development Plan (LDP) that outlines how land across the city will be used and developed in the future. The LDP is comprised of two development plan documents - the Plan Strategy and the Local Policies Plan.

The LDP Plan Strategy was adopted in May 2023 and includes a clear commitment to enhance environmental quality, where possible, and in assessing development proposals, it will ensure the consideration of a wide range of environmental factors including ambient air quality. The Council has also published a suite of Supplementary Planning Guidance (SPG) documents which seek to support, clarify and / or illustrate by example policies within the LDP. Where relevant to a particular development proposal, SPG can be taken into account as a material consideration when determining planning applications. New SPG on

Environmental Quality may be prepared during the plan period (up to 2035) – this will be dependent on business need and whether any new regional policy or guidance is published in due course.

In terms of ambient air quality, one of the Plan Strategy's visions is for '*Building a smart connected and resilient place*'. The Plan therefore encourages the expansion of green infrastructure networks for walking and cycling to encourage active travel and improve air quality and promote increased use of public transport, whilst retaining appropriate provision for cars.

In terms of strategic policies, **SP3 – Improving health and wellbeing** advises that the council will support development that maximises opportunities to improve health and wellbeing, and that development will not be permitted where it will result in significant harm to life, human health or wellbeing. Justification and amplification include that the provision of good quality green open space, linked to a green and blue infrastructure network, will help to improve ambient air quality and provide respite beneficial for enhancing mental health. Improving connectivity between residential and employment areas, which are well served by a range of sustainable travel modes, would encourage active travel and reduce air pollution. This will deliver significant community health benefits.

SP6 - Environmental resilience states that the council will support development where it helps to reduce greenhouse gas emissions and is adaptable in a changing climate to build environmental resilience. Justification and amplification include that the policy aims to build environmental resilience and support the transition to a low carbon future. It embeds the Regional Development Strategy (RDS) policy to reduce our carbon footprint and facilitate mitigation and adaptation to climate change, whilst improving ambient air quality.

SP7 – Connectivity states that the council will support connectivity to and within the city by sustainable transport modes, such as public transport, walking and cycling. Land for sustainable transport infrastructure projects will be safeguarded and opportunities to protect and enhance existing provision will be maximised. Justification and amplification include that Belfast has a major transport challenge due to a large 'travel to work' catchment area. A significant number of commuters using private vehicles cause congestion on the key city corridors, leading to increasing air pollution and resulting in the designation of four Air Quality Management Areas, where pollution levels exceed EU standards. There is

consequently a need to improve sustainable transport links with commuter towns and the strategic transport routes shall be protected, as important trade links that contribute to the economic health of the city.

SP8 – Green and blue infrastructure network states that the council will support the development of a green and blue infrastructure network, designating and safeguarding sites and accesses required for the green and blue infrastructure network across the plan area. Justification and amplification include that this policy recognises the opportunity to plan for a green and blue infrastructure network across the plan area, to address the significant challenges of poor health due to an inactive lifestyle, poor connectivity, air pollution and climate change.

Moreover, **Plan Policy ENV1 – Environmental quality** states that planning permission will be granted for development that will maintain and, where possible, enhance environmental quality, and protects communities from materially harmful development. Development must not result in an unacceptable adverse impact on the environment, including the following considerations:

- Ground contamination;
- **Air quality;**
- Water quality;
- Noise; and
- Light pollution.

The Policy further advises that the council will also require development to address the following:

- a) Existing land contamination and ensuring that development does not cause contaminated land or pollute water;
- b) Local air quality, particularly nitrogen dioxide and particulates (including in Air Quality Management Areas);**
- c) Protection of the city's designated quiet areas and quiet times of day for businesses (daytime) and residents (night-time); and
- d) The need to limit the city's contribution to light spillage and 'sky glow'.

Justification and amplification in respect of ambient air quality includes that the presence of air pollution can lead to an adverse impact on human health. Air pollution is also known to

adversely affect ecosystems such as water quality, soils, plants and animals. The RDS acknowledges that there is a need to reduce air pollution from transport by the use of more energy efficient transport. The planning system also positively contributes to improving air quality and minimising its harmful impacts. Belfast City Council has declared four Air Quality Management Areas where there are exceedances of nitrogen dioxide and particulate matter objectives. These are: the M1 Motorway / A12 Westlink corridor; Cromac Street / Albertbridge Road; the Upper Newtownards Road; and the Ormeau Road.

Any ambient air quality issue that relates to land use and development is a material planning consideration and factors to be considered include:

- The severity of impacts on ambient air quality;
- Ambient air quality in the area surrounding the proposed development;
- The likely use of the development, i.e. the length of time that people are likely to be exposed at that location; and
- The positive benefits provided through other material considerations.

The Belfast City Council Adopted Plan Strategy documents may be accessed via the following weblink:

[https://www.belfastcity.gov.uk/Planning-and-building-control/Planning/Local-development-plan-\(1\)/Local-development-plan/Adoption-of-Plan-Strategy-documents](https://www.belfastcity.gov.uk/Planning-and-building-control/Planning/Local-development-plan-(1)/Local-development-plan/Adoption-of-Plan-Strategy-documents)

The LDP Local Policies Plan is currently being prepared, and it will set out the Council's local policies and site-specific proposals in relation to development and use of land in Belfast. It will contain local policies, including site specific proposals, designations and land use zonings required to deliver the council's vision, objectives and strategic policies, as set out in the Plan Strategy.

6 Transport Strategy and Local Transport Plans

In June 2025, the Department for Infrastructure (DfI) launched the draft Transport Strategy for public consultation, a vital first step in shaping a modern, future focused transport system. The Strategy aims to deliver a cleaner, smarter, and more inclusive transport network by 2035, that addresses both urban and rural connectivity, creates a cleaner and greener foundation for growth and recognises the Department's commitment to improving regional balance. More information on the DfI Transport Strategy 2035 may be found via the following weblink: <https://www.infrastructure-ni.gov.uk/articles/transport-strategy>

The Department for Infrastructure are currently preparing a new Transport Plan which will set the framework for making transport policy and investment decisions up until 2035. The Eastern Transport Plan (ETP) 2035, previously known as the Belfast Metropolitan Transport Plan (BMTP), covers five council areas and will also support preparation of the Local Development Plans for these councils.

The new ETP encompasses the following 'five councils':

- Antrim and Newtownabbey Borough Council (ANBC);
- Ards and North Down Borough Council (ANDBC);
- Belfast City Council (BCC);
- Lisburn and Castlereagh City Council (LCCC); and
- Mid and East Antrim Borough Council (MEABC)

ETP 2035 aims to ensure that the transport network meets the needs of the people and businesses living, working and visiting the ETP area, both now and into the future.

To date key deliverables such as the Vision, Objectives and Guiding Principles have been developed in collaboration with stakeholders. Also, public engagement exercise to launch the ETP, which sought feedback on the draft vision and objectives, took place between 4 September 2023 and 30 October 2023.

Following consideration of the responses from the public engagement exercise and through wider feedback, the vision and objectives have been agreed as:

Deliver an integrated and re-balanced transport network in favour of sustainable, efficient modes, which connects communities creating an accessible, inclusive, safe and prosperous economic region by delivering carbon reduction, improving air quality, enhancing the built and natural environment and facilitating healthy and sustainable travel choices over unnecessary private car travel.

More information on the Eastern Transport Plan (ETP) 2035 can be found here: <https://www.infrastructure-ni.gov.uk/articles/eastern-transport-plan-etp-2035>

Work on testing schemes, proposed measures and associated evaluation has progressed throughout 2024 and 2025 for the City Centre, and the wider Metropolitan Area.

A draft of the Belfast City Centre Chapter and the Metropolitan Area Chapter of the ETP is anticipated to be available in advance of the LDP Local Policies Plan publication for Belfast City Council with public consultation anticipated to commence in summer 2026 (subject to Ministerial approval)

7 Climate Change Strategies

Belfast City Council declared a climate emergency in 2019 and established an All Party Working Group on the Climate Crisis, now replaced by a Climate and City Resilience Committee, to provide political leadership. In 2021, Belfast City Council appointed a Belfast Climate Commissioner within the organisation who heads up a Climate Team. The Climate Commissioner co-chairs the city's 'Our Planet Board', which provides community oversight of the commitment in the Belfast Agenda to create a sustainable, nature-positive city and delivery of an associated programme of work. The programme of work covers three key areas: Re-naturing the city and increasing resilience to climate change; Creating a sustainable circular economy and innovating to net zero. Current progress of the above three areas is summarised as follows:

Renaturing the city and increasing resilience to climate change.

- 148,173 trees and 3,599 metres of hedgerow planted, and 6,285 people engaged in the programme across Belfast.
- Achieved bronze sustainable food award through participation in the UK and NI Sustainable Food Places initiative.
- Delivery of nature-based solutions via the UPSURGE Community Garden at Lower Botanic Gardens.
- Developed a Sustainable Food Strategy for the city.
- Held Belfast's first 'Living Lab' project to help build climate resilience.
- Completed the £33 million Belfast Tidal Flood Alleviation Scheme, providing enhanced protection for over 3,000 homes and businesses by constructing flood defences along 8.5 km of the River Lagan.

Creating a sustainable circular economy.

- Achieved a 38.9 percent recycling rate for Belfast, generating the lowest waste per capita in NI.
- Commenced the expansion of the kerbside glass collection scheme to approximately 70,000 households which will result in citywide provision of kerbside glass collections by March 2027.
- Since 2020, Belfast has moved from 47th out of 48 destinations to 9th out of 100 destinations in the Global Destination Sustainability Index. It is the highest ranking destination in the UK and Ireland.
- Commenced work to develop a low-carbon heat network within central Belfast City.
- Established the Belfast Retrofit Delivering Hub to help accelerate retrofit activity across public and private buildings, engaging 120 representatives from 66 organisations.

Innovating to Net Zero.

- Launched the Belfast Local Area Energy Plan (LAEP) to provide a roadmap for Belfast to achieve net-zero carbon emissions and transition to a sustainable, affordable energy system. It outlines pathways, and steps for decarbonisation, supporting wider socio-economic goals like job creation and prosperity for residents.

- Delivery of 22 climate projects costing almost £1 million, including energy audits, installation of metering and monitoring in Belfast City Council buildings and the development of a digital twin for city hall, recycling pilots, baseline species rich grassland and other initiatives.
- Achieved an 'A' rating for the third year in a row in the Carbon Disclosure Project.
- Belfast Harbour has witnessed a 35 percent reduction in greenhouse gas emissions in 2024 and has electrified 30 percent of its fleet.
- The Housing Executive has been appointed the HEARTH Advisory Board. Led by Oxford Brookes University, this research project is examining the benefits to vulnerable populations of transitioning to net zero.

Within council, a Climate Programme Board oversees delivery of the 2025 Climate Action Plan and a £1 million climate fund. The Climate Action Plan aims to close the gap between the Council's current climate actions and its ambition to be a net zero and resilient Council. It sets out a range of actions that will be undertaken by Belfast City Council to build resilience and reduce emissions across its estate and operations. The Plan is informed by a climate risk assessment and annual emission monitoring, which is reported on annually and via the Council's public body reporting obligation. All short-term actions have been mainstreamed into the Corporate Annual Delivery Plan for 2025-26. Going forward, the Plan will be reviewed annually, with priority actions brought forward by Departments for inclusion in the Council's Annual Delivery Plan, thereby ensuring that the Climate Action Plan supports delivery of the Annual Delivery Plan and that climate actions are resourced as part of the annual planning cycle.

The council is also an active member of the Local & Central Government Climate Change Working Group led by DAERA and SOLACE, the Sustainable Development Forum, Local Government Climate Action Network, the Stormont All Party Working Group Climate, Belfast Emergency Planning Group, Greening the City Advisory Group, Green Arts Collective, Healthy Cities and the Resilient Cities Network, and regularly speaks at conferences and events. We routinely engage with a range of cities on climate issues including Cork, Galway, Liverpool, Manchester, Birmingham, Newcastle, Fife, etc. We have also provided inputs into a range of cross-departmental initiatives including Culture 2024, Grey to Green, Belfast Stories and the Belfast Business Promise.

8 Implementation of Action Plans

In 2006, Belfast City Council, along with relevant partner organisations, launched its first Air Quality Action Plan (AQAP) for the city, designed to address areas of air quality concern, safeguard good air quality and to achieve national air quality strategy objectives and EU limit values by 2010. Around 90 percent of that action plan was completed by the 2010 deadline but, although the air quality limit values and objectives for particulate matter have now been achieved across the city, limit values and objectives for nitrogen dioxide continue to be exceeded and give cause for concern in a few remaining 'hot spot' locations.

In mid-2012, the Council commenced development of a new Air Quality Action Plan for the city to address the remaining NO₂ hotspots. Concentrations of PM₁₀ were complying with annual and daily mean objectives at this time within the M1 Motorway / A12 Westlink corridor AQMA.

The Council published a second AQAP for the city in 2015, which concluded at the end of 2020. A final review of the implementation of various mitigation measures included within the 2015-2020 AQAP was undertaken and reported by the Council to the Department of Agriculture Environment and Rural Affairs (DAERA) as part of the Council's 2020 Air Quality Progress Report, submitted to DAERA in June 2020.

Whilst the second AQAP continued to deliver improvements in ambient air quality within our AQMAs and across the city, a limited number of transport related nitrogen dioxide (NO₂) hotspots remained. Moreover, fine particulate matter (PM_{2.5}) had emerged as an additional air pollutant of concern. Consequently, in 2021, the Council with partner organisations developed a new 5-year Air Quality Action Plan 2021-2026 for the city.

The aim of this AQAP is to continue reducing emissions from transport sources and to promote and enable a shift onto more sustainable modes of transport to achieve compliance with the air quality objectives for nitrogen dioxide. An additional aim of the Plan is to identify, develop and implement mitigation measures, where necessary, to address concentrations of PM_{2.5} across the city.

A summary of mitigation measures proposed as part of the new AQAP is provided within Table 8.1 of this Progress Report. Belfast City Council monitors implementation of the Air

Quality Action Plan 2021-2026 via annual meetings of the Action Planning Steering Group and reports on its progress via Progress Reports and / or Annual Status Reports.

Table 8.1 – Action Plan Progress

No.	Measure	Category / Classification	Lead Authority	Description	Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
1.	Zero Emission Public Transport	Promoting Low Emission Transport / Public Vehicle Procurement	Translink	Introduce circa 100 new zero-emission buses to the Greater Belfast area.	Nov 2020 to April 2022	Dec 2022	Replaces circa 100 diesel buses with zero emission vehicles.	Rollout of 103 Zero Emission Vehicles and EV infrastructure for the Belfast Metro has been completed.
2.	Zero Emission Public Transport	Promoting Low Emission Transport / Public Vehicle Procurement	Translink	Develop Programme to decarbonise the bus fleet in the Greater Belfast area.	Nov 2022 to Dec 2025	Dec 2030	To remove all diesel buses in Belfast Metro and replace with a zero-emission fleet by 2030.	Zero emission bus fleet replacement programme is on course for completion by 2030. Circa 1/3 of all Belfast Metro services are now operated by zero emission buses.
3.	Bus Fleet Improvement	Vehicle Fleet Efficiency / Vehicle Retrofitting Programmes	Translink	Through vehicle modification, deliver minimum Euro 6 emission standards for all buses and coaches operating in Belfast.	Oct 2020 to Dec 2022	Dec 2022	Significant reduction in NOx and particulate matter emissions.	Euro 6 emission upgrade project has been completed for Goldline services and the Belfast Metro.
4.	Decarbonisation of the rail network	Promoting Low Emission Transport / Public Vehicle Procurement	Translink	Transition of all rail rolling stock to a net-zero traction power by 2040.	New Trains 4 – 2030 New Trains 5 – 2035 New Trains 5 - 2040	Dec 2040	Ultimately, zero emission on the rail network by end of 2040.	Initial Technical Study and Rail Decarbonisation Strategy completed in 2023. Detailed feasibility study for Belfast to border route completed in 2024. New Trains 4 Feasibility Study due for completion in mid-2025. NT3 complete and all trains in service.

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								Enterprise replacement programme progressing with contract awarded May 26. NT4 programme progressing, with feasibility study complete and SOC submitted. Rail Fleet Strategy being developed that aligns with the business objectives including Enterprise Replacement Project, New Trains 4 and Network Development Strategy.
5.	Future Ticketing System	Transport Planning and Infrastructure / Public Transport Improvements	Translink	Contactless payment on all bus and rail services by 2024. Account-based ticketing on all bus and rail services by 2028.	2018	2028	Provide greater ease of use, improved integration and best value for customers, thereby encouraging modal shift to public transport and a reduction in emissions from cars.	Contactless payment rolled out on all Metro services in 2022. Installation of ticket vending machines with contactless payment acceptance at all rail stations completed in 2024. Roll out of contactless payment on all Ulsterbus services completed in 2024. Next steps are to implement account-based ticketing on Ulsterbus and Glider services in 2027 and on NI Railways services by 2028.

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6.	Belfast Transport Hub (Belfast Grand Central Station)	Transport Planning and Infrastructure / Public Transport Improvements	Translink	Major new multi-modal transport hub for Belfast.	Main works construction commenced in Q1 2022	August 2026	Provide a new integrated transport hub, including facilities for active travel to encourage and facilitate increased modal shift towards sustainable transport.	Belfast Grand Central Station is now operational for both bus and rail services. Construction works nearing completion in the surrounding street works and public realm areas, supporting the enhancement of Active Travel infrastructure in Belfast.
7.	Promote Public Transport	Promoting Travel Alternatives / Other – Promoting Public Transport	Translink All BCC stakeholders	Undertake engagement across companies, organisations and agencies to incentivise reduced use of the private car and greater use of public transport. Provide information at our stations, on Personalised Travel Planning, Corporate Commuter Initiatives (CCIs), providing best value fares information and promotional activity to attract modal switch onto public transport. Promote the use of low and zero emission buses with the development of new branding and messaging to highlight their benefits.	Nov 2020	Ongoing	Modal shift from car use to public transport/active travel will reduce emissions.	Proactive on the ground engagement and promotion throughout 2025 and 2026 across a broad range of stakeholders/sectors promoting the benefits of public transport, encouraging active, sustainable travel and modal shift from the private car. Programme of Personalised Travel Planning along with best ticket/fare options and promotion of journey planning via Journey App campaigns and education. Promotion of low and zero emission buses and benefits of such via below the line communications and livery branding.

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								Ongoing promotion of the benefits of Public Transport in terms of climate with a bespoke integrated climate campaign in 2025 running into 2026.
8.	Belfast Rapid Transit (BRT) Phase 2	Transport Planning and Infrastructure / Public Transport Improvements	A Belfast Region City Deal (BRCD) Infrastructure project being developed by DfI	The Belfast Rapid Transit Phase 2 (BRT2) project is the further development of the Belfast Rapid Transit system north to Antrim and Newtownabbey and south to Lisburn and Castlereagh and an extension of the existing CITI route to serve Queen's University and City Hospital – bus priority measures, enhanced facilities & new vehicles. One of 3 infrastructure projects being taken forward by DfI as part of BRCD	Utilising the £35m from Belfast Region City Deal, alongside an additional £13m of departmental funding, it is hoped to deliver the first phase of works, as outlined in the Minister's Assembly statement of 25th February 2025, by 2030.	Delivery of the remainder of the project, and the associated timescales for this work, is dependent on securing the necessary funding to address the remaining shortfall which is currently estimated to be £76.5m.	BRT will have a beneficial impact on modal shift, traffic movements and direct pollution levels along the route. For example, the Glider vehicles are demonstrating a 90% reduction in NO ₂ and particulate matter emissions relative to the oldest vehicles in the Metro fleet.	DfI Minister Kimmins made an announcement on 25 th February 2025 outlining the next steps for the Belfast Rapid Transit Phase 2 project with a particular focus on those elements that are being taken forward with the £35 million funding from Belfast Region City Deal along with an additional £13m committed from departmental budgets. The OBC for the project was approved in December 2025 and consultants have recently been appointed to progress the design phase of the project.
9.	Bus & Rail based Park & Ride / Interchange	Alternatives to Private Vehicle Use / Bus and Rail based Park & Ride	DfI Translink	1500 additional Bus & Rail Park and Ride spaces by 2023 across NI. Promotion of active travel links.	April 2018	Ongoing	Modal shift from car use to Public Transport / Active Travel will reduce GHG emissions.	Newtownards P&R - 450 spaces. Planning permission has been granted and land acquired. Delivery dependant on business case approval and full funding.

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								Moira P&R – additional 448 spaces. Planning permission granted. Construction underway. Opening by Summer 2026. Ballymena P&R - 370 additional spaces. Planning permission granted. Letter of Offer received. Construction underway. Opening Winter 2026. Mossley West P&R - 280 spaces in addition to existing site at the train station. Planning permission granted. Letter of Offer received. Opening by 2027. Priority for the delivery of further new / extended P&Rs to be informed by emerging Transport Plans. Delivery will be dependent on funding.
10.	Bus Route Improvements	Transport Planning and Infrastructure / Bus Route Improvements	DfI Translink	Bus priority on all key Metro corridors in Belfast equivalent to that provided on the BRT Glider corridors. Bus stop 'balancing' to reduce stop/start.	April 2020	Ongoing	By converting general traffic lanes to bus lanes, journey times are reduced and consequently fuel consumption and	Additional bus lanes installed on Howard St, Great Victoria St, Bruce St, Dublin Rd and North St as part of BGCS construction phase mitigation to be retained.

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							emissions are reduced. By better balancing the location and number of bus stops, dwell times are reduced, reducing idling, stop/start and associated emissions.	Implementation of Experimental Traffic Control Scheme to extend bus lane hours on south Belfast routes to include AM and PM peak inbound and outbound operation. Preliminary designs for bus priority and bus stop balancing on Shore Road completed. Progress of work dependant on funding and public consultation. Further bus stop balancing plans for Castlereagh Road and Glen Road to be progressed.
11.	Park and Ride	Alternatives to Private Vehicle Use / Bus and Rail based Park & Ride	DfI Translink	The current Park & Ride Strategic Delivery Programme aims to deliver circa 2,000 additional spaces by 2025 (dependent on budget allocation)	2013	2025	This extension to the programme will have positive impacts on improving air quality for Belfast by providing alternative transportation for commuters travelling into the city rather than relying upon the private car.	DfI progressing business cases for Comber, Downpatrick, Dungiven and Tillysburn park and rides. Delivery is dependent upon statutory approvals and funding. Tillysburn Park & Ride (450-500 spaces) Officials are currently considering appropriate delivery mechanisms for Park & Ride sites, including Tillysburn

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								and these considerations are still ongoing. Comber P&R (approx. 410 spaces) – Translink are taking forward the detailed design of this scheme, however further progression is dependent on funding. Downpatrick P&R (approx. 400 spaces) – Progression is dependent on funding.
12.	Improved walking and cycling connectivity to public transport interchanges	Transport Planning and Infrastructure / Other - Active Travel Network Improvements	DfI Translink	Enhance walking and cycling infrastructure to bus and rail stations, halts and Park and Ride sites.	2021	Ongoing	Improve infrastructure to make it easier and more attractive to walk and cycle to and from public transport interchanges, thereby reducing car usage and associated emissions.	Translink continues to work with key stakeholders to improve integration between Active Travel and Public Transport. Active travel linkages to public transport interchanges prioritised within DfI's NI Active Travel Delivery Plan. Translink is to install additional cycle storage at 21 halts / stations by end 2026.
13.	Bicycle Strategy for NI Belfast Cycling Network	Transport Planning and Infrastructure / Cycle Network	DfI Walk Wheel Cycle Trust	The Bicycle Strategy will be followed with a Belfast Cycling Network to guide the development and operation of cycling infrastructure across the city for the next 10 years.	2017	Published 2022	Increased levels of cycling could reduce congestion, improved air quality, reduce noise pollution and	Delivery plan published in March 2022. Implementation ongoing.

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			(formerly Sustrans)	A public consultation on the draft Belfast Cycling Network was held in early 2017. A consultation report was published in 2018.			contribute to a cleaner environment.	The Belfast Cycle Network is now superseded by the Eastern Transport Plan.
14.	Blue / Green Infrastructure Funding	Transport Planning and Infrastructure / Other – Blue and Green Infrastructure	DfI	Capital grant funding for Councils to construct greenways. The following greenway projects have been allocated a grant over the 2020/21 and 2021/22 period: - Lagan Gateway greenway (BCC) - Forth Meadow greenway (BCC) - Strathfoyle greenway (DC&SDC) - Strabane North greenway (DC&SDC) - Banbridge Riverside lighting (ACB&CBC)	2020-2022 depending on available Budget allocation	March 2022	Greenways have the potential to bring significant benefits to us all in terms of more physically active lifestyles, active travel, improved mental and physical health and wellbeing, social inclusion, tackling climate change, the strengthening of the local economy and tourism.	The Blue Green Infrastructure Fund concluded in 2023. 50% capital funding towards council led greenway delivery is available through the Department's Greenways and Active Travel enabling measures grant scheme
15.	Green Recovery	Traffic Management / Strategic Highway Improvements	DfI	Temporary reallocation of road space to aid social distancing and active travel: - Pedestrianisation of Hill Street/Gordon Street - Reallocation of parking spaces for extended footway use - Pop-up cycle lanes to connect main hospitals for key workers – Dublin Road, Donegall Road and Grosvenor Road	2020/21	Ongoing	Increased levels of walking and cycling could reduce congestion, improve air quality, reduce noise pollution and contribute to a cleaner environment.	Pedestrianisation of Hill Street / Gordon Street – Officials are currently preparing for further engagement with key stakeholders to aid the development of a suitable proposal for Hill Street / Gordon Street in advance of formal consultation.

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								Further progress on this matter will be subject to the satisfactory completion of the legislative process. Reallocation of parking spaces for extended footway use – the reallocation of road space for sustainable and active travel will be considered as part of the Eastern Transport Plan Pop-up cycle lanes to connect main hospitals for key workers (Dublin Road, Donegall Road and Grosvenor Road) - the Department has reviewed the use of pop-up cycle lanes and published its findings, which has shown support for the concept. Work is now being undertaken to develop designs suitable for taking forward to consultation with the intention of formalising the current arrangements.
16.	Belfast Multi-Modal Transport Model	Traffic Management / Other	DfI	It is expected that the Multi-Modal Transport Model will be enhanced and updated as part	2022	Complete.	This model will provide the capability to	Update of the Belfast Multi-Modal Strategic Transport Model (BSTM2) was

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				of the development of the Belfast Metropolitan Transport Plan (now Eastern Transport Plan) in conjunction with the Belfast City Council Local Development Plan. However, this is currently 'in abeyance' in light of the COVID emergency and the programming of work for the Transport Plans. A key use of the model will be in transport and land-use option generation and testing. The transport model will provide forecasts of traffic flows and speeds to enable the estimation of air quality using separate detailed atmospheric dispersion modelling software held by Belfast City Council.		Potential for future update.	estimate the likely changes in air quality arising from changes in population and employment (BCC Planning inputs) and different transport investment options (DfI). Note that the decision to develop this model is currently 'in abeyance' in light of the COVID pandemic and the continuing impact on travel patterns.	progressed in line with the development of the Eastern Transport Plan (formerly termed the Belfast Metropolitan Transport Plan). As part of this progress, the Transport Model has been augmented with input supply and demand data; updated to a 2019 base year with an additional 2023 Present Year Validation update; and integrated growth forecasts from TEMProNI tool and the BCC local development plan zonings. Investment in BSTM2 has allowed for future scenarios to be modelled and tested as part of the Eastern Transport Plan.
17.	Belfast Metropolitan Transport Plan (BMTP) Ministerial decision taken in 2023 to change name from BMTP to Eastern	Transport Planning and Infrastructure / Other	DfI	A new ETP will be prepared to integrate with the Belfast City Council LDP. The ETP will assess total transport demands arising from planned developments and the achievement of a range of agreed objectives. The new ETP will become the extant Transport Plan and will include a range of schemes covering	2023 estimated in line with LDP programme	2030 in line with LDP assumed	It is expected that the balance of measures in the ETP will impact positively on ambient air quality.	Work on the ETP has progressed since 2023 in line with Local Development Plan (LDP) timetables. Key deliverables such as the Vision, Objectives and Guiding Principles have been produced. Progress has included wide council and stakeholder

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	Transport Plan (ETP)			road, rail, bus, cycling and pedestrian networks. Whilst the contents of the new ETP cannot be assumed in advance, it is expected to include substantial demand management measures to restrict the use of private cars in the city centre and for commuting purposes in particular. These measures are expected to complement and reinforce any measures delivered as part of the Belfast City Council Parking Strategy and Action Plan.				engagement with the project publicly launched in September 2023. Work on testing schemes, proposed measures and associated evaluation was progressed throughout 2024 and 2025 for the City Centre, and the wider Metropolitan Area. A draft of the Belfast City Centre Chapter and the Metropolitan Area Chapter of the ETP is anticipated to be available in advance of the LDP Local Policies Plan publication for Belfast City Council with public consultation anticipated to commence in Summer 2026
18.	Electric Vehicles	Promoting Low Emission Transport / Procuring Alternative Refuelling Infrastructure to Promote LEV, EV recharging, gas fuel recharging	DfI	The development of publicly accessible Electric Vehicle (EV) charging infrastructure is a commercially led activity in NI and its provision rests solely with the Charge Point Operators (CPOs). Officials continue to provide advice to CPOs on operational matters such as procedural arrangements for planning and installation requirements.	2015	Ongoing	There are significant benefits to both the environment and to the driver in the use of electric vehicles.	Northern Ireland joined the Vehicle Emissions Trading Schemes in January 2025. A consultation on flexibilities for manufacturers was held in early 2025 and legislative changes will be made over the course of the year. These will allow greater flexibilities for manufacturers to meet the annual targets

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				The Department maintains regular and ongoing engagement with the UK Government on a range of issues relating to electric vehicles (EV). This engagement has included discussions with the Office for Zero Emission Vehicles (OZEV) and the Department for Transport on access to UK-wide grant schemes and on HM Government's new paid for marketing campaign aimed at building public confidence in electric vehicles and encouraging their purchase. The Department works with the other NICS Departments and local councils to explore options to meet the Executives commitment for all departmentally owned or leased cars and vans being zero emission by 2035. The ability of people who do not have driveways to charge electric vehicles and avail of home charging tariffs has been restricted as it is an offence to				set within the Vehicle Emission Trading Schemes. Local Councils have availed of funding for the installation of charge points under the Office for Zero Emission Vehicles (OZEV) 'On Street Residential Charge Point Scheme' (ORCS). The Department has committed over £470,000 match funding to support applications to ORCS. Local councils are set to install up to 250 charge points across Northern Ireland this year (2026). DfI have developed a 'Framework' for fleet decarbonisation which has been agreed by all Government departments, and which will be monitored through a NICS fleet log. The 11 local Councils have also adopted a similar approach with a Framework to help inform actions in individual Council areas through the DfI Council Fleet Working Group.

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				lay a cable across the footway to access a vehicle parked at the roadside or for any other purpose without consent from the Department. To remove this barrier for EV drivers without a driveway the Department launched the availability of two cross pavement solutions on Wednesday 30th September 2026. The temporary cable protector has been introduced through a six-month rolling pilot to enable ongoing monitoring and evaluation. The Department uses its website and social media channels to showcase current electric vehicle (EV) uptake, promote the availability of UK-wide DfT/OZEV grants, and direct the public to Department for Transport funding for EVs and charging infrastructure. These channels also support the DfT marketing campaign, which focuses on convenience, range and cost. In addition, the Department highlights the increasing availability of public charging points and has developed the 'Little Changes' decarbonisation campaign.				Officials have completed the first review of the cable cover cross pavement solution which is due to be published in the near future.

No.	Measure	Category / Classification	Lead Authority	Description	Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
				This initiative aims to raise awareness of sustainable transport options and address perceived barriers to change, while reinforcing DfI's commitment to tackling climate change by promoting accessible, affordable and appealing alternatives. A Northern Ireland Transport Sector Decarbonisation Factsheet has also been produced, providing key information on electric vehicles, public transport and active travel. This resource is designed to support and inform those considering a move to more sustainable travel options. Through DfI social media channels, the Department regularly shares statistics on EV usage, drawing on data from EVANI. These platforms also guide the public to relevant information on DfT grants, home charging costs, and the expanding public charging network, alongside other important updates.				
19.	Lagan Pedestrian and Cycle Bridge	Transport Planning and Infrastructure / Cycle Network	A Belfast Region City Deal (BRCD)	If confirmed in the final Belfast Region City Deal, the proposed bridge, is one of 3 infrastructure projects being	Procurement commenced June 2024	2027	Increased levels of walking and cycling could reduce congestion,	An Outline Business Case has been approved, with planning permission and

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			Infrastructure project being developed by DfI	taken forward by DfI as part of BRCD. It will span the River Lagan from the Gasworks to the Ormeau Embankment aiming to improve accessibility to the city centre for residents and communities east of the River Lagan. The Bridge also aims to encourage both people from the city centre and local communities to use Ormeau Park for recreational use.			improve air quality, reduce noise pollution, and contribute to a cleaner environment.	other statutory approvals in place. Technical consultants were appointed in October 2022 to complete the preliminary design, prepare procurement documents, and manage the procurement competition. Procurement of a Contractor to deliver the detailed design and construction phases is ongoing however the Department is considering the implications of the A5 judgement on this and all DfI projects. Completing the work is then expected to take up to 24 months from date of contract award.
20.	Promoting travel alternatives: Behavioural change programmes	Promoting Travel Alternatives / Promotion of Cycling, Walking, Schools and Workplace Travel Plans	PHA, DfI and DAERA, Belfast City Council, EU Interreg (delivered by Walk Wheel Cycle	Sustrans works in a range of settings: - Schools with the Active School Travel Programme; - Workplaces with the Leading the Way Programme; - Communities – to promote walking and cycling as a mode of transport. In addition: - Active Travel Hub in CS Lewis Square, east Belfast	Ongoing 2015 2016	Ongoing – Currently, all these programmes are underway, with a review of extension. The Communities ' project was	Changing people's travel habits – swapping the car for walking, cycling and public transport.	WWCT continues to deliver the Active School Travel Programme, which is co-funded by the PHA and DfI. Active Travel Challenge - annual month-long initiative in June promotes all forms of sustainable transport – walking, cycling and public transport. The Challenge is delivered by WWCTrust and

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			Trust WWCT	and more recently Whiterock Community Centre in west Belfast – provides a base for range of interventions with community groups, individuals and workplaces.	2017	ceased by PHA in 2023	Active Travel Hubs are visible in the community to provide info & encourage travel alternatives.	partners with Translink, DfI and PHA.
			Cycling UK/ Sustrans/ European Cycling Federation	- Project to encourage walking and cycling in new Forthmeadow Greenway - Applied to run Active Travel Hub at Cathedral Gardens	2018			There is no government funding for the Active Travel Hub in east Belfast. Whiterock Hub in west Belfast (opened in March 2023) has been closed. There is a Plan to open a Hub at Grand Central Station but there is currently no resource funding.
			WWCT (previously Sustrans)	Cycle-friendly Employer Accreditation Scheme – Cycling UK run this in N. Ireland with support from Sustrans. Pedal Perks cycling discount scheme offered by range of businesses to encourage cycling to premises.	2017		Provide facilities to encourage active travel e.g. cycle parking; changing facilities; mileage incentives.	DAERA's Air and Environmental Quality Team (AEQ) delivered Clean Air Day presentations to primary schools across NI in May/June 2024.
							Incentivises active travel to shops and facilities.	Belfast City Council also carries out an air quality awareness campaign every June as part of the Clean Air Day initiative.
21.	Transport planning and infrastructure: Build safe protected cycling infrastructure	Transport Planning and Infrastructure / Cycle Network	DfI WWCT (Sustrans)	Walking and Cycling Index, Belfast – produced every 2 years in collaboration with DfI. Provides evidence of support for cycling and progress to date, includes a public survey of attitudes to cycling.	2015	Ongoing	Safety is biggest barrier to people cycling. Traffic-free greenways enable more people to walk or cycle. Urban greenways used by commuters	Walking and Cycling Index continues to be part funded by DfI. Most of the funding is provided through the Freshfield Foundation via WWCT.

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				Belfast Cycling Network – published in June 2021, the Strategy sets out government plans to develop cycle routes in Belfast. The Bicycle Strategy will be followed with a Cycling Network for Belfast to guide the development and operation of cycling infrastructure in the city for the next 10 years. A public consultation on the draft Belfast Cycling Network was held in January 2017 and in early 2018, a consultation report was published. Safe Routes to School campaign – to enable children to walk and cycle rather than being driven. Strategic plan for Greenways – Paths for Everyone. Funding pot for Councils to develop greenways. Walk Wheel Cycle Trust has assisted some Councils with community consultation and feasibility plans.	2017 Ongoing Part of Active School Travel Programme/ lobbying work 2016	Report published June 2021 Ongoing Ongoing	as well as leisure trips.	Index report for 2025 was published in March 2026. Next survey will be in 2027, for publishing in 2028. Implementation of Belfast Cycling Network is covered under item 13. Greenway delivery is covered under item 14. Consultation on a draft Active Travel Delivery Plan (ATDP), including network plans for every settlement in NI with a population greater than 5,000 and prioritised routes within those towns and cities, closed on 28th February 2025. May 2026 - The Plan is being considered by Minister before publication. The Strategic Plan for Greenways is being reviewed.
22.	Traffic management	Traffic Management / Strategic Highways	DfI WWCT	Introduction of 20 mph speed limits	2019	Ongoing	As above, as we saw in lockdown less traffic encourages people	Schemes to reduce ' <i>rat running</i> ', and to promote sustainable travel will be

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		Improvements, reduction of speed limits, 20 mph zones	(formerly Sustrans)	School Streets – closing area around schools to traffic. This is a proposed pilot scheme, which has proved successful and popular in GB. Low Traffic Neighbourhoods – implement car-free areas.	TBC		to walk or cycle. Traffic restraint measures necessary to reduce volume of traffic and polluting vehicles.	considered more fully in the Eastern Transport Plan, which is being developed in conjunction with council's Local Policies Plans. Update on 20 mph speed limits: A DfI review of the part time 20 mph initiative has recommended a modest and targeted third tranche of schemes. This will supplement the 233 schemes already in place at schools across NI. Plans for pilot School Streets are progressing.
23.	Dust monitoring	Other / Air Quality Monitoring and Assessment	Belfast Harbour Commissioners	Monitor particulate matter from bulk cargoes in Port operational areas of Belfast Harbour Estate and implement mitigation measures.	Commenced	Ongoing	Identify areas of high concentration for action.	Monitoring ongoing. High concentration areas identified. Operational controls are in place.
24.	AQ Modelling	Other / Air Quality Monitoring and Assessment	Belfast Harbour Commissioners	Complete Baseline Air Quality Modelling of the Belfast Harbour Estate.	Commenced	2022	Establish theoretical baseline & identify areas for attention.	Completed.
25.	NO ₂ Monitoring	Other / Air Quality Monitoring and Assessment	Belfast Harbour Commissioners	Conduct monthly diffusion tube monitoring of NO ₂ at 18 sites within the Belfast Harbour Estate.	Commenced	Ongoing	Establish baseline of NO ₂ levels & identify areas for attention.	Completed. Monitoring ongoing

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26.	Real Time AQ Monitoring stations	Other / Air Quality Monitoring and Assessment	Belfast Harbour Commissioners	Implement real time Air Quality Monitoring for air pollution at 5 locations within the Belfast Harbour Estate.	2021	Ongoing	Accessible Air Quality information/ potential link to SMART traffic controls.	Completed. 5 real time AQ sensors installed. Ongoing data validation for NO ₂ and particulate matter (PM ₁₀ and PM _{2.5}). New sensor procured in 2025 for co-location monitoring and validation.
27.	Strategy	Policy Guidance and Development Control/Other	Belfast Harbour Commissioners	Publish a Harbour Air Quality Strategy.	2021	Ongoing	Public commitment to improve Air Quality.	Air Quality and Climate Action Strategy combined under wider ESG Framework.
28.	Low / zero carbon fuels	Promoting Low Emission Transport / Company Vehicle Procurement	Belfast Harbour Commissioners	Replace the light vehicle fleet with electric/alternative fuels.	2021	2027	Reduced air emissions from vehicles.	60% of fleet has been electrified. Capital provisions are in place to complete transition by 2027. Residual ground fleet HVO transition complete
29.	EV Charging	Promoting Low Emission Transport / Procuring Alternative Refuelling Infrastructure to Promote LEV, EV recharging, gas fuel recharging	Belfast Harbour Commissioners	Work with tenants to encourage installation of EV charging points.	2021	2025	Reduced air emissions from vehicles.	Continue to facilitate connections from tenants that have provided requests. Completed strategic EV scaling review with Royal Haskoning DHV to inform future direction (BHC). Partnered with Weev for first phase of installation works at

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								Harbour Office, which is now complete. Milewater depot charging scheme to be completed by end-2026.
30.	Car sharing	Alternatives to Private Vehicle Use / Car & Lift Sharing Schemes	Belfast Harbour Commissioners	Introduce a Car Sharing Scheme for tenants.	2021	Ongoing	Reduced air emissions from vehicles (subject to relaxation of Covid-19 restrictions).	Re-focused on autonomous last-mile connectivity at Queens Island, aligned to Queens Island Strategic Transport Master Plan.
31.	Active Travel	Promoting Travel Alternatives / Promotion of cycling and walking	Belfast Harbour Commissioners	Encourage active travel, including walking and cycling to; from and within the estate for local journeys.	2021	Ongoing	Reduced air emissions from vehicles.	Being considered as a part of the Queens Island Strategic Transport Master Plan.
32.	SMART traffic control	Traffic Management / Other	Belfast Harbour Commissioners	Queens Road Mobility project / SMART traffic system.	2021	2023	Reduced air emissions from vehicles.	Completed
33.	Integrated commuter plans	Promoting Travel Alternatives / Workplace Travel Planning	Belfast Harbour Commissioners	Integrated commuter plans to reduce private car use including first and last mile connectivity.	2022	2025	Reduced air emissions from vehicles.	Being considered as a part of the Queens Island Strategic Transport Master Plan.
34.	Cycle lanes	Transport Planning and Infrastructure / Cycle Network	Belfast Harbour Commissioners	Additional cycle lanes and crossing points.	2020	2025	Reduced air emissions from vehicles.	Integrated into all future infrastructure projects.
35.	Green corridors	Transport Planning and Infrastructure / Other – Blue and	Belfast Harbour Commissioners	Introduce Green spaces and screening / corridors.	2021	Ongoing	Absorb vehicle emissions.	Biodiversity Action Plan being updated to include expansion of screening and corridors.

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		Green Infrastructure						City Quays Gardens completed.
36.	Shore-side power	Promoting Low Emission Plant / Shift to installations using low emission fuels for stationary and mobile sources	Belfast Harbour Commissioners	Assess feasibility of shore power – cruise/ferry vessels.	2021	Ongoing	Reduced air and GHG emissions from vessels.	Feasibility assessment continuing, based on vessel operator requirements. Targeting cruise ships, aligned to new deepwater quay construction - starting in financial year 2025.
37.	Decarbonise port cranes & HGV's	Promoting Low Emission Plant / Shift to installations using low emission fuels for stationary and mobile sources	Belfast Harbour Commissioners	Substitute hydrocarbon fuels with low carbon alternatives – cranes/plant & HGV's.	2021	Ongoing	Reduced air and GHG emissions from port plant & equipment.	HVO transition into landside asserts began on 31 st March 2025 and is being phased over two years. On track to complete Q3 2026.
38.	Decarbonise work & pilot boats	Promoting Low Emission Plant / Shift to installations using low emission fuels for stationary and mobile sources	Belfast Harbour Commissioners	Trial alternative marine fuels - Work and Pilot Boats.	2022	2025	Reduced air and GHG emissions from vessels.	Completed – all pilot, work and police boats running on HVO.
39.	Commercial incentive	Promoting Low Emission Plant / Other - Feasibility Study	Belfast Harbour Commissioners	Assess feasibility of Clean Vessel Incentive Scheme.	2022	2023	Reduced air and GHG emissions from vessels.	Initial assessment carried out. No immediate plans to implement.
40.	Ship planning	Other – Vessel Management	Belfast Harbour Commissioners	Optimise Vessel Passage Plans & Berth Utilisation.	2020	Ongoing	Reduced air emissions from vessels.	Completed. Port Management Information Systems (PMIS) in use.

No.	Measure	Category / Classification	Lead Authority	Description	Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
41.	Zero carbon vessel	Promoting Low Emission Plant / Shift to installations using low emission fuels for stationary and mobile sources.	Belfast Harbour Commissioners	Introduce electric/hybrid workboat.	2021	Ongoing	Reduced air emissions from vessels.	Ongoing collaboration with Artemis Technologies on development of electric foiling workboat / pilot boat. Pilot boat, Hibernia, introduced in April 2024, running hybrid engines and HVO for near-zero emissions in interim.
42.	Driver ECO Skills	Vehicle Fleet Efficiency / Driver Training and ECO Driving Aids	Belfast City Council	Driver ECO Training & Refresher Driver ECO Training & Monitoring by GPS.	From 2020/21 onward	Ongoing	Reduced fuel consumption. Reduced air emissions.	All new Drivers are trained in ECO Driving techniques as part of the induction process and during refresher training as undertaken were deemed appropriate.
43.	Promoting Cleaner commercial vehicles	Promoting Low Emission Transport / Company Vehicle Procurement- Prioritising uptake of low emission vehicles	Belfast City Council	Replacing older commercial EU4 / EU5 vehicles above 3.5 tonnes with EU6 cleaner standard.	From 2020/21 onward	Ongoing	Reduced fuel consumption. Reduced air emissions.	We continue to replace EU4-EU5 above 3.5 tonnes weight with EU6 cleaner standard vehicles. We replaced 84 vehicles in 2024 / 25 to EU6 standard and have plans to replace a further 23 vehicles in 2026/27 to EU6 standard. From January 2023, some 200 vehicles have been transitioned to HVO cleaner bio bulk fuel (50% of the fleet size) based at the Duncrue Complex. In terms

No.	Measure	Category / Classification	Lead Authority	Description	Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
								of HVO consumed, this would equate to approximately 80% of all fuel purchased. Fuel Sense software fitted to EU6 RCVs to prevent harsh acceleration and enhance fuel efficiency.
44.	Vehicle Emission Testing	Vehicle Fleet Efficiency / Testing Vehicle Emissions	Belfast City Council	All fleet vehicles tested annually to manufacturers approved EU standard.	From 2020/21 onward	Ongoing	Ensuring vehicles meet their EU approved Standard.	All 229 vehicles in 2025 / 26, presented for their Annual GVC Test, have passed their emission test criteria.
45.	Promoting Electric Commercial panel vans	Promoting Low Emission Transport / Company Vehicle Procurement	Belfast City Council	Replacing older commercial panel vans up to 3.5 ton with Electric.	From 2020/21 onward	Ongoing	Reduction in the commercial panel van fleet carbon footprint.	Some 31 light vehicles under 3.5 tonne weight have been replaced with electric models up until 31-03-25.
46.	Promoting Vehicle Electric Bin-lifts	Promoting Low Emission Transport / Company Vehicle Procurement	Belfast City Council	Replacing Refuse Collection Vehicles with rear electric bin-lifts.	From 2020/21 onward	Ongoing	Refuse Collection Vehicle fuel consumption reduction.	There are currently some 31 RCVs narrow tracks fitted with OmniDEL rear electric twin bin-lifts. A further 4 are due to be received by 31-03-26, making 35 in total, with a further 28 RCVs with standard rear twin-bin lifts to be replaced with OmniDEL rear electric twin-bin lift models, as and when capital funding becomes available.

No.	Measure	Category / Classification	Lead Authority	Description		Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
47.	Frank and Honest Belfast Bikes by Beryl scheme.	Transport Planning and Infrastructure / Public Cycle Hire Scheme	Belfast City Council	Public bike hire scheme in Belfast city centre – 300 bikes and 30 docking sites originally in 2015 in public places, including Titanic Quarter, the Gasworks, Queen's University and York Street. This has now increased to circa 60 docking stations. New contract with Beryl. New scheme was launched in September 2025 with 300 pedal bikes and 100 e-bikes.		From 2015 onward	Ongoing	Cutting congestion and improving air quality.	Expansion of further eight stations delivered. New operator appointed. New scheme including 100 e-bikes was launched in September 2025. Expansion of the scheme is in planning.
48.	Local Development Plan	Policy Guidance and Development Control / Other Policy	Belfast City Council	Number of planning permissions granted on zoned Open Space. Policy: OS1	Belfast City Council Planning decisions and liaising with CNS.	From 2023 onwards	2035	To limit the net loss of zoned open space for uses other than those ancillary or compatible with open space use.	The LDP Plan Strategy was adopted on 2 nd May 2023, and its policies have taken effect from that date. Monitoring of the Plan Strategy is underway, and the outcomes will be published in an Annual Monitoring Report submitted to the Department for Infrastructure once the LDP Local Policies Plan has been adopted.
			Belfast City Council	Number of planning permissions that secure Green and Blue Infrastructure improvements, including through Developer Agreements. Policy: SP8 GB1	Belfast City Council through Major Planning decisions (BCC) and S76 Agreements.		2035	75% of major permissions contributing to G & B Infrastructure improvements.	

No.	Measure	Category / Classification	Lead Authority	Description		Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
			Belfast City Council	The number of applications granted for renewable energy development. Policy: ITU4	BCC monitoring major planning decisions with Development Management		2035	Increase in number of renewable energy schemes.	
			Belfast City Council	Proportion of journeys by sustainable modes– active travel, bus rail & BRT. Policy: TRAN1 TRAN3 TRAN4 TRAN5 TRAN9	Travel survey for Northern Ireland (TSNI) (DfI).		2035	An increase in the proportion of journeys made by sustainable modes	
			Belfast City Council	Number of new dwellings permitted annually outside settlement limits. Policy: DC policies	Housing Monitor and Planning decisions (BCC).		2035	To sustainably manage the number of new dwellings in the countryside.	
			Belfast City Council	Number of non-residential proposals permitted annually outside	Planning decisions (BCC).		2035	To sustainably manage the amount of new non-residential development in the countryside.	

No.	Measure	Category / Classification	Lead Authority	Description		Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
				settlement limits. Policy: DC policies					
49.	Additional Air Quality Monitoring	Other / Air Quality Monitoring and Assessment	Belfast City Council	Additional NO ₂ and particulate matter monitoring using Small Sensors and Diffusion Tube Technologies to assess air quality within Belfast City Council area.		Ongoing	Ongoing	To provide more detailed and real time information on ambient air pollution levels across the city.	Eight small scale air quality sensors (EarthSense Zephyr) monitor NO ₂ , PM ₁₀ and PM _{2.5} throughout the city. There are also currently 79 diffusion tubes installed across the city to specifically monitor NO ₂ . Council officers continue to review air quality monitoring data, to determine where new diffusion tube or other sensors may need to be installed to fill any monitoring information gaps. Monitoring results are reported as part of the council's annual Progress or Updating and Screening Assessment Reports.
50.	Detailed Air Quality Assessment for Fine Particulate Matter (PM _{2.5}) and Nitrogen Dioxide (NO ₂) for the Belfast City Council area	Other / Air Quality Monitoring and Assessment	Belfast City Council/ DAERA	The purpose of this project is to generate, through the application of ambient monitoring and atmospheric dispersion modelling, detailed information on fine particulate matter (PM _{2.5}) and nitrogen dioxide (NO ₂) concentrations within the city boundary in order to ascertain whether UK		February 2021	March 2023	The outcome of the modelling study may serve to assist in the development of mitigation policies and measures to better address PM _{2.5} and NO ₂ concentrations across the city.	The Detailed Assessment project was finalised in March 2023. Outcomes of the project were summarised and reported within the 2023 Progress Report, 2024 Updating and Screening Assessment and have been

No.	Measure	Category / Classification	Lead Authority	Description	Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
				air quality objectives, European Commission limit values or WHO guideline values are being achieved in relevant human health receptor locations.				referred to within the 2025 Progress Report. The various Detailed Assessment project reports were formally considered by the People and Communities Committee at agenda item 12 of its meeting of 13 th June 2023.
51.	Enforcement within Smoke Control areas and education concerning the use of polluting fuels.	Other / Enforcement Charges and Public Awareness	Belfast City Council	Belfast City Council will undertake greater enforcement within the city's smoke control areas, and it will develop and deliver an awareness campaign to educate Belfast residents of the adverse air quality impacts of using polluting fuels within their homes.	Ongoing	Ongoing	Reduced smoke emissions and greater levels of compliance within Smoke Control Areas	Enforcement within Smoke Control Areas is continuously monitored. Belfast City Council also provides information on its website in relation to Smoke Control Areas within Belfast City: https://www.belfastcity.gov.uk/bins-and-environment/pollution/pollution#143-4 A public information initiative concerning smoke control areas was delivered in autumn 2022 through the council's social and other media channels. A recent awareness campaign was carried out on 19 th June 2025 (Clean Air Day), publicising Smoke
					Awareness Campaign August 2022	Ongoing	Greater awareness about polluting fuels and their adverse ambient impacts on air quality.	

No.	Measure	Category / Classification	Lead Authority	Description	Implementation Date	Estimated Completion Date	Air Quality Benefits	Progress to Date
								Control Areas within Belfast, as well as other measures that individuals can take to improve ambient air quality in the city. The campaign also provided links to air quality information on the council's website.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

Belfast City Council has presented a range of monitoring data within this 2026 Progress Report that addresses pollutants prescribed within the UK Air Quality Strategy. Although these pollutants are routinely measured across the city, the council's focus remains principally upon addressing the existing Air Quality Management Areas (AQMAs) and those areas of the city centre where traffic volumes and congestion might lead to further exceedances of the nitrogen dioxide annual mean and hourly objectives. There were no monitored exceedances for any of the Air Quality Strategy objectives for sulphur dioxide, benzene and particulate matter during 2025.

However, 2025 monitoring data for nitrogen dioxide confirms continued elevated concentrations within the M1 Motorway / A12 Westlink corridor Air Quality Management Area (AQMA 1), with one exceedance of the annual mean objective identified at a diffusion tube (No. 106) monitoring location, next to the M3 Motorway off-slip junction with Nelson Street and the A12 Westlink (directly adjacent to the boundary for AQMA 1), beside a recently completed residential development. Previous Defra NO₂ distance correction calculations for this location had indicated a nitrogen dioxide annual mean concentration of 31.4 µg/m³ at the building façade during 2024. However, a revised diffusion tube monitoring location and a revised distance correction calculation for 2025 monitoring data, has indicated an annual mean concentration of 45.3 µg/m³ at the building façade during 2025, indicating also that an exceedance of the 40 µg/m³ annual mean objective was likely at this relevant residential receptor location (Appendix A). This residential location will continue to be closely monitored for nitrogen dioxide concentrations and consideration will be given to the expansion of AQMA 1 to encompass this residential location if determined necessary.

Additionally, there was one exceedance of the nitrogen dioxide annual mean objective, recorded within AQMA 1, at a diffusion tube No. 70, at Henry Place. However, a Defra NO₂ distance correction calculation for this location has predicted no exceedance of the 40 µg/m³ annual mean at the nearest residential receptor location, confirmed by 2025 monitoring year data for diffusion tube No. 100 at Henry Place 2.

In the 2025 monitoring year, there were overall nine diffusion tube sites, No. 13 - Great Georges Street, Nos. 21, 22 & 56 - Stockman's Lane AQMS, No. 68 - Opposite the Westlink AQMS, No. 70 - Henry Place, No. 101 - Stockman's Lane Roundabout, No. 106 - M3, No. 114 - Strand Walk, No. 121 – Whitewell Road and No. 122 Westlink / Divis Street, located at roadside / kerbside locations, where annual mean nitrogen dioxide concentrations were above the 36 $\mu\text{g}/\text{m}^3$ (within 10% of the 40 $\mu\text{g}/\text{m}^3$ annual mean objective) threshold for revocation of an AQMA. Seven of these diffusion tube monitoring sites are within or close to AQMA 1. Two locations No. 114 - Strand Walk and No. 121 – Whitewell Road are located outside of any AQMAs. A summary of fall-off with distance calculations from the Diffusion Tube Data Processing Tool is presented in Table A.4 (Appendix A)

We note the LAQM.TG(22) comment at Section 3.57 Amendment and Revocation of AQMAs, which advises that where NO_2 monitoring is completed using diffusion tube, to account for the inherent uncertainty associated with the monitoring method, it is recommended that revocation of an AQMA should be considered following three consecutive years of annual mean NO_2 concentrations being lower than 36 $\mu\text{g}/\text{m}^3$ (i.e. within 10% of the annual mean NO_2 objective).

Moreover, results from the council's Detailed Assessment, finalised in 2023, also suggested localised monitored (by small sensor air quality monitor) and modelled exceedances of the annual mean objective along the A12 Westlink corridor (AQMA 1). We additionally note the LAQM.TG(22) comment that due to the inherent uncertainties of dispersion modelling, consideration should be given to predicted concentrations being 10% below the relevant objective before an amendment or revocation of an AQMA is completed.

However, ambient monitoring data for the Stockman's Lane and A12 Westlink / Roden Street monitoring sites, as summarised in Table 2.4, demonstrate that the number of exceedances of the hourly mean objective (NO_2) has substantially decreased over recent years, both demonstrating compliance with the 200 $\mu\text{g}/\text{m}^3$ objective, not to be exceeded more than 18 times per year - since 2013. In fact, there have been no recorded 1-hour mean concentrations greater than 200 $\mu\text{g}/\text{m}^3$ at either monitoring site since 2019. As a consequence, DAERA included recommendations, within its appraisal letter of 20th November 2024 concerning the council's 2024 Updating and Screening Assessment, to revoke this AQMA 1 in relation to 1-hour mean NO_2 objective.

The Council will, however, continue its monitoring within the M1 Motorway / A12 Westlink corridor Air Quality Management Area (AQMA 1) to identify any further exceedances of the nitrogen dioxide objectives and to determine nitrogen dioxide concentrations and trends. We will also consider extending the boundary of AQMA 1 to include the residential accommodation location next to the M3 Motorway off-slip junction with Nelson Street and the A12 Westlink (immediately adjacent to the boundary for AQMA 1), where 2025 monitoring results indicate that an exceedance of the 40 $\mu\text{g}/\text{m}^3$ annual mean objective is likely at this relevant residential receptor location; diffusion tube No. 106 (Appendix A).

There were no other monitored exceedances of Air Quality Strategy objectives for nitrogen dioxide within the council area, including other AQMAs, during 2025.

Monitoring data for the Ormeau Road site (AQMA 4) demonstrates that nitrogen dioxide concentrations have been significantly below the annual mean air quality objective since 2014. Moreover, dispersion modelling undertaken as part of 2023 Detailed Assessment predicts that annual mean NO_2 concentrations within this AQMA 4, which covers the Ormeau Road from the junction with Donegall Pass to the Belfast City boundary at Galwally, are below the UK AQO level at all locations of relevant exposure during the 2019 assessment base year and 2028 forward projection year.

The magnitude of the decrease in nitrogen dioxide levels along the Upper Newtownards Road (AQMA 3) has been beyond the year-on-year reductions that might have been reasonably predicted using Defra's forward projection factors; even before Covid-19. Moreover, from the monitoring data in Table 2.3, it can be seen that annual mean concentrations of nitrogen dioxide along the Upper Newtownards Road have remained in the range 20 – 22.3 $\mu\text{g}/\text{m}^3$ since 2020, meaning that the nitrogen dioxide annual mean objective is being consistently achieved along the Upper Newtownards Road. 2025 nitrogen dioxide annual mean results (21.3 $\mu\text{g}/\text{m}^3$), recorded at the automatic monitoring site, are lower than pre-pandemic annual mean concentrations and significantly below the 40 $\mu\text{g}/\text{m}^3$ objective level. Moreover, there have not been any monitored exceedances of air quality objectives for NO_2 identified within this AQMA for the last eight years and dispersion modelling (2019-base year and 2028-future year) undertaken as part of the 2023 Detailed Assessment predict that annual mean NO_2 concentrations within AQMA 3, are below the UK AQO level at all locations of relevant exposure.

In relation to AQMA 2, along the Cromac Street and Albertbridge Road, annual mean NO₂ monitoring concentrations recorded within AQMA 2, have been below 36 µg/m³ since 2020; therefore, this AQMA has been in compliance with the NO₂ annual mean objective for more than 5 years. However, one diffusion tube monitoring location (No. 114) situated at Strand Walk, close to the boundary of AQMA 2 provided a nitrogen dioxide annual mean concentration of 36.4 µg/m³, marginally above the 36 µg/m³ (within 10% of the annual mean objective of 40 µg/m³) threshold for revocation of an AQMA.

At this stage, the Council has decided, therefore, not to move to revoke any of its Air Quality Management Areas, and instead to continue to monitor within its AQMAs and in other city locations in order to work towards further improving ambient air quality, having regard to air quality guidelines for ambient air quality as recommended by the World Health Organisation, in its 2021 Global Air Quality Guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide publication. This position has been highlighted and confirmed to DAERA in the council's recent Progress Reports.

Moreover, although Belfast city has not experienced exceedances of any air quality strategy objectives for particulate matter (PM₁₀ and PM_{2.5}) for many years, to address growing concerns around the effects of fine particulate matter (PM_{2.5}) on human health, we undertook a Detailed Assessment for the city. This project was finalised in 2023. The Detailed Assessment (using additional monitoring data and dispersion modelling) indicated that the annual mean PM₁₀ and PM_{2.5} AQOs were achieved at all monitoring locations, including at an additional six small sensor air quality monitoring locations. In addition, modelled annual mean PM₁₀ and PM_{2.5} concentrations for the 2019 (base year) and 2028 (future year) were predicted to be well below the UK AQO concentrations at locations of relevant exposure throughout the city.

Finally, Belfast City Council confirms that no new Air Quality Management Areas (AQMAs) need to be declared for the city at this time.

9.2 Conclusions relating to New Local Developments

Of the planning applications and various air quality impact assessments received and reviewed during 2025, it was concluded that the proposed developments would have no significant adverse impact on existing local ambient air quality. In addition, no significant changes in local circumstances have been identified within Belfast, which would require detailed consideration. As a consequence, it is not considered necessary to proceed to a 'Detailed Assessment' based on new local developments or potential sources.

9.3 Proposed Actions

In conclusion, this 2026 Progress Report has not identified the need to proceed to a Detailed Assessment for any ambient air pollutant under consideration.

The Council would, however, advise that a Detailed Assessment for the city, for particulate matter (PM₁₀, PM_{2.5}) and nitrogen dioxide (NO₂) pollutants was undertaken and finalised in spring 2023. The decision to undertake a Detail Assessment was based on recent evidence from national studies confirming that domestic solid fuel burning contributes more than previously thought to particulate emissions. The project also allowed the council to investigate fine particulate matter (PM_{2.5}) concentrations across the city as this pollutant is not currently in regulation for the purposes of local air quality management.

The council is also aware of a recent public consultation on the Draft Air Quality (Amendment) Regulations (Northern Ireland) 2026 to tighten annual average particulate matter (PM₁₀ and PM_{2.5}) limits, targets and objectives in Northern Ireland. This consultation was initiated by the Department of Agriculture, Environment and Rural Affairs (DAERA) and published on the Department's website on 8th June 2026. The outcomes from our recent Detailed Assessment helped Belfast City Council to provide an informed response to the above-mentioned consultation. The consultation closed on 31st August 2026, and on the basis of the DAERA proposals to tighten annual average particulate matter (PM₁₀ and PM_{2.5}) limits, targets and objectives in Northern Ireland, the council considers that additional ambient monitoring for particulate matter will likely be required in future years.

Belfast City Council has already highlighted that it operates an expansive air quality monitoring network across the city, predominantly focused upon nitrogen dioxide. In 2023,

we added a further seven diffusion tubes to the network to address the outcomes of 2023 Detailed Assessment, and to confirm modelled NO₂ concentrations within and in the vicinity of our existing AQMAs. In 2025, the extensive council monitoring network comprised 79 diffusion tubes at 71 locations throughout the city, which generate monthly and annual mean NO₂ data to assist in the review and assessment process, and to aid developers in conducting air quality impact assessments, where determined necessary.

There were two exceedances of the 40 µg/m³ annual mean air quality objective for NO₂ recorded during 2025; one at a location next to the junctions of the M3 Motorway / M2 Motorway / Nelson Street (diffusion tube No. 106 – 46.4 µg/m³) and at Henry Place above the A12 Westlink boundary fenceline (diffusion tube No. 70 – 44.7 µg/m³).

Diffusion tube monitoring site No. 106 is located immediately next to a dominant road transport NO₂ pollution source and at a worst-case location (complex junction), adjacent to recently completed student residential accommodation. The Diffusion Tube Processing Tool has predicted a 2025 annual mean NO₂ concentration of 45.3 µg/m³ at the façade of these residential premises, indicating exceedance of the 40 µg/m³ annual mean objective. It is noted, however, that relevant human health receptors are located on the first floor (> +8.5 m above the ground floor mezzanine level) and above floors. Moreover, the Air Quality Assessment submitted as part of the applications for this development (LA04/2016/1252/F and LA04/2021/2893/F), demonstrated that occupants will not be exposed to air quality concentrations exceeding air quality objectives, including those for nitrogen dioxide. We will, however, continue to monitor air quality concentrations at this location and if required, we will amend the boundary of AQMA 1 to include this residential location and we will address the annual mean exceedance within any future Belfast City Air Quality Action Plans.

During 2025, diffusion tube monitoring site No. 70 at Henry Place above the A12 Westlink boundary fenceline recorded exceedances of the annual mean air quality objective (44.7 µg/m³). However, a Defra NO₂ distance correction calculation for this location predicted no exceedance of the 40 µg/m³ annual mean at the nearest residential relevant receptor location. This conclusion is confirmed by the 2025 nitrogen dioxide annual mean concentration recorded at diffusion tube monitoring site no. 100 Henry Place 2, located at the nearest residential receptors; 33.9 µg/m³.

In 2025 there were nine diffusion tube monitoring sites (No. 13 - Great Georges Street, Nos. 21, 22 & 56 - Stockman's Lane AQMS, No. 68 - Opposite the Westlink AQMS, No. 70 - Henry Place, No. 101 - Stockman's Lane Roundabout, No. 106 - M3, No. 114 - Strand Walk, No. 121 – Whitewell Road and No. 122 Westlink / Divis Street, located at roadside / kerbside locations, where annual mean nitrogen dioxide concentrations were above the 36 µg/m³ (within 10% of the annual mean objective of 40 µg/m³) threshold for revocation of an AQMA.

We will consequently continue to review our monitoring locations and to relocate monitoring sites to better reflect relevant exposure, and we will discontinue monitoring from areas of continued low pollutant concentrations, significantly below the air quality objective levels.

Additionally, we will continue to monitor particulate matter and nitrogen dioxide at eight locations, employing small sensor air quality monitoring equipment. Four sensors are permanently sited (data and sensor locations are presented within Appendix B) and four are being utilised for an ongoing school '*school streets*' pilot project. The purpose of this project is to undertake ambient monitoring in the vicinity of a number of primary schools, with a view to helping to inform the designation of '*school streets*'. The designation of '*school streets*' has been proposed as Action 22 of the Belfast City Air Quality Action Plan 2021-2026 by DfI and Sustrans; now Walk Wheel Cycle Trust (WWCT).

<https://www.belfastcity.gov.uk/documents/belfast-city-air-quality-action-plan-2021-2026>).

We are continuing with the '*school streets*' monitoring project in 2026.

To ensure that we continue to collect high-quality air quality monitoring data, we will maintain and update, where necessary, our ambient air quality monitoring equipment. During 2025, Belfast City Council finalised updating API NOx analysers at its monitoring network. The remaining monitoring site at Westlink / Roden Street site was equipped with modern API N200 model. In addition, due to a significant equipment fault, the Met One Instruments BAM 1020 particulate matter (PM₁₀) analyser, located at Stockman's Lane monitoring site was also replaced with a similar model, provided by UK Environment Agency.

With regard to our four Air Quality Management Areas, the council has decided not to move to revoke any of its Air Quality Management Areas at present, and instead to continue to

monitor within our AQMAs and in other city locations in order to work towards further improving ambient air quality, having regard to air quality guidelines for ambient air quality as recommended by the World Health Organisation, in its 2021 Global Air Quality Guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide publication. We will, however, consider amendments to AQMA 1, to include the location where an exceedance of the nitrogen dioxide 40 µg/m³ annual mean objective was predicted during 2025 (diffusion tube No. 106). That was the only exceedance monitored in Belfast during 2025 at a relevant receptor location.

In addition, the recommendations of the 2023 Detailed Assessment, with regard to nitrogen dioxide, are that local actions aimed at road traffic are likely to remain the most effective action for reducing ambient concentrations at nitrogen dioxide hotspot locations in the city. Moreover, fleet composition projections indicate that the next few years will see an accelerated uptake of low-emissions / zero-emissions vehicles and efforts should therefore continue to be made to support the improvement of the vehicle fleet alongside the continued incentivisation of other transport modes and active travel options.

For PM₁₀ and PM_{2.5}, the Detailed Assessment recommended that targeted actions to reduce public exposure to PM₁₀ and PM_{2.5} should focus on those sources that contribute to the domestic background sector, as source apportionment has indicated that this sector accounts for more than 25% of the total modelled particulate matter concentrations across the city.

These above-mentioned recommendations are consistent with the objectives of the Belfast City Air Quality Action Plan 2021-2026. The primary aim of the Air Quality Action Plan is to continue to reduce NO₂ emissions from transport sources and to promote and enable a shift towards more sustainable modes of transport in order to achieve compliance with UK Air Quality Objectives for NO₂. Where necessary, an additional aim of this Action Plan is to identify, develop and implement mitigation measures to address concentrations of fine particulate matter (PM_{2.5}) across the city.

We anticipate, therefore, that the current Air Quality Action Plan 2021-2026 measures will continue to deliver improvements in ambient air quality within our AQMAs and across the city beyond the conclusion of the Action Plan at the end of 2026.

Upon completion of the current 2021-2026 Belfast City Air Quality Action Plan, in consideration of recent ambient monitoring data and trends, and having regard to air quality guidelines for ambient air quality as recommended by the World Health Organisation, in its 2021 Global Air Quality Guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide publication, it is Belfast City Council's intention to engage with our competent authority partners, Translink, Belfast Harbour and other significant transport organisations and partners from across the city concerning development of a new 5-year Air Quality Action Plan for the city covering the period 2027 – 2032.

10 References

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https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2408131427_AURN_LSO_Manual_Part_A_Version_1.3_July_2024_Issue1_2.pdf

Defra 'Workplace Analysis Scheme for Proficiency (WASP) NO₂ diffusion tubes proficiency tests'. <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/qa-qc-framework/>

The Environment (Northern Ireland) Order 2002.

<https://www.legislation.gov.uk/nisi/2002/3153/contents/made>

DAERA Northern Ireland Air – Air Quality in Northern Ireland website

<https://www.airqualityni.co.uk/>

PAS 4023:2023 Selection, deployment and quality control of low-cost air quality sensor systems in outdoor ambient air – Code of practice

<https://www.bsigroup.com/siteassets/pdf/en/insights-and-media/insights/brochures/pas-4023.pdf>

11 Appendices

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

Appendix B: Non-LAQM Monitoring (Zephyrs) Results 2025

Appendix A: QA/QC Data

QA/QC Diffusion Tube Monitoring

The Council's 2025 passive nitrogen dioxide monitoring network comprises 79 diffusion tubes situated throughout the city at 71 locations. The monitoring has been completed in accordance with Defra's *Local Air Quality Management Technical Guidance document LAQM.TG(22)* and Defra's 2025 Diffusion Tube Monitoring Calendar.

In 2025, Belfast City Council appointed Gradko International Ltd. to supply, analyse and report data for its diffusion tubes. Gradko employs a 20% triethanolamine solution for monitoring ambient nitrogen dioxide and adheres to the requirements of the government's '*Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users*' publication.

Government provides an additional layer of surety for local authorities operating nitrogen dioxide diffusion tubes through the independent analytical proficiency-testing scheme, the AIR PT scheme.

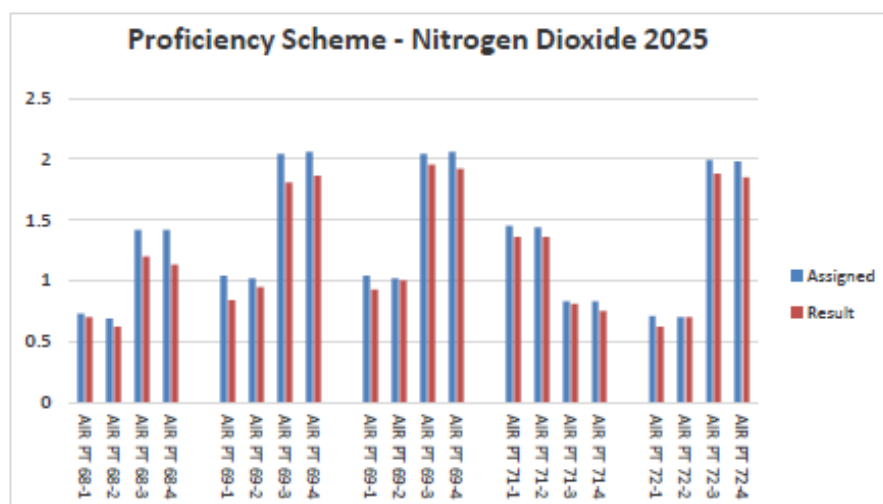
AIR PT is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a scheme, commenced in April 2014, which combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme. As part of this scheme, laboratories are provided with a number of test samples that are designed to test their proficiency in undertaking chemical analyses of diffusion tubes.

For the 2025 sampling period, Gradko's analytical performance was assessed as follows:

AIR PT Nitrogen Dioxide Proficiency Scheme Results 2025

Methods: GLM 7 – CARY 60 Spectrophotometer

AIR PT Proficiency Scheme - Nitrogen Dioxide 2025					
Date	Round	Assigned value	Procedure GLM 7		
			Measured concentration	Z-Score	% Bias
Feb-25	AIR PT 68-1	0.73	0.7	-0.52	-4.1%
Feb-25	AIR PT 68-2	0.69	0.62	-1.25	-10.1%
Feb-25	AIR PT 68-3	1.42	1.2	-2.11	-15.5%
Feb-25	AIR PT 68-4	1.42	1.13	-2.72	-20.4%
Jun-25(A)	AIR PT 69-1	1.04	0.84	-2.51	-19.2%
Jun-25(A)	AIR PT 69-2	1.02	0.95	-0.86	-8.9%
Jun-25(A)	AIR PT 69-3	2.04	1.81	-1.5	-11.3%
Jun-25(A)	AIR PT 69-4	2.06	1.86	-1.29	-9.7%
Jun-25(B)	AIR PT 69-1	1.04	0.93	-1.42	-10.7%
Jun-25(B)	AIR PT 69-2	1.02	1.01	-0.19	-1.5%
Jun-25(B)	AIR PT 69-3	2.04	1.96	-0.56	-4.2%
Jun-25(B)	AIR PT 69-4	2.06	1.92	-0.89	-8.7%
Aug-25	AIR PT 71-1	1.45	1.36	-0.79	-8.2%
Aug-25	AIR PT 71-2	1.44	1.36	-0.74	-5.6%
Aug-25	AIR PT 71-3	0.83	0.81	-0.32	-2.4%
Aug-25	AIR PT 71-4	0.83	0.75	-1.22	-9.6%
Oct-25	AIR PT 72-1	0.71	0.62	-1.5	-12.7%
Oct-25	AIR PT 72-2	0.70	0.7	0.0	0.0%
Oct-25	AIR PT 72-3	1.99	1.88	-0.74	-5.5%
Oct-25	AIR PT 72-4	1.98	1.85	-0.88	-8.6%



Diffusion Tube Annualisation.

Based on 2025 monitoring data capture rates, annualisation was required for three non-automatic diffusion tube monitoring sites: No. 35 - Chichester Street (65% data capture), No. 122 – Westlink / Divis Street (52% data capture) and No. 123 - Shankill Road (Spectrum Centre) (60% data capture). These tubes were annualised using automatic monitoring data from Derry Rosemount (background AURN) and Belfast Stockman's Lane (roadside AURN) automatic monitoring stations, both of which had >85% required data capture. There were no other background monitoring sites in Northern Ireland with sufficient data capture for 2025; therefore, the above roadside site was used for annualisation. This approach was discussed and agreed with LAQM Helpdesk.

The annualisation was undertaken using the Defra Diffusion Tube Processing Tool. Calculations are provided in Table A.4.

Diffusion Tube Bias Adjustment Factors

Belfast City Council has applied a local bias adjustment factor of 0.92 to its 2025 diffusion tube monitoring data. A summary of bias adjustment factors used by Belfast City Council over the past five years is presented in Table A.1.

The council co-locates a number of diffusion tubes with reference method compliant chemiluminescent nitrogen dioxide analysers at the Lombard Street, Newtownards Road, Westlink / Roden Street and Stockman's Lane monitoring sites. This process allows a bias adjustment factor (with a 95% confidence interval as an estimate of the uncertainty on the bias adjustment factor) to be calculated and used to correct the diffusion tube monitoring data. In the case of the diffusion tube data presented in this report, the monitoring data has been corrected using a local bias adjustment factor derived from three co-location studies: Newtownards Road, Westlink / Roden Street and Stockman's Lane. As highlighted above, the Belfast Centre (Lombard Street) AURN site had only 69.7% data capture rate (DC) in 2025; consequently, this monitoring data was considered to be poor overall data capture and excluded from the local bias adjustment calculation.

The local bias adjustment factor was calculated using the Defra Diffusion Tube Processing Tool. Calculations are presented within Table A.4.

For those local authorities that do not wish or are unable to undertake a triplicate diffusion tube colocation study, government publishes a database of bias adjustment factors derived from other local authority co-location studies throughout the United Kingdom. These factors are used subsequently to calculate a combined bias adjustment factors for a range of nitrogen dioxide diffusion tube laboratories.

The latest factors were published in May 2026 and the 2025 derived bias adjustment factor for Gradko Laboratories for a 20% solution of triethanolamine was 0.89. This national factor is slightly lower than the council's 2025 locally derived bias adjustment factor of 0.92. However, the council considers the locally derived bias adjustment factor to be acceptable and of the good precision; consequently, Belfast City Council has applied a local bias adjustment factor of 0.92 to its 2025 monitoring data.

Table A.1 - Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2025	Local	-	0.92
2024	Local	-	0.82
2023	Local	-	0.80
2022	Local	-	0.81
2021	Local	-	0.79

NO₂ Fall-off with Distance from the Road

There were two nitrogen dioxide annual mean exceedances recorded during 2025 at Henry Place (44.7 µg/m³) and at the A12 Westlink next to the M3 Motorway (46.4 µg/m³).

Defra NO₂ distance calculations have been applied to the above locations to predict annual mean concentrations at the nearest human health receptor location. The Diffusion Tube Processing Tool has predicted an annual mean concentration of 26.5 µg/m³ at Henry Place (diffusion tube No. 70), which indicates that no exceedance was likely at this relevant human health receptor location (Table A.2) during 2025.

However, the Processing Tool has predicted an exceedance of annual mean NO₂ concentration (45.3 µg/m³) at the M3 / A12 Westlink location (diffusion tube No. 106). This M3 Motorway off slip / A12 diffusion tube was added to the councils' monitoring network in

2022 due to the impending introduction of new relevant human health exposure at a residential development. This monitoring site is located next to a dominant strategic network road transport pollution source and situated at a worst-case exposure location.

2025 was the first year when *NO₂ Fall off With Distance Calculations* tool predicted a nitrogen dioxide annual mean concentration at the residential receptor above the AQS objective. It is noted, however, that relevant receptors are located on the first floor up (> +8.5 m above the ground floor mezzanine) and above floors. Moreover, the Air Quality Impact Assessment submitted as part of the application for this development (LA04/2016/1252/F and LA04/2021/2893/F) demonstrated that occupants of the property would not be exposed to air quality concentrations exceeding AQ objectives.

Also, as a distance correction should be considered at any monitoring site where the annual mean concentration is greater than 36 µg/m³, and the monitoring site is not located at a point of relevant exposure, diffusion tube Nos. 13, 21, 22, 56, 68, 100-102, 114, 120, 121 and 122 also required a distance correction to their 2025 monitoring data. A summary of fall-off with distance calculations from the Diffusion Tube Data Processing Tool is presented below in Table A.2.

Table A.3 - Non-Automatic NO₂ Fall off With Distance Calculations

Site ID	Distance (m)		Annual Mean Concentrations (µg/m ³)			Comments
	Monitoring Site to Kerb	Receptor to Kerb	Annualised and Bias Adjusted	Background	Predicted at Receptor	
13	0.5	9.5	38.0	13.5	25.3	
21, 22, 56	2.5	16.5	37.0	13.5	26.0	
68	1.0	50.0	37.9	13.5	18.7	Warning: Receptor to kerb must be between 0.1m and 50m to calculate concentration. Please check distances and update STEP 2 - Diffusion Tube Inputs tab Columns Distance to Relevant Exposure and Distance to Kerb of Nearest Road
70	1.0	18.0	44.7	13.5	26.5	
100	27.0	18.0	29.9	13.5	33.9	Warning: your monitor is more than 10m further from the kerb than your

Site ID	Distance (m)		Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$)			Comments
	Monitoring Site to Kerb	Receptor to Kerb	Annualised and Bias Adjusted	Background	Predicted at Receptor	
						receptor - treat result with caution.
101	3.0	7.5	36.7	13.5	31.2	
102	15.0	8.0	26.6	13.5	30.3	Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.
106	4.0	4.5	46.4	15.0	45.3	Predicted concentration at Receptor above AQS objective.
114	1.0	12.0	36.4	15.0	25.7	
120	5.0	3.0	24.8	14.5	26.4	
121	7.5	25.5	36.2	8.0	24.5	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
122	1.0	6.0	39.0	13.5	29.8	

QA/QC of Automatic Monitoring

Belfast City Council operates four automatic monitoring stations across the city in order to help inform its air quality management processes and to provide real time information to the public in relation to air pollution levels across the city centre and within our Air Quality Management Areas.

Accordingly, to ensure that the data from our sites is both accurate and representative, the monitors at each site are calibrated on a biweekly (Stockman's Lane AURN site) or on a four-weekly basis by the council's technical staff in accordance with the procedures detailed in the Defra Automatic Urban and Rural Network (AURN) local site operators' manual.

For our automatic nitrogen dioxide analysers, we complete a two-point calibration using internal zero and a nitric oxide span gas of certified concentration. We obtain our calibration gases under contract from BOC Ltd. who also provide similar gases to government operated AURN monitoring stations. By considering instrument operating parameters and the results of successive calibrations, we can make a determination regarding the ongoing performance of our analysers.

Where an instrument is found not to be operating within normal parameters, we would refer the matter promptly to *Cura Terrae*, who provided service and maintenance support for our equipment throughout 2025. In addition, data management support, including data collection, scaling, reporting and ratification, was provided by *AQDM*.

The data from our sites is made available to the Department of Agriculture, Environment and Rural Affairs and is reported via the 'Northern Ireland Air' website in near real time.

Finally, in 2025 Ricardo provided quality assurance and quality control support (QA/QC) for the council's monitoring equipment to ensure compliance with the requirements of the National Air Quality Strategy as detailed within the Defra Technical Guidance Document LAQM.TG(22). Ricardo engineers visited our sites on an approximately six-monthly basis and compared the performance of our analysers against a range of laboratory grade standards. Ricardo subsequently provided a series of calibration and scaling factors that were used to correct our 2025 automatic monitoring data.

Automatic data presented within this report relates to the calendar year (i.e. January – December). 2025 ratified data capture levels exceeded the Department's 75% data capture threshold for the calculation of annual statistics at three council operated sites. One site, the Ormeau Road AQMS had to be discontinued in May 2025 due to residential construction works being undertaken directly adjacent to the monitoring enclosure. Consequently, 2025 data capture levels at the Ormeau Road site were 35.9%, much below the 75% threshold.

PM₁₀ and PM_{2.5} Monitoring Adjustment

Particulate matter is monitored at two AURN monitoring sites within Belfast: Belfast Centre (PM₁₀ and PM_{2.5}) and Stockman's Lane (PM₁₀).

The Belfast Centre site employs a Palas Fidas 200, which complies with Defra's UK PM Pollution Climate standard. Government equivalence tests have determined that this type of equipment meets the equivalence criteria, and on that basis, no correction factor needs to be applied to this monitoring data.

The Stockman's Lane site is equipped with a Met One Instruments Beta Attenuation Monitor (BAM) with a heated inlet for monitoring particulate matter (PM₁₀). Government technical guidance highlights that a BAM, equipped with a heated inlet, meets the equivalence criteria

for PM₁₀ monitoring, provided that the results are corrected for slope. This correction involves dividing measured concentrations by a factor of 1.035. It should be noted, however, that the monitoring data presented on the Defra and Northern Ireland Air websites, and included within this Progress Report, have already been corrected to the reference equivalent.

Automatic Monitoring Annualisation

In 2025, data capture levels at the Belfast Centre and Ormeau Road sites were below the Department's 75% data capture threshold for nitrogen dioxide. Annualisation of data from these sites was therefore required.

In order to complete the annualisation process, councils are required to identify two to four nearby, long-term background continuous monitoring sites for nitrogen dioxide. The data capture for each of these sites should ideally be at least 85%.

Apart from Belfast Centre site, there are only two other long-term, continuous, urban background monitoring sites in Northern Ireland, which measure nitrogen dioxide; namely Ballymena Ballykeel and Derry Rosemount. Only one of these sites (Derry Rosemount) achieved the required 85% data capture in 2025; as the result, and in accordance with LAQM.TG22 guidance (extract below), the AURN roadside site at Stockman's Lane was identified as an acceptable site to be used in the 'annualisation process' for nitrogen dioxide data.

LAQM.TG22 advises in Box 7-9 – Example: Annualising Continuous Monitoring Data, that *'If no background sites are available, and the site to be annualised is itself an Urban Centre, Roadside or Kerbside site, then it is permissible to annualise using roadside or kerbside sites rather than background sites, though this should be clearly stated in the annual report'*.

Two individual adjustment ratios and average ratios have been calculated using Defra's Automatic Monitoring Sites Processing Tool; the results are provided in Table A.4.

NO₂ Fall-off with Distance from the Road

No automatic NO₂ monitoring locations within Belfast City Council required distance correction during 2025.

Table A.4 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Derry Rosemount	Annualisation Factor Belfast Stockman's Lane	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
Diffusion tube No. 35	1.1159	1.0193	1.0676	33.0	35.2	-
Diffusion tube No. 122	1.0888	1.0204	1.0546	40.3	42.5	-
Diffusion tube No. 123	1.1416	1.0180	1.0798	24.3	26.2	-
Belfast Centre AURN site	0.946	1.008	0.977	19.4	19.0	-
Ormeau Road AQMS	0.783	0.970	0.877	21.0	18.4	-

Table A.5 – Local Bias Adjustment Calculations

	STEP 3a Local Bias Adjustment Input 1	STEP 3b Local Bias Adjustment Input 2	STEP 3c Local Bias Adjustment Input 3
Periods used to calculate bias	9	12	12
Bias Adjustment Factor A	0.99 (0.93 - 1.05)	0.83 (0.79 - 0.88)	0.94 (0.88 - 1.01)
Diffusion Tube Bias B	1% (-5% - 7%)	20% (14% - 26%)	6% (-1% - 13%)
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	21.6	40.3	33.1
Mean CV (Precision)	4.9%	3.2%	4.9%
Automatic Mean ($\mu\text{g}/\text{m}^3$) (for periods used to calculate bias)	21.3	33.6	31.2
Data Capture (for periods used to calculate bias)	97%	97%	99%
Overall Data Capture	92%	97%	99%
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	21 (20 - 23)	33 (32 - 36)	31 (29 - 33)
Overall Diffusion Tube Precision	Good Overall Precision	Good Overall Precision	Good Overall Precision
Overall Continuous Monitor Data Capture	Good Overall Data Capture	Good Overall Data Capture	Good Overall Data Capture
Combined Local Bias Adjustment Factor	0.92		

Notes:

A single local bias adjustment factor has been used to bias adjust the 2024 diffusion tube results.

Appendix B: Non-LAQM Monitoring (Zephyrs) Results

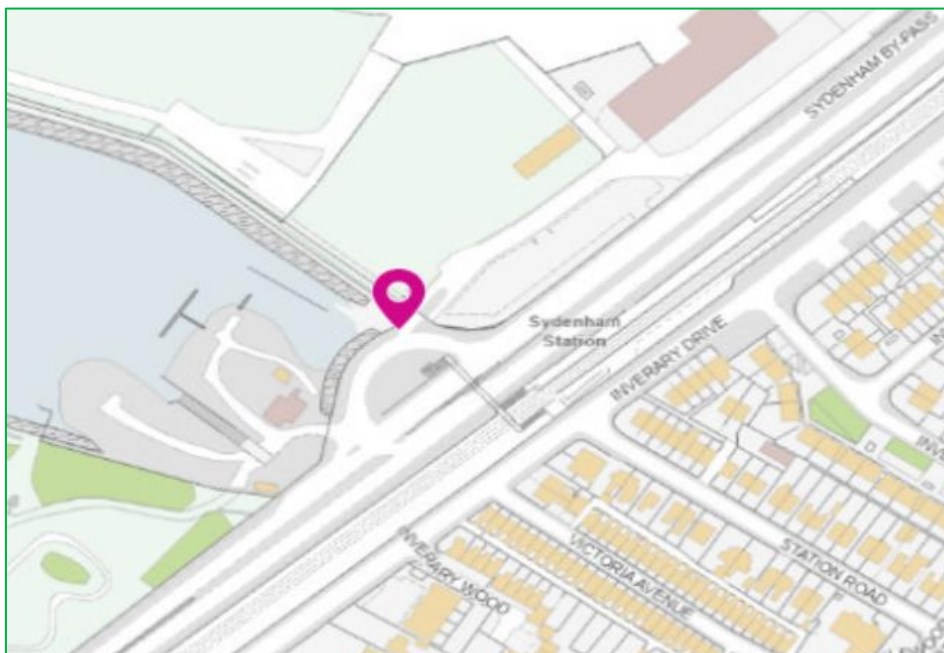
2025

During 2025, Belfast City Council carried out nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) monitoring using EarthSense Zephyr air quality monitors at eight locations, four of which are permanently sited, and four, which are being utilised for an ongoing primary school 'school streets' project in collaboration with Walk Whell Cycle Trust (previously Sustrans) and DfI. The four permanent monitors are located at the A2 Sydenham By-Pass adjacent to George Best Belfast City Airport; at Clara Street in East Belfast; at Barrack Street (along the A12 Westlink corridor) and at the Lombard Street AURN site in the City Centre (for the proposes of collocation with reference grade analysers).

Figures B.1 to B.4 show the location of each Zephyr monitor in local grid co-ordinates.

Figure B.1 – City Airport Zephyr Location

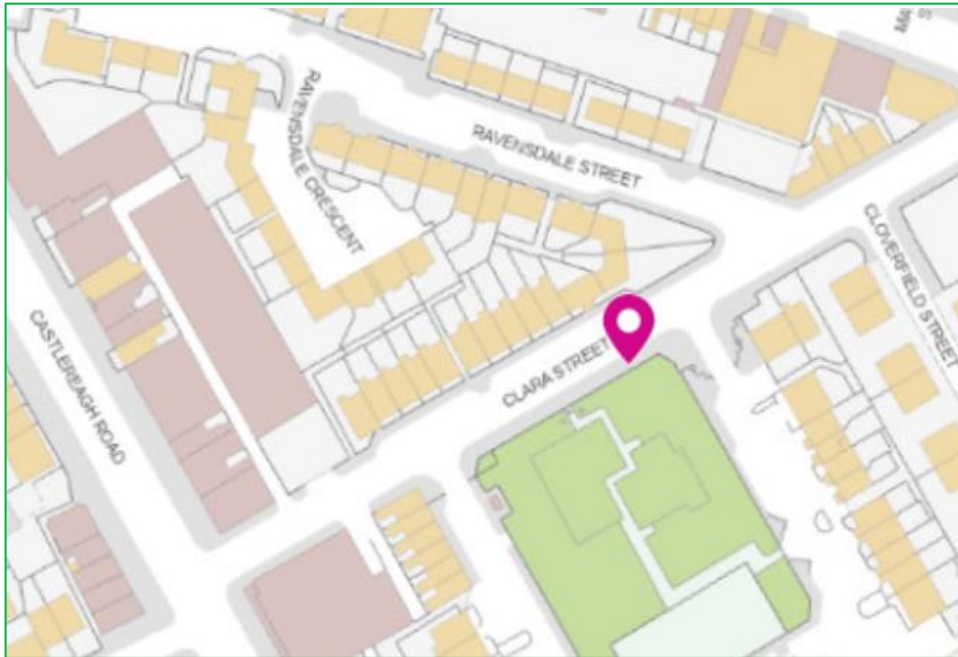
1. City Airport: X: 337112, Y: 375535.



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Figure B.2 – Clara Street Zephyr Location

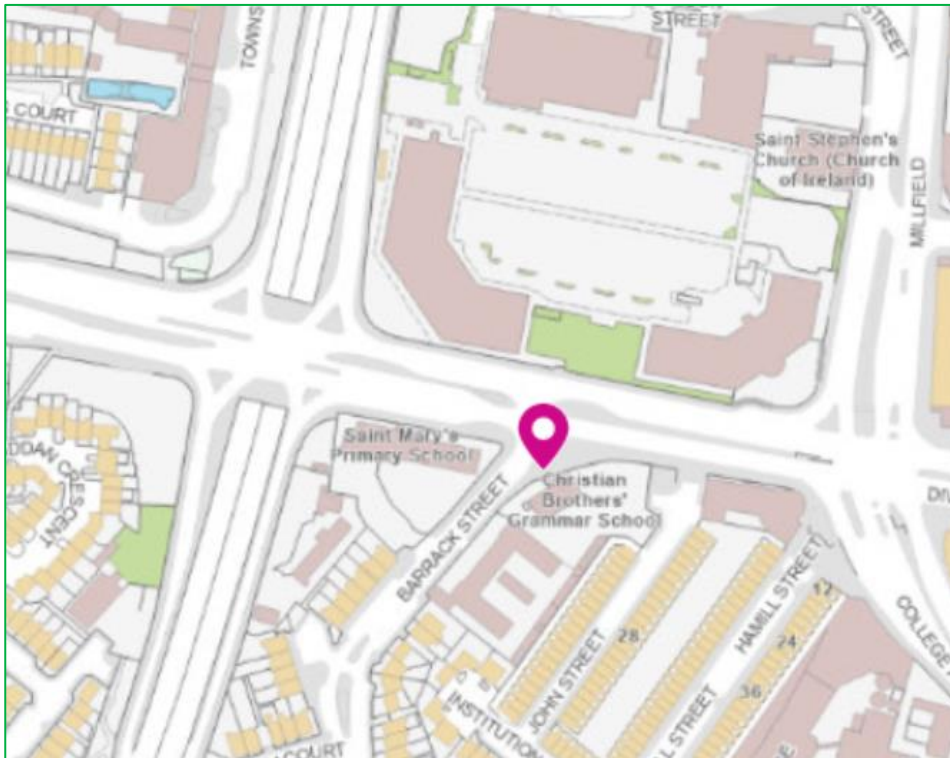
2. Clara Street: X: 336032, Y: 373469



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Figure B.3 – Westlink Zephyr Location

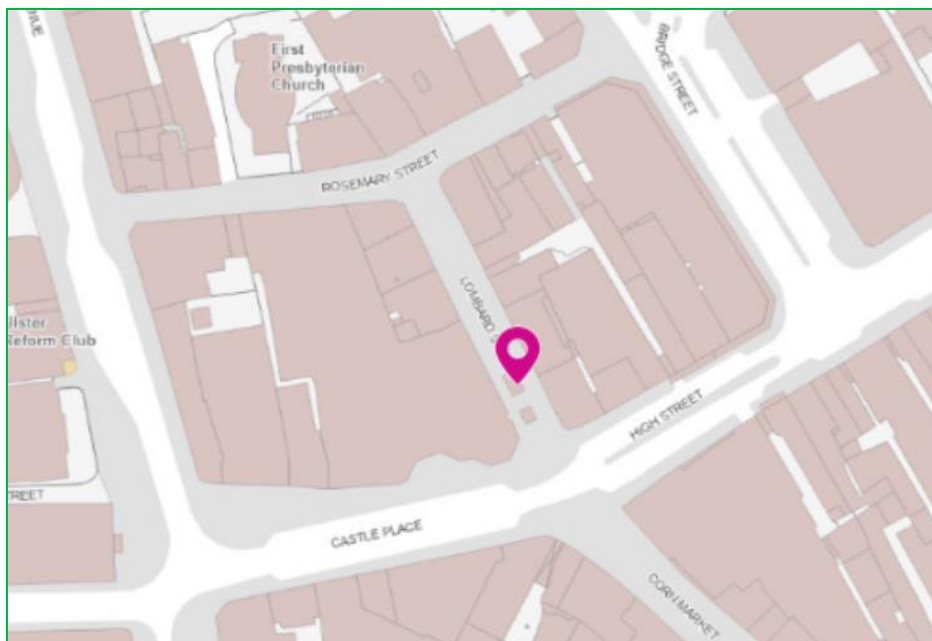
3. Westlink: Barrack Street location, X: 333313, Y: 374316.



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Figure B.4 – Lombard Street Zephyr Location

4. Lombard Street: X: 333902, Y: 374502.



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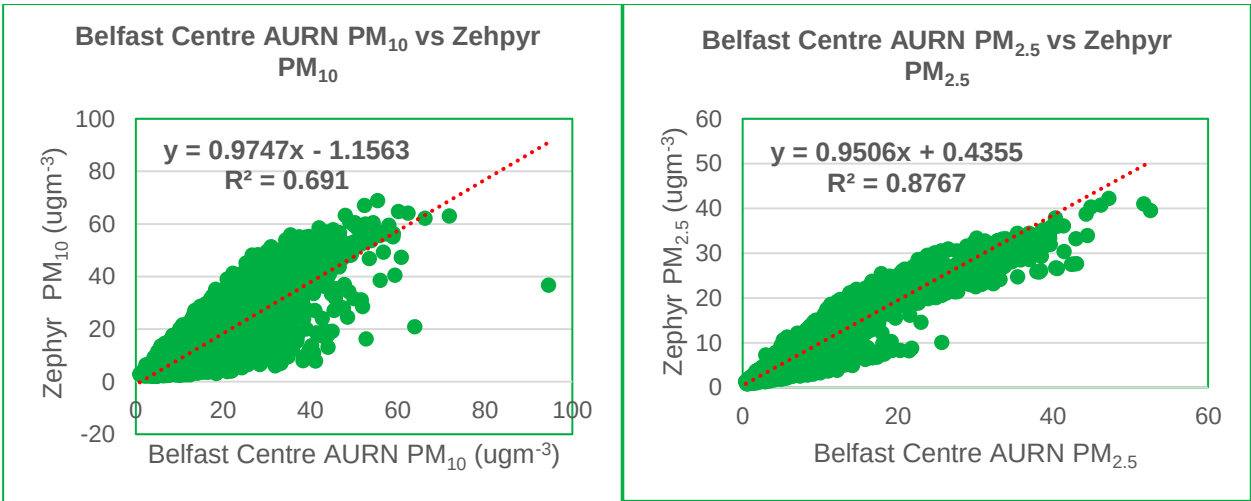
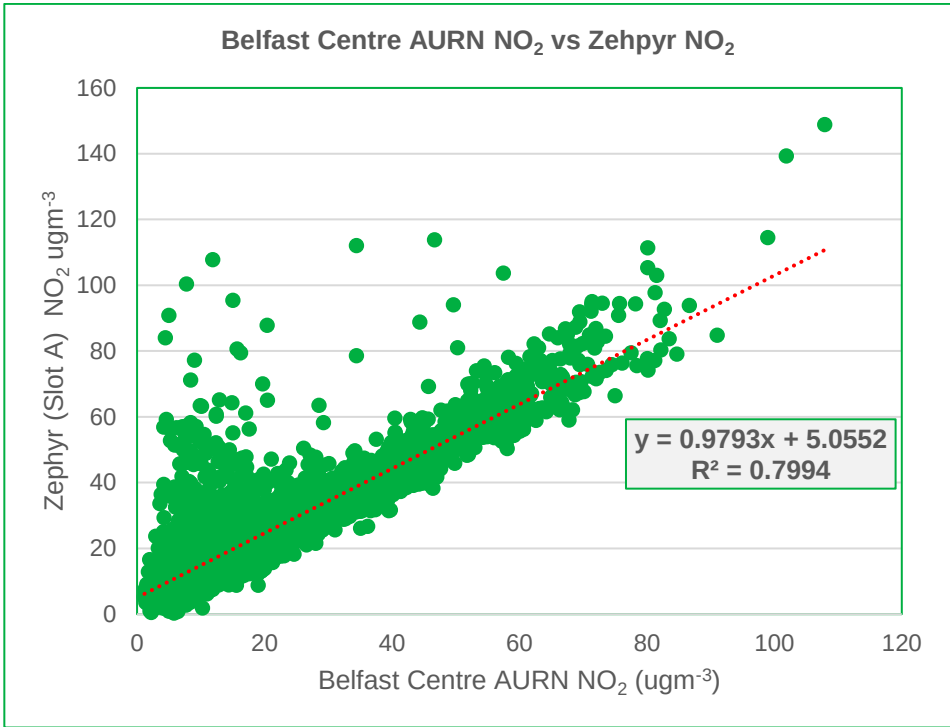
The Zephyr analyser is an active indicative grade analyser and is used to monitor NO₂ using electrochemical sensors, and PM₁₀ and PM_{2.5} using optical particle counting sensors giving real-time results every minute. Zephyr monitors recently obtained MCERTS Performance Standards as an Indicative Ambient Particulate Monitor, which gives additional confidence in the performance of the monitors.

In the absence of a standardised QA/QC methodology, council officers have followed the US Environment Protection Agency guidance available on Defra's website: <https://www.epa.gov/air-sensor-toolbox/how-use-air-sensors-air-sensor-guidebook#pane-1>

Moreover, we have also followed recommendations for the selection, deployment, maintenance and quality assurance processes contained within the following document: *PAS 4023:2023 Selection, deployment and quality control of low-cost air quality sensor systems in outdoor ambient air – Code of practice* (December 2023).

Prior to installation, all our Zephyr monitoring units were tested by the manufacturer against EU reference analyser standards. In addition, and in order to validate the performance of the abovementioned units for NO₂, PM₁₀ and PM_{2.5}, council officers have co-located a Zephyr sensor with reference grade analysers at Belfast Centre AURN site. The raw data produced by the EarthSense Zephyr analysers has been corrected using data from the respective reference grade analysers. The correction process helps to account for known bias and unknown interferences from weather and other pollutants. The calculated adjustment factors for 2025 have been applied to all Zephyr analysers. Figure B.5 presents linear regression corrections calculated using Zephyr and reference grade analyser data.

Figure B.5 - Linear regression equation (NO₂, PM₁₀, PM_{2.5}) - Zephyr (Slot A) and Belfast Centre AURN reference monitor for the 2025 monitoring year.



Annual scaled 2025 Zephyr monitoring results are presented in the following Table B.1 and Figure B.5.

Overall, there were no monitored exceedances of statutory AQS objectives during 2025 at any EarthSense Zephyr monitoring site.

Table B.1 - 2025 Annual Scaled Zephyrs Results

Site ID	Site Name	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
Z 799	AURN (Lombard Street)	19.0	13.3	7.9
Z 211	City Airport	20.1	9.9	5.4
Z 748	Westlink (Barrack Street)	30.0	10.7	6.0
Z 793	Clara Street	16.3	10.9	5.8

Figure B.6 - 2025 Annual Scaled Zephyr Results

