GMCA GREATER MANCHESTER COMBINED AUTHORITY

2021 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date: June 2022

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Executive Summary: Air quality in our area

Air quality in Greater Manchester

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equality issues because areas with poor air quality are also often less affluent[1,2].

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages[3], with a total estimated healthcare cost to the NHS and social care of £157 million in 2017[4].

Greater Manchester has a population of more than 2.8 million residents in 10 districts over an area of approximately 500 square miles. Within the conurbation there is a mix of high-density urban areas, suburbs, semi-rural and rural locations, and the area is characterised by the strong regional centre of Manchester, Salford Quays and Trafford Park.

Long-term trends show that there has been an improvement in air quality. However, these trends were disrupted by significantly reduced travel patterns during the COVID-19 pandemic. Prior to the 2020 lockdown measures in place across Greater Manchester and the rest of the UK, there remained a significant number of exceedances of the legal limit for nitrogen dioxide (NO_2) monitored across the city-region.

This Annual Status Report for the 2021 calendar year is produced in fulfilment of the legal duties placed on local authorities under the Environment Act 1995 and reports on the LAQM monitoring results and the progress of actions within the AQAP (Air Quality Action Plan). Additionally, GM has also been issued with a direction to address NO_2 exceedances using a different set of monitoring criteria, a Clean Air Plan (CAP) has been produced and is

[1] Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017
[2] Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Air quality appraisal: damage cost guidance, July 2021
[4] Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

currently under review. For transparency the results of the CAP monitoring are also set out within, but do not form part of the LAQM results.

The results from LAQM in 2021 give a picture of air quality in a post-pandemic city-region. While not as significantly low as 2020, only 13 exceedances of the annual mean objective for NO_2 were recorded across the city-region at non-automatic stations, and one at the Manchester Oxford Road automatic monitoring site – which historically has often recorded the highest NO_2 concentration in the city-region. This compares with 60 and 3 respectively in 2019.

Only one monitoring station recorded a higher annual mean concentration in 2021 than in 2019 for PM_{10}, otherwise recorded concentrations have fallen or remained stable. All $PM_{2.5}$ annual mean concentrations recorded in 2021 are lower than or equal to 2019 concentrations.

Actions to improve air quality

While air quality has improved significantly in recent decades, and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 Clean Air Strategy[5] sets out the case for action, with goals to reduce exposure to harmful pollutants. 'The Road to Zero'[6] sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms. This is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

The 10 Greater Manchester local authorities continue to action a number of measures to address air pollution contained within the Greater Manchester Air Quality Action Plan (AQAP), in addition to developing a Clean Air Plan (CAP) as directed by Government.

As a way of background, the AQAP was produced in 2016 following a programme of consultation and workshops with key stakeholders, including the Greater Manchester local

[5] Defra. Clean Air Strategy, 2019
[6] DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

authorities, UK Health Security Agency, Transport for Greater Manchester (TfGM) and Highways England, to obtain feedback on the new measures proposed in the draft plan.

Policies and actions were subsequently identified and divided into the following broad subjects, based on the area and type of effects that may be achieved:

- **Development management and planning regulation:** including standardisation of regulation and policy across the Greater Manchester region.
- **Freight and HGVs:** there are several opportunities to reduce emissions associated with the movement of freight and goods by road.
- **Buses:** Buses have a vital role to play in transporting the public and give opportunities to improve air quality. New legislative developments, the creation of the future Greater Manchester bus strategy and improvements to vehicle standards will all assist in ensuring that bus continues to play a vital role into the future, carrying the majority of public transport journeys made within the conurbation.
- **Cycling:** Existing strategies and initiatives encourage cycling.
- **Travel Choices:** Encouraging the public and businesses to make sustainable travel choices is essential in realising lasting air quality benefits.
- **Cars:** Measures to reduce emissions from cars and reduce the number of vehicle trips can deliver real improvements.
- **Information and resources:** Educating and informing the public, businesses and policy makers is seen as vital in bringing air quality improvements.

Much of this report is set out according to these themes. In 2021, progress has been made on a number of actions in the Air Quality Action Plan. Highlights include:

- **The Bee Network** – Greater Manchester's vision for an integrated transport system joining together buses, rail, trams, cycling and walking, continued development throughout 2021. 35 improved cycling and walking routes have now opened in Greater Manchester, supported by TfGM-led sustainable travel promotion schemes. In 2021, over 20km of new and upgraded cycling and walking routes were completed in Greater Manchester, with many more stretches of connecting networks being enabled. The first 'Sparrow' crossings in the UK were opened, keeping pedestrians and cyclists separate while crossing busy roads with signal protection. TfGM also secured DfT special authorisation for a ground-

breaking new wayfinding package for the cycling and walking elements of the Bee Network.

- The first phase of the new city centre Bee Network Cycle Hire scheme was launched in Manchester and Salford in November 2021. This scheme provides people across Manchester City Centre and key locations in Salford with an easy-to-access and great value option for short journeys. The first phase of this scheme includes 1,500 bikes, including 300 e-bikes. In addition, 22 e-cargo bikes went live across Chorlton, Whalley Range and Ancoats in December 2021. TfGM is monitoring the uptake of both schemes, with good progress reported as of June 2022.

- The GM publicly owned electric vehicle (EV) infrastructure is part of the Be.EV network[7]. It grew in both membership base and charging points in 2021/22. The network recently reached 10,000 members, and the number of chargers has reached 141. Eight new rapid charge points have been installed since the last report.

- Greater Manchester has secured £35.8 million to introduce 170 green buses to the region. The funding has been supplied from the Department for Transport's Zero Emission Buses Regional Area (ZEBRA) scheme, which was launched last year to allow local authorities to bid for funding to purchase zero emission buses.
- In 2021 the **CleanAirGM** website saw major updates and a huge uplift in traffic to the site. During this time the website was viewed by 896,576 people (unique pageviews) and achieved 1,099,377 pageviews. This is a significant rise on the previous year with a more than 400% increase in pageviews and unique pageviews.
- Through the Active Travel Fund, TfGM has earmarked £500,000 to deliver 50 School Streets across GM. The first scheme with this round of funding was delivered by Wigan at Leigh St Peter's CE Primary School in November 2021.

[7] In December 2019 TfGM signed a seven-year contract with Amey MAP Services, a subsidiary of Amey PLC, to operate and maintain GM's network. As part of the contract, GM's publicly funded charging infrastructure – "public-owned infrastructure" (POI) – transitioned to a new brand, the Be.EV electric vehicle charging network.

- Greater Manchester was awarded over £570,000 Air Quality Grant Funding by Defra to deliver a scheme aimed at understanding and reducing $PM_{2.5}$ emissions from domestic solid fuel burning.

An update on the Clean Air Plan

The Greater Manchester authorities have collaborated on the preparation of a Clean Air Plan (CAP) since 2018, with the clear intention of securing a Plan agreement with government that best reflects both the impact of nitrogen dioxide (NO_2) roadside emissions at a city-region level and the wider strategies for social, economic and environmental improvement in GM. Throughout the Plan development process, this has proved challenging due to the prescriptive nature of the Government guidance.

Throughout the development of the GM Clean Air Plan the authorities have made clear the expectation that the UK Government would support the plans through:

- Clear arrangements and funding to develop workable, local vehicle scrappage / upgrade measures.
- Short term effective interventions in vehicle and technology manufacturing and distribution, led by national government.
- Replacement of non-compliant buses.

- A clear instruction to Highways England[8] to implement measures which deliver compliance with legal limits for NO_2 on the strategic road network, for which they are responsible, in the shortest possible time[9].

In particular, GM had been clear from the outset in the Outline Business Case for the GM Clean Air Plan (2019) that any CAP based on significant vehicle change could only be sustained under stable vehicle market conditions. GM had also been from the outset concerned about:

- the scale and diversity of the van fleet/van owning business sectors;
- the fact that compliant diesel vans had only become available in 2016;
- the high volume of diverse and active SMEs in GM, many of whom rely on small commercial vehicles on a daily basis; and
- the relatively old age profile of vans in GM.

GM therefore required government to maintain a clear oversight of the supply chain conditions within which the GM CAP will have to operate, recognising the structural nature of markets that are beyond the influence of any one local authority or area.

In summer 2021, when the GM Clean Air Plan was agreed, there was only evidence of a temporary disruption due to the pandemic in 2020, which was assumed to be addressed by the market, with the Society of Motor Manufacturers and Traders (SMMT) predicting some level of 'catch up'. GM sought a number of measures to address this, including negotiating improved vehicle replacement funding with government in early 2021 to reflect our understanding of the impact of the pandemic at that stage.

Consultants Arup and AECOM were commissioned in late 2021[10] to analyse and report on the market conditions within the LGV (Light Goods Vehicle) sector in particular. It found significant evidence for two factors where market conditions had diverged from expected trends:

- That the used van market had materially changed, with evidence suggesting that second-hand van prices had increased by between 13% and c.60% since the

[8] On 19 August 2021 it was announced that Highways England changed its name to 'National Highways' reflecting the new focus the company has on delivering the government's £27bn strategic roads investment programme, while also continuing to set highways standards for the whole UK.
[9] GM Authorities are directed to take action on the local road network. Those roads managed by National Highways, such as motorways and trunk roads are excluded from the Clean Air Plan.
[10] ARUP Technical Note.pdf (greatermanchester-ca.gov.uk)

modelling for the CAP had been undertaken. GM concluded that at that level, fewer van owners would choose to (or be able to) upgrade in response to the Clean Air Zone (CAZ), which devalues the funding offer for vans, with the previous Plan being particularly sensitive to van prices given their number in GM.

- At the same time, in early 2022, analysis carried out as part of GM's ongoing commitment to review vehicle sales trends also found that sales of new private cars had been lower than expected in 2021, reducing the natural rate of fleet upgrade, indicating that the impacts of an older fleet of private cars based on recorded sales would be expected to lead to a delay in the predicted year of compliance for the Previous GM CAP, irrespective of any other changes to the assumptions.

GM concluded that, independently, either factor could be sufficient to delay compliance beyond 2024, and that this risk would be amplified if both factors are occurring simultaneously. In light of the above, the Greater Manchester Air Quality Administration Committee requested that the Secretary of State agreed to pause opening of the next phase of Clean Air Funds at the end of January to enable an urgent and fundamental joint policy review with government to identify how a revised policy can be agreed to deal with the supply issues and local businesses' ability to comply with the GM CAP.

Following this, the GM Mayor met the Secretary of State for Environment to relay the issues set out above and a formal request for suspension. It was agreed that further evidence would be shared between officials, and a report prepared by Greater Manchester: *Issues leading to delayed compliance based on the approved GM CAP assumptions*[11].

This was shared with the government's Joint Air Quality Unit on 2 February 2022. The report concluded that the previous Plan could no longer be expected to achieve compliance in 2024.

On 4 February 2022 Jo Churchill, Parliamentary Under-Secretary of State at the Department for Environment, Food and Rural Affairs, Andy Burnham, Mayor of Greater Manchester, and Cllr Andrew Western, GMCA portfolio Lead for Clean Air, met to find a solution. A new Direction was issued to Greater Manchester, requiring compliance in the shortest possible time and by 2026 at the latest, and to submit a new plan by 1 July 2022.

[11] Issues leading to delayed compliance report (greatermanchester-ca.gov.uk)

This new direction revokes the direction dated March 2020 which required the 10 Greater Manchester local authorities to implement a Category C Clean Air Zone so as to achieve compliance with the legal limit value for NO_2 in the shortest possible time and by 2024 at the latest.

Conclusions and priorities

The 2021 ASR covers in detail progress on all actions listed in the Air Quality Action Plan and includes information on the development of the GM CAP and a summary of CAP results.

The GM local authorities carry out air quality monitoring for NO_2 using a combination of:

- Continuous automatic monitoring sites: There are currently 21 continuous air quality monitoring stations,[12] twelve of which are located at the roadside.
- Diffusion tubes: 436 sites are set up for local air quality management (LAQM) purposes. In addition, approximately 460 sites are set up for GM Clean Air Plan monitoring and evaluation purposes.[13]

Details of these sites as well as data for 2021 can be found at Appendix A and Appendix B.

Maps showing the location of the LAQM monitoring sites are provided in Appendix D and on the **CleanAirGM Data Hub**.

Monitoring for NO_2 for GM Clean Air Plan purposes uses diffusion tubes at sites where "target determination"[14] modelling predicted illegally high levels of NO_2 for 2021. Three new continuous automatic air quality monitoring stations are planned to be installed in 2022 at the last key points of exceedance in Greater Manchester.

Table ES1 below summarises NO_2 concentrations and exceedances of the annual mean objective (AMO) across sites set up for local air quality management (LAQM) purposes (automatic and non-automatic) across GM in 2021.

[12] Three of the 21 sites had low data capture during 2021. See Appendix D.
[13] 222 of these were active for the full 2021 calendar year.
[14] The government's Joint Air Quality Unit undertook a process called Target Determination, which involves comparing the outputs of the local and national modelling, verifying the local modelling methodology and then agreeing the forecast concentration assessment to be compared to the Limit Value for each exceedance. The outcome of this is an agreement of the NO_2 problem Greater Manchester must resolve ("Target Determination") and the basis for the Greater Manchester Clean Air Plan.

Table ES1: Summary of LAQM NO2 monitoring in GM in 2021

Authority	Automatic sites (with valid data capture 2021)[15]	Non-automatic sites	Concentration range (all sites) (µg/m^3)	Exceedances of NO_2 Annual Mean (non-automatic sites)	
				In AQMA	Outside AQMA
Bolton MBC	1	48	**41.5** – 10.9	1	-
Bury MBC	3	20	**40.9** – 19.1	1	-
Manchester CC	3	40	**44.8** – 14.1	3	-
Oldham MBC	1	27	**46.3** – 15.3	2	-
Rochdale MBC	1	27	36.6 – 10.2	-	-
Salford CC	3	47	**44.3** – 11.5	2	1
Stockport MBC	2	29	35.8 – 9.7	-	-
Tameside MBC	2	53	**42.5** – 9.8	2	-
Trafford MBC	3	20	31.3 – 11.5	-	-
Wigan MBC	2	125	**44.6** – 13.8	-	1
Total	21	436	**46.3 –** 9.7	11	2

During 2020, overall national road traffic levels were approximately 21% lower than in 2019. This reduction was due to the COVID-19 pandemic and associated social distancing and travel restrictions.[16]

For the year ending September 2021, overall national road traffic levels were approximately 16% lower than pre-pandemic levels.[17]

Therefore 2021 had overall higher road traffic levels than 2020, which is considered to be a factor causing the increase in annual average NO_2 concentrations.

Trends in NO_2 concentrations across sites set up for LAQM purposes in Greater Manchester in 2021 can be summarised as follows:

- The highest NO_2 annual mean concentration recorded at an automatic site in 2021 was 44µg/m^3, up from 36µg/m^3 in 2020, but down on previous years. This was recorded at Oxford Road, Manchester. 2020 was the first time that the annual mean concentration recorded at this monitoring station had not exceeded the annual mean objective of 40 µg/m^3. When adjusted for relevant exposure, the 2021 annual mean concentration is 40.4 µg/m^3.

[15] >25% (3 months or more) data capture.
[16] Department for Transport, Road Traffic Statistics 2020 Summary, https://roadtraffic.dft.gov.uk/summary
[17] Department for Transport, Provisional Road Traffic estimates, Oct 2020 – Sep 2021, https://www.gov.uk/government/statistics/provisional-road-traffic-estimates-great-britain-october-2020-to-september-2021/provisional-road-traffic-estimates-great-britain-october-2020-to-september-2021

- In 2021, 17 of the 18 automatic air quality monitoring sites which were operational in 2020 have recorded increases in NO_2 annual mean concentrations of between 1µg/m^3 and 8µg/m^3. One automatic monitoring site (Salford M60) recorded the same concentration as 2020 (34µg/m^3). No monitoring sites recorded a decrease compared with 2020.
- There have been no exceedances of the NO_2 1-hour mean objective in 2021. Nor was there an exceedance of this objective in 2020.
- Of all 436 LAQM diffusion tubes operating across Greater Manchester in 2021, the highest annual mean concentration recorded was 46.3µg/m³ at Shaw Road in Royton,[18] which is inside the AQMA.

In 2021 across sites set up for LAQM purposes, 13 exceedances of the AMO (Annual Mean Objective) for NO_2 (40 µg/m^3) were recorded by diffusion tubes. This is an increase of 11 from 2020, which was a year of a notably low number of exceedances due to the lockdown measures during the COVID-19 pandemic. In 2019, 62 exceedances were recorded out of 359 operational sites, suggesting an overall downward trend in annual mean concentrations.

Two of the exceedances in 2021 were recorded at non-automatic sites located outside of the AQMA, in Salford (SA86 on Bury Old Rd, very close to AQMA boundary) and in Wigan (WI180 – 4 Winwick Lane, Wigan). Exceedances at these sites are acknowledged and mitigation measures are being explored in Wigan, but in the case of any exceedances outside of the AQMA, and in agreement with Defra, the decision to declare an additional AQMA or to expand the current AQMA is being delayed until the outcome of the new GM CAP is determined.

For PM_{10} in 2021, increased concentrations of between 0.1 and 4.2 µg/m^3 were recorded at seven of the 16 automatic monitoring sites operating in 2020. The increase of 4.2 µg/m^3 was recorded at Tameside A635 Manchester Rd monitoring station, the 2020 result is likely to have been affected by low data capture in 2020. Three sites saw decreased concentrations in 2021, while six recorded the same concentration as 2020. There were no recorded exceedances of the annual mean objective (40µg/m^3) for PM_{10} in 2021.

In 2021, three additional monitoring stations recorded $PM_{2.5}$ concentrations, bringing the total in GM to nine. Of the six monitoring stations operational in 2020, four recorded

[18] Annual Mean Concentration at the monitoring site – i.e. not distance corrected. Distance corrected concentration at this site is 44.8ug/m^3, which is the highest distance corrected concentration recorded in Greater Manchester.

increased annual mean concentrations of between 1 and 2.6 µg/m^3, while the remaining two recorded the same concentration as 2020. All monitoring stations were compliant with the national air quality objective for $PM_{2.5}$ (25 µg/m^3) in 2021.

The GM CAP will have the most significant impact on air quality in the city-region going forward, in addition to actions taken to meet the 2038 city-region's carbon neutral target and the decarbonisation of transport.

The GM Clean Air Plan also monitors NO_2, using diffusion tubes. However, the GM Clean Air Plan monitors different sites[19] to those that need to be reported in the ASR.

Table ES2 below summarises NO_2 concentrations and exceedances of the annual mean across sites set up for GM CAP purposes in 2021, with further details given under Section 2.4: "CAP Monitoring Results 2021".

Table ES2: Summary of GMCAP NO2 monitoring in GM in 2021

Authority	Non-automatic sites	Concentration range (all sites) (µg/m^3)	No. Exceedances
Bolton MBC	14	**47.9** – 24.1	2
Bury MBC	16	**44.4 –** 25.7	2
Manchester CC	91	**56.4 –** 15.9	25
Oldham MBC	9	**44.7** – 29.0	1
Rochdale MBC	12	**44.6 –** 27.4	1
Salford CC	27	**45.1 –** 20.6	7
Stockport MBC	19	**51.7 –** 23.3	3
Tameside MBC	14	**47.7 –** 22.3	4
Trafford MBC	14	37.1 – 22.0	0
Wigan MBC	6	32.9 – 26.2	0
Total	222		45

Local engagement and how to get involved

The Clean Air Greater Manchester website (**cleanairgm.com**) has been a key development in the local authorities' communication and engagement with the GM public since its launch in 2018. Dedicated Facebook (**facebook.com/cleanairgm**) and Twitter (**@CleanAirGM**)

[19] The GM Clean Air Plan monitor those sites where "target determination" modelling predicted illegally high levels of NO_2 in 2021. See cleanairgm.com for more detail.

channels were also launched, with the conversation being tracked using the hashtag #cleanairgm.

cleanairgm.com contains a wealth of information and data on local air quality, the GM CAP, how individuals can play their part and tips on reducing and avoiding air pollution. A Schools section is also included on the website that includes a free air quality toolkit for schools to download.

Local responsibilities and commitment

This ASR was prepared by the Greater Manchester Air Quality Working Group, with the support and agreement of the officers listed on page 2 of the report. This ASR has been approved by:

Bury MBC: Laura Swann, Assistant Director (Operations Strategy)

Bolton MBC: Andrew Bolan, Head of Service, Regulatory Services

Manchester CC: Michael Marriott, Head of Environment, Planning and Infrastructure

Oldham Council: Neil Crabtree, Head of Public Protection

Rochdale MBC: Nicola Rogers, Head of Public Protection

Salford CC: Rob Owen, Head of Highways and Network Management

Stockport MBC: Sue Stevenson, Head of Highways and Transportation

Tameside MBC: Sharon Smith, Head of Service, Public Protection

Trafford MBC: Nigel Smith, Head of Public Protection

Wigan MBC: Julie Middlehurst, Assistant Director, Infrastructure & Regulatory Services

Greater Manchester Director of Public Health Lead for Clean Air: Eleanor Roaf, Trafford MBC

If you have any comments on this ASR please send them to Stuart Blackadder at:

TfGM, 2 Piccadilly Place, Manchester, M1 3BG. Email info@cleanairgm.com

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Figures

Tables

1. Local air quality management

This report provides an overview of air quality in Greater Manchester during the 2021 calendar year. Transport for Greater Manchester (TfGM) represents the 10 authorities that constitute the Greater Manchester Combined Authority (GMCA). The 10 authorities are:

- Bolton Metropolitan Borough Council (BoMBC)
- Bury Metropolitan Borough Council (BMBC)
- Manchester City Council (MCC)
- Oldham Metropolitan Borough Council (OMBC)
- Rochdale Metropolitan Borough Council (RMBC)
- Salford City Council (SCC)
- Stockport Metropolitan Borough Council (SMBC)
- Tameside Metropolitan Borough Council (TMBC)
- Trafford Metropolitan Borough Council (TBC)
- Wigan Metropolitan Borough Council (WMBC)

The report fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely, the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by the 10 Greater Manchester local authorities to improve air quality and any progress that has been made.

Defra has confirmed that the Air Quality Action Plan does not need to be updated until the outcome of the implemented GM Clean Air Plan to address roadside NO_2 has been

determined, no later than December 2024.[20]. Consequently, modelling of a renewed AQMA around sites of high pollution, and close observation of the situation here, have also been deferred. However, areas outside the AQMA that have been identified as having non-compliant pollution concentrations are under investigation.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.

[20] Correspondence with Defra, dated 03/04/2020.

2. Actions to improve air quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by Greater Manchester can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries, is available online at https://uk-air.defra.gov.uk/aqma/maps. Alternatively, see Appendix D, a map of air quality monitoring locations in relation to the AQMA(s).

The air quality objectives pertinent to the current AQMA designation relate to the NO_2 annual mean.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One line description	Is air quality in the AQMA influenced by roads controlled by national highways?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and date of AQAP Publication	Web link to AQAP
AQMA Greater Manchester	Declared 01/05/2016	NO_2 annual mean	An area covering the 10 districts of Greater Manchester, including arterial routes, district centres, and airport.	YES	58.7[21]	44.8[22]	Greater Manchester Air Quality Action Plan 2016-2021, (16.12.2016)	https://cleanairgm.com/technical-documents/

☒ **Greater Manchester confirm the information on UK-Air regarding their AQMA(s) is up to date.**

☒ **Greater Manchester confirm that all current AQAPs have been submitted to Defra.**

[21] Oxford Road, Manchester. Distance corrected.
[22] Diffusion Tube at Shaw Road, Royton, Oldham. Distance corrected.

2.2 Progress and impact of measures to address air quality in Greater Manchester

Greater Manchester has taken forward a number of direct measures during the current reporting year of 2021 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Where there has been, or continues to be, barriers restricting the implementation of the measures, these are also presented within Table 2.2.

More detail on these measures can be found in the **Greater Manchester Air Quality Action Plan**.

2.2.1. Feedback from 2021 ASR

TfGM received the following feedback from Defra on their 2021 ASR contribution for the annual year 2020:

1. Trends are presented and discussed, and a robust comparison to air quality objectives is provided.
2. The Greater Authority[23] has not amended the boundary of the single AQMA.
3. The Greater Authority has increased the number of diffusion tube sites across its constituent councils within their monitoring network. This is welcomed and will help inform the efficacy of measures such as the Clean Air Plan in improving air quality.
4. The Greater Authority has provided an extensive list of action plan measures and all the relevant fields have been completed with detailed comments. They should make it a matter of priority to ensure a new AQAP is published soon to reflect the goals and progress towards the most recently adopted measures.

   GM: A statement on the AQAP update can be seen in Section 1 of this report.

5. Robust and accurate QA/QC procedures were applied. Calculations for bias adjustment and the annualisation completed were outlined in detail which enhances the reader's understanding. The deliberation over the choice of bias adjustment used was appropriate and considered robust.

[23] The "Greater Authority" refers to the 10 Greater Manchester Local Authorities.

6. The Greater Authority has responded to last year's appraisal comments and made changes to the report based on the comments. This is encouraging to see.
7. Overall, the report is detailed, concise and satisfies the criteria of relevant standards. The Greater Authority should continue their good and thorough work.

2.2.2. Progress on actions across Greater Manchester

Development management and planning regulation

(AQAP 1.1 & 1.2) Development management and planning regulation

Updates on these actions are given by district below.

(AQAP 1.3) Cumulative Development Database

Update to the database has been paused. Utility of the database questioned after seeing little use from local authorities.

(AQAP 1.6) Encouraging travel planning

TfGM's Partnerships and Engagement team uses tactical partnerships to engage with large and networked employers and partner organisations. This includes business and employer membership networks, representative organisations and local authority business facing teams, to ensure engagement can be delivered at scale across the 10 GM districts.

Throughout 2021 TfGM supported safe travel in the context of the COVID-19 pandemic and continued restrictions, communicating the latest safe travel guidance to a wide range of organisations. Businesses were supported with return-to-workplace guidance on embedding safe and sustainable travel behaviours amongst their workforce, including information on hybrid working and freeing up the transport network at peak times to support social distancing.

In light of COVID-19, the Business Travel Network shifted from an in-person network for local businesses to a virtual model for regularly sharing key messages. Currently, 490 members are subscribed for monthly updates.

In July 2021, TfGM's Partnerships & Engagement team launched the **Business Travel Portal**. This gives comprehensive support and guidance for businesses and employers who want to encourage sustainable travel to the workplace, for both workforce and visitors. The portal provides information on local and national corporate ticketing offers for public transport, rethinking the commute, encouraging active travel amongst employees, and

information about wider support available to businesses. To date, over 3,500 unique users have accessed the portal and its resources.

Partnerships & Engagement is leading on developing an at scale toolkit which will enable businesses to assess and review their commuter planning. This will support the increasing number of businesses contacting TfGM looking to encourage more sustainable travel, including re-thinking how they and their workforce commute. The toolkit is being co-designed with partners such as the Growth Company, business-facing local authority teams and business and is planned to launch in summer 2022.

(AQAP 1.7) Taxi and private hire quality controls to prioritise Low Emission Vehicles

This AQAP action aligns with goals for GM local licensing authorities to progressively harmonise Hackney Carriage and Private Hire Vehicle (PHV) standards to encourage low and zero emission vehicles.

Full public consultation on Minimum Licensing Standards was undertaken in parallel with GM CAP at the end of 2020 across Greater Manchester. Proposals informed by the outputs of the public consultation have been endorsed by GMCA, including age and emission standards. These are now in the process of being considered and adopted by each of the 10 GM licensing authorities.

(AQAP 1.8) Green infrastructure

Collaborative project between Groundwork Trust, Lancaster University, Manchester City Council and TfGM, researching the use of vegetation in green barriers to trap and filter airborne pollution particles before they reach school playgrounds and classrooms. Different green barriers trialled at three schools. Delayed due to COVID and illness, the final report is currently being peer reviewed with a final version expected in Summer 2022.

Freight and Heavy Goods Vehicles

(AQAP 2.3) Urban consolidation

Discussions are ongoing with providers on last mile solutions in the regional centre. Waste consolidation project in Manchester City Centre is being reinvigorated after delays caused by the COVID-19 pandemic.

(AQAP 2.4) Access for freight to key economic centres and sub-regional freight facilities

The ongoing refresh of the Greater Manchester Freight Strategy will provide guidance on access for freight to key economic centres at a strategic, multi-modal level (relating to both

potential and progress). Details of this are currently being discussed between TfGM and local authorities.

(AQAP 2.5) Freight information channels

The Travel Demand team is now well established at TfGM. Since the lifting of COVID-19 restrictions, this team has continued to work on implementing the best methods for sharing information to a freight specific audience, including through the established Freight Forum channel, consisting of roughly 250 freight stakeholders in the region. During 2021, TfGM continued to invest in CLOCS (Construction Logistics and Community Safety) and the associated benefits to safety and the environment.

(AQAP 2.7) Engine idling

Idling across all vehicle types has been raised by a number of local residents. A Task & Finish Group operates in GM looking at minimising emissions from idling. This group has undertaken a review of idling complaints across Greater Manchester, and advice has been provided to local authorities on their statutory powers to enforce against idling vehicles. This was in response to enquiries about specific scenarios where there had been complaints or ongoing issues with idling.

(AQAP 2.8) Alternative fuels

Plans for an initial 10MW Green Hydrogen Project scheme in Trafford are being finalised, with an expansion capability of up to 200MW.

TfGM has led local policy and is in the process of delivering programmes that will provide the infrastructure for alternative fuels.

A refresh of the GM Freight Strategy is underway in order to understand the potential for modal shift of freight and changes in operations that will result in more sustainable movement of freight. The refresh will also scope out a follow on “GM roadmap to low emission freight” that will consider the technological, operational, infrastructure and policy changes (including alternative fuels) that will be required to meet GM carbon targets.

Bus

(AQAP 3.1) Bus priority measures

TfGM and local authorities are developing plans for on-highway measures that will deliver improvements on 145km of key bus routes between key destinations in the city-region (as set out in the 2021-26 Delivery Plan). Plans will include bus priority measures, alongside

wider measures to improve bus journeys, such as making stops fit for purpose, and improving trips to the bus from homes and destinations by active travel.

(AQAP 3.2) Bus improvements

TfGM is engaging with stakeholders to establish solutions available to optimise zero emission bus operation.

(AQAP 3.3) Hybrid bus improvements

TfGM is in the process of retrofitting the owned Optare hybrid bus fleet with SCRT exhaust after-treatment technology to improve tailpipe emissions from Euro 5 to Euro 6 emission standard. This is planned for completion by July 2022.

(AQAP 3.4) Trial of Low Emission Vehicles

Greater Manchester's 2021 application to Department for Transport's Zero-Emission Buses Regional Area (ZEBRA) scheme was successful, securing £35.8 million to introduce 170 green buses to the region by 2024, equating to 10% of the whole bus fleet in GM.

TfGM is exploring how to deploy City-region Sustainable Transport Settlement (CRSTS) funding to increase the number of zero emission buses within GM.

Cycling

(AQAP 4.1) Cycle programmes

Bee Network routes continued to open to improve cycling and walking in Greater Manchester, supported by TfGM-led sustainable travel promotion schemes. The total number of schemes at full delivery phase has increased to 35, with an investment from the Mayor's Challenge Fund of £70.1 million. In 2021, more than 20km of new and upgraded cycling and walking routes were completed in Greater Manchester, with many more stretches of connecting networks being enabled. The first 'Sparrow' crossings in the UK were opened, keeping pedestrians and cyclists separate while crossing busy roads with signal protection. TfGM also secured DfT special authorisation for a ground-breaking new wayfinding package for the cycling and walking elements of the Bee Network. Delivery rates for cycling and walking infrastructure continue to ramp up, and are currently at around £40m per annum.

(AQAP 4.2) Public cycle hire

TfGM has worked with three local authorities to launch a public cycle hire scheme which provides self-service, 24/7 access to bikes and e-bikes for more than 100,000 households,

workers and visitors across the regional centre. The scheme aims to contribute towards mode shift away from private motor vehicles.

Beryl were appointed as the service provider in summer 2021 and the initial phase of the scheme was launched in November 2021. The scheme is being rolled out across the regional centre in 2022 with a fleet of 1,500 bikes, including 300 e-bikes. The scheme has funding to run for an initial period of five years until November 2026.

The scheme will be measured against three objectives: providing access to bikes, increasing cycle use in Greater Manchester, and contributing to modal shift towards sustainable travel.

(AQAP 4.3) Cycle logistics

A phased roll out of e-cargo bikes went live across Chorlton, Whalley Range and Ancoats from December 2021. As of May 2022, there were 23 bikes operational, with some bikes non-operational due to repairs. TfGM has been pleased with the reception and uptake of the e-cargo bikes across Greater Manchester, with positive sentiment online and on social media. Between December 2021 to May 2022, there have been 761 user registrations. The average booking duration is 1.29 hours, with Saturday being the most popular rental day. TfGM will continue to promote the scheme online and via roadshow events.

(AQAP 4.4) Cycle to 2040

The Made to Move agenda and Active Bee Network continue to be supported through two main areas of work related to behaviour change:

- Activation: Communicating and marketing the Bee Network to encourage and enable behaviour change – incorporating specific activation work supporting capital schemes.
- Access: Providing access to services and interventions to reduce barriers and enable change, including a broad range of projects such as cycle training and Bike Libraries, as well as the Cycle and Stride project which is helping local communities become more active through cycling and walking.

(AQAP 5.1) Car Clubs

TfGM is a project partner in the Interreg North-West Europe funded eHUBS project. The pilot aims to accelerate the transition to shared and electric mobility services and, therefore, reduce carbon emissions. The project launched to the public in October 2021 with a phased roll-out of vehicles. Upon completion there will be 10 EVs (as part of an electric car club) for rental across Chorlton, Whalley Range, East Didsbury, Bury and Prestwich. Each of these

locations will have a duel headed fast charger for exclusive Car Club use. One has been delivered in East Didsbury, with the rest to follow in summer 2022.

(AQAP 5.2) Dynamic road network efficiency and travel information system

During 2021 SCOOT[24] has been rolled out at 34 junctions. This form of adaptive signal control dynamically changes signal timing, dependant on demand, smoothing congestion and making the most of the available highway capacity. This system is also being used to provide priority to late running buses on a number of corridors, improving the performance and benefits of public transport.

TfGM has also been working closely with partners to improve customer information. We have been sharing information with navigation service providers such as TomTom, and our participation in the 'Waze for Cities' scheme enables us to log incidents and events and send push notifications for pre-planned events for regular network users.

Cars

(AQAP 6.1) EV charging network

The GM publicly owned electric vehicle (EV) infrastructure, which is part of the Be.EV network, grew in both membership base and charging points in 2021/22. It recently reached 10,000 members and the number of chargers has reached 141, with eight new rapid charge points installed since the last report. These eight rapid chargers are part of the previously reported Phase 1a Early Measures Project which was funded following a successful bid to government's Clean Air Plan 'Early Measures' fund. The successful application secured £3m to expand the EV charging network, of which £1.8m is funding 24 double-headed rapid charging points to be installed in 2020/21. TfGM has installed 21 of these units so far with 2 to follow in autumn 2022. The other rapid charger is a Hackney Carriage-only point which was installed in May 2022 as part of a trial on Hackney ranks in Manchester City Centre.

Alongside this, TfGM, supported by Be.EV have a created a taxi membership scheme with a discounted tariff to support the switch to EV amongst taxi drivers. The Be.EV network still accounts for approximately a third of Greater Manchester's overall publicly accessible EV charging network, which, as of June 2022 stood at 470 charging points and upwards of 850 connectors.

[24] Split Cycle and Offset Optimisation Technique (SCOOT) is a software tool for managing traffic on signalised road networks' it's adaptive and responds automatically to traffic fluctuations. It uses data from vehicle detectors and optimises traffic signal settings to reduce vehicle delays and stops.

The network had been free to use since 2014, but in October 2021, a tariff was introduced for the first time, with the aim of reducing the deficit on the local authority contribution.

TfGM has also been successful in securing £1.8 million funding from the Office of Zero Emission Vehicles (OZEV) Taxi Infrastructure Fund. This has been supported with further funding from the GMCA and now totals £2.4 million. In an update from the previous report, TfGM has secured a further £3.5 million to double the number of taxi and PHV points to 60 rapid chargers in total. Extensive engagement has been carried out with trade representatives and local authorities to find suitable locations for both trades. These sites are now at an advance stage and installation will begin in autumn 2022.

(AQAP 6.2) Car use allowances

Updates to this action are given by district below.

(AQAP 6.3) Local authority parking charges

Updates to this action are given by district below.

(AQAP 6.4) School travel

Congestion Deal funding

In 2020 TfGM's Sustainable Journeys team began working with 19 secondary schools and colleges to provide funding for active travel grants to reduce car travel to/from secondary school/college. Delivery of these grants started in 2021.

Funded through the GM Mayor's Congestion Deal, secondary schools and colleges were shortlisted based on local traffic congestion, number of students, and percentage of pupils using public transport. Over £106,000 was spent on active travel grants across Greater Manchester.

The table below outlines grant funding awards.

Table 2A: Schools and colleges in receipt of Active Travel Grants

School name	Final match funding(£)	Grant paid(£)	Grant activity summary
Ashton-on-Mersey School	£ -	£3,060.00	Pupil cycle sessions at the National Cycling Centre
Bedford High School	£1,500.00	£7,405.50	Cycle parking
Cardinal Langley Roman Catholic High School	£ -	£1,531.74	Cycle parking
Denton Community College	£ -	£2,888.00	Four staff trained to deliver Bikeability Level 2 to students
Didsbury High School	£35.00	£3,120.00	Cycle equipment storage
Hazel Grove High School	£ -	£4,000.00	Update of existing cycle parking
Hazel Wood High School	£ -	£5,634.90	Cycle parking, and pool bikes and associated safety equipment
Kingsway Park High School	£980.00	£3,300.00	Update of existing cycle parking
Priestnall School	£22,179.25	£3,000.00	Cycle and pedestrian entrance improvements
Reddish Vale High School	£1,666.24	£3,271.26	Cycle parking
St Edmund Arrowsmith Catholic High School	£ -	£3,500.00	Cycle training for students and pool bikes
Stretford Grammar School	£2,557.00	£3,268.00	Cycle parking
Stretford High School	£1,388.00	£4,500.00	Cycle parking
The Radclyffe School	£ -	£3,000.00	Pool bikes and associated safety and maintenance equipment
Trinity CofE High School	£2,878.07	£3,268.00	Cycle parking
Waterhead Academy	£ -	£3,035.00	Cycle training for students, and reward bikes and associated safety equipment
Wellington School	£2,237.00	£3,268.00	Cycle parking
Whalley Range 11-18 High School	£3,238.00	£3,268.00	Cycle parking
William Hulme's Grammar School	£ -	£3,189.60	Cycle parking, reward bikes and associated safety equipment
Total:	**£38,658.56**	**£67,508.00**	

School Streets funding

A School Street aims to address congestion and road safety issues at the school gate by restricting motorised traffic at drop-off and pick-up times. The restriction applies both to school traffic and through traffic, on weekdays during school term time.

Funded through the Active Travel Fund, TfGM has earmarked £500,000 to deliver 50 School Streets across GM. The fund is managed by TfGM, however schemes are delivered locally by the local authorities, who have bid for up to £50,000 each to deliver five School Street schemes in their borough. Submissions have been received from nine of the 10 GM local authorities.

The first scheme with this round of funding was delivered by Wigan at Leigh St Peter's CE Primary School in November 2021. Stockport council is also in the process of delivering seven school streets and these are expected to be on the ground in summer 2022.

Youth Travel Ambassador pilot

Through the Capability Fund, eight secondary schools across GM are participating in an exciting new pilot to empower students with the skills and confidence to address transport issues affecting their school community.

The Youth Travel Ambassador (YTA) programme is using a student-led approach to identify and support 90 student travel ambassadors to devise and implement their own campaigns to encourage more students to cycle, walk or scoot to school.

Table 2B: Youth Travel Ambassador programme

Schools participating (Jan-July 2022)	District
Denton Community College	Tameside
Didsbury High School	Manchester
Hawkley Hall High School	Wigan
North Chadderton School	Oldham
The Radclyffe School	Oldham
Rivington and Blackrod High School	Bolton
Wellacre Academy	Trafford
William Hulme Grammar School	Manchester

A second cohort of schools will be recruited for tranche two of the pilot programme, which will be delivered during the 2022/23 academic year. The current schools will be offered the opportunity to continue their participation for a second year. This is to ensure that schools continue to encourage active travel and further embed it into the school's culture.

Modeshift STARS

Modeshift STARS is an online travel planning platform which recognises excellence in encouraging active and sustainable travel through accreditation. It provides schools with the tools and resources to implement their own travel plan and active travel initiatives, and allows districts to monitor and promote activity and to receive accreditation based on modal shift.

After an initial pilot in 2019, TfGM has secured funding to make the platform available to all 10 Greater Manchester local authorities. The platform is also being utilised for monitoring and evaluation purposes as part of the Youth Travel Ambassador pilot and School Streets programme.

Cycle Confidence

Funded through the Capability Fund, the aim of this project is to provide cycle training to secondary schools to support and encourage more students to cycle to school more often.

The contract for this was recently awarded to BikeRight and we are working together to launch the project in May 2023. TfGM will be encouraging local schools and authorities to get involved.

There will be a one-and-a-half-day course available for those students who can already cycle. The course will enhance the student's skills and will help them to plan routes to school, as well as gaining an understanding of the Bee Network.

(AQAP 7.1) Website and online resources

In 2021 **cleanairgm.com** saw major updates and a huge uplift in traffic to the site. During this time the website was viewed by 896,576 people (unique pageviews) and achieved 1,099,377 pageviews. This is a significant rise on the previous year with a more than 400% increase in pageviews and unique pageviews.

This was largely due to ongoing campaign activity to raise awareness of the original Greater Manchester Clean Air Plan proposals. The website was continuously updated to reflect the latest position with the plans, and to improve the customer experience in response to user feedback.

The most visited page on the website in 2021 was the homepage, which received 19.33% of pageviews. The second most visited page was the Clean Air Zone map page with 15.61%, closely followed by the Clean Air Plan page, with 12.51% of overall pageviews, reflecting high interest in the detail of the Clean Air Zone measures at the time.

The bulk of visits to **cleanairgm.com** in 2021 came between mid-September and late December. This was due to owned, earned and paid activity as part of a campaign to promote awareness of the previously planned Clean Air Zone going live, and available funding to upgrade non-compliant heavy goods vehicles (HGVs).

During this period the following updates were made to the site:

- The launch of a bespoke online 'Vehicle and Financial Support checker' tool to allow vehicle owners to find out if their vehicle would be affected by the Clean Air Zone proposals, and whether they were eligible for vehicle upgrade funding, and/or a discount or exemption to daily charges. This was heavily used from its launch in late October, with 110,005 sessions started on the checker between then and the end of 2021.
- Regular updates to the Clean Air Plan webpage, Clean Air Zone map page, and the four bespoke vehicle pages (HGVs, light goods vehicles, taxi and private hire, bus and coach) to reflect the latest status of the Clean Air Plan proposals. Two new bespoke pages for motorhomes and minibuses were also introduced.
- Links to the Clean Air Financial Support Scheme portal – which allows eligible users to apply for funding to upgrade their non-compliant vehicle/s – added to the HGV page and other relevant locations on the website.
- A new 'Dealerships' web page hosting information for potential accredited vehicle dealers.
- A new page listing accredited dealerships which successful Financial Support Scheme applicants could refer to when deciding to upgrade their vehicle/s.
- A 'Discount and Exemptions' page, which also linked to the GM Clean Air Zone Exemptions and Discounts applications portal and the Exemptions section of the government's Clean Air Zones guidance web page.
- A temporary dedicated 'Further consultation' web page hosting a six-week consultation on two elements of the Clean Air Plan proposals from 1 September 2021.

Other significant activity on **cleanairgm.com** in 2021 included promoting involvement in Clean Air Day (17 June 2021) in the two-week run up to the day, with a video and further information on the home page.

Separately, a new TfGM microsite for electric vehicles (EVs) was launched in July 2021: **electrictravel.tfgm.com**. This replaced existing EV pages on **tfgm.com**.

The 'bounce rate' for the Clean Air website over 2021 was at 56.59%, a decrease on 2020 of 13.86%, which shows fewer people were leaving the website without engaging with its content. Most websites will see bounce rates fall somewhere between 26% and 70%.

The first quarter of 2022 saw significant updates to **cleanairgm.com** to reflect the latest status of the Clean Air Plan, which is under review with government. Vehicle-specific and Clean Air Zone map pages have been removed, the online vehicle checker and 'Discounts

and Exemptions' page are no longer live, and the **Clean Air Plan** page is the home of all current, relevant information.

(AQAP 7.2) Online Route Finding

TfGM's real time bus departure feed is now live on Citymapper and Transit for beta testing, enabling real time GM bus information. These suppliers are also taking in TfGM disruption information feed via the TFN disruption tool.

A new journey planner was introduced on **tfgm.com** to encourage customers to make more sustainable journey choices. The journey planner is receiving positive feedback.

(AQAP 7.3) Pollution alert service

People can sign up for pollution alerts on the **Forecasts and Alerts page** on the CleanAirGM website. There were 390 users across GM in May 2022 with registered subscribers in all GM districts.

Table 2C: Number of pollution alerts and subscribers by district

Authority	Days that have received at least one MODERATE (or higher) forecast in 2021	Number of subscribers (May 2022)
Bolton	10	39
Bury	11	15
Manchester	9	127
Oldham	11	8
Rochdale	12	38
Salford	9	32
Stockport	10	36
Tameside	10	16
Trafford	9	23
Wigan	9	56
Total	**100**	**390**

(AQAP 7.4) Health impacts of air pollution in Greater Manchester

COMEAP has recently published an update to its advice to Defra regarding health evidence relevant to setting targets for $PM_{2.5}$ under the Environment Act. This update reflects the publication of revised Air Quality Guidelines by the World Health Organisation in September 2021. COMEAP has also updated its recommendations for quantifying mortality associated

with long-term exposure to particulate air pollution and hospital admissions associated with short-term exposure to particulate air pollution and nitrogen dioxide.

(AQAP 7.5) Contingency report plan

A draft project was developed in consultation with primary care practices to create Clean Air Practices that would include providing advice to targeted patients around air quality alerts. This was delayed due to the COVID-19 response and resourcing.

(AQAP 7.6) TfGM air quality team

Additional member added to air quality team in 2017.

(AQAP 7.7) Air quality monitoring database

TfGM are collating all AQ data and maintaining the database. This data is now being published on the **cleanairgm.com** website.

(AQAP 7.8) Traffic flow data

Conducted as part of the Clean Air Plan work.

(AQAP 7.9) Awareness raising

TfGM has a strong track record of working with GM partners in supporting, promoting and generating positive engagement with national Clean Air Day since 2017. In 2019 GM held a "Clean Air Week" and in 2020 GM launched the Clean Air Plan consultation.

The national theme for Clean Air Day 2021, led by organisers Global Action Plan, was "This Clean Air Day, let's protect our children's health." GM adopted this theme and planned a digital-first campaign around a thirty second "hero" video encouraging people to cycle and walk for shorter journeys, including the school run. The video played on the homepage of **cleanairgm.com**, which temporarily acted as a campaign homepage, signposting people to the TfGM Active Travel website to plan an active journey on Clean Air Day.

This was supplemented by paid social media activity on Facebook and a series of boosted Twitter polls/results to educate people around air quality issues and raise awareness / drive action on Clean Air Day.

A social media toolkit including the video, a range of images and messages, was widely distributed to partners and stakeholders across GM. A toolkit was also sent to all GM schools via Directors of Education. GM used the campaign hashtag #GMCleanAirDay to measure engagement. A news release was issued to launch the campaign, tying into a School Streets announcement, and on the day itself.

Headline results:

- Nearly 4.4m impressions for GM, CleanAirGM, TfGM posted campaign content – target exceeded.
- All 10 local authorities engaged with content – target met.
- More than 1,000 uses of #GMCleanAirDay – target exceeded.
- 217 uses of #GMCleanAirDay on 17 June (91% on Twitter).
- 3,568 engagements with @cleanairgm content – target met.
- 8% increase in @cleanairgm Twitter followers – 2% lower than targeted.
- 270k+ video views – target met.
- 1.57% (Twitter) and 3.82% (Facebook) engagement rate for @cleanairgm content (high).
- 6,763 visitors to **cleanairgm.com** over the campaign period (541 on Clean Air Day itself) – 34% increase on the previous month and 550% on the previous year.

2.2.3. Progress on actions in districts

Bolton Metropolitan Borough Council

(AQAP1.1&1.2) Development management and planning regulation

Bolton Council continues to require air quality assessments for large planning applications. Even where the air quality impact is assessed as negligible mitigation is requested. This includes measures such as electric vehicle charging provision where parking is provided, and Construction Environmental Management Plans to control dust and emissions during the construction phase of the development.

(AQAP 2) Freight and Heavy Goods Vehicles

The council took delivery of new Euro VI compliant refuse vehicles during 2021. These vehicles have much lower emissions than the vehicles they have replaced.

(AQAP4) Cycling

Bolton Council has a number of schemes that will have a positive impact on air quality which are being implemented or consulted on. While many of these schemes were not completed in 2021 they were under development during this period and include:

- Bolton Town Centre / Trinity Street: Works include the first CYCLOPS junction in Bolton and fully segregated links for cyclists and pedestrians. A new train station forecourt has been constructed which will improve access for train passengers.

- Farnworth Streets For All: Work is due to begin soon on this scheme to re-allocate road space in Farnworth Town Centre. There will be improvements to make it easier to get around on foot and segregated cycle lanes.
- Manchester Road (Bolton Town Centre to Farnworth): This is a light segregated active travel scheme which will make cycling safer and more attractive. It will improve links between Farnworth and Bolton Town Centre.

Work is also progressing on the following schemes:

- Bolton Town Centre East: A full business case for this scheme is under development. The scheme will improve access to the town centre particularly addressing barriers that the A666 (St. Peters Way) may pose. The scheme is likely to include new cycle tracks, CYCLOPS junctions, toucan crossings and other junction improvements to improve safety and make the area more attractive for cyclists and pedestrians.
- Bolton Town Centre to Doffcocker: This is a developing scheme, involving new cycle routes and junction improvements, including pedestrian crossings.

Other schemes under consideration:

- Astley Bridge and Crompton Active Neighbourhoods scheme: This scheme would improve walking and cycling access to schools and shopping streets making it easier to get around local neighbourhoods.
- Westhoughton Active Neighbourhood scheme: This will improve safe access to Westhoughton Town Centre and aims to increase cycling in the area.

(AQAP5) Travel Choices

The schemes outlined in Section 4 (Cycling) will also encourage walking and alternative modes of transport than the car.

(AQAP6) Cars

Junction improvements are planned as outlined in Section 4 (Cycling). Electric vehicle charging provision is required for most new developments, which will encourage the uptake of electric vehicles and reduce emissions from cars. A new rapid charger was installed on Soho Street in the town centre during 2020 and went live in early 2021. The council is working on plans for further EV charging points in the borough, including dedicated taxi / PHV rapid charging points at Eagle Street, Egerton Street and Back Willows Lane.

(AQAP7) Information and resources

Bolton was part of the GM-wide bid to undertake research and raise awareness in relation to domestic solid fuel burning. Awareness raising linked to this bid will take place later in the year. As the Clean Air Plan is under review, it is likely that further public engagement will be required once revised proposals have been developed.

Bury Council

(AQAP1.1&1.2) Development management and planning regulation

Bury Council require Air Quality Assessments and Mitigation Plans for planning applications where necessary. EV charging points are now required by planning conditions for all developments with parking. The council attends Greater Manchester Air Quality Planning Sub-group meetings to provide consistency of planning requirements across Greater Manchester. Pre-planning advice is provided for developments that will have the potential to impact air quality.

Construction Environmental Management Plans are required to control dust and emissions from construction sites.

The Greater Manchester Places for Everyone plan includes large areas to be developed for employment and housing. Bury's Environmental Health department are working with the Planning Department to ensure pre-application discussions include air quality requirements, and that cumulative impacts on air quality are assessed.

Town centre redevelopment plans include providing green spaces in Bury, Prestwich, Radcliffe and Ramsbottom. A tree nursery at Barnfield Park is proposed through the City of Trees project.

(AQAP4) Cycling

The following schemes are being implemented by Bury Council to encourage cycling within the borough:

- A consultation on an Active Neighbourhood in Fishpool/Pimhole has been completed and responses are being reviewed in order to finalise proposals, which currently including closing Alfred Street at the railway bridge to reduce traffic. An Active Neighbourhood scheme is also proposed for an area in Prestwich in near Heaton Park.

- TfGM Learn to Ride and Road Rider Ready training courses are available to residents for free and delivered fortnightly in Clarence Park (North Manchester hub for training).
- Wheels for All activities at Clarence Park encourage wider participation using modified and accessible bikes and tricycles.
- Brompton bikes are available to hire by Bury Council staff to give an alternative to car travel for work journeys.
- Move More officers are developing a Bike Library Network, so that bikes can be rented out using existing library membership. Each library will aim to have six bikes and two balance bikes. Bikes have already been procured for the first library and secure storage will be provided. Officers are engaging with existing community groups and social enterprises (e.g. Men in Sheds) so that bike maintenance and cycle training can be provided in the community.

(AQAP6) Cars

Bury Council is undertaking the following projects:

- E-HUBS pilot project operated by Enterprise at Fairfax Road, Prestwich and the Market Car Park, Bury. EV charge points are now installed and the scheme is expected to start Spring 2022.
- TfGM funding has seen two rapid charges installed Bury Town Centre (located in The Rock and Millgate car parks).
- Proposal to install three EV Taxi Hubs.
- Sites for community electric charge points identified and to be developed in 2022.
- Procurement of EV charge point infrastructure for the council's vehicle depots at Bradley Fold and Bury Cemetery Depot completed.
- Reviewing its staff car allowance and mileage system.
- Work with TfGM to implement three School Streets.
- School Award Scheme called Modeshift STARS to be implemented at pilot schools within the borough. Awards will be granted to schools where pupils change travel mode to active travel/public transport.
- Bikeability training is being carried out in schools to build cycle confidence.
- Konflux Theatre Group is providing interactive road safety training in six schools across Bury.

(AQAP7) Information and resources

Bury has bought three low-cost sensors (Zephyrs supplied and supported by Earth Sense at a cost of £19,000) to monitor air quality at school. These will initially be installed at Christchurch, Chesham and Lowercroft Primary Schools for one term.

Manchester City Council

(AQAP1.1&1.2) Development management and planning regulation

- Continued with planning development requirements, including air quality impact and exposure assessments, and mitigation such as EV charge points, boiler emissions standards and travel plans.
- The council continued to submit monthly reports to TfGM for the Planning Development cumulative impact database.
- Planning continued working with developers to secure sustainable transport strategies for new developments.

(AQAP2) Freight and Heavy goods vehicles

- Delivery and Servicing Plan work and implementation continued. Deliveries during off-peak times, load consolidation, and personal deliveries are not allowed.
- A new job allocation system was introduced that reduces the need for staff using council vehicles to travel into the workplace daily to collect work schedules.
- The council's waste contractor, Biffa, continued to operate almost half its fleet with emission-free electric alternatives.
- The Energy Saving Trust were commissioned to undertake a review of the Council's fleet and grey fleet. The recommendations of the resulting Transport Decarbonisation Report are being implemented.
- The council continued to progressively replace its entire fleet with EVs, including providing staff with home EV charge points for the use of fleet vehicles.

(AQAP3) Buses

- As part of the GM Transport Strategy 2040, Right Mix approach and City Centre Transport Strategy, development of investment in bus priority infrastructure and other plans to improve bus transport, to increase bus transport mode share. This includes over £60m of bus related infrastructure in Manchester as part of the GM City-region Sustainable Transport Settlement.

(AQAP4) Cycling

- Ongoing implementation of Right Mix aim for 50% of all journeys in Greater Manchester to be made by walking, cycling and public transport by 2040.
- Ongoing delivery of the City Centre Transport Strategy, including key aim for 90% of peak morning trips into and within the city centre to be by public or active transport by 2040.
- Development and delivery of over £100 million active and sustainable travel infrastructure investment projects including air quality monitoring across Manchester. Beswick bus stop improvements and early phases of Chorlton cycleway and Northern Quarter are complete with latter phases in construction. Key schemes such as Deansgate, Levenshulme and Burnage Active Neighbourhoods, City Centre Triangle and others are in progress.
- Ongoing development of a pipeline of active travel (walking and cycling) infrastructure investment and other supporting measures, including through development of a Manchester Active Travel Strategy and Investment Plan and individual schemes.
- Deployed first phase of Bee Network Cycle Hire, 31 locations along Oxford Road/Wilmslow Road corridor, working with TfGM and Beryl to facilitate phased delivery of full scheme throughout 2022.

(AQAP5) Travel Choices

- Staff Travel Policy review completed, introducing travel hierarchy based on sustainable modes of transport. Engagement is ongoing with services and will increase along with a monitoring plan when the new Project Officer person starts in post in May/June.
- Business cases were developed for a pool bike scheme and EV leasing schemes.
- Continued to promote sustainable travel and air quality over staff communications, via community engagement and university projects, and to the public via council web pages.
- Sustainable travel toolkit distributed to local businesses and hospitals. Local universities were also involved in this work.
- Promotion to schools of Modeshift STARS national schools awards scheme recognising schools that have demonstrated excellence in supporting cycling, walking and other forms of sustainable travel.
- MCC successfully bid for £50,000 from GM’s Walking and Cycling Board to fund seven School Streets schemes.

- Defra-funded School Streets project (coordinated by TfGM) including six Manchester schools, and air quality monitoring to be undertaken at a school within the Air Quality Management Area.
- Continued operation of Greater Manchester's first fully filtered neighbourhoods in Levenshulme and Burnage wards, pioneering an approach where the council, with the community, develop schemes resulting in increased active modes of travel.
- Introduced permanent pedestrianisation of city centre areas with air quality monitoring.
- Continued to promote flexible working and working from home or locations that result in reduced travel time.
- Several teams have fleet EVs, and this number is increasing when vehicle lease contracts end.
- The council expanded its staff car club scheme to include a dedicated provision for an office located in the south of the city.
- Further EV charging infrastructure actions by the Council:
  - Adoption of GM EV Charging Infrastructure strategy.
  - Continued work with TfGM to identify charging sites and install charge points.
  - Working with TfGM to implement the eHUBS programme in Ancoats, Chorlton and Whalley Range, which co-locates electric car club vehicles with e-cargo bikes for hire in order to enable zero-carbon shared mobility services to be used as an alternative to private car travel. This is a pilot scheme which is due to end in October 2022.
  - Work continues to identify funding opportunities to expanding the charging network, including working with TfGM on implementation of the GM EV Charging Infrastructure Strategy, as well as development of local EVCI strategy and investment opportunities (including facilitating private sector investment) to boost the support of charge points across Manchester.

(AQAP6) Cars

- Ongoing implementation of Right Mix aim for 50% of all journeys in Greater Manchester to be made by walking, cycling and public transport by 2040.
- Ongoing development and implementation of strategic plans for car parking, in particular aims under the City Centre Transport Strategy including to reduce car parking and appropriately locate car parking to support and encourage people to

use public and active transport. Key work being progressed includes delivery of the Ancoats Mobility Hub, reviewing city centre parking pricing, ongoing consideration of opportunities for redevelopment of carparks in the city centre, and identifying priority locations for park and ride/travel hubs across Manchester.

- Manchester joined a GM Task & Finish Group, formed to review options to address vehicle idling actions.
- School engagement projects continued to be undertaken where possible by council neighbourhood teams, including a joint initiative between MCC and Greater Manchester Police (GMP) with PCSOs to engage pupils in clean air and anti-idling messages to drivers during pick-up times. The Junior PCSOs initiative commenced in April 2021 and takes place on a weekly basis, with GMP providing an extra PCSO to support the pupils' work.
- Anti-idling compliance work carried out by resolving isolated incidents of idling informally in accordance with the Council's Enforcement Policy.

(AQAP7) Information and resources

- The council participated in 2021's Clean Air Day/Week, which included promoting awareness of air pollution and measures the public can take to reduce their own exposure and impacts. Activities were reduced due to COVID-19, but highlights included:
  - Promotion of Global Action Plan web resources/toolkits for hospitals, businesses and schools.
  - City centre anti-idling campaign: Behaviour Change and consultation with bus drivers at Piccadilly Bus Station, Oldham Street and Lever Street.
  - A city centre street (Oak Street, Northern Quarter) was closed to traffic between 10 and 3pm to allow for a car free community engagement space.

- A partnership working group was established with public health colleagues to assess how health practitioners can better signpost patients to CleanAirGM air quality alert services.
- Additional measures taken outside of the AQAP during 2021 include a radio, social media and leaflet delivery campaign, led by MCC, to address particulate emissions from domestic stoves and fireplaces. The campaign's aim was to educate Manchester residents about smoke control area rules covering the district, the impact of such appliances on indoor and outdoor air quality, and how to reduce these impacts. The CleanAirGM website was also updated with information on smoke control rules, better burning practices and how to complain about smoke problems
- The council also continues to review and update its own air quality and smoke control webpages on a regular basis.

Oldham Metropolitan Borough Council

(AQAP1.1&1.2) Development management and planning regulation

In 2021 Environmental Health at Oldham Council were consulted on 421 Planning applications. The Institute of Air Quality Management (IAQM) guidance on the assessment of dust on demolition and construction sites and the IAQM Air Quality planning guidance was used to review the applications and ensure that air quality was considered as part of the planning decision process. Some applications were submitted with Air Quality Reports which the team reviewed, and appropriate conditions were then placed on planning

applications to control the effects new developments have on Air Quality at the construction phase. In 2021 the council received and reviewed 12 Air Quality reports and many more construction management reports which examined how dust and particulates are controlled during construction and demolition. Environmental Health also offers preplanning application advice to help developers and their consultants to ensure they submit the correct information with their planning applications and to encourage them to consider Air Quality at a very early stage of the formation of a planning application.

Should dust complaints be received during any construction or demolition activity Environmental Health officers remind developers of commitments made to control dust emissions in their agreed Construction Management reports.

Refresher training on the planning consultation process in terms of Air Quality has recently been carried out with Environmental Health colleagues as well as the creation a procedural document and standard comments for Air Quality consultation responses.

(AQAP 1.5) 20mph zones

In late 2020, 20mph zones were introduced in Uppermill and Greenfield. These were primarily introduced to improve road safety and help with social distancing, but the 20mph zones will remain following the lifting of restrictions and we will continue to monitor the results on the Air Quality in the area. It is difficult to interpret any results from these tubes at present due to changes in traffic levels during lockdowns in 2020 and 2021.

(AQAP 1.6) Encouraging Travel Planning

One of the objectives of The Local Development Plan will be “...to promote sustainable development in the borough by reducing the need to travel and encouraging walking, cycling and the use of public transport.”. We continued to engage with the TfGM Travel Choices and Active Travel Teams to promote the active travel, travel choice programmes, carshare Greater Manchester and journey planning across Oldham.

After encouragement and support by the council seven schools in Oldham signed up to Modeshift STARS for education to develop their travel plans. Saddleworth School recently achieved a bronze award on the scheme.

(AQAP 1.7) Taxi & Private Hire Licensing

The licensing authority has contributed to improving air quality by putting into place a change of policy whereby any new private hire or hackney carriage vehicle must have the latest emissions level i.e., Euro 4 or above for petrol, Euro 6 for diesel or other zero emissions

technology. In relation to existing licensed vehicles which are not emissions compliant, owners have been given until the end of 2025 to change those vehicles for compliant ones. A commitment has also been given to work towards a full zero emission fleet of licensed vehicles, a date for which is yet to be confirmed

(AQAP 1.8) Investigate the potential of green infrastructure in improving air quality

Links have been made this year with the Senior Arboricultural and Countryside Officer at Oldham to see how Green Infrastructure could be used to reduce the impact of air pollution. Several potential schools that could possibly benefit from green screens have been identified and we hope to explore interest with the schools and possible sources of funding for such schemes going forward. We have not approached schools this year as we felt their priority lay with return to normality following the pandemic. We have actively planted trees in areas of highest pollution/poorest air quality and continue to seek such opportunities. A couple of examples are 40 new trees between Elk Mill Roundabout and the Lacrosse pitch at Clayton play fields, also 40 trees and 0.5 hectare of woodland between Broadway and Bare Trees School. In the last 3 years we have planted 1128 standard trees in streets, parks, cemeteries and open spaces. We have also planted 14 hectares of new woodland each hectare containing at least 2500 trees i.e., a minimum of 35,000 trees.

Oldham Green New Deal

The Oldham Green New Deal (OGND) Strategy was adopted by the council in March 2020. The Strategy set a number of objectives and pledges for delivery on environmental issues in a range of work areas, which broadly fitted into three over-arching ‘pillars’:

- Growing the green economy.
- Low carbon infrastructure and a Local Energy Market.
- Northern Roots.

The OGND Strategy also set two carbon neutrality targets:

- For council buildings and street lighting by 2025.
- For the borough by 2030.

Since the report in September, the council had carried out soft market testing exercise, inviting private sector low carbon infrastructure companies to provide feedback to the council on its proposed approach to setting up a public-private sector partnership to deliver against the 2025 and 2030 carbon neutrality targets. Alongside this exercise, a Local Area Energy Plan (LAEP) had been developed for Oldham by Energy Systems Catapult who were leading delivery of the GM Local Energy Market project.

In October 2021, the council commissioned ALERON, social impact consultants to prepare a SWOT analysis and Regional Action Plan looking at how the council and other key stakeholders could support growth in Oldham's Green Technology and Services sector. For the study, ALERON carried out both a desktop analysis and interviews with a wide range of stakeholders including green businesses in Oldham. The study showed significant potential for Oldham's Green Technology and Services (GTS) sector to play a key role in delivery of the 2030 carbon neutrality target whilst creating jobs and training opportunities for Oldham residents.

Work had been completed on the LAEP for Oldham. The LAEP had identified a requirement for £5.6bm to be invested in Oldham's energy infrastructure, to enable the borough to achieve its 2030 carbon neutrality target. Whilst this was seen as a significant challenge, it presented a significant commercial opportunity for private sector providers of low carbon infrastructure and provided an evidence base supporting an over-arching strategic business case for decarbonisation of the borough.

The Oldham Green Economy study and the LAEP were two key documents which would support any strategic public-private sector low carbon infrastructure partnership:-

- The green economy study provided an evidence base which showed how the local Oldham supply chain could support delivery of low carbon infrastructure in the borough, and benefit from the investment.
- The LAEP provided an evidence base which highlighted the extent and prioritisation / targeting of low carbon infrastructure opportunities in the borough.

Taken together, the two documents would not only give confidence to any private sector infrastructure provider partner that potential commercial opportunities did exist in Oldham, making Oldham an attractive investment, but would also set out how such a private sector partner could engage Oldham's local green business sector to deliver (or support delivery of) a significant part of the borough's decarbonisation programme.

Following the conclusion of the soft market testing exercise, twelve organisations that represented a wide range of viewpoints responded which provided valuable feedback which would help the council to further develop and refine its proposed approach.

From the feedback, a proposed structure for the strategic partnership had been developed. The proposed approach envisaged the council appointing two main contractors:-

- The primary contractor responsible for investment in, and delivery of, low carbon infrastructure in Oldham borough

- A consultancy service providing independent assurance of the overall delivery programme and individual projects / initiatives, supporting the council with governance and accountability, and supporting the infrastructure provider as a 'critical friend'

The council is currently working on three complementary strategic initiatives:

- Mapping the green economic sector to identify opportunities for growth;
- Mapping the low carbon infrastructure opportunities across Oldham borough; and
- Soft market testing exploring the potential for a Strategic Low Carbon Investment and Delivery Partnership with the private sector

(AQAP2) Freight and heavy goods vehicles

We have begun the process of identifying a site to implement the Delivery Service Plan toolkit. We believe our main Civic Centre would be the most suitable location, however we are waiting until a number of staff return to the building following the pandemic before carrying out the surveys required to help formulate the plan.

After a successful trial of electric bin lifts in 2021 the council has purchased five new lifts for the five new waste collection vehicles it will be receiving in June 2022. The new electric bin lifts will cut the cost of fuel, carbon emissions from the council fleet and also cut air pollution from diesel use, improving air quality in the vicinity of the vehicles.

The council has also recently approved investment in a trial of an innovative new vehicle solar panel technology from a company based in Oldham (Trailar Ltd). The technology has the potential to significantly reduce fuel consumption and emissions from Council vehicles. It is hoped the technology could provide a steppingstone on the Council's journey to an all-electric vehicle fleet which is not currently viable due to the relatively high cost of electric vehicles and the still developing state of electric vehicle technology. Undertaking the proposed trial would serve to prove the effectiveness of the technology before the council could deploy it more widely across the council's vehicle fleet.

Tracking technology has also been installed on much of our fleet so that the council can make sure that the vehicles are not idling unnecessarily when stationary.

Although the Clean Air Zone due for May 2022 has been delayed in its current format Oldham Council had been endeavouring to ensure that its vehicle fleet complied with the Clean Air Zone targets. Out of a fleet of approximately 150 vehicles the council would have only had 12 vehicles (8%) that did not meet target, however our plans for vehicle replacement will still guarantee 100% compliance by August 2022.

(AQAP4) Cycling

In 2021 the council consulted with the public on improvements to three “Bee Network Routes” in Oldham. The Bee Network will join up travelling on buses, trams, cycling and walking by 2024. The first consultation was a series of improvements on the side roads where Lees linear park route crosses the highway, making crossing the highway safer. The changes are proposed to benefit cycling from Oldham Town Centre to Grotton.

Another proposal would improve links to the Royal Oldham Hospital by creating a cycle and pedestrian pathway from the subway at Westhulme Avenue through the residential area surrounding the hospital. An upgrade to the surface of an existing path, which leads directly into the hospital, is also being put forward with improvements on the route, such as lighting and seating planned.

A Wellington Street Traffic Free Zone is also being proposed. The quiet route to the town centre for cyclists and pedestrians would be created by closing a stretch of Wellington Street to motorised traffic from the service access road at Alexandra Retail Park to the Rhodes Bank junction.

Plans were also drawn up in 2021 for the accessible Oldham scheme that will make it easier, safer, and more enjoyable to get around Oldham Town centre as a cyclist. The route will bring Oldham’s first CYCLOPS (cycle optimised protected signal) junction to the borough at Egerton Street/St Mary’s Way, a key route into Oldham Town Centre.

(AQAP5) Travel Choices

There are currently no car clubs in Oldham, however Oldham Council continue to promote CarShareGM.

We are in the process of putting a management paper together to engage with a car company that provide lease cars for our staff. This will hopefully allow staff to replace their own vehicles with more modern, less polluting vehicles. Part of this offer would be around electric vehicles.

(AQAP6) Cars

We have continued with our car use allowances policy that regularly reviews roles to see if the allowance is still required or if alternatives would be more appropriate, e.g. could the employee use a number of electric pool vehicles for business journeys. Where these vehicles are available staff must use these vehicles rather than their private car for business use. As part of the council’s travel plan to encourage the responsible use of bicycles for

work as an alternative to driving, the Council pays above the approved amount for mileage allowance payments published by the HM Revenue and Customs. Car mileage is not paid for journeys from Oldham Town Centre to Manchester, Rochdale, Ashton, Failsworth or Royton unless there are special circumstances (e.g. travel at night / transporting equipment) and we expect staff to use public transport instead.

The Special Educational Needs School Transport contract was reviewed in 2021. Links were made between procurement and Environmental Health and for the first-time air quality was considered as part of the contract. Weighting is now given to operators of taxis and private hire vehicles who incorporate a number lower emission vehicles in their fleet. We hope to extend this to other contracts as they are due for renewal.

(AQAP7) Information and resources

Last year the council supported national Clean Air Day (Thursday 17 June) which had the theme “Protect our children’s health from air pollution”. By the use of social media and emails to all council, everyone was encouraged to go car free for shorter journeys, including the school run and share their experiences on social media. The Clean Air Greater Manchester website was also promoted.

The council has declared a Climate Emergency and committed to be carbon neutral by 2030.

A new 5-year Corporate Plan is being published with Climate being one of the six priorities for the Council.

All council staff have to undertake annual mandatory training. A new mandatory course this year is on climate change. Educating staff on the issues and showing how we can all contribute by making small changes in our everyday life. It also shows staff what the council are doing or planning to do over the next few years such as the Eco centre at Alexandra Park and the new Linear Park.

Rochdale Metropolitan Borough Council

(AQAP1.1&1.2) Development management and planning regulation

Air quality assessments are required for all developments that have the potential to impact upon air quality and mitigation measures are required. All new and some existing developments, both commercial and residential, are required to install electric vehicle (EV) charge points in line with the council’s EV charge point policy, which has now been adopted into the Local Plan.

Masterplans have been completed and are ongoing which will be implemented to deliver higher density development around the Boroughs Railway Stations. The Rochdale and Castleton Railway Station Masterplan, Supplementary Planning Documents (SPDs) have been approved by the council and work has started to progress individual developments to enhance the station environment and nearby land allocations for commercial or residential use. A Littleborough SPD Masterplan been drafted and undergone to public consultation. Development proposals around Smithy Bridge and Mills Hill Railway Stations are being progressed through the planning process. These masterplans form the Calder Valley Rail Corridor Strategy aimed at enhancing stations and promoting development opportunities within walking distance of railway stations and providing convenient and affordable alternative to access Manchester City Centre. The proposals include improved sustainable transport links and access to and from each station as part of the bee network programme. These development opportunities will drive continued growth in rail patronage to justify the need for more modern rolling stock and more frequent rail services on the Calder Valley Line. The council is also has a development focus on Town Centre Regeneration where there is a choice of feasible sustainable transport access options. In addition to the ongoing delivery of Rochdale Town Centre Regeneration Masterplans and SPD's are being prepared for Heywood and Middleton Town Centres which seek to enhance public realm and opportunities to travel by sustainable modes.

As part of the Northern Gateway strategic development proposals in GM's Places for Everyone Plan studies have commissioned to develop a public transport and walking / cycling / shared mobility strategy to enable local communities to access potential employment opportunities offered by the proposal in the future.

(AQAP 2) Freight and Heavy Goods Vehicles

The development of the new M62 J19 South Heywood Link road is underway and the 2.2km road once complete will connect junction 19 (at Heywood and Middleton) to Hareshill Road and Pilsworth Road. 1000 new homes will be created and development of 132,000m2 of land for industry is expected to save an estimated 4,700km per day of journeys by providing HGV drivers with a direct route from the motorway into the Hareshill and Pilsworth business parks, where currently they have to go via Simister Island (junction 18 of the M62). The link road will reroute HGV traffic away from Heywood town centre, as well as Birch and Bowlee, significantly reducing congestion in these residential areas. Around 3km of new walking and cycling routes will also be delivered as part of the scheme, and the new road will enable the

provision of bus services to serve the new development and the existing business parks. The scheme is due to be completed and operational by autumn 2022.

Following the completion of the delivery service plan completed to assess deliveries into council buildings, the council was looking at a fleet of e-cargo bikes to assist small business in the borough to transport small loads for delivery of goods as an alternative to vans; the final review into uptake will be determined following a review of deliveries within the town centre.

The Castleton Bee Network Phase 1 proposals and measures being developed in the Heywood SPD seek to minimise conflict between lorries and local centres / communities in sensitive areas promoting alternative routes for large vehicles which have less impact.

(AQAP3) Buses

Following support for GM's Bus Reform and potential franchising which the council has supported there may be opportunities to address the increasing fragmentation of bus services in the Borough allowing the network to be reviewed and enable passengers to better understand fares. Co-ordination and integration of services and new ticketing and fare regimes may result in passengers paying less for many journeys and encouraging greater public transport use.

Over 50 bus stops have been upgraded to alter the kerb height to make it easier for elderly, disabled and residents with limited mobility to access public transport.

(AQAP4) Cycling

Work continues on Bee Network opening up more areas of the borough to encourage and promote cycling routes and improve safety for cyclists. The first Phase of the Castleton Bee Network scheme has funding and consultation has been carried out and design of Phase 2 of the scheme to Rochdale Town Centre which is in the GM Mayors Challenge Fund programme continues. The council is also progressing the design of a number other Bee Network schemes and will submit them for consideration when funding opportunities arise. Design and consultation work also continues on two Active Travel Fund schemes, St Leonards Street, Middleton and Milnrow Town Centre which will both enhance the streetscape and reduce conflict with other traffic promoting more and safer pedestrian and cyclist use. All the masterplans and SPDs being prepared and promoted by the Borough include measures to significantly enhance access by sustainable transport modes and provide continuous safe networks to key employment leisure and town centre locations.

(AQAP5) Travel Choices

Rochdale Council implemented a 12 month e-Scooter trial which ceased on 31st March 2022. The trial operated around Rochdale Town Centre and sought to encourage short “first / last mile” journeys to be made by means of transport other than the car. The trial was worthwhile and indicated the value of shared mobility particularly for short journeys. Officers have been sharing the Rochdale experience of the trial with The DfT and other transport authorities around the UK. It is also working with TfGM to develop Mobility Hubs to support the public transport network and the possibility of expanding car clubs into the Borough.

The Rochdale Active travel forum has been created with the aim of improving sustainable travel and the sharing of information around air quality, this is comprised of local authority officers, elected members and members of the public.

Two controlled crossing points have been designed and approved for funding, one in Rochdale Town Centre and the second in Littleborough centre, this should give pedestrians more confidence about walking in areas of high traffic flows and reduce the number of local car journeys.

(AQAP6) Cars

Rochdale Council is working with the other 9 GM authorities to implement both the Clean Air Plan and Taxi Minimum standards. Part of the review of charging points across the borough have identified key areas for installations including tourist destinations within the borough.

Work has also been ongoing regarding the identification of locations for the installation of electric vehicle (EV) charge points, with a new point being installed at Heywood Civic Centre located in Heywood Town Centre public car park.

The work has commenced in Rochdale town centre on pedestrianizing the area surrounding the grade 2 listed town hall, with the removal of the car park and introduction of a large pedestrianised zone coving the whole area surrounding the town hall towards the river area. This has already significantly reduced the amount of traffic entering the town centre and diverting traffic away from the pedestrianised zone.

The council, in partnership with Calderdale Council and local voluntary and interest groups, has set up a Calder Valley Railway Line Community Rail Partnership (CVCRP) and appointed a part time officer to develop the partnership. The aims are currently being formalised into a business plan but include connecting communities with their railway line particularly for off- peak and leisure journeys when there is capacity on these services. To

attract people back on to rail services after the COVID-19 pandemic. The partnership seeks to encourage patronage of the network and make rail journeys a viable option and reduce the number of vehicles on local road networks.

TfGM upgraded the computer systems at traffic signals within the borough to encourage improved traffic flow.

(AQAP7) Information and resources

Rochdale Council is working to promote sustainable travel options to employees and is looking at reviewing the car club options and other sustainable transport options. Information is available to both staff and members of the public looking at local walking routes and ways to reduce the number of journeys taken. Information posters have been displayed both in the public and staff areas signposting to further information.

Promotion of cycle routes and walking routes available in the borough. Promoting walking in the borough including access to the **gmwalking.com** website and promotion of local green space.

Salford City Council

(AQAP1.1&1.2) Development Management and Planning Regulation

Current Salford planning policies require developments that may be significantly polluting to be assessed and include mitigation measures where appropriate. Current policies are aligned to the latest EPUK/IAQM guidance on the Assessment of Dust from Demolition and Construction and Land-Use Planning & Development Control: Planning for Air Quality.

Saved Salford Unitary Development Plan Policies are available here. See Policy EN17 - Pollution Control.

Publication Local Plan Policy PH1 aligns with this action. The Revised Draft Local Plan was published for consultation from January to March 2019. Comments received during this consultation and evidence available is being taken into account in developing the Publication Local Plan. Comments on the Publication Local Plan were received in early 2020 and 2021. Before it can be adopted, the Publication Local Plan has been submitted to the Secretary of State for independent examination. It is anticipated that adoption will take place in June 2022.

The Salford City Council environmental consultant team recommend that baseline good design standards from the IAQM / EPUK guidance should be adopted for major developments.

Conditions are applied to new developments where appropriate regarding travel planning, electric vehicle charging and dust control to planning applications. The IAQM guidance is being incorporated into planning decisions.

For major developments, particularly those in areas where there is the cumulative impact from several developments or where a significant air quality impact is likely, a damage cost calculation may be required to determine a proportionate financial contribution towards, or provision of, additional mitigation.

An online planning application Validation Checklist has been developed to replicate criteria used in the IAQM guidance as to when an air quality assessment may be necessary.

(AQAP 1.3): The Salford City Council environmental consultant planning team are sending a monthly list of planning applications where an air quality assessment has been submitted to TFGM air quality inbox: airquality@tfgm.com. Data sent includes date AQ assessment received, site location, site postcode, planning ref No, X/Y grid reference.

TFGM are populating GIS database with information.

(AQAP 1.6): Travel plans for certain developments are required to be submitted as part of the planning application process. An online planning application Validation Checklist has been developed to bring it up to date and in line with changes to national and local planning policies, to show commitment to providing sustainable travel options with a view to reducing unsustainable modes of transport.

(AQAP 1.7): The Salford City Council Licensing team is kept informed of developments in Greater Manchester (GM) through the GM Taxi Licensing Group.

Salford Taxi Licensing Policy vehicle age and emissions standards previously stated:

- All vehicles submitted for licensing for the first time after 2010 must be less than four years old from the date of first registration (or in the case of imported vehicles, from the date of manufacture).
- Emissions tests carried out on all hackney carriage and private hire vehicles at four monthly mechanical inspection tests.

Between 2018-2021 proposals for GM harmonised Minimum Licensing Standards (MLS) for taxis and private hire vehicles were developed. These have been driven by GM and the desire to improve public safety/protection by licensing safe vehicles and safe, fit and proper drivers and operators. There is a recognition that there is significant overlap with the GM Clean Air Plan proposals and the ambition to reach carbon neutrality by 2038. A consultation

on the proposed MLS took place from 8 October to 3 December 2020, alongside the GM Air Plan consultation. After consideration of feedback from the consultation, final proposals were brought forwards and these were approved by Cabinet in Salford in December 2021 (for vehicle standards):

- All new licenses are required to have Clean Air Zone compliant vehicles.
- All existing licenses are required to have Clean Air Zone compliant vehicles attached to them by 1 April 2024.
- Private Hire Vehicles age limit: Newly licensed: Under 5 years old; Existing licenses: Less than 10 years old.
- Private Hire Vehicles (Wheelchair Accessible) age limit: Newly licensed: Under 7 years old; Existing licenses: Less than 15 years old.
- Purpose built Hackney Carriage Vehicle age limit: Newly licensed: Under 7 years old; Existing licenses: Less than 15 years old.

(AQAP 1.8) Green Infrastructure

Salford is part of the GMCA led 'IGNITION' project, that ran until October 2021 and aimed to develop innovative financing solutions for investment in Greater Manchester's natural environment and help GM adapt to the forecast impacts of climate change.

(AQAP2) Freight and Heavy Goods Vehicles

(AQAP 2.1) Delivery and Servicing Plan Toolkit**:** A delivery/ service vehicle data collection exercise was carried out during May/ June 2018 for the Civic Centre campus (post room, catering deliveries and waste collections), Turnpike depot and Swinton Hall Road depot. Following the data collection exercise, an analysis & recommendations report was produced by TFGM in September 2018. Actions taken as recommended by the report include:

- Swinton Hall Rd depot: adjusted standard delivery times to avoid peak time deliveries.
- Turnpike depot: assessed whether any non-urgent, peak time deliveries could be re-scheduled so that they occur outside of peak times.
- Civic Centre waste collections: Mostly occur in peak hours but are part of a larger collection round. Therefore, moving individual collections (from the Civic) would just move to a nearby location and so unlikely environmental benefit;
- Civic Centre post room: Identified that there are many peak time deliveries and multiple courier drops during the day – may be potential to consolidate deliveries/ collections and courier activities.

- The Procurement team are undertaking an ongoing review of contracts and council processes to allow better management of orders and delivery.

During the COVID-19 pandemic the majority of City Council staff have been working remotely from home and communicating using online facilities, with an associated reduction in deliveries to Council premises. As officers return to a hybrid working approach deliveries will be monitored going forward.

(AQAP 2.8): The City Council purchased 12 new electric Renault Kangoo vans in October 2020, which are being used in environmental services at Turnpike Depot for activities such as collecting fly-tipping and officer site visits. They replaced diesel vans. It's estimated the new vans will cut exhaust emissions - a diesel van would emit between 147 to 156 grams of carbon dioxide and up to 1.5 grams of nitrogen oxides (NO_X) per kilometre.

To support the electric vans, associated charging facilities were also installed at Turnpike Depot. 12 x 7KW charging points were installed, utilising funding from the OLEV workplace grant and match funding from Salford City Council.

As part of the GM Transport Strategy 2040, GM has published a **GM Electric Vehicle Charging Infrastructure Strategy** to align activity and inform a coherent programme of works for delivery.

(AQAP 4) Cycling

(AQAP 4.1): The City Council is continuing to expand its network of on and off road routes with a number of new cycle routes in and around Salford. Emergency Active Travel (EAT) Funds were used to put in place temporary segregation during the COVID-19 pandemic, while other routes were having future design work completed. Recently implemented routes are:

- Chapel Street East: Following the EAT grants segregated cycle lanes were create within the city centre to create temporary segregated cycle lanes. Work has now begun to upgrade this section of the street to provide a new road layout with segregated cycle lanes and new crossing points for pedestrians.
- Blackfriars Street: Segregated cycle lanes have been created on both sides of the street with wands to create space for cyclists using this route.
- Liverpool Street: Following EAT grants to create segregated cycle lanes between Oldfield Road and Albion Way, work has been recently completed to create segregated cycle lanes on both sides of the street, including bus stop bypasses and new pedestrian crosses.

- Trafford Road: The creation of segregated cycle lanes for the length of the road. The section from the Trafford Council border to Salford Quays is almost finished with the sections to the north of this to be completed later in 2022.
- Swinton Greenway: A 2.5km off road route between Manchester Road and Monton Road has been completed with small sections to be finalised. This will open in June 2022 with a big celebration event.
- RHS Bridgewater Way: Linking the RHS Bridgwater Gardens with Boothstown Marina, Worsley Village and Walkden train station. The bulk of the work has been completed with final sign posting and a small section left to complete. The final route will be open later in 2022.

Existing traffic free routes include:

- Port Salford Greenway: A 3 km cycling and walking route between Worsley Village and Peel Green, comprising of a mix of traffic-free paths and quiet residential streets.
- The Loop Lines: Linking Monton Village with Walkden, Little Hulton and Tyldesley, providing over 20km of traffic free walking and cycling routes within Salford.
- The Bridgewater Canal: Linking Trafford to Worsley Village.

More routes are being planned and developed and are outlined on the City Council **Cycling and Walking web pages.**

(AQAP 5) Travel Choices

An e-scooter trial started at the University of Salford Peel Park and Fredrick Road campuses in October 2020. Subsequent extensions were:

- A route to MediaCityUK in November 2020.
- A further phase covering Ordsall and the City Centre in April 2021.
- A further expansion to connect Salford Royal Hospital in winter 2021.

The Department for Transport (DfT) trial period has been extended to March 2022 and the City Council are awaiting further guidance from the DfT on any extensions or legislative changes.

Initially 50 e-scooters were deployed, and this has grown to 150 with the expansion to MediaCityUK, Ordsall and the City Centre. Scooters will be monitored for use and up to a maximum of 300 could be rolled out depending on usage levels.

A lot of interest has been shown in e-scooters and it is hoped that this will shift more short journeys from car use to e-scooters. While the trial is ongoing work will continue with DfT to

look at whether e-scooters can be legalised to provide an alternative to car use and a greener mode of travel for short journeys. Further information is available on the City Council **e-scooter webpage**.

(AQAP 5.1): Due to the COVID-19 pandemic, the Salford car club fleet of 23 Co-Wheels vehicles based at the civic centre, Swinton, has been reduced to 14 vehicles (10 petrol and four EVs). During working hours, vehicles are reserved for City Council staff travel.

The public Pay as You Go sites across the city are managed by Co-Wheels as commercial sites.

A working group of City Council officers is currently reviewing the car club to understand how this is best placed to provide travel options for staff as part of future working arrangements.

Data for the Salford City Council car club has been collected and shared with TfGM. Data includes mileage, time of trip data, fleet make up data etc. TfGM is also represented on the tendering panel for the new scheme.

An analysis of car club usage was undertaken by a company called Electric Blue in March 2019. The data from this will be used to inform the specification of any new tender in order that the scheme works efficiently. This includes the integration of Salford's Travel Hierarchy within its vehicle booking system to reduce the need for travel but where it is still needed to nudge behaviour change to more sustainable travel methods.

(AQAP 6) Cars

(AQAP 6.1): Conditions are applied to all planning applications where an air quality assessment is necessary, requiring type 2 charging facilities on all properties with dedicated off road parking, and a proportion of spaces (to be agreed) for apartments / high rise. Planning conditions are applied requiring FAST or RAPID charging for retail floorspace in accordance with IAQM/EPUK guidance.

Publication Local Plan Policy A10 aligns with this action and is broadly consistent with IAQM/EPUK guidance. It is anticipated that adoption of the Local Plan will take place in June 2022.

EV charging infrastructure requirements for new buildings and buildings undergoing major renovations have now been specified in Building Regulations (Approved Document S), which takes effect in June 2022. Local plan EV charging point standards will be superseded by any higher standards introduced through the Building Regulations.

The City Council has been working closely with TfGM to identify suitable sites within Salford for the early measures fund programme. New rapid chargers have been installed on Wellington Rd Swinton and the A6 outside Crescent House. All existing 7kw chargers have also been replaced with upgraded infrastructure.(AQAP 6.2): The City Council have taken forward a number of approaches to reduce the overall need for business travel based on a 'digital first' approach, but, where travel is necessary it is undertaken in the most sustainable way. A travel hierarchy has been introduced, where private car use is the least favoured option. A review of sustainable travel arrangements will be undertaken following a data led approach that will include co-designing how individuals, teams and services use the car club, active travel and other sustainable travel arrangements based upon personal responsibility to consider the most efficient and effective way to complete our work to achieve the best outcomes in terms of environment, costs and time.

(AQAP 6.3): A digital car parking permit scheme is currently in place at principal City Council office/ depot locations. Specific parking spaces are allocated for pool vehicles, electric vehicles and car share vehicles at Salford Civic Centre to encourage their use. Car parks are regularly patrolled by Parking Wardens – a Penalty Charge Notice (PCN) may be issued for vehicles that have not been issued with a permit.

(AQAP 6.4): The City Council has secured membership to Modeshift, which is a national organisation and software that allows users to engage with schools on a larger scale and schools can receive awards and accreditation for their Travel Plan work. Currently seven schools in Salford have been signed up. Work is on-going to engage with these schools and contact other schools to get more signed up.

The City Council works with Living Streets and other organisations to promote active travel and reduce journeys by car to schools. There are currently 14 schools signed up to Living Streets' WOW Walk Once a Week.

The Clean Air Greater Manchester website includes schools toolkit to raise awareness of air pollution practical ways to involve teachers, parents and pupils to improve air quality. This is promoted using the City Council website air quality pages.

(AQAP 7) Information and Resources

(AQAP 7.9): The City Council website air quality and smoke control pages are reviewed and updated regularly. These aim to raise awareness and provide guidance regarding the role stakeholders can play in improving air quality.

A further public consultation on the Greater Manchester Clean Air Plan proposals was held between September and October 2021. The City Council engaged with stakeholders using social media, other online material and a questionnaire.

Social media campaigns on raising awareness of smoke control area rules, using wood burning stoves correctly and awareness of garden bonfire issues were carried out in Oct 2020, Mar 2021, Nov 2021 and Mar 2022.

The City Council investigated 99 complaints related to smoke nuisance in 2021. The majority of these were related to domestic burning (e.g. garden bonfires) and therefore this will have a beneficial effect on raising awareness of air pollution issues.

Stockport Metropolitan Borough Council

(AQAP 1) Development Management and Planning Regulation

(AQAP1.6) Over the last year Stockport has continued to work with TfGM and businesses / developers to continue to trial the Travel Plan Toolkit. Despite ICT issues and some other teething problems the use of the toolkit in the assessment of planning applications related travel plans is growing. As a result, Stockport is working with TfGM to further roll out the use of the toolkit across the Greater Manchester area. Currently 14 TPs have been produced using the system.

Stockport is in the process of reviewing its Local Plan and as part of this has been identify the best way to integrate new transport developments such as Electric Vehicle Charging and Car Share into the council's planning policies and guidance. This is separate to the Places for Everyone work that is being taken forward by the rest of Greater Manchester.

The Local Plan is being supported by a updated Local Transport Plan which will identify the key transport priorities in the borough to support Our Local Borough Plan and the Local Plan.

Meanwhile a guidance note on the delivery of EV in new developments has been developed to support the promotion of adequate charging, and a Zero-Emission Vehicle Charging Infrastructure (ZEVCI) Interim Policy Statement has been adopted to clarify the aims of the borough in regards to the delivery of supporting infrastructure for the changing car market. While this is designed to support the TfGM Be.EV work it also supports separate council work to further improve charging in Stockport.

(AQAP 2) Freight and Heavy Goods Vehicles

(AQAP 2.7) Work is continuing to encourage vehicles to not be left idling when parked. The focus for this has been around our education locations with our “turn it off” campaign which issues banners for schools to put up to encourage engines to be switched off. There has also been social media promotion of the message using council social media accounts and the information was released in a press release to local media.

(AQAP 2.8) Stockport also continues to support the work being undertaken by TfGM to address the need to reduce the pollution caused by freight/HGV, such as the development of an Electric Vehicle Charging Strategy, which was adopted during FY 2021-22 by Stockport and other GM boroughs. Stockport has also been working with the other GM boroughs on the Clean Air Plan which has included work to get small business owners to apply for funding to upgrade their most polluting vehicles to less polluting vehicles.

(AQAP 3) Buses

Stockport continues to support the work of TfGM to access funding and retrofit or replace buses in the fleet used in the borough to reduce the impact on air quality in Stockport. The successful ZEBRA bid will have a major impact on this in the coming financial years.

Greater Manchester has secured the funding after a joint bid to the Department for Transport (DfT) submitted by GMCA, TfGM, Stockport Council and Stagecoach Group PLC.

The funding will the introduction of 170 zero emission buses running from Stockport by 2024. This equates to 10% of the whole bus fleet in Greater Manchester.

(AQAP 4) Cycling

(AQAP 4.1) The Town Centre Travel Plan has continued improving cycling facilities in the town centre with a new cycle route between the east of the Borough and the Town Centre, including the new river crossing, having now been opened.

Stockport is also continuing to deliver the improvements for walking and cycling funded by the Mayoral Challenge Fund including:

1. Bramhall Park to A6 cycle route: Delivery continued to progress.
2. Heatons Cycle Link: The first phase of the Heatons Cycle Link has been constructed. This includes a 1km long widened resurfaced lit path within Meadow Gardens and along Nelstrop Road North directly connecting to the Fallowfield Loop (NCN60).
3. Hazel Grove Torkington Park: The first phase of the Hazel Grove Links (resurfaced, widened lit path through Torkington Park) has been constructed.

4. A6MARR Cycle/Walking Links: Delivery was completed.
5. Offerton to Stockport: The Offerton to Stockport route is almost complete and comprises four new toucan crossings and path improvements through St Thomas's recreation ground.
6. The Heatons Active Neighbourhood trial was completed and the consultation undertaken and a permanent scheme is being developed.

Travel Choices

(AQAP 5.1) All casual car users have continued to be offered access to the Car Club for work trips. Stockport's Staff Travel Plan and Guidance on Car Club usage are based on a hierarchy of travel types in which Single Occupancy Vehicle use is the last option and the encouragement of this is returning following the pandemic. The public use of the car club cars continues to be promoted and Stockport is taking steps to review how this will be procured in the future keep and improve this option for travel.

(AQAP 6) Cars

(AQAP 6.1) Stockport also continues to support the work being undertaken by TfGM to address the need to reduce the pollution caused by vehicles. Beyond the Be.EV network, support already identified included the introduction of 10 electric vehicle charging points in the staff car park to support staff in moving to electric vehicles.

(AQAP 6.2) The council offers salary sacrifice options for bus and rail season tickets. There is also a selection of pool bicycles that can be borrowed for staff use along with the necessary safety equipment. These now include electric bikes for less able users and longer trips.

(AQAP 6.3) Following the pandemic and the change in working location with a greater move to working from home staff parking in town centre car parks are all charged for via a mobile payment app provided by Ringo. Staff with less need for their car for work purpose are also moved out to less accessible parking. The council continues to offer permits for Low and No Emission vehicles to park more cheaply across the borough to encourage uptake of these technologies.

(AQAP 6.4) Stockport has continued to work with colleagues in education to develop travel plans with regards to schools and other education facilities when they are submitting planning applications. Bikeability training is now fully re-embedded following the disruption caused by COVID-19. The council is also in the process of delivering seven school streets and these are expected to be on the ground in summer 2022.

(AQAP 7) Information and Resources

(AQAP 7.9) Stockport has continued to promote the use of sustainable modes of travel during the last year and encouraged walking and cycling via social media. This has included activation work for the completed MFC schemes such as the provision of Bike Doctor events and cycle training in locations where new routes have been completed. Stockport also held its first summer weekend-long cycling and walking event, called the Enduro & Cycling Festival, which will be repeated in 2022.

Tameside Metropolitan Borough Council

(AQAP1.1&1.2) Development management and planning regulation

Tameside Council continues to require air quality assessments for larger planning applications. Even where the air quality impact is assessed as negligible mitigation is requested, including measures such as electric vehicle charging provision where parking is provided and Construction Environmental Management Plans to control dust and emissions during the construction phase of the development.

During 2021 five air quality assessments were received, all of which concluded there would be a negligible effect on air quality as a result of the development.

(AQAP2) Freight and Heavy Goods Vehicles

A 22kw workplace charger was installed at the council's Tame Street vehicle depot, and an agreement to take delivery of a 19 Ton DAF BET Box van and tail lift as part of a 12-month government trial is in place.

(AQAP4) Cycling

Tameside has introduced a "borrow a bike" scheme for employees. There are five bikes in total (two electric, two folding Brompton and a larger folding Brompton for taller cyclists) that members of staff can book in two-week blocks.

(AQAP5) Travel Choices

As part of the Active Neighbourhoods initiative, Tameside Council introduced a resident led "Quiet Streets" scheme giving pedestrian and cycle only access to designated routes. The two schemes on trial at Currier Lane, Ashton under Lyne, and Stamford Drive, Stalybridge, have now been made permanent.

Work continues on the design and implementation of eight other walking and cycling routes across the borough at

- Clarendon Road, Audenshaw
- Rayner Lane, Droylsden and Audenshaw
- Ross Lave Lane, Denton and Reddish Vale
- A57 Crown Point Junction, Denton
- Albion Way, Ashton
- Stamford Street, Ashton
- Manchester Road Link Bridge, Audenshaw
- A57 Denton to Hyde

(AQAP6) Cars

Following consultation with local taxi companies, Tameside Council has approved the installation of three new EV charging stations at Mulberry Street Car Park, Ashton, Union Street Car Park, Ashton and Beeley Street Car Park, Hyde. The stations will each have two charging points and will be for use by the taxi trade only.

(AQAP7) Information and resources

Tameside Council has promoted walking and cycling routes and green space use across the borough including links to the **gmwalking.com** website.

Tameside Council website hosts information around LAQM, Smoke Control Areas and burning of waste.

National Clean Air Day was promoted via social media using the CleanAirGM toolkits, and a visit and presentation to the children at Gorse Hall Primary School who had made their own video to highlight air quality problems caused by the school run.

Trafford Metropolitan Borough Council

(AQAP1.1&1.2) Development Management and Planning Regulation

In 2021 the council's pollution team reviewed 538 planning applications for new developments within Trafford, with over a hundred of these being reviewed in relation to potential air quality impacts from new construction and also demolition. Applications would include developments for small, medium and large residential, commercial and industrial installations. Planning applications are reviewed to assess potential impacts of new developments on local air quality, including the Trafford Air Quality Management area but also locations that are included within the Greater Manchester Clean Air Plan (projected exceedances of national objective levels for nitrogen dioxide). Planning applications are also

reviewed for impacts of bringing sensitive receptors to locations where levels of nitrogen dioxide exceed or are close to exceeding national objective levels.

Planning applications are reviewed and checked utilising guidance contained within the Institute of Air Quality Management guidance note: Planning for Air Quality (**AQAP1:1)**. The Council's Air Quality Management Area is provided on the Council's GIS system.

Details of air quality requirement as part of planning applications to the Council is provided within the Trafford Planning **Validation Checklist.** (**AQAP 1:2)**

Planning conditions for installing EV charging points within new residential and commercial installations are included routinely. The criteria required for EV charging is typically as follows:

The provision of electric vehicle (EV) charge points in every new house (minimum 7kWh) with dedicated parking or one charge point (minimum 7khH) per 10 car parking spaces for unallocated car parking. For commercial developments there should be the provision for one charge point (minimum 7kWh) per 1000m2 of commercial floorspace **(AQAP 6.1)**

Significant applications that have been received in 2021 in relation to air quality include:

- Installation of pallet drying operation in Trafford.
- Major commercial development within Carrington.
- Major residential development within Partington.
- Combined heat and power plant in Trafford Park.
- Hydrogen production facility in Carrington.
- New commercial park in Altrincham.

Construction and demolition works can cause short-term and long-term impact on particulate levels in areas close to development. The pollution team impose suitable planning conditions in relation to construction management plans to control impacts from construction and demolition on local air quality (**AQAP:1.1)**

(AQAP4) Cycling

There have been a number of improvements to cycling infrastructure within Trafford in 2021 and these include:

- Park Road North/South, Urmston: Modal filter upgrade.
- Stretford Road, junction with Jack Lane, Urmston: Improvement to extend the footway.

- Dropped crossings installed at four locations: Howells Avenue, Sale; Wellfield Lane, Hale; Sefton Road, Sale; York Road/Atkinson Road, Sale.
- Crossing improvements are programmed for five locations: Delahays Road/Grove Lane, Hale; Glebelands Road in vicinity of Lawson Grove, Sale; Aimson Road junction with Longfield Avenue & Briarfield Road, Timperley; Groby Road, Altrincham/Bowdon; Woodville Road Area, Altrincham/Bowdon.

(AQAP5) Travel Choices

Consultation started on the introduction of 'School Streets' to reduce the impact of traffic at school gates and create safer environment to encourage walking and cycling. The first primary schools taking part are Flixton Primary School, Urmston Primary School and English Martyrs RC Primary School. This scheme will introduce temporary restriction on motor traffic at school drop-off and pick-up times. The temporary road closures will allow parents and children to have the freedom to walk or cycle safely in the streets at the beginning and the end of the school day, in a traffic-free environment.

(AQAP6) Cars

Ongoing work to install taxi EV charge points at Trafford Wharf Road, Stretford, the Quadrant, Urmston, and Ashfield Road or Broad Road, Sale. This is part of the GM-wide project being funded by TfGM.

Proposals were introduced to install around 150 new charging points across parts of the borough. A report to the Council's Executive set out proposals to install a mixture of fast, rapid and ultra-rapid charging points across Trafford. The work will be split into phases and phase one will see 92 new charging points being installed across the borough in 2022. The new charging points will be located in the following areas: Altrincham, Ashton on Mersey, Bucklow St Martins, Flixton, Hale, Longford, Sale, Stretford, Timperley and Urmston.

(AQAP7) Information and resources

Detailed online resource for cycling within Trafford via the **council's website.**

Access to air quality monitoring data is available via the **council's website.**

2.2.2.10 Wigan Metropolitan Borough Council

(AQAP1.1&1.2) Development management and planning regulation

Wigan Council adopted a new Development and Air Quality Supplementary Planning Guidance Document (SPD) April 2021.

This document specifies which types of development are required to submit an air quality assessment and the types of mitigation which may be required.

Developers must include electric vehicle smart charging points on most developments irrespective of the predicted impact of the development on air quality. For example, all new residential developments that include car parking will require electric vehicle smart charging points and those that include a dedicated or allocated parking space will require one for each property.

(AQAP3) Buses

Transport planning colleagues are working with local bus operators to establish more efficient routings.

(AQAP4) Cycling

Wigan Council is continuing to progress work on a cycle lane network.

Further air quality monitoring via NO_2 diffusion tubes has begun on key areas of this network.

15 bikes have been ordered for schools for the Bikeability scheme.

Further junction redesign work has been undertaken in order to improve cycling infrastructure and safety.

(AQAP5) Travel Choices

Expansion of the Bee Network and walking and cycling infrastructure is ongoing.

There is a specific working group that has been established to progress this.

(AQAP6) Cars

The A49 link road has been completed, which provides relief to two existing routes to the town centre that were congested and lined with residential properties. One of these previous routes is Poolstock Lane, which has now had traffic calming and cycling improvement measures put in place.

The proposed M58/M6 link road now has planning approval and will alleviate congestion along the existing route, which is lined with residential properties. This road will become part of the proposed east – west link road that will alleviate congestion along the existing A577 route, which is also lined with residential properties.

(AQAP7) Information and resources

Two handheld NO_2 monitors have been purchased, which are being used to help raise awareness of air quality issues in schools. The monitors are simple to operate so that children can get hands-on experience of them.

Wigan Council were awarded a DEFRA air quality grant so that further schools engagement work can be undertaken. An additional member of staff will be recruited to help deliver this project.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	(AQAP1.1) Construction Management Guidance;	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2017	2017	10 LA's	LA - BAU Activity	NO	*Funded*	*< £10k*	*Completed*	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	This construction management guidance is now referred to by many of the local authority environmental management teams. Progress is described by district in the accompanying ASR report.	N/A
2	(AQAP1.2) Development Planning Guidance;	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2017	2017	10 LA's	LA - BAU Activity	NO	*Funded*	*< £10k*	*Completed*	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	This guidance is now referred to by many of the local authority environmental management teams. Progress is described by district in the accompanying ASR report.	N/A
3	(AQAP1.3) Cumulative Development Database;	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2017	17-May	TfGM	TfGM - BAU Activity	NO	*Funded*	*< £10k*	*Completed*	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	Update to the database has been paused. Utility of the database questioned - little use from Local Authorities.	Limited Use.
4	(AQAP1.4) Clean Air Zone feasibility study;	Traffic Management	UTC, Congestion management, traffic reduction	2017	2021 - 2023	TfGM, 10 LAs	JAQU	NO	Partially Funded	> £10 million	Planning	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	As stated in 2020 ASR this action is now covered by the Clean Air Plan work being conducted by TfGM in partnership with the 10 Local Authorities. A detailed update of progress on this is available at www.cleanairgm.com	N/A
5	(AQAP1.5) 20mph Zones;	Traffic Management	Reduction of speed limits, 20mph zones	2018	2022	TfGM	N/A	NO	Not Funded	< £10k	Implementation	N/A	Increase Efficiency	20mph zones operated across GM as part of COVID traffic regulation measures. Studies into the effect of 20mph on local air quality have been disrupted by COVID lockdown traffic reductions.	The efficacy of 20mph on air quality is still uncertain. The COVID-19 pandemic has given an opportunity to monitor AQ where a 20mph zone

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
															was implemented as a safety precaution.
6	(AQAP1.6) Encouraging Travel Planning;	Promoting Travel Alternatives	Personalised Travel Planning	2017	Ongoing	TfGM	TfGM - BAU Activity	NO	Funded	£50k - £100k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	Throughout 2021 TfGM supported safe travel in the context of the COVID-19 pandemic and continued restrictions, delivering activity to support the communication of latest safe travel guidance to a wide range of organisations. Businesses were supported with return-to-workplace guidance on embedding safe and sustainable travel behaviours amongst their workforce, including information on hybrid working and freeing up the network at peak times in support of social distancing. In July 2021, TfGM's Partnerships & Engagement team launched the Business Travel Portal which provides a comprehensive collection of support, offers and guidance for businesses and employers who want to support sustainable travel to the workplace, for both workforce and visitors. To date, over 3,500 unique users have accessed the portal and its resources.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
7	(AQAP1.7) Taxi and Private Hire Quality Controls to Prioritise Low-Emission Vehicles	Promoting Low Emission Transport	Taxi Licensing conditions	2020	2021	LA's	LA - BAU Activity	NO	Funded	£50k - £100k	Implementation	N/A	Reduce Traffic; Increase Efficiency	Full public consultation on Minimum Licensing Standards was undertaken in parallel with GM CAP at the end of 2020 across Greater Manchester. Proposals informed by the outputs of the public consultation have been endorsed by GMCA, including age and emission standards, and are now in the process of being considered and adopted by each of the 10 GM licensing authorities.	N/A
8	(AQAP1.8) Green Infrastructure;	Transport Planning and Infrastructure	Other	2019	2022	TfGM	TfGM - BAU Activity	NO	Funded	£10k - 50k	Implementation	N/A	Increase Efficiency	Collaborative project between Groundwork Trust, Lancaster University, Manchester City Council and TfGM, researching the use of vegetation in green barriers to trap and filter airborne pollution particles before they reach school playgrounds and classrooms. Different green barriers trialled at three schools. The final report had been delayed due to COVID and illness, however the final report has been submitted for peer review and is expected in Summer 2022.	Funding barrier now resolved.
9	(AQAP2.1) Delivery and Servicing Plan Toolkit;	Freight and Delivery Management	Delivery and Service plans	2017	Ongoing	TfGM	TfGM - BAU Activity	NO	Funded	£10k - 50k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	More information relating to each district's progress on this action is contained in the ASR main report.	LA resources for data-collection
10	(AQAP2.2) Urban Distribution Centres;	Freight and Delivery Management	Freight Consolidation Centre	2020	TBC	TfGM	TfGM - BAU Activity	NO	Partially Funded	£10k - 50k	Planning	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	The Logistics & Environment team at TfGM will review this action as part of freight strategy refresh that is currently in process.	Market-dependant factors
11	(AQAP2.3) Urban Consolidation;	Freight and Delivery Management	Other	2019	TBC	TfGM	TfGM - BAU Activity	NO	Funded	£10k - 50k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	Discussions with providers on last mile solutions in Regional Centre. Waste Consolidation Project in Manchester City Centre is being reinvigorated after delays caused by COVID.	COVID.

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
12	(AQAP2.4) Access for Freight to Key Economic Centres and Sub-regional Freight Facilities;	Promoting Travel Alternatives	Promote use of rail and inland waterways	2018	TBC	TfGM	TfGM - BAU Activity	NO	Not Funded		Planning	N/A	Reduce Traffic; Increase Efficiency	Refreshing the Greater Manchester Freight Strategy will provide guidance of this at a strategic, multi-modal level (relating to both potential and progress). Currently discussing details with districts.	Market-dependant factors
13	(AQAP2.5) Freight Information Channels;	Freight and Delivery Management	Other	2017	on-going	TfGM	TfGM - BAU Activity	NO	Funded	£10k - 50k	Implementation	TBC	Reduce Traffic; Increase Efficiency	Travel Demand Team now well established at TfGM. Post-COVID lockdown, will continue to work on best methods for sharing information to a freight specific audience. Continue to invest in CLOCS and benefits to safety and environment	N/A
14	(AQAP2.6) Diesel Transport Refrigeration Units (TRUs);	Freight and Delivery Management	Other	2017	TBC	TfGM	TfGM - BAU Activity	NO	Not Funded		Aborted	N/A	Increase Efficiency; Improve Fleet	Limited progress on this. Will review this action as part of freight strategy refresh currently underway.	This topic is not at the forefront of current freight debates.
15	(AQAP2.7) Engine Idling;	Promoting Low Emission Transport	Other	2017	on-going	TfGM & LA's	TfGM & LA's - BAU Activity	NO	Not funded	<£10k	Planning	N/A	Increase Efficiency	Idling across all vehicle types has been raised by a number of local residents. A Task & Finish Group operates in GM looking at minimising emissions from idling. This group has undertaken a review of idling complaints across Greater Manchester, and advice has been provided to Local Authorities on their statutory powers to enforce against idling vehicles. This was in response to enquiries about specific scenarios where there had been complaints or ongoing issues with idling.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
16	(AQAP2.8) Alternative Fuels;	Promoting Low Emission Transport	Other	2017	on-going	TfGM	TfGM - BAU Activity, OLEV, Early Measures	NO	Partially Funded	£1 million - £10 million	Planning	N/A	Increase Efficiency; Improve Fleet	Plans for an initial 10MW Green Hydrogen Project scheme in Trafford are being finalised, with an expansion capability of up to 200MW. TfGM has led local policy and is in the process of delivering programmes that will provide the infrastructure for alternative fuels. A refresh of the GM freight strategy is underway, this work intends to understand the potential for modal shift of freight and changes in operations that will result in more sustainable movement of freight. The refresh will also scope out a follow on “GM roadmap to low emission freight” that will optioneer the technological, operational, infrastructure and policy changes (including alternative fuels) that will be required to meet GM carbon targets. See more information on EV infrastructure in AQAP 6.2)	Conflicting agendas on alternative fuels within public and private sector. Manufacturer Warranties
17	(AQAP3.1) Bus Priority Programmes;	Transport Planning and Infrastructure	Bus route improvements	2017	on-going	TfGM	TfGM - BAU Activity	NO	Funded	£500k - £1 million	Implementation	TBC	Reduce Traffic; Increase Efficiency	TfGM and local authorities are developing plans for on-highway measures that will deliver improvements on 145km of key bus routes between key destinations in the City-region (as set out in the 2021-26 Delivery Plan). Plans will include bus priority measures, alongside wider measures to improve bus journeys, such as making stops fit for purpose, and improving trips to the bus from homes and destinations by active travel	N/A
18	(AQAP3.2) Bus Improvements;	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2017	on-going	TfGM	Mixed	NO	Not Funded	< £10k	Implementation	TBC	Improve Fleet	TfGM is engaging with stakeholders to establish solutions available to optimise zero emission bus operation.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
19	(AQAP3.3) Hybrid Bus Improvements;	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2017	on-going	TfGM	TfGM - BAU Activity	NO	Funded	£500k - £1 million	Implementation	N/A	Increase Efficiency	TfGM are in the process of retrofitting the owned Optare hybrid bus fleet with SCRT exhaust after-treatment technology to improve tailpipe emissions from Euro 5 to Euro 6 Emission standard. This is planned to be completed by July 2022.	N/A
20	(AQAP3.4) Trial of Low-Emission Vehicles	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2017	On-going	TfGM	TfGM - BAU Activity	NO	Funded	> £1 million	Implementation	N/A	Improve Fleet	Greater Manchester's 2021 application to Department for Transport's Zero-Emission Buses Regional Area (ZEBRA) scheme was successful, securing £35.8 million in funding to introduce 170 green buses to the region by 2024, equating to 10% of the whole bus fleet in GM. TfGM are exploring how to deploy City Region Sustainable Transport Settlement (CRSTS) funding to increase the number of zero emission buses within GM.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
21	(AQAP4.1) Cycle Programmes;	Promoting Travel Alternatives	Promotion of cycling	2017	On-going	TfGM	Mixed	NO	Partially Funded	> £10 million	Implementation	N/A	Reduce Traffic	Bee Network routes continued to open for improved cycling and walking in Greater Manchester, supported by TfGM-led sustainable travel promotion schemes. The total number of schemes at full delivery phase has increased to 35, with an investment from the Mayor's Challenge Fund of £70.1m. In 2021, a total of over 20km of new and upgraded cycling and walking routes was completed in Greater Manchester, with many more km of connecting networks being enabled. The first 'Sparrow' crossings in the UK were opened, keeping pedestrians and cyclists separate while crossing busy roads with signal protection. TfGM also secured DfT special authorisation for a ground-breaking new wayfinding package for the cycling and walking elements of the Bee Network. Delivery rates for cycling and walking infrastructure continue to ramp up, and are currently at around £40m per annum.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
22	(AQAP4.2)Public Cycle hire;	Transport Planning and Infrastructure	Public cycle hire scheme	2017	On-going	TfGM	Mayor's Challenge Fund	NO	Funded	> £10 million	Planning	N/A	Reduce Traffic	TfGM operates a public cycle hire scheme which provides self-service, 24/7 access to bikes and e-bikes. for more than 100,000 households, workers and visitors across the regional centre. The scheme will promote cycling and contribute towards mode shift away from private motor vehicles. Beryl were appointed as the service provider in summer 2021 and the initial phase of the scheme was launched in November 2021. The scheme is being rolled out across the regional centre in 2022 with a fleet of 1500 bikes, including 300 e-bikes. The scheme has funding to run for an initial period of five years until November 2026. The scheme will be measured against three objectives: providing access to bikes, increasing cycle use in Greater Manchester and contributing to modal shift towards sustainable travel.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
23	(AQAP4.3) Cycle Logistics;	Promoting Travel Alternatives	Promotion of cycling	2017	on-going	TfGM	TfGM - BAU Activity, INTERREG	NO	Funded	£500k - £1 million	Planning	TBC	Reduce Traffic	A subset of the e-cargo bikes went live across Chorlton, Whalley Range and Ancoats on the 6th Dec 2021, with a phased roll-out of bikes across these locations. As of April 2022, there are currently 22 bikes operational, with the remaining 3 bikes due to go live by the end of May. TfGM have been pleased with the reception and uptake of the e-cargo bikes across Greater Manchester, with positive sentiment online and on social media. Between the period of December to March, there have been 545 user registrations and 707 bookings. The average booking duration is 1.29 hours, with Saturday being the most popular rental day. TfGM are interested to see how the e-cargo bikes will be used over the summer months as the weather gets warmer, and will continue to promote the scheme online and via roadshow events.	N/A
24	(AQAP4.4) Cycle to 2040;	Promoting Travel Alternatives	Promotion of cycling and walking	2017	on-going	TfGM	TfGM - BAU Activity and range of DfT funding	NO	Partially Funded	> £10 million	Implementation	TBC	Reduce Traffic	The Made to Move agenda and Active Bee Network continue to be supported through two main areas of work related to behaviour change: Activation (the communication and marketing of the Bee Network encouraging and enabling behaviour change this incorporates specific activation work supporting capital schemes) and Access (providing access to services and interventions to reduce barriers and enable change this includes a broad range of projects such as cycle training and Bike Libraries as well as Cycle and Stride project which is helping local communities	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														become more active through cycling and walking).	
25	(AQAP5.1) Car Clubs;	Alternatives to private vehicle use	Car Clubs	2017	on-going	TfGM & LA's	TfGM & LA - BAU Activity, INTERREG	NO	Partially Funded	£500k - £1 million	Implementation	TBC	Reduce Traffic; Improve Fleet	Up to 12 e-car-club vehicles provided for public hire in the eHUBS Greater Manchester pilot. 4 EV Car clubs are now operational as part of this scheme. District Progress on LA car clubs is described in the accompanying ASR Report	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
26	(AQAP5.2)Dynamic Road Network Efficiency and Travel Information System;	Public Information	Via other mechanisms	2017	on-going	TfGM	TfGM - BAU Activity	NO	Funded	£1 million - £10 million	Implementation	N/A	Increase Efficiency	During 2021 SCOOT has been rolled out at 34 junctions. This form of adaptive signal control dynamically changes signal timing dependant on demand. Smoothing congestion and making the most of the available highway capacity. This system is also being used to provide priority to late running buses on a number of corridors. Improving the performance and benefits of public transport. TfGM has also been working closely with partners to improve customer information. We have been sharing information with navigation service providers such as TomTom and our participation in the 'Waze for Cities' scheme enables us to log incidents and events and send push notifications for pre-planned events for regular network users.	Activity absorbed into BAU. There will be capital budgets to pay for some things, such as Growth Deal, and DfT TDM grant.

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
27	(AQAP6.1) Plugged-in Places EV Charging Network;	Promoting Low Emission Transport	Other	2018	on-going	TfGM	TfGM - BAU Activity, Early Measures Funding, OLEV Funding	NO	Partially Funded	£1 million - £10 million	Implementation	N/A	Improve Fleet	The GM publicly owned electric vehicle (EV) network, Be.EV grew in both membership base and charging points in 2021/22. It recently reached 10,000 members and the number of chargers has reached 141, with 8 new rapid charge points installed since the last report. TfGM has also been successful in securing £1.8 million of funding from the Office of Zero Emission Vehicles (OZEV) Taxi Infrastructure Fund. TfGM are a project partner in the Interreg North-West Europe funded eHUBS project. The pilot aims to accelerate the transition to shared and electric mobility services and, therefore, reduce carbon emissions.	N/A
28	(AQAP6.2) Car Use Allowances;	Alternatives to private vehicle use	Other	2017	Progress is described by district in the accompanying ASR report.	LA's	District Budgets TBC	NO	Partially Funded		Planning	N/A	Reduce Traffic	Progress is described by district in the accompanying ASR Report	N/A
29	(AQAP6.3) Local Authority Parking Charges;	Traffic Management	Workplace Parking Levy, Parking Enforcement on highway	2017	Progress is described by district in the accompanying ASR report.	LA's	LA's	NO	Partially Funded		Planning	N/A	Reduce Traffic	Progress is described by district in the accompanying ASR Report	N/A
30	(AQAP6.4) School Travel;	Promoting Travel Alternatives	School Travel Plans	2017	on-going	TfGM & LA's	TfGM & LA - BAU Activity	NO	Partially Funded	£10k - 50k	Implementation	N/A	Reduce Traffic; Increase Efficiency	In 2020 TfGM's Sustainable Journeys team began working with 19 secondary schools and colleges to provide funding for active travel grants to reduce car travel to/from secondary school/college. Funded through the GM Mayor's Congestion Deal funding, secondary schools and colleges were shortlisted based on local traffic congestion, number of students, and percentage of pupils using public transport. Over £106,000 was spent on active travel grants across Greater Manchester.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
31	(AQAP7.1) Website and Online Resources	Public Information	Via the Internet	2017	2019	TfGM	TfGM - BAU Activity	NO	Funded		Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	In 2021 cleanairgm.com saw major updates and a huge uplift in traffic to the site. During this time the website was viewed by 896,576 people (unique pageviews) and achieved 1,099,377 pageviews. This is a significant rise on the previous year with a more than 400% increase in pageviews and unique pageviews.	N/A
32	(AQAP7.2) Online Route Finding;	Promoting Travel Alternatives	Personalised Travel Planning	N/A	on-going	TfGM	TfGM- BAU Activity	NO	Funded		Implementation	N/A	Reduce Traffic; Increase Efficiency	TfGM real time bus departure feed now live on Citymapper and Transit for Beta Testing enabling real time GM bus information. These suppliers are also taking in TfGM disruption information feed via the TFN disruption tool. New journey planner introduced to TfGM.com encouraging customers to choose more sustainable journey choices. The journey planner is receiving positive feedback.	Actions undertaken in relation to customer digital and travel information roadmaps.
33	(AQAP7.3) Pollution Alert;	Public Information	Via other mechanisms	2018	On-going	TfGM	TfGM- BAU Activity	NO	Funded	£10k - 50k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	Pollution alert service has been set up and can be signed up for https://cleanairgm.com/air-quality-data/forecast-and-alerts. Registered subscribers in each district. 379 users across GM in April 2022.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
34	(AQAP7.4)Health Effects of Air Pollution in Greater Manchester;	Public Information	Via the Internet	2017	on-going	TfGM	PHE BAU	NO	Funded		Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	PHOF indicator for 2021 affected by COVID-19 pandemic, and so 2020 analysis is referred to within this report, with an estimation that approximately 5.4% of deaths in GM are attributable to exposure to total PM2.5. Nationally, Nationally, COMEAP has recently published an update to its advice to DEFRA regarding health evidence relevant to setting targets for PM2.5 under the Environment Act, and has also updated its recommendations for quantifying mortality associated with long-term exposure to particulate air pollution and hospital admissions associated with short-term exposure to particulate air pollution and NO2.	N/A
35	(AQAP7.5) Contingency Report Plan	Public Information	Other	N/A	on-going	TfGM	PHE BAU	NO	Partially Funded		Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	A draft project was developed in consultation with primary care practices to create Clean Air Practices that would include providing advice to targeted patients around air quality alerts. This was delayed due to the COVID-19 response and resourcing.	N/A
36	(AQAP7.6) TfGM Air Quality Team;	Other	Other	2017	Ongoing	TfGM	TfGM- BAU Activity	NO	Funded	£10k - 50k	Completed	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	Additional member to Air Quality team added in 2017..	N/A
37	(AQAP7.7) Air Quality Monitoring Database;	Other	Other	2017	on-going	TfGM & LA's	TfGM & LA's - BAU Activity	NO	Funded	< £10k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	TfGM are collating all AQ data and maintaining the database. This data is now being published on the cleanairgm.com website.	N/A
38	(AQAP7.8) Traffic Flow Data;	Other	Other	2017	on-going	TfGM	TfGM- BAU Activity	NO	Funded		Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	Conducted as part of the National Clean Air Plan work.	N/A

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
39	(AQAP7.9) Awareness Raising;	Public Information	Via other mechanisms	2017	on-going	TfGM & LA's	TfGM & LA's - BAU Activity	NO	Funded	£10k - 50k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	The national theme for Clean Air Day 2021 on 17 June, led by organisers Global Action Plan, was "This Clean Air Day, let's protect our children's health." GM adopted this theme and planned a digital-first campaign around a thirty second "hero" video encouraging people to cycle and walk for shorter journeys, including the school run. The video played on the homepage of cleanairgm.com, which temporarily acted as a campaign homepage, signposting people to the TfGM Active Travel website to plan an active journey on Clean Air Day. This was supplemented by paid social media activity on Facebook and a series of boosted Twitter polls/results to educate people around air quality issues and raise awareness / drive action on Clean Air Day. A social media toolkit including the video, a range of images and messages, was widely distributed to partners and stakeholders across GM. A schools toolkit was also sent to all GM schools via Directors of Education. GM used the campaign hashtag #GMCleanAirDay to measure engagement. A news release was issued to launch the campaign, tying into a school streets announcement, and on the day itself.	N/A

2.3. $PM_{2.5}$ – Local authority approach to reducing emissions and/or concentrations

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of $PM_{2.5}$ (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that $PM_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

In March 2022, Greater Manchester were informed by Defra of their successful application to the Air Quality Grant funding scheme, with an award of £573,956.

The primary aim of the Air Quality Grant funded project is to influence the reduction of particulate emissions in Greater Manchester through targeted messaging and interventions, informed by an updated emissions inventory for $PM_{2.5}$ (EMIGMA), targeted monitoring and innovative local research, with a long-term objective of encouraging behaviour change through informed choices.

The project will use a two-phase approach:

1. Evidence Base: To build an evidence base determining the proportion of $PM_{2.5}$ across Greater Manchester attributable to domestic solid fuel burning, supported by a detailed monitoring programme using the deployment of low-cost sensors across the region, plus additional research into the use of demographics, attitudes and behaviours of current contributors to these emissions.
2. Marketing and Communications Campaign: To launch two targeted campaigns, drawing on the above evidence base for improved targeting.

The project will bring together the 10 Greater Manchester local authorities, GMCA and TfGM. Results from the project will be actively disseminated within the region and beyond.

Air quality improvements are expected to follow behaviour change resulting from the targeted marketing campaign during the 2-year project lifespan, and the insight gained is expected to continue delivering air quality improvements following the completion of the bid.

In addition to receiving funding to deliver the above, in 2021, A Greater Manchester-wide domestic burning campaign was developed to encourage good burning practices when using solid fuel stoves and to discourage burning where it is not essential. The campaign ran in autumn/winter 2021 and included social media messaging, leaflets, a radio advert and

updates to the CleanAirGM website with information about the impact of domestic burning practices, including bonfires, on air quality.

2.3.1. Public Health Outcomes Framework Indicator D01 - Fraction of mortality attributable to particulate air pollution

In 2010 the Department of Health included an air quality indicator based on annual average background concentrations of $PM_{2.5}$ in the Public Health Outcomes Framework (PHOF). The PHOF indicator D01 is intended to assist Health and Wellbeing Boards with the assessment of local public health priorities, and to encourage local authority policy makers to consider the importance of the effects of air pollution on health when assessing the health needs of their population.

Population exposure to total $PM_{2.5}$ is used as the basis of the PHOF indicator D01. This indicator measures the percentage of all deaths in people aged 30 and over in a single year that is attributable to long-term exposure to current levels of total $PM_{2.5}$. This new change to using concentrations of total $PM_{2.5}$ to estimate mortality burden, rather than anthropogenic (man-made) $PM_{2.5}$, is based on a recommendation from the Committee for Medical Effects of Air Pollutants, due to uncertainties in attributing $PM_{2.5}$ to anthropogenic or non-anthropogenic sources.[25] The data is presented as 'Fraction of mortality attributable to particulate air pollution' and is updated annually. The latest available data for the PHOF indicator D01 is from 2020,[26] and includes the period from March 2020 onwards, when the COVID-19 pandemic started. Therefore, the mortality data used in the calculation of the indicator will reflect effects of the COVID-19 pandemic. Due to this, attributable fractions in this period should be interpreted with caution.

Similarly, 2020 was an atypical year for emissions of total $PM_{2.5}$ resulting from changes in travel patterns. However, the indicator measures **long-term exposure** to air pollution and is therefore still relevant despite short-term changes in travel behaviours in Greater Manchester over this period. More generally, caution is needed when considering long-term trends in this indicator due to continual improvements in the methods used for the air pollution modelling, changes in how the indicator is calculated and the impact of year-on-year weather variations.

[25] COMEAP, 2022, (LINK)

[26] Office for Health Improvement and Disparities, Fingertips Public Health Data (LINK)

In 2020, it is estimated that approximately 5.4% of deaths in Greater Manchester were attributable to exposure to total $PM_{2.5}$. This means that air pollution contributed to or played a part in 5.4% of deaths across the region in 2020. These deaths should not be individually attributed to air pollution, as individuals are likely to have had other contributory causes to their death, such as respiratory or cardiovascular disease. The figure for Greater Manchester is slightly lower than England (5.6%), but higher than the North West region average (5%).

Air pollution has harmful effects across the whole life course – it doesn't just contribute to people dying prematurely. Long-term exposure to air pollution can cause many chronic conditions including cardiovascular and respiratory diseases, such as asthma and lung cancer, as well as dementia and Type 2 diabetes. Maternal exposure to air pollution also increases the risk of premature birth and low birth weight of babies and may increase the risk of pregnancy loss. People who are particularly vulnerable to the harmful effects of air pollution include children and older people, individuals with existing cardiovascular or respiratory disease, pregnant women, people who live in areas of higher pollution (e.g. close to a busy road), and people who live in more deprived communities.

2.4. CAP NO_2 Monitoring Results 2021

2.4.1. Legislative Context

Legislation	Description
The European Union Directive 2008/50/EC Ambient Air Quality and Cleaner Air for Europe.	This European Directive forms the basis for UK air quality legislation. Although published in 2007, the Air Quality Strategy is consistent with The Air Quality Standards Regulations (England) 2010 (2010 Regulations). The European Directive is transposed into UK law through the 2010 Regulations which remain binding post the withdrawal of the UK from the EU. The UK government is responsible for ensuring that it complies with the provisions of the transposed EU Directives. The UK currently is in breach of the limit values for nitrogen dioxide (NO_2) and PM_{10} (particulate matter with an aerodynamic diameter of less than 10 microns).
Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019	The EU limit values were transposed into UK law by the Air Quality Standards Regulations 2010 and then slightly modified so the wording accounts for EU exit by the Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019 so still stand as legal limits. On the UK Government's behalf, the Department for Transport and Defra have Public Service Agreements relating to the limit values.
The Air Quality (England) (Amendment) 2000/2002 Regulations.	Legislates for the UK air quality objectives (AQOs) for pollutants set out in the 2000 Air Quality Strategy, which was revised in 2007 (Defra, 2007). AQOs exist for a variety of pollutants including NO_2, NO_x, PM_{10} and $PM_{2.5}$. These are established for both the protection of human health and the protection of vegetation and ecosystems.
Environment Act 1995, Part IV	Introduced a system of local air quality management (LAQM) in the UK, which requires local authorities to review and assess air quality within their boundaries regularly and systematically against AQOs. Local authorities must appraise development and transport plans

Legislation	Description
	against these objectives and make plans to meet the AQOs where they are exceeded.
The Air Quality Standards Regulations 2010	These regulations set out the assessment criteria of ambient air quality and contain a duty of the Secretary of State to meet limit values. The secretary of state has powers to give directions to local authorities under the Environment Act 1995.

2.4.2. Differences between monitoring undertaken for the Clean Air Plan and LAQM

In addition to monitoring undertaken to determine compliance with the nitrogen dioxide (NO_2) legal limit values in accordance with the Clean Air Plan (CAP) and government direction under section 85 of the Environment Act 1995, the 10 districts also monitor NO_2 in accordance with the requirements of Part IV of the Environment Act 1995 and associated statutory guidance, also called Local Air Quality Management or 'LAQM'.

The two monitoring regimes have different siting criteria to assess exposure in different types of locations. The CAP monitoring assesses exposure as defined by the Air Quality Standards Regulations (England) 2010 legal limit values, with roadside being typically worst-case and hence the focus for monitoring. The LAQM monitoring is concerned with exposure at locations of relevant public exposure[27] where the Air Quality Objectives apply, which can include roadside but only in exceptional circumstances. LAQM monitoring also includes measurements at background[28] and industrial locations and isn't limited to road traffic sources.

Additionally, the two regimes have different values by which they determine an exceedance. LAQM determines that the legal limit of 40µg/m^3 has been exceeded by any result over

[27] All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc. Kerbside locations are on the whole excluded, unless members of the public are likely to be exposed for longer than the time used to determine the legal limit for the pollutant concerned. Box 1.1 for TG16 give more detail LAQM-TG16-April-21-v1.pdf (defra.gov.uk)

[28] Background sites are used to provide useful information such as long-term trends, general population exposure and an indication of reduction in pollution away from roadside sources, as opposed to measuring exceedances.

39.9µg/m^3 [29], whereas for the CAP, JAQU (Government's Joint Air Quality Unit,) determine anything over 40.4µg/m^3 to be an exceedance[30]. These differences in definition should be taken into consideration when comparing the results from individual monitoring locations.

There are two legal limits in relation to NO_2 which apply to both regimes:

- A short-term hourly limit of 200µg/m^3 (not to be exceeded more than 18 times a calendar year).
- The long-term annual average limit of 40µg/m^3.

To determine compliance with the NO_2 1-hour mean Air Quality Limit Values, research undertaken on behalf of Defra and outlined in Technical Guidance Note LAQM.TG (16) (Defra, 2021) identified that road traffic emission related exceedances are unlikely to occur where the annual mean concentration is below 60 µg/m^3.

For the Clean Air Plan (CAP), the government has directed GM (and other areas) under UK law to address NO_2 exceedances at the roadside in the shortest possible time. In GM this direction specifically focuses on the more stringent long-term annual average legal limit (40µg/m^3).[31]

The GM local authorities carry out air quality monitoring under the LAQM regime for NO_2 using a combination of:

- Continuous automatic monitoring sites: There are currently 21[32] automatic air quality monitoring stations, 12 of which are located at the roadside. Details of these sites as well as data for 2021 can be found at Table A.3.
- Diffusion tubes: 436 sites are set up for local air quality management (LAQM) purposes. In addition, 222 sites are set up for GM Clean Air Plan monitoring and evaluation purposes.

[29] An exceedance defines a period of time during which the concentration of a pollutant is greater than, or equal to, the appropriate air quality criteria. For Air Quality Standards, an exceedance is a concentration greater than the Standard value. For Air Pollution Bandings, an exceedence is a concentration greater than, or equal to, the upper band threshold. https://uk-air.defra.gov.uk/air-pollution/glossary#E
[30] The IPR guidance underpinning the Air Quality Standards Regulations 2010 stipulates that compliance should be assessed using data of 'the same numeric accuracy' as the limit value, therefore a value of 40.4ug/m3 is rounded down to 40ug/m3 and is not exceeding. https://ec.europa.eu/environment/air/quality/legislation/pdf/IPR_guidance1.pdf
[31] The short-term hourly limit was only exceeded in Greater Manchester in 2016 at one site, on Oxford Road.
[32] Three of the 21 sites had low data capture during 2021. See Appendix D.

Monitoring for NO_2 for GM Clean Air Plan purposes uses diffusion tubes at sites where "target determination"[33] modelling predicted illegally high levels of NO_2 for 2021. Three new continuous automatic air quality monitoring stations are planned to be installed in 2022 at the last key points of exceedance in Greater Manchester.

The GM CAP monitoring and evaluation plan NO_2 diffusion tube survey was extended from 222 sites to 462 sites in late 2021 – so results from these sites will be available for use from 2022. This is designed to enable evaluation of the scheme performance and confirm compliance with legal limits.

Clean Air Plan monitoring 2021

The initial Greater Manchester Clean Air Plan (GM CAP) monitoring survey, covering all 10 Greater Manchester authorities, started in January 2018. These locations were based on the roads predicted to be in exceedance in 2021 in the government's "UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations" (Defra, 2017).

Diffusion tubes were placed at roadside locations around Greater Manchester to determine the concentrations of NO_2 across the extent of the GM CAP study area. The diffusion tubes were replaced monthly throughout the survey with supply and analysis by Staffordshire Scientific Services.

In June 2019 and October 2021, the diffusion tube survey was extended, and new diffusion tube monitoring sites were installed along roads predicted to be in exceedance by the CAP target determination modelling process. Additional sites were also included in Manchester city centre where street canyons may be leading to elevated air pollution concentrations.

[33] The government's Joint Air Quality Unit undertook a process called 'target determination', which involves comparing the outputs of the local and national modelling, verifying the local modelling methodology and then agreeing the forecast concentration assessment to be compared to the limit value for each exceedance. The outcome of this is an agreement of the NO_2 problem Greater Manchester must resolve ("target determination") and the basis for the Greater Manchester Clean Air Plan.

2.4.3. Summary of CAP monitoring results 2018 – 2021

Table 2D Number of CAP Monitoring Sites

	Number of monitoring Sites			
	2018	**2019**	**2020**	**2021**
Bolton	5	8	14	14
Bury	5	13	16	16
Manchester	20	72	91	91
Oldham	0	6	9	9
Rochdale	0	7	12	12
Salford	5	16	27	27
Stockport	10	18	19	19
Tameside	5	9	14	14
Trafford	5	11	14	14
Wigan	0	2	6	6
Total	55	222	222	222

Table 2E Number of CAP Exceedances

	Number of Exceedances (>40.4µg/m^3)			
	2018	**2019**	**2020**	**2021**
Bolton	1	4	1	2
Bury	2	10	0	2
Manchester	14	65	8	25
Oldham	0	5	0	1
Rochdale	0	4	1	1
Salford	1	16	0	7
Stockport	6	15	2	3
Tameside	4	6	4	4
Trafford	1	3	0	0
Wigan	0	1	0	0
Total	29	129	16	45

Table 2F Number of CAP sites at Risk of Exceedance

	Number of sites at Risk of Exceedances (>35 < 40.4 µg/m^3)			
	2018	**2019**	**2020**	**2021**
Bolton	3	2	3	3
Bury	3	2	3	4
Manchester	1	6	22	18
Oldham	0	1	4	4
Rochdale	0	3	0	2
Salford	0	0	6	7
Stockport	2	2	4	5
Tameside	1	3	1	1
Trafford	3	7	1	1
Wigan	0	1	0	0
Total	13	27	44	45

Table 2G Max CAP NO2 Concentration

	Max NO2 Concentration(µg/m^3)			
	2018	**2019**	**2020**	**2021**
Bolton	54	64	46	48
Bury	48	62	38	44
Manchester	71	76	50	56
Oldham	0	54	39	45
Rochdale	0	61	49	45
Salford	47	67	40	45
Stockport	62	75	46	52
Tameside	56	56	43	48
Trafford	47	47	35	37
Wigan	0	45	31	33

3. Air quality monitoring data and comparison with Air Quality Objectives and national compliance

This section sets out the monitoring undertaken within 2021 by Greater Manchester under LAQM and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2017 and 2021 to allow monitoring trends to be identified and discussed.

3.1. Summary of monitoring undertaken

3.1.1. Automatic monitoring sites

Greater Manchester undertook automatic (continuous) monitoring at 21 sites during 2021. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The **CleanAirGM Data Hub** presents automatic monitoring results for Greater Manchester, which are also available through the UK-Air website.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2. Non-automatic monitoring sites

For local air quality management (LAQM) purposes Greater Manchester undertook non-automatic (i.e. passive) monitoring of NO_2 at 436 sites during 2021. Table A.2 in Appendix A presents the details of the non-automatic sites. A summary of all non-automatic site exceedances can be seen in the Executive Summary of this report.

Maps showing the location of the LAQM monitoring sites are provided in Appendix D and both local air quality management (LAQM) and GM CAP monitoring data can be found on the **CleanAirGM Data Hub**. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2. Individual pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1. Nitrogen dioxide (NO_2)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3 across Greater Manchester. Results are described by district below. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values have not been distance corrected to a location of relevant exposure, as required by Technical Guidance (TG 16)[34].)

For diffusion tubes, the full 2021 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values for exposure, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

Bolton Metropolitan Borough Council

Automatic

A new automatic monitoring station was installed on the A579, Derby Street, near the University of Bolton, which was commissioned in October 2020. 2021 is therefore the first full year of data from the site. The site is located with the Air Quality Management Area and is in a roadside location. The site is monitoring NOx concentrations, PM_{10} and $PM_{2.5}$. The NOx analyser is a NOx model T200 chemiluminescence analyser supplied by Envirotechnology.

The annual mean concentration measured at the site was 23 µg/m^3 and there were no hourly mean concentrations above 200 µg/m^3. The data capture at the site was 99.5%. There were

[34] Local air Quality Management Technical Guidance (TG16) - Defra

no exceedances of the NO_2 air quality objectives at the site in 2021. As 2021 is the first full year of data from the site it is not possible to compare the results with previous years.

Diffusion Tubes

In 2021 Bolton Council collected data from 54 diffusion tubes (48 sites as there are some duplicate / triplicate tubes), this is an increase in three tubes / one site compared with last year. A total of 37 of the sites (42 tubes) are located with the AQMA, with nine sites (11 tubes) located outside it. Data is also available from 14 sites which have been set up to monitor the GM Clean Air Plan which is under development to reduce roadside NO_2 levels to within legal levels. This is the first year that data from these sites have been included in the Annual Status Report. The results from the Clean Air Plan monitoring are discussed in more detail in Section 2.4.

During 2020 pollution levels decreased significantly at all sites, which is associated with reduced traffic flows as a result of restrictions imposed during the COVID-19 pandemic. There were still some restrictions in 2021, which are also likely to have had an impact on reducing pollution levels compared with pre-pandemic levels.

There was one exceedance of the NO_2 annual mean objective at the sites managed by Bolton Council, at the traffic lights at the Northbound exit Junction 4 off the M61. While there is pedestrian access in this location it is not a location where there is likely to be long-term exposure. The concentration at this location (Site reference BO71) was 41.5µg/m3.

There were three sites with concentrations greater than 35 µg/m3 in 2021 (three sites managed by Bolton Council and two Clean Air Plan sites):

- BO69 – A6, Salford Road near the Red Lion Public House (38.1 µg/m3)
- B073 – Turton Street, Bolton near the junction with St. Peters Way (37.4 µg/m3)
- BO3 – Derby Street, Bolton near ‘Quintins’ (37.1µg/m3)

All the sites are roadside locations. The BO69, Salford Road site may also be influenced by traffic on the M61 as well as local roads.

Overall, levels were higher for all site types (roadside, kerbside and background) in 2021 than they were in 2020, but they were lower than pre-pandemic levels.

Bury Council

Automatic

Bury Council operate three automatic monitoring units at Whitefield (A56 Bury New Road), Prestwich (A56 Bury New Road) and Radcliffe (A665 Water Street). In 2021, all units

measured concentrations of NO_2 that were well below the annual mean objective. The general trend is that NO_2 levels at these sites reduced significantly in 2020 but then rose slightly in 2021. COVID-19 restrictions had a huge impact in 2020 and to some extent in 2021 and therefore, it is difficult to draw any firm conclusions regarding air quality trends from these two years. The monitoring results for 2022 will begin to show us more accurately what the post-COVID-19 levels for NO_2 will be.

The enclosures at the units at Prestwich and Radcliffe had to be replaced in 2020/2021 which meant that the data capture for both sites in 2021 was reduced and therefore, both sets of measurement had to be annualised. This will have an impact on accuracy which must be considered when evaluating these results. The results for 2022 should provide a more accurate reflection of the new post COVID-19 levels of NO_2 at these sites.

Diffusion Tubes

There are 20 sites in Bury where NO_2 is measured using diffusion tubes and 15 of these locations are within the Air Quality Management Area. These sites were all in operation in 2020 and 19 of them were also in operation in 2019. Only one site exceeded the NO_2 annual mean objective in 2021 and this was BU12 (40.9µg/m^3) which is located on the busy A58 Rochdale Road connecting Bury town centre with the M66 and the wider motorway network.

Site BU 13, which is on the same road, recorded a value which is very close to the objective (39.8 µg/m^3). There are also two sites with annual means just over 35ug/m3 on the A56 Bury New Road, which is a busy route leading to Manchester City Centre and to Junction 17 of the M60. All of the sites that exceed or are close to exceeding the objective are inside the Air Quality Management Area and are also in areas shown by recent Greater Manchester Clean Air Plan modelling to have problems meeting the NO_2 limit value.

As with the automatic monitoring, the general trend is that NO_2 levels at the diffusion tube sites reduced significantly in 2020 but then rose slightly in 2021. COVID-19 restrictions had a huge impact in 2020 and to some extent 2021, and therefore it is difficult to draw any firm conclusions regarding air quality trends from these two years. The monitoring results for 2022 will begin to show us more accurately what the post COVID-19 levels for NO_2 will be.

Manchester City Council

Automatic

There are three automatic monitoring stations within Manchester's district:

- Piccadilly Gardens (Urban Centre)

- Oxford Road (Kerbside)
- Manchester Sharston (Suburban Industrial)

Concentrations of NO_2 have fallen at all Manchester automatic monitoring sites since 2017, although an increase was seen from 2020 (COVID-19 lockdown-impacted) levels. During 2021 the Piccadilly Gardens and Sharston sites met the legal annual mean limit of 40µg/m³ (micrograms of NO_2 per cubic metre of air) for this pollutant, and the Oxford Road site exceeded the limit (44 µg/m^3).

Notwithstanding the increases in concentrations following the COVID-19 impacts of 2020, long term monitoring trends indicate that there has been an improvement in air quality across the city. However it is likely that, during business as usual circumstances, parts of Manchester will still remain above the annual limit for NO_2.

No technical issues were experienced at any of Manchester's automatic monitoring sites during 2021 with respect to NO_2.

Diffusion Tubes

Monitoring was carried out at 40 NO_2 diffusion tube sites in Manchester during 2021, an increase of three sites from 2020. 29 of these tubes are located within the AQMA, and 11 are located outside of the AQMA. During 2021 there were three exceedances of the annual limit for NO_2: Oxford Street (site ref: MA29ANO), Oxford Road triplicate site (MA82NO, MA83NO, MA84NO), and Ardwick Green (MA96BNO). All sites showed increased levels from the previous COVID-19 impacted year, and all sites showed a decrease from 2019 levels. The highest concentration in Manchester was 44.8µg/m³ at the Oxford Street site.

Oldham Metropolitan Borough Council

Automatic

Oldham has one automatic monitoring site for NO_2. The monitoring station is within a self-contained air-conditioned mobile unit along the roadside of A663 (Crompton Way), in the vicinity of Shaw and Crompton town centre. The site is classified as an urban traffic site. The immediate area around the inlet is open with the wider area comprising of residential properties. The inlet is approximately two metres from the kerb of a busy road. It uses chemiluminescence to measure the NO_2.

In 2021 the site captured 97% of the available data and measured an annual average of 25µg/m^3 for nitrogen dioxide, well below the national objective of 40µg/m3. This is slightly above last year's 2020 reading of 23µg/m^3. This is possibly due to traffic levels returning to

more normal levels following the 2020 COVID-19 lockdowns – and possibly fewer people working from home in 2021 compared to 2020. Comparing the annual levels in 2021 and 2019 (the last normal year pre-COVID-19), shows the 2021 level is 5µg/m^3 lower than the 2019 reading (30µg/m^3). At this site there were no exceedances of the hourly average objective in 2021 (200µg/m^3 not to be exceeded more than 18 times a year). There were no incidences when the hourly mean was greater than 200µg/m^3 in 2021 at this site.

Diffusion Tubes

At the start of 2021 we re-evaluated the locations of the diffusion tubes and installed additional tubes based on sites predicted to have elevated levels of NO_2 from the modelling carried out by TfGM as part of the Clean Air Plan. In 2021, 29 diffusion tubes monitored NO_2 at 27 sites across the district, compared to 20 in 2020. Three of the tubes are collocated at the air quality monitoring station. 14 of the tubes were inside the Air Quality Management Area designated in 2016. 15 tubes were not precisely in the Air Quality Management Area, although a number of these were very close to the area.

Two of the tubes' annual averages exceeded the annual objective of 40µg/m3 in 2021. Both these tubes were inside the Air Quality Management area and are on Oldham Road, Royton, (OL12ORNO) close to the junction with Middleton Road/High Barn Street (43.2 µg/m^3), and at Shaw Road, Royton, (OL21SRNO) close to the junction with Salmon Fields. This tube also measured the highest reading for annual average from the diffusion tubes at 46.3µg/m3. None of the monthly averages for the tubes exceeded 60µg/m^3 (after bias adjustment) which appears to indicate that the hourly objective (of 200µg/m^3 not to be exceeded more than 18 times a year) was not exceeded at any of the locations. The highest monthly average was 55.3µg/m^3 (after bias adjustment) measured at Oldham Road, Royton.

All NOx tubes in 2021 that had a tube in the same position in 2020 showed an increase in levels recorded in 2021 compared to 2020 levels, excluding the tube at Middleton Road Precinct, which had a very large anomalous monthly average in 2020 which skewed its 2020 average. On average this increase was 2.6µg/m^3. This is similar to what we saw at the continuous monitoring station (2µg/m^3 increase) and again is possibly due to an increase in traffic following a return to more normal traffic levels in 2021. However, when we compare the levels at these locations to the last "normal" year 2019 the levels at every location in 2021 were lower than in 2019, of a similar degree to the difference seen at the real time analyser between 2019 and 2021 levels.

Rochdale Metropolitan Borough Council

Automatic

Rochdale has one automatic monitor located at Rochdale Queensway that records NO_2 which was installed in August 2021, therefore we do not have a full year of data for comparison. It does appear to follow local trends showing peaks at peak traffic times and weather conditions.

Diffusion Tubes

Rochdale BC has 29 tubes located at 27 locations across the borough with a triplicate set located at the continuous monitoring station. These are all existing tubes with no additional tubes deployed during the year. None of the tubes show an annual exceedance of the national limit of 40 µg/m^3, the highest being located on the A58 Manchester Road, the main route through Rochdale (tube RO8ANO) with a recorded concentration of 36.6µg/m^3. The lowest reading of 10.2µg/m^3 is tube 14, a rural background located tube in Littleborough.

The impact of COVID-19 pandemic showing reduced figures during 2021 compared to 2019 data.

Salford City Council

Automatic

In 2021 there were three automatic air quality monitoring sites in Salford that measured NO_2 concentrations:

- Eccles: An urban background site located close to Eccles town centre, operational since 1997.
- M60: Roadside monitoring site located close to the M60 in Worsley, operational since 1999.
- Glazebury: A rural background site, operational since 2004.

At the Eccles monitoring site, the 2021 annual mean NO_2 concentration had increased by 15% compared to 2020 (2021 = 23 ug/m^3, 2020 = 20 ug/m^3).

At the M60 monitoring site, the 2021 annual mean NO_2 concentration was the same as in 2020 (2021 = 34 ug/m^3, 2020 = 34 ug/m^3).

At the Glazebury monitoring site, the 2021 annual mean NO_2 had increased by 9% compared to 2020 (2021 = 12 ug/m^3, 2020 = 11 ug/m^3).

The Eccles site showed the biggest percentage increase in terms of NO_2 annual mean concentration in 2021 compared to 2020 (an increase of 3 ug/m^3).

However, annual average NO_2 concentrations measured at all 3 sites in 2021 were lower than in 2019 (pre COVID-19 pandemic).

The last five years of monitoring data has shown an overall downward trend in annual mean NO_2 concentrations at all Salford automatic monitoring sites. This downward trend has been particularly noticeable at the M60 site (2017 annual mean NO_2 concentration = 43 ug/m^3).

There were no exceedances of the annual mean or hourly national air quality objectives for NO_2 at any of the Salford automatic monitoring sites during 2021.

All three automatic monitoring sites had very high rates of NO_2 data capture during 2021 (all exceeded 99%) and there were no significant technical issues.

Diffusion Tubes

In 2021, there were 47 NO_2 diffusion tube air quality monitoring sites operated by Salford City Council, including those sites that were co-located with automatic monitoring sites for bias adjustment purposes. The diffusion tube network was reviewed in late 2020 to ensure that the network remained fit for purpose and monitored NO_2 concentrations at appropriate roadside and background locations, considering:

- National LAQM air quality objective and the Air Quality Standards Regulations 2010 exceedance locations.
- Diffusion tube siting criteria set out in Defra TG16 technical guidance and the Air Quality Standards Regulations 2010.
- Previous diffusion tube monitoring results.
- Co-location with automatic monitoring sites to improve the diffusion tube annual bias adjustment factor.

This comprehensive review resulted in:

- Four diffusion tubes being discontinued from the network after 2020 – due to another diffusion tube located nearby in a similar type of setting that was in a location where higher NO_2 concentrations may be expected.
- Seven diffusion tubes being moved/repositioned from 2021 – to better represent locations of relevant exposure and/or to meet technical guidance siting criteria.

- Two diffusion tubes being added into the network from 2021 – to represent NO_2 concentrations in areas of relevant exposure where annual NO_2 air quality objectives are being exceeded or at risk of being exceeded.

Overall, this resulted in a slight reduction in the number of diffusion tubes sites compared to 2020 (48 sites were operational in 2020).

During 2021, 33 diffusion tube sites were within the AQMA, and 14 sites were outside the AQMA.

44 diffusion tube monitoring sites that were not co-located with an automatic monitoring site had annual mean results available for 2021. 37 of these sites had increased annual mean concentrations in 2021 compared to 2020. Two of these sites had slightly decreased annual mean concentrations in 2021 compared to 2020. The remaining five sites were set up in 2021 had no 2020 result available for a comparison.

Increases in annual mean concentrations between 2020 to 2021 ranged between 2% and 29%. The monitoring site that recorded the largest percentage increase in annual mean concentration in 2021 compared to 2020 was SA68 Walkden High Street (2021 annual mean NO_2 = 44.3 ug/m^3, 2020 annual mean NO_2 = 34.4 ug/m^3). However, monthly laboratory results for this site showed unusually high concentrations measured in January 2021 and December 2021, the reason for which is unclear.

General increases in concentrations may be attributable to traffic levels returning to pre-pandemic volumes in 2021.

In 2021, three Salford City Council diffusion tube sites measured annual mean NO_2 concentrations that exceeded the air quality objective: SA68 Walkden High Street (44.3 ug/m^3), SA81 Regent Road 2 (42.3 ug/m^3) and SA86 Bury Old Road (44.0 ug/m^3). These are roadside sites that are within or adjacent to the AQMA.

The lowest diffusion tube annual mean NO_2 concentration measured in Salford during 2021 was 15.5 ug/m^3 at the SA02 Irlam (Princes Park) site – an urban background location.

Where longer term trends are available for roadside monitoring sites within the AQMA, there is an overall general downward trend in concentrations over time. This trend is also apparent for urban background monitoring sites.

Stockport Metropolitan Borough Council

Automatic

There are two sites in Stockport where automatic monitoring takes place for nitrogen dioxides. Both are roadside sites and are located at Stockport Cheadle and Stockport Hazel Grove. The data capture at Cheadle in 2021 was 95.11% and the annualised mean result was 28µg/m³. In Hazel Grove data capture was 99.35% and the annualised mean was 19µg/m³. Neither site had exceedances of the hourly mean and both sites were well below the specified legal levels. Both sites were lower in 2020 due to reduced vehicle numbers resulting from COVID-19 measures. In spite of the increase between 2020 and 2021, the overall trend at both sites is downward. There have been no concerns or technical issues with either site.

Diffusion Tubes

Within Stockport there are 34 nitrogen dioxide (NOx) diffusion tubes at 29 sites, including five new ones added at the beginning of 2019. 23 of these tubes are within the AQMA. All but one of the tube results were higher than the levels in 2020. This can likely be put down to the number of vehicles increasing following COVID-19 lockdowns. Of these 23 tubes, there were no exceedances of the 40 µg/m³ limit and only one tube located within the AQMA at Didsbury Road (Tube 34) exceeded 35 µg/m³ (35.8 µg/m³), which is the precautionary level at which the AQMA was declared. No tubes outside the AQMA exceeded the 35µg/m³ level. All but one of the tubes within Stockport showed a continued decrease in levels. The exception is Tube 34 (Didsbury Road) that increased slightly on 2020 levels to 35.8 but was significantly lower than in 2019 when the level was 41.3 µg/m³.

12 of the tubes within the AQMA in 2019 showed an exceedance of 35 µg/m³ (the threshold for the declaration of the AQMA). This demonstrates the reduction of nitrogen oxides continuing in Stockport.

The five new tubes that were located in 2019 were placed in areas predicted to exceed 35ug/m3. In 2019, four did exceed with one exceeding 40 µg/m³. In 2021 none of these tubes exceed the 40 µg/m³ threshold, and as stated previously only one tube exceeds the 35 µg/m³ figure but this has reduced from a 2019 figure of 41.3 µg/m³ again showing that the overall trend in these locations is downwards.

Tameside Metropolitan Borough Council

Automatic

Automatic monitoring for NO_2 was undertaken at two roadside sites during 2021, the first is on the A57 Mottram Moor, Hollingworth and a new site was commissioned in September 2020 on the A635, Manchester Road, Ashton-under-Lyne.

Concentrations at the Mottram Moor site have been falling steadily over the past five years, although the annual average concentration rose from 30µg/m^3 in 2020 to 36µg/m^3 in 2021, as traffic volumes increased following the pandemic.

The annual average concentration for 2021 at the A635 Manchester Road site was 34µg/m^3. 2021 is the first full year's data collected at the site.

Diffusion Tubes

The number of diffusion tube monitoring sites within the borough during 2021 was 53, one less than the previous year. Following a review of all sites across the borough, the site at Dean Street in Ashton (TA 22) was decommissioned. The sites T15 (Stamford Street, Stalybridge) and TA 26 (Lees Road, Ashton-under-Lyne) were relocated and renamed to TA 63 (Lees Road, Ashton-under-Lyne) and TA 64 (Stamford Street, Stalybridge) to provide more relevant data related to public exposure.

Of these 53 sites, 30 are inside the AQMA boundary and 23 are outside. All but two of the 53 sites monitored had an annual average below 40µg/m^3 for 2020. The exceptions were TA55 with an annual average of 42.5µg/m^3 and TA11 with an annual average of 41.1µg/m^3. Concentrations at both sites were considerably higher prior to the pandemic and concentrations appear to be rising again as lockdown restrictions are removed.

Concentrations of NO_2 inside the current AQMA have, in general, been showing downward trends over the past five years, with only the two sites mentioned above now having an annual average greater than 40µg/m^3, compared to 13 sites in 2018. However, concentrations have risen from 2020 values across all but two sites inside the AQMA (TA1 and TA57). Percentage increases in concentrations across all sites compared to last year's annual average ranged from 3% to 28%, with the highest increases observed at sites located along the busier sections of the road network, particularly sites TA24 (28%), TA30 (14%) and TA49 (13%) as traffic levels return to pre-pandemic volumes.

Outside the current AQMA none of the sites had an annual average of greater than 40µg/m^3 and all sites are showing a downward trend over the past five years.

Trafford Metropolitan Borough Council

Automatic

Trafford Council operate three continuous automatic monitoring stations within the district to national AURN standards at:

- Stretford A56, adjacent to Stretford House, M32 9AZ

- Wellacre Academy, Irlam Rd, Urmston, Manchester M41 6AP
- Moss Park Junior School, 71 Moss Park Rd, Stretford, Manchester M32

There were no exceedances of the annual mean or hourly national air quality objectives for NO_2 at any of the Trafford automatic monitoring sites during 2021. Concentrations at the monitoring stations have been consistently below the annual objective limit for the previous five years.

There is a noticeable decrease in levels in 2021 and 2020 compared to previous years, which could be due to a reduction in vehicle usage due following COVID-19 restrictions. However, a full conclusion will not be possible until 2022 monitoring has been completed and can be compared against other similar areas in the UK.

Data capture rates at the A56 and Moss Park sites were high with no significant technical problems occurring. Data capture rates at the Wellacre site were lower due to a technical error which required correcting and difficulty in gaining access to the site during school closure periods.

Diffusion Tubes

In 2021, Trafford Council had 28 diffusion tubes located at 20 locations. At the council's three automatic monitoring stations, three diffusion tubes are located to assist with bias adjustment calculations. 16 diffusion tubes at 12 locations are positioned with the council's Air Quality Management Area. 11 diffusion tubes at 7 locations are positioned outside of the Council's Air Quality Management Area.

In 2021, three additional diffusion tubes were sited at three new locations.

In 2021 no diffusion tube locations recorded any exceedance of national annual objective levels for nitrogen dioxide. The highest concentration recorded was an annual mean concentration of 31.3µg/m^3 at new monitoring location TR31NO. The lowest recorded was an annual mean concentration of 11.5(µg/m3) which a co-located diffusion tube at the Wellacre Academy air quality monitoring station.

The majority of the diffusion tubes show an increase in levels in 2021 compared to 2020, with the highest increase being at a location on Tithebarn Road, Hale (TR24NO) where the annual mean is 19.8 µg/m^3. The most likely reason for this increase is increased level of road traffic following the lifting of COVID-19 restrictions.

Wigan Metropolitan Borough Council

Automatic

Wigan has two automatic monitoring stations.

The automatic monitoring site at Wigan Centre is an urban background site located at the Deanery High School on Frog Lane close to Wigan town centre. Wigan Centre monitors NO_2, PM_{10}, $PM_{2.5}$ and O_3. The annual mean concentration for NO_2 recorded at Wigan Centre in 2021 was 17µg/m^3, an increase of 2µg/m^3 from 2020. This remains well within the legal limits.

Wigan Leigh Three monitoring station is a roadside site located on Market Street in Leigh close to the town centre which monitors NO_2, PM_{10} and $PM_{2.5}$. The annual mean concentration for NO_2 recorded at Wigan Leigh in 2021 was 25µg/m^3, an increase of 1µg/m^3 from 2020. This remains well within the legal limits.

Diffusion Tubes

In 2021 Wigan Council deployed 29 NO_2 diffusion tubes at new locations, bringing the total number to 129 at 125 locations.

In 2020 and 2021 the same NO_2 diffusion tube measured exceedances, returning an annual mean result that was above the 40µg/m^3 legal limit value. This was tube 180 at Winwick Lane which recorded an annual mean of 44.6 µg/m^3 in 2021 compared with 41.9µg/m^3 in 2020.

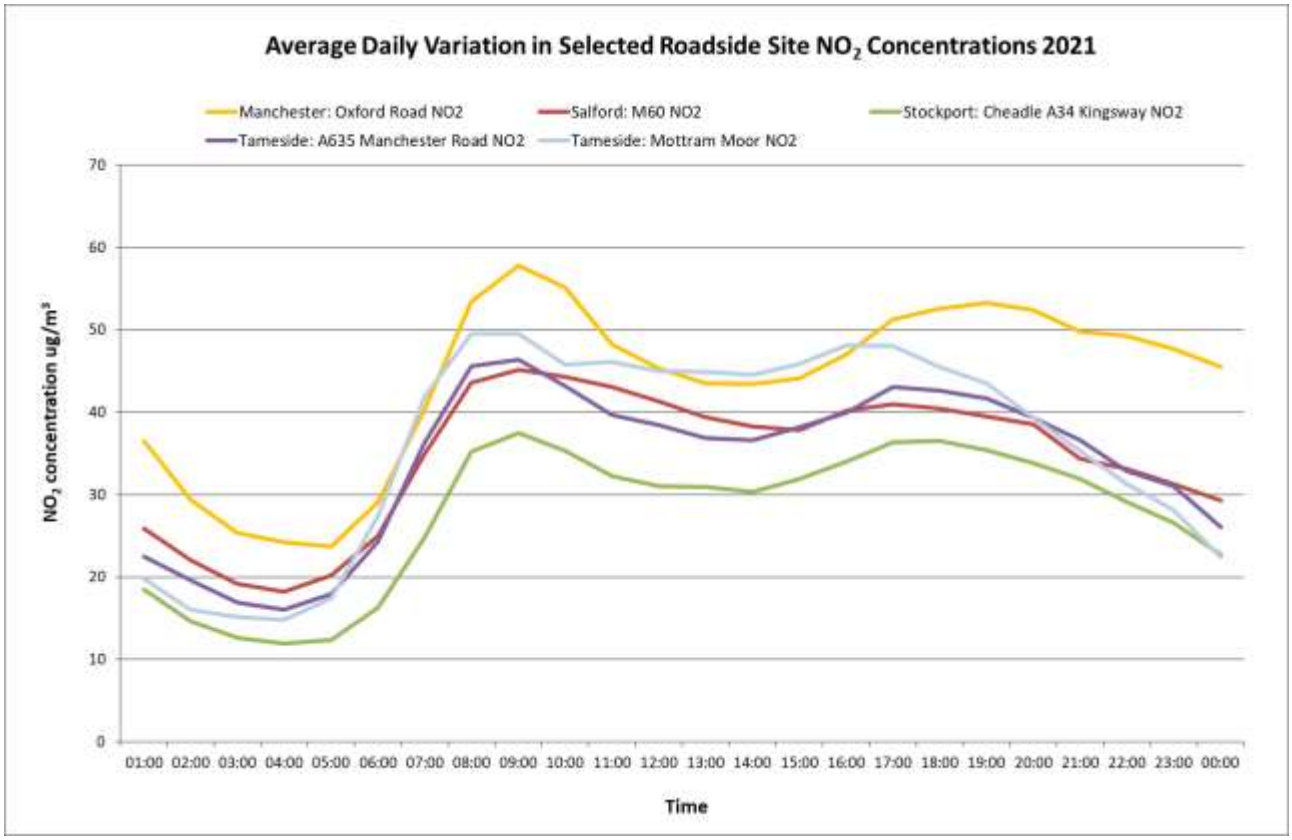
Tube 180 is located on a road where traffic originates beyond the borough boundary (it is used as a shortcut for traffic exiting the M6 motorway at Junction 22 to reach the A580 East Lancashire Road at Lowton) and we have been working with the neighbouring local authority to try and reduce pollution levels here.

20 NO_2 tubes were within the boundary of the 2016 AQMA.

The only exceedance measured in 2021 was outside the 2016 AQMA: tube 180 mentioned above.

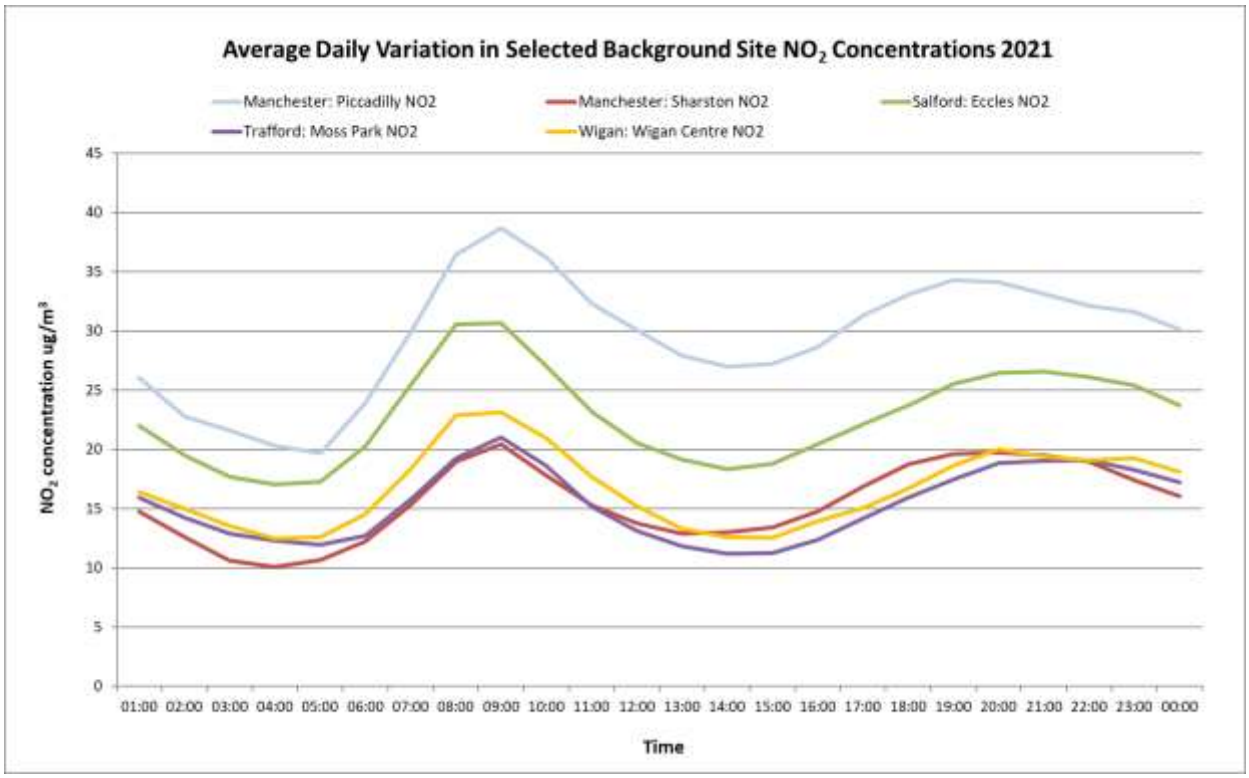
Diurnal analysis of NO_2 concentrations in Greater Manchester

Figure 3A: Daily variation in roadside NO_2 concentrations 2021



The chart above displays the average daily variation in selected roadside site NO_2 concentrations for 2021. Most monitoring sites show a similar trend – a peak in NO_2 concentrations occurs in the AM between 08:00 and 09:00. Another evening peak occurs from approximately 17:00 to 19:00. These peaks correspond to commuting traffic peak times. These trends are similar to 2020, however peaks occur at higher concentration levels, for example, diurnal analysis of 2020 automatic monitoring site data showed that the Manchester Oxford Road site experienced a morning and evening NO_2 concentration peak of ~48 ug/m3 and ~45 ug/m3 respectively. In 2021, these peaks had increased to ~58 ug/m3 and ~53 ug/m3 respectively. This is most likely attributable to traffic levels returning to normal levels following easing of restrictions during the COVID-19 pandemic.

Figure 3B: Daily variation in background NO_2 concentrations 2021



For background sites, most monitoring sites show a similar trend – a peak in NO_2 concentrations occurs in the AM at approximately 08:00 to 09:00. Another evening peak occurs from approximately 17:00 to 19:00. These peaks correspond to commuting traffic peak times. These trends are similar to 2020, however peaks at most sites occur at higher concentration levels, for example, diurnal analysis of 2020 automatic monitoring site data showed that the Manchester Piccadilly site experienced a morning NO_2 concentration peak of ~36 ug/m3. In 2021, this peak had increased to ~39 ug/m3.

3.2.2. Particulate matter (PM_{10})

Table A.6 in Appendix A: Monitoring results compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the air quality objective of 40µg/m^3.

Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

Bolton Metropolitan Borough Council

Monitoring of PM_{10} is undertaken at the newly installed site at a roadside location on the A579, Derby Street near the University of Bolton, which was commissioned in October 2020.

PM_{10} concentrations are measured using a BAM with a correction applied to the results to make it gravimetric equivalent.

The annual mean concentration measured at the site was 17 µg/m^3, with two days when the daily mean was above 50 µg/m^3 (the highest daily mean was 55 µg/m^3). The data capture at the site was 95.7%. There were no exceedances of the PM_{10} air quality objectives at the site in 2021. As 2021 is the first full year of data from the site it is not possible to compare the results with previous years.

Bury Council

Bury Council operate three automatic monitoring units at Whitefield (A56 Bury New Road), Prestwich (A56 Bury New Road) and Radcliffe (A665 Water Street). In 2021, all units measured concentrations of PM_{10} that were well below the annual mean objective and there were no exceedances of the 24-hour mean objective.

Since 2017 the measurements at these sites haven't displayed any definite trends with levels at Whitefield showing no improvement, at Prestwich a slight reduction and Radcliffe a slight increase. COVID-19 restrictions had a huge impact in 2020 and to some extent 2021 and therefore, it is difficult to draw any firm conclusions regarding air quality trends in relation to these two years. It will be the monitoring results for 2022 which will begin to show us more accurately what the post COVID-19 levels for NO_2 will be.

The enclosures at the units at Prestwich and Radcliffe had to be replaced in 2020/2021 which meant that the data capture for both sites in 2021 was reduced. At Radcliffe there were further delays in commissioning the particulate analyser, as delivery of the new parts required were delayed due to global shortages and transport issues. As a result, both sets of measurement had to be annualised. This will have an impact on accuracy which must be considered when evaluating these results. As mentioned above the results for 2022 should provide a more accurate reflection of the new post COVID-19 levels of PM_{10} at these sites.

Manchester City Council

During 2021 PM_{10} was measured at three sites in Manchester. Concentrations of PM_{10} were maintained at all sites during 2020 and reduced from 2019 levels. No site has exceeded the legal limit for this pollutant since the baseline year. Rounded levels in 2021 were identical to those obtained for 2020.

Oldham Metropolitan Borough Council

PM_{10} is monitored at one site, the same site that NO_2 is monitored (see above). It uses Beta attenuation monitoring to measure hourly average PM_{10}. In 2021 the site had a 97% data capture rate. The annual mean for PM_{10} in 2021 was 17µg/m^3 i.e., well below the objective of 40µg/m^3. This is 2µg/m^3 higher than the level measured in 2020, but again this could be due to the unusually low levels of traffic in 2020 due to COVID-19 lockdowns. If you compare it with the 2019 level (19µg/m^3) when traffic levels were "normal" it is 2µg/m^3 lower, but traffic in 2021 may not have reached the same levels as 2019 as there were some COVID-19 restrictions in 2021 and more people may have continued to work from home. In addition, the objective for the 24-hour mean of 50µg/m^3 not to be exceeded more than 35 times a year was not exceeded at this site in 2021. Indeed, there were no occasions when the daily mean exceeded 50µg/m^3. The maximum hourly mean this year at this site was 147µg/m^3 measured at 9pm on the 5 November (Bonfire Night).

Rochdale Metropolitan Borough Council

Rochdale Council have one PM_{10} monitor located at our continuous monitoring station which was installed in August 2021. Without a full year's data we are unable to show any trends in the data but it does appear to follow the general trend across GM being higher during pollution events, such as Bonfire Night.

Salford City Council

In 2021 there were two automatic air quality monitoring sites in Salford that measured PM_{10} concentrations:

- Eccles: An urban background site located close to Eccles town centre, operational since 1997.
- M60: A roadside monitoring site located close to the M60 in Worsley, operational since 1999.

At the Eccles monitoring site, the 2021 annual mean PM_{10} concentration increased slightly compared to 2020 (2021 = 15 µg/m^3, 2020 = 14 µg/m^3).

At the M60 monitoring site, the 2021 annual mean PM_{10} concentration had also increased slightly compared to 2020 (2021 = 20 µg/m^3, 2020 = 19 µg/m^3).

The last five years of monitoring data has shown that annual mean PM_{10} concentrations at both sites have remained relatively stable.

There were no exceedances of either the annual mean or 24-hour national air quality objectives at these monitoring sites.

Both automatic monitoring sites had very high rates of PM_{10} data capture during 2021 (both exceeded 97%) and there were no significant technical issues.

Stockport Metropolitan Borough Council

There are two sites in Stockport where automatic monitoring takes place for PM_{10}. Both sites are at the roadside – at Stockport Cheadle and Stockport Hazel Grove. The data capture at Cheadle was 99.61% and the annualised mean was 16 µg/m³. The data capture at Hazel Grove was 99.74 and the annualised mean was 18 µg/m³. Neither site had over 35 exceedances of the daily mean for PM_{10}. Neither site had exceedances of the hourly mean for NOx. As can be seen both sites are well below the specified legal levels.

Levels for Cheadle have decreased slightly overall and are well below legal limits. 2020 is slightly lower than trend but can be explained by COVID-19.

The Hazel Grove site, whilst generally higher than 2020, has remained reasonably steady over the period and is well below current legal limits.

There have been no concerns or technical issues with either of the above sites.

Tameside Metropolitan Borough Council

Currently PM_{10} concentrations are monitored at two locations in Tameside, at the automatic monitoring station on Mottram Moor, Hollingworth, and a new station commissioned in September 2020 on the A635 Manchester Road, Ashton-under-Lyne.

Results from the station at Mottram Moor are well below the annual average objective set out in the legislation. The annual mean PM_{10} concentration has ranged between 19µg/m^3 and 17µg/m^3 between 2017 and 2020 and was recorded at 15µg/m^3 in 2021.

The annual average PM_{10} concentration for 2021 at the A635 Manchester Road site was 20µg/m^3, well below the annual average objective set out in the legislation. 2021 is the first full year's data collected at the site.

Neither of the sites had more than 35 occurrences of the daily mean.

Trafford Metropolitan Borough Council

Trafford Council operates two continuous automatic monitoring stations within the district which monitor PM_{10}. The monitoring stations are operated to national AURN standards and are located at:

- Stretford A56, adjacent to Stretford House, M32 9AZ
- Moss Park Junior School, 71 Moss Park Rd, Stretford, Manchester, M32

The annual mean level of particulate matter (PM_{10}) recorded at the Stretford A56 site was 14 µg/m^3 and at the Moss Park site the annual mean level was 13 µg/m^3. There were no exceedances of annual objective limits for particulate matter (PM_{10}) recorded at the council's monitoring site. Data capture rates were high for both monitoring locations.

The levels recorded in 2021 are similar to those recorded in 2020, with no significant changes.

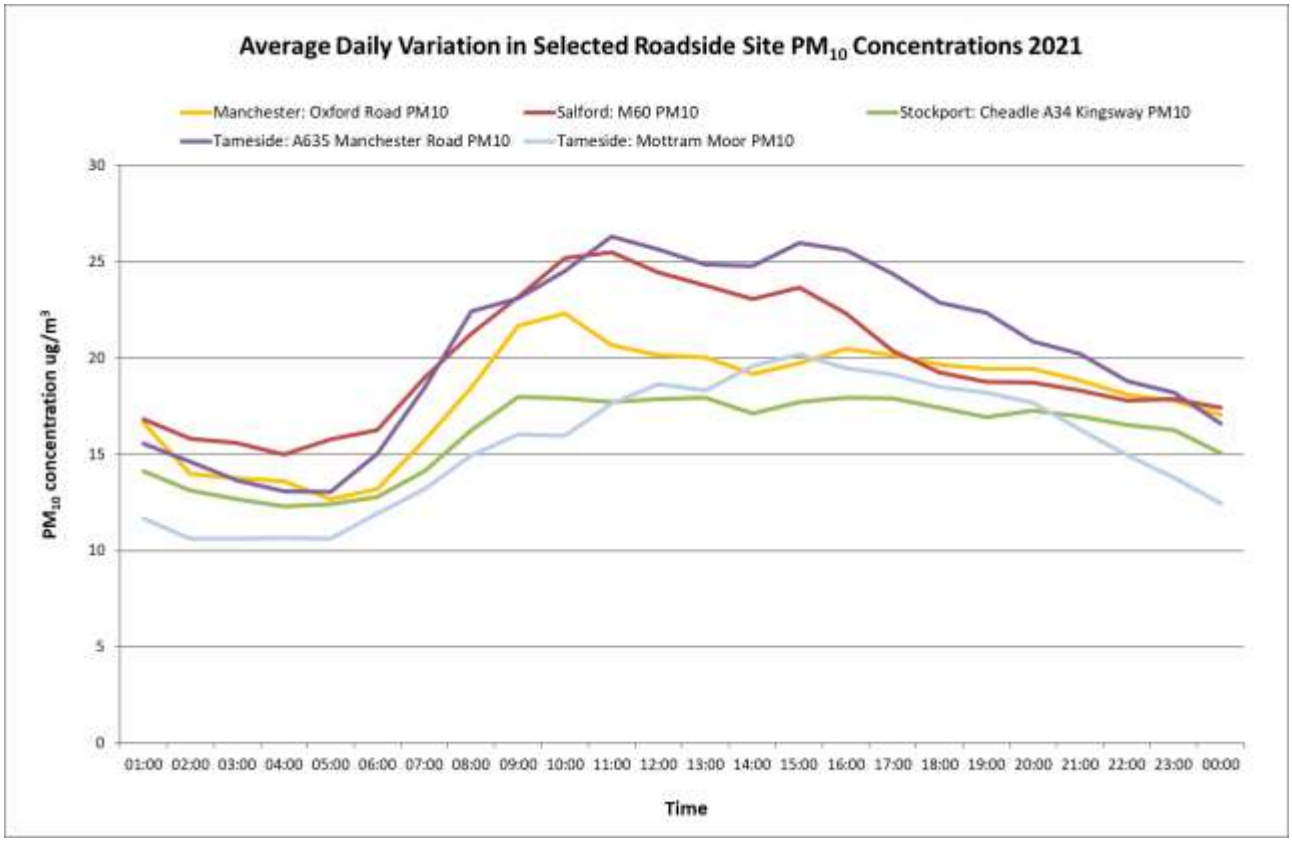
Wigan Metropolitan Borough Council

PM_{10} is monitored at both Wigan Centre and Wigan Leigh Three. It can be seen from the results for Wigan Centre that there was no change the annual mean for PM_{10} from 2020 to 2021.

For Wigan Leigh Three there was an increase in PM_{10} levels from 15µg/m^3 in 2020 to 18µg/m^3 in 2021.

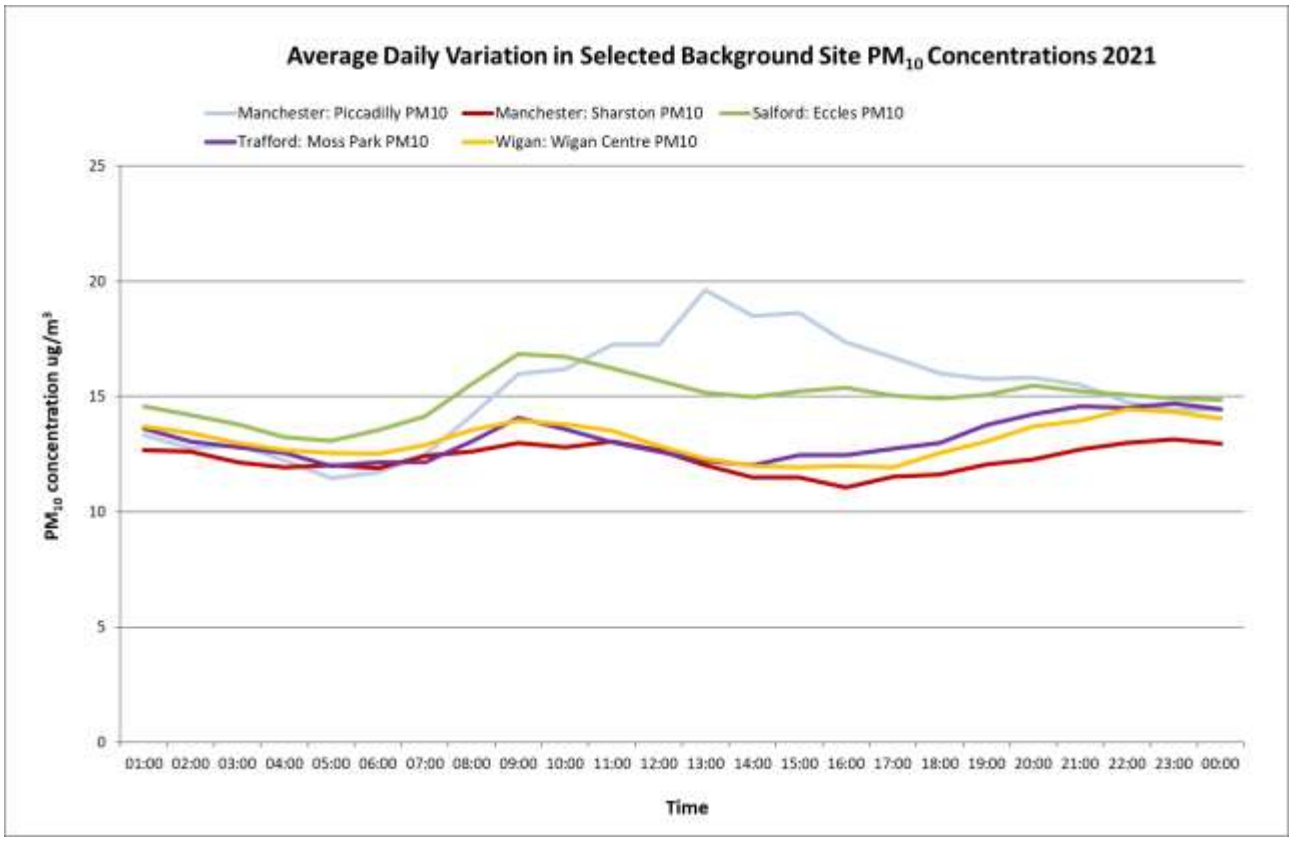
Diurnal analysis of PM_{10} concentrations

Figure 3C: Daily variation in roadside PM_{10} concentrations 2021



The above chart shows the average daily variation in selected roadside site PM_{10} concentrations in 2021. Most monitoring sites show a similar trend – a peak in PM_{10} concentrations occurs from approximately 08:00. At the Manchester Oxford Road, Salford M60 and Tameside Manchester Road sites, this peak then gradually declines throughout the day. At the Tameside Mottram Moor site, there is a second peak at around 15:00 to 16:00. These trends are similar to 2020, however peaks at some sites occur at slightly lower concentration levels, e.g. diurnal analysis of 2020 automatic monitoring site data showed that the Salford M60 site experienced a morning PM_{10} concentration peak of ~24 ug/m^3. In 2021, this peak had increased to ~26 ug/m^3. This is most likely attributable to traffic levels returning to normal levels following easing of restrictions during the COVID-19 pandemic.

Figure 3D: Daily variation in background PM_{10} concentrations 2021



For background sites, the monitoring sites show a similar trend for the early part of the day – a peak in PM_{10} concentrations occurs at approximately 09:00. At the Manchester Piccadilly site, this peak continues until approximately 13:00.

At the Trafford Moss Park site, another peak in PM_{10} concentrations is observed from approximately 19:00 to 23:00.

These trends are similar to 2020, however peaks at all sites occur at slightly higher concentration levels, e.g. diurnal analysis of 2020 automatic monitoring site data showed

that the Manchester Piccadilly site experienced a midday PM_{10} concentration peak of ~17 ug/m^3. In 2021, this peak had increased to ~20 ug/m^3.

3.2.3. Particulate Matter ($PM_{2.5}$)

Table A.8 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years.

Bolton Metropolitan Borough Council

Monitoring of $PM_{2.5}$ is also undertaken at the newly installed site at a roadside location on the A579, Derby Street near the University of Bolton, which was commissioned in October 2020. $PM_{2.5}$ concentrations are measured using a BAM.

The annual mean concentration measured at the site was 10 µg/m^3. The data capture at the site was 95.9%. There were no exceedances of the current $PM_{2.5}$ air quality objective at the site in 2021, although the $PM_{2.5}$ objectives are under review and are likely to be reduced, which could mean that the site is at risk of exceeding the new air quality objective. As 2021 is the first full year of data from the site it is not possible to compare the results with previous years.

Bury Council

There was no monitoring for $PM_{2.5}$ in Bury during 2021.

Manchester City Council

$PM_{2.5}$ is monitored at the Piccadilly Gardens and Sharston sites (Analyser failure led to a loss of data at the latter site during 2019 and 2020. The analyser has since been replaced). $PM_{2.5}$ increased slightly during 2021 at the Piccadilly site, with a reduction from 2019 levels. Levels have also reduced at the Sharston site. Neither site has exceeded the legal limit for this pollutant since the baseline monitoring year.

Oldham Metropolitan Borough Council

There was no monitoring for $PM_{2.5}$ in Oldham during 2021.

Rochdale Metropolitan Borough Council

Rochdale Council has one $PM_{2.5}$ monitor located at its continuous monitoring station which was installed in August 2021. Without a full year data we are unable to show any trends in the data but it does appear to follow the general trend across GM being higher during pollution events, such as Bonfire Night.

Salford City Council

In 2021 there were two automatic air quality monitoring sites in Salford that measured $PM_{2.5}$ concentrations:

- Eccles: An urban background site located close to Eccles town centre, operational since 2008
- M60: A roadside monitoring site located close to the M60 in Worsley, operational since 2017.

At the Eccles monitoring site, the 2021 annual mean $PM_{2.5}$ concentration increased slightly compared to 2020 (2021 = 9 ug/m^3, 2020 = 8 ug/m^3).

At the M60 monitoring site, the 2021 annual mean $PM_{2.5}$ concentration was the same as in 2020 (both years = 10 ug/m^3).

The last five years of monitoring data has shown that annual mean $PM_{2.5}$ concentrations at both sites have remained relatively stable, although there is some evidence of decline at the Eccles site.

There were no exceedances of the annual mean national air quality objective at these monitoring sites.

Both automatic monitoring sites had very high rates of $PM_{2.5}$ data capture during 2021 (both exceeded 93%) and there were no significant technical issues.

Stockport Metropolitan Borough Council

$PM_{2.5}$ was not monitored in Stockport in 2021.

Tameside Metropolitan Borough Council

$PM_{2.5}$ concentrations are monitored at the new automatic station commissioned in September 2020 on the A635 Manchester Road, Ashton-under-Lyne. The annual average concentration for this site was 11μg/m^3.

Trafford Metropolitan Borough Council

Particulate matter ($PM_{2.5}$) is currently not monitored within Trafford.

Wigan Metropolitan Borough Council

In Wigan Centre there was no change of the annual mean for $PM_{2.5}$ from 2020 to 2021.

For Wigan Leigh Three there was an increase in $PM_{2.5}$ levels from 7µg/m^3 in 2020 to 9µg/m^3 in 2021.

3.2.4. Sulphur Dioxide (SO_2)

Table A.9 in Appendix A compares the ratified continuous monitored SO_2 concentrations for 2021 with the air quality objectives for SO_2. No exceedances of the air quality objective for SO_2 were recorded over 2021.

Appendix A: Monitoring results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
BOL03	Bolton A579 Derby Street	Roadside	371280	408577	NO2; PM_{10}; PM2.5	YES	NOx – chemiluminescence, PM10 and PM2.5 - BAM	30	2.5	2
BURW	Bury Whitefield	Roadside	380636	406973	NO2; PM10	YES	Chemiluminescent & FDMS	23	7	3
BUR2	Bury Prestwich	Roadside	381650	403222	NO2 PM10	YES	Chemiluminescent & TEOM/BAM	15	2.5	1.5
BUR1	Bury Radcliffe	Roadside	378190	407480	NO2 PM10	YES	Chemiluminescent & TEOM/BAM	10	2.5	1.5
GLAZ	Glazebury	Rural	368759	396027	NO2 O3	NO	Chemiluminescent & UV absorption	130	1372	3
MAN1	Manchester Oxford Rd	Kerbside	384233	397287	NO2 PM10	YES	Chemiluminescent & BAM	1	1	2
MAN3	Manchester Piccadilly	Urban Centre	384310	398337	NO2 O3 PM10 PM2.5 SO2	YES	Chemiluminescent & UV absorption & BAM & UV fluorescence	2	30	4
MAHG	Manchester Sharston	Suburban	384179	386086	NO2 O3 SO2	NO	Chemiluminescent & UV absorption & UV fluorescence & Partisol	35	6	2.7
CW	Oldham Crompton Way	Roadside	393887	409191	NO2 PM10	YES	Chemiluminescent & BAM	10	1	1.5

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
RDL001	Rochdale Queensway	Roadside	389325	411411	NO2, PM10, PM2.5	YES	Chemiluminescent, BAM	17	5	3
ECCL	Salford Eccles	Industrial	377926	398727	NO2 PM10 PM2.5	NO	Chemiluminescent, Palas Fidas	7	6	3.5
M60	Salford M60	Roadside	374811	400857	NO2 PM10 PM2.5 O3	YES	Chemiluminescent, BAM & UV absorption	85	22	3
STK5	Stockport Hazel Grv	Roadside	391481	387637	NO2 PM10	YES	Chemiluminescent & TEOM/BAM	33	4	2
STK7	Stockport Cheadle A34	Roadside	385047	388339	NO2 PM10	YES	Chemiluminescent & TEOM/BAM	18	2	2
TAM1	Tameside Mottram M'r	Roadside	399719	395804	NO2 PM10	YES	Chemiluminescent & TEOM	4	5	4
TRF3	Trafford Wellacre Academy	Urban Background	373758	394473	NO2	NO	Chemiluminescent	79	160	2.5
TRAF	Trafford	Urban Background	378783	394726	NO2 PM10 SO2	NO	Chemiluminescent & TEOM/BAM	60	98	2.5
TRF2	Trafford A56	Urban Traffic	379413	394014	NO2 PM10	YES	Chemiluminescent & TEOM/BAM	40	2	2.5
TS001	Tameside A635 Manchester Road	Roadside	392538	398419	NO_2; PM_{10}; PM2.5	YES	Chemiluminescent, BAM	10	1	2
WIG5	Wigan Centre	Urban Background	357816	406024	NO2 O3 PM10, PM2.5	NO	Chemiluminescent & FIDAS	0	175	2.5
WIG07	Wigan Leigh 3	Roadside	365686	400243	NO_2; PM_{10}; PM2.5	NO	Chemiluminescent, BAM	23	3.6	2.6

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable

Table A.2 – Details of non-Automatic Monitoring Sites

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BO15NO	Astley Bridge t/lights 15	Kerbside	371435	411690	NO2	2016 AQMA	15.0	0.5	NO	2.4
BO4NO	Manley terr 4	Urban Background	371394	411718	NO2	2016 AQMA	0.0	2.5	NO	2.4
BO16NO	Drummond St 16	Urban Background	371304	411748	NO2	NO	6.0	2.0	NO	2.4
BO3NO	Quintins 3	Kerbside	370763	407929	NO2	2016 AQMA	2.0	0.5	NO	2.4
BO48NO	Ainsworth Rd L/L 48	Urban Background	375397	407457	NO2	2016 AQMA	3.0	1.5	NO	2.2
BO54NO	20 Laburnham Park 54	Urban Background	372908	412120	NO2	NO	0.0	4.0	NO	2.2
BO53NO	3 Turton Road yard 53	Urban Background	373236	411968	NO2	2016 AQMA	0.0	4.0	NO	2.2
BO44NO, BO45NO	1007 Chorley new 45	Urban Background	365599	409845	NO2	2016 AQMA	0.0	19.0	NO	2.0
BO43NO	Bee Hive Pub kerb 43	Kerbside	365501	409887	NO2	2016 AQMA	20.0	1.0	NO	2.4
BO11NO	Horwich Allotments 11	Urban Background	363712	412396	NO2	NO	40.0	138.0	NO	1.0
BO41NO	Bolton Road 41	Urban Background	366286	406561	NO2	NO	5.0	1.5	NO	2.4
BO60NO	134 Buckley Lane 60	Roadside	373287	405061	NO2	2016 AQMA	3.0	1.5	NO	2.4

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BO61NO	Primrose Street 61	Kerbside	374450	405207	NO2	2016 AQMA	22.0	0.5	NO	1.0
BO62NO	13 Higher Market Street 62	Urban Background	374194	405460	NO2	2016 AQMA	0.0	1.5	NO	2.4
BO14NO	Farnworth Town Hall 14	Roadside	373839	406130	NO2	NO	3.0	2.5	NO	2.4
BO63NO	Fern Street 63	Urban Background	374282	406257	NO2	2016 AQMA	5.0	1.5	NO	2.4
BO64NO	Bolton Gate Retail 64	Roadside	371965	409907	NO2	2016 AQMA	30.0	2.0	NO	2.4
BO65NO	Phoenix Street 65	Urban Background	372059	409877	NO2	2016 AQMA	7.0	1.5	NO	2.4
BO8NO	Le Mans Crescent 8	Kerbside	371352	409094	NO2	NO	5.0	0.5	NO	2.4
BO66NO	Blackburn Road 66	Roadside	371442	411599	NO2	2016 AQMA	20.0	3.0	NO	2.4
BO67NO	The Welland 67	Urban Background	365163	405640	NO2	NO	8.0	1.5	NO	2.4
BO68NO	26 Winslow Road 68	Urban Background	367672	406910	NO2	2016 AQMA	13.0	1.5	NO	2.4
BO69NO	Red Lion Salford Road 69	Roadside	369030	405809	NO2	2016 AQMA	30.0	1.5	NO	2.4
BO70NO	Cornwall Avenue 70	Roadside	368757	405701	NO2	2016 AQMA	8.0	1.5	NO	2.4
BO71NO	Junct 4 traffic Lights -	Roadside	370362	405400	NO2	2016 AQMA	300.0	1.5	NO	2.4

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	northbound exit 71									
BO72NO	Watergate Drive 72	Roadside	370115	405372	NO2	2016 AQMA	75.0	9.5	NO	2.4
BO73NO	Turton Street 73	Roadside	371805	409820	NO2	2016 AQMA	3.0	2.0	NO	2.4
BO74NO	Kay Street 74	Roadside	371805	409832	NO2	2016 AQMA	100.0	2.0	NO	2.4
BO75NO	Oxford St. (post near costa coffee) 75	Roadside	371623	409235	NO2	2016 AQMA	50.0	3.0	NO	2.4
BO76NO, BO77NO, BO78NO	Westland Avenue 78	Roadside	373491	404836	NO2	NO	1.0	3.0	No	2.0
BO79NO, BO80NO, BO81NO	Derby St (monitoring station) 81	Roadside	371296	408600	NO2	2016 AQMA	26.0	3.0	YES	2.0
BOA101	Ivy Grove, Kearsley, Bolton	Roadside	374561	405364	NO2	2016 AQMA	0.5	0.5	NO	2.4
BOA102	Grosvenor Street, Kearsley, Bolton	Roadside	374584	405525	NO2	2016 AQMA	0.5	0.5	NO	2.4
BOA103	Bridge Street, Kearsley	Roadside	374526	405906	NO2	NO	7.0	1.0	NO	2.4
BOA104	Devon Street, Farnworth	Roadside	373795	406600	NO2	NO	3.0	0.5	NO	2.4
BOA105	Starcliffe Street, Bolton	Roadside	373604	406882	NO2	2016 AQMA	1.0	0.5	NO	2.4

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BOA106, BOA107	Hilden Street, BL2 1JA	Roadside	372643	408070	NO2	NO	3.0	1.0	NO	2.4
BOA109	Corner of Bury Road / Oakenbottom Road, Bolton	Roadside	373818	409401	NO2	2016 AQMA	7.0	1.5	NO	2.4
BOA110	Topp Way, near Davenport Street, Bolton	Roadside	371501	409694	NO2	2016 AQMA	10.0	0.5	NO	2.4
BOA111	180-198 St. Georges Road, Bolton	Roadside	371102	409575	NO2	2016 AQMA	0.5	0.5	NO	2.4
BOA112	Derby Street (Adjacent to Crook Street)	Roadside	371715	408681	NO2	2016 AQMA	5.0	0.5	NO	2.4
BOA113	Outside 16 Grosvenor Street, Kearsley, Bolton, BL4 8BH	Roadside	374510	405522	NO2	2016 AQMA	0.5	0.5	NO	2.4
BOA114	Near Parish Church, Church Bank, Bolton	Roadside	372122	409347	NO2	2016 AQMA	100.0	0.5	NO	2.4
BOA115	93 Bradshawgate, Bolton	Roadside	371903	409026	NO2	2016 AQMA	3.0	0.5	NO	2.4
BOA116	Great Moor Street, Bolton	Roadside	371803	408976	NO2	2016 AQMA	5.0	0.5	NO	2.4
BOA117	53 Derby Street (near university), Bolton	Roadside	371288	408592	NO2	2016 AQMA	5.0	1.0	NO	2.4

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BOA118	St Georges Street, Bolton	Roadside	371832	409625	NO2	2016 AQMA	0.5	1.0	NO	2.4
BOA119	Marsden Street, Bolton	Roadside	371328	409251	NO2	2016 AQMA	1.0	0.5	NO	2.4
BU1NO	Baguley Crescent	Roadside	384372	404917	NO2	2016 AQMA	7.0	1.2	NO	2.6
BU2NO	Ramsbottom Lane	Roadside	379101	417145	NO2	NO	6.0	2.0	NO	2.6
BU3ANO, BU3BNO, BU3CNO	Bury Whitefield	Roadside	380636	406973	NO2	NO	23	7.0	YES	3.0
BU4NO	Hardman's Road	Roadside	380964	404831	NO2	2016 AQMA	8.2	22	NO	2.3
BU5NO	Higher Lane	Roadside	380497	405420	NO2	NO	4.1	3.5	NO	2.5
BU6NO	Bolton Road	Roadside	379658	410888	NO2	2016 AQMA	0.0	5.0	NO	2.0
BU7NO	Ferngrove	Roadside	381984	411866	NO2	2016 AQMA	8.6	9.5	NO	2.7
BU8NO	Walmersely Road	Kerbside	380754	412619	NO2	NO	6.0	0.3	NO	2.6
BU9NO	Crostons Road	Roadside	379630	411031	NO2	2016 AQMA	NA	3.5	NO	2.5
BU10NO	Bury Bridge	Roadside	379854	410978	NO2	2016 AQMA	NA	4.4	NO	2.5
BU11NO	Moorgate	Roadside	380980	411193	NO2	2016 AQMA	NA	1.5	NO	2.5

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BU12NO	Rochdale Road	Kerbside	381344	410744	NO2	2016 AQMA	1.9	0.5	NO	2.2
BU13NO	Rochdale Road	Kerbside	381728	410677	NO2	2016 AQMA	11.0	0.5	NO	2.5
BU14NO	Angouleme Way	Roadside	380398	410455	NO2	2016 AQMA	NA	3.0	NO	2.2
BU15NO	Bury New Road/ Bury Old Road	Kerbside	380852	405209	NO2	2016 AQMA	4.0	0.5	NO	2.3
BU16NO	Bury New Road	Roadside	380914	404898	NO2	2016 AQMA	5.0	2.2	NO	2.6
BU17NO	Prestwich Centre	Roadside	381105	404279	NO2	2016 AQMA	13.0	3.0	NO	2.3
BU18NO	Rochdale Old Road	Roadside	382071	411362	NO2	2016 AQMA	3.0	2.0	NO	2.3
BU19NO	Balmoral Avenue	Roadside	381321	405115	NO2	2016 AQMA	7.0	12.0	NO	2.5
BU20NO	Droughts Lane	Urban Background	382974	405930	NO2	2016 AQMA	6.0	25.0	NO	2.5
MA8ANO	8A	Urban Background	381398	387501	NO2	NO	10.0	1.5	NO	3.0
MA9ANO	9A	Kerbside	384601	398303	NO2	2016 AQMA	43.0	0.5	NO	3.0
MA24NO	24	Kerbside	383968	398070	NO2	2016 AQMA	150.0	0.5	NO	3.0
MA26ANO	26A	Urban Background	383973	398874	NO2	2016 AQMA	5.0	59.0	NO	3.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
MA28NO	28	Roadside	387951	397430	NO2	2016 AQMA	3.0	1.0	NO	3.0
MA29ANO	29A	Roadside	384119	397503	NO2	2016 AQMA	2.0	2.5	NO	3.0
MA36NO	36	Roadside	385203	399750	NO2	2016 AQMA	7.0	3.0	NO	3.0
MA37NO	37	Roadside	382829	391493	NO2	2016 AQMA	10.0	4.0	NO	3.0
MA59NO, MA60NO, MA61NO	61	Urban Background	384310	398337	NO2	2016 AQMA	45.0	56.0	YES	4.0
MA71NO	71	Roadside	385161	398290	NO2	2016 AQMA	10.0	3.0	NO	3.0
MA72NO	72	Urban Background	384761	397384	NO2	2016 AQMA	7.0	46.0	NO	3.0
MA73NO	73	Roadside	388604	396042	NO2	2016 AQMA	12.0	3.0	NO	3.0
MA74NO	74	Roadside	385400	390095	NO2	2016 AQMA	7.0	3.0	NO	3.0
MA75NO	75	Kerbside	387363	394617	NO2	2016 AQMA	3.0	0.5	NO	3.0
MA77NO	77	Urban Background	383576	397489	NO2	2016 AQMA	2.0	8.0	NO	3.0
MA78NO	78	Urban Background	386289	396828	NO2	2016 AQMA	7.5	23.0	NO	3.0
MA79NO	79	Urban Background	386875	395861	NO2	NO	3.0	5.0	NO	3.0

Diffusion 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) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
MA80NO	80	Roadside	387358	393990	NO2	NO	3.0	7.0	NO	3.0
MA81NO	81	Urban Background	386589	394083	NO2	NO	10.0	18.0	NO	3.0
MA82NO, MA83NO, MA84NO	84	Roadside	384239	397276	NO2	2016 AQMA	5.0	3.0	YES	2.0
MA88NO	88	Kerbside	384469	398981	NO2	2016 AQMA	5.0	1.0	NO	3.0
MA86ANO	86A	Roadside	387150	396808	NO2	2016 AQMA	30.0	4.0	NO	3.0
MA87ANO	87A	Roadside	386992	396569	NO2	2016 AQMA	10.0	3.0	NO	3.0
MA88ANO	88A	Roadside	386536	396699	NO2	2016 AQMA	25.0	3.0	NO	3.0
MA89ANO	89A	Roadside	386710	396824	NO2	2016 AQMA	20.0	2.5	NO	3.0
MA90BNO, MA91BNO, MA92BNO	92	Suburban	384202	386121	NO2	NO	35.0	44.0	YES	3.0
MA93BNO	93	Roadside	382419	390010	NO2	2016 AQMA	22.0	3.0	NO	3.0
MA94BNO	94	Roadside	382072	388388	NO2	2016 AQMA	7.0	6.0	NO	3.0
MA95BNO	95	Roadside	386668	397566	NO2	2016 AQMA	9.0	2.5	NO	3.0

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MA96BNO	96	Roadside	385189	397167	NO2	2016 AQMA	2.0	3.0	NO	3.0
MA97BNO	97	Roadside	382886	397215	NO2	2016 AQMA	11.0	7.5	NO	3.0
MA98BNO	98	Kerbside	388460	403313	NO2	NO	10.0	35.0	NO	3.0
MA99BNO	99	Roadside	385400	399245	NO2	2016 AQMA	8.0	3.0	NO	3.0
MA100BNO	100	Roadside	383605	402293	NO2	2016 AQMA	11.0	2.0	NO	3.0
MA101BNO	101	Roadside	385999	402026	NO2	2016 AQMA	3.0	2.0	NO	3.0
MA102BNO	102	Roadside	385792	402952	NO2	2016 AQMA	3.0	2.0	NO	3.0
MA103BNO	103	Roadside	385431	400653	NO2	2016 AQMA	2.0	2.0	NO	3.0
MA104BNO	104	Roadside	383511	399906	NO2	2016 AQMA	0.5	2.0	NO	3.0
MA112BNO	112	Roadside	383987	396734.5	NO2	2016 AQMA	2.0	2.0	NO	3.0
MA113BNO	113	Roadside	385087	396891	NO2	2016 AQMA	2.3	2.0	NO	3.0
OLMRNO	Middleton Road (Chadd Precinct)	Roadside	390746	405397	NO2	NO	3.5	2.0	NO	2.0

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OLSHSNO	St Herberts School, Broadway	Roadside	390394	405454	NO2	2016 AQMA	11.0	2.3	NO	2.0
OL259BNO	259 Broadway, Chadderton	Roadside	390089	404456	NO2	2016 AQMA	10.5	3.0	no	2.0
OL1RANO	Moston Rd, side of Radclyffe Arms Pub	Roadside	388698	404903	NO2	NO	5.0	2.0	no	2.0
OL434BNO	484 Broadway	Urban Background	389367	403280	NO2	2016 AQMA	4.5	9.9	no	2.0
OLOBNO	Outside 409 Broadway	Roadside	389715	403625	NO2	2016 AQMA	10.0	8.0	NO	2.0
OLPSNO	Poplar St, Failsworth (end of Victoria St)	Urban Background	388747	400973	NO2	2016 AQMA	11.1	13.4	no	2.0
OLWARNO	Oldham Rd, Failsworth	Roadside	389237	401310	NO2	2016 AQMA	17.7	4.1	no	2.0
OLHRNO	Hollins Road junc Cardigan Rd	Roadside	390756	402571	NO2	2016 AQMA	5.0	3.0	NO	2.0
OLIRSNO	13 Irving St, Failsworth	Urban Background	390675	402736	NO2	2016 AQMA	5.8	23.7	no	2.0
OL368MRNO	368 Manchester Rd, Chadderton	Roadside	390976	403252	NO2	2016 AQMA	2.0	4.4	no	2.0
OLESNO	1 Edward St	Roadside	391367	404318	NO2	2016 AQMA	6.6	1.2	no	2.0
OLARNO	Ashton Road cnr Bellfield Rd	Roadside	392771	402951	NO2	NO	3.0	3.0	NO	2.0

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OLWOODNO	1 Woodstock St	Roadside	393056	404638	NO2	NO	1.8	2	no	2.0
OLWSMSNO	Woodstock St/Mowbray St	Roadside	392947	404854	NO2	NO	32.0	4.6	no	2.0
OL17SRNO	12-14 Shaw Rd, Derker	Kerbside	393643	405343	NO2	2016 AQMA	1.5	0.2	no	2.0
OLHS2NO	Honduras St, by Europcar	Roadside	393501	405186	NO2	2016 AQMA	1.5	15.0	No	2.0
OLRRNO	45 Ripponden Road	Roadside	394210	405752	NO2	NO	1.0	1.5	NO	2.0
OLHURNO	617 Huddersfield Road	Roadside	395561	405751	NO2	NO	4.0	2.0	NO	2.0
OLCVNO	65 Chew Valley Road	Roadside	399533	404454	NO2	NO	2.5	2.0	NO	2.0
OLHSNO	18 High St Uppermill	Roadside	399589	405511	NO2	NO	2.0	2.0	NO	2.0
OLCW1NO, OLCW2NO, OLCW3NO	Crompton Way 3	Roadside	393884	409183	NO2	NO	2.0	2.0	YES	1.5
OL21SRNO	21 Shaw Rd, Royton	Roadside	392217	407255	NO2	2016 AQMA	0.5	2.0	no	2.0
OLJSNO	Jones St, Royton	Urban Background	393097	406897	NO2	NO	5.1	7.2	no	2.0
OLRDNO	Rochdale Road junc Sheepfoot Lane	Roadside	392111	406432	NO2	2016 AQMA	3.0	3.0	NO	2.0

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OL12ORNO	12 Oldham Rd, Royton	Roadside	392045	407608	NO2	2016 AQMA	0.0	1.5	no	2.0
OLFANO	6 Fernlea Ave, Chadderton	Urban Background	391100	406218	NO2	NO	6.8	1.9	no	2.0
RO2ANO	2	Urban Background	388537	409942	NO2	2016 AQMA	0.0	20.0	NO	2.0
RO3ANO	3	Urban Background	388581	409797	NO2	2016 AQMA	100.0	15.0	NO	2.0
RO4ANO	4	Urban Background	387080	406278	NO2	2016 AQMA	0.0	5.0	NO	2.0
RO5ANO	5	Roadside	386870	404044	NO2	2016 AQMA	100.0	10.0	NO	2.0
RO6ANO	6	Kerbside	385413	408320	NO2	2016 AQMA	15.0	1.0	NO	2.0
RO7ANO	7	Urban Background	388603	411925	NO2	2016 AQMA	0.0	6.0	NO	2.0
RO8ANO	8	Roadside	388932	412091	NO2	2016 AQMA	0.0	4.0	NO	2.0
RO9ANO	9	Kerbside	389057	412217	NO2	2016 AQMA	0.0	1.0	NO	2.0
RO10ANO	10	Urban Background	388800	413603	NO2	2016 AQMA	0.0	4.0	NO	2.0
RO12ANO	12	Roadside	392072	415687	NO2	2016 AQMA	20.0	2.0	NO	2.0
RO13ANO	13	Urban Background	392042	415707	NO2	NO	30.0	15.0	NO	2.0

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RO14ANO	14	Rural	393665	417816	NO2	NO	100.0	50.0	NO	2.0
RO15ANO	15	Roadside	392976	411906	NO2	2016 AQMA	30.0	10.0	NO	2.0
RO16ANO	16	Urban Background	392542	411709	NO2	2016 AQMA	40.0	2.0	NO	2.0
RO17ANO	17	Urban Background	391214	412609	NO2	2016 AQMA	50.0	12.0	NO	2.0
RO18ANO	18	Urban Background	389877	413590	NO2	NO	150.0	1.0	NO	2.0
RO19ANO	19	Roadside	389971	413646	NO2	NO	100.0	2.0	NO	2.0
RO20ANO	20	Roadside	385748	408931	NO2	2016 AQMA	50.0	1.0	NO	2.0
RO21ANO	21	Roadside	385820	410776	NO2	NO	50.0	2.0	NO	2.0
RO22ANO	22	Roadside	390464	411976	NO2	2016 AQMA	20.0	2.0	NO	2.0
RO23ANO	23	Roadside	390377	412030	NO2	NO	5.0	2.0	NO	2.5
RO24ANO	24	Urban Background	388089	410822	NO2	NO	13.0	3.0	NO	2.5
RO25ANO	25	Roadside	387792	406013	NO2	NO	1.0	1.5	NO	3.0
RO26ANO	26	Roadside	389782	414241	NO2	2016 AQMA	20.0	1.5	NO	3.0

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RO27ANO	27	Roadside	390710	414563	NO2	2016 AQMA	1.0	1.5	NO	2.5
RO28ANO	28	Urban Background	392871	415127	NO2	NO	1.0	2.0	NO	3.0
RO29ANO, RO30ANO, RO31ANO	31	Roadside	389325	411411	NO2	2016 AQMA	0.0	0.0	YES	2.0
RO32ANO	32	Roadside	385145	407701	NO2	NO	0.0	0.0	NO	2.0
SA1NO	1	Urban Background	372767	394104	NO2	NO	16.0	45.0	NO	1.7
SA2NO	2	Urban Background	372140	394210	NO2	NO	55.0	67.0	NO	3.0
SA4NO	4	Urban Background	377453	401830	NO2	NO	1.5	21.5	NO	2.5
SA9NO	9	Urban Background	374741	400937	NO2	NO	0.0	125.0	NO	2.0
SA13NO	13	Urban Background	379613	399784	NO2	NO	12.5	2.5	NO	3.0
SA16NO	16	Urban Background	371187	404453	NO2	NO	11.0	2.0	NO	2.5
SA20NO, SA21NO, SA22NO	22	Roadside	374811	400857	NO2	2016 AQMA	85.0	22.0	YES	3.0
SA23NO, SA24NO, SA29NO	29	Urban Background	377926	398727	NO2	NO	7.0	6.0	YES	3.5

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SA25NO	25	Urban Background	381304	398014	NO2	2016 AQMA	10.5	22.5	NO	3.0
SA26NO	26	Roadside	380718	399597	NO2	2016 AQMA	16.0	6.0	NO	2.0
SA27NO	27	Roadside	383078	398741	NO2	2016 AQMA	2.0	1.5	NO	3.0
SA31NO	31	Roadside	374025	401905	NO2	2016 AQMA	8.5	3.5	NO	3.0
SA34NO	34	Roadside	375367	397800	NO2	2016 AQMA	1.0	8.5	NO	1.7
SA38NO	38	Roadside	377796	403065	NO2	NO	7.5	1.7	NO	2.5
SA39NO	39	Roadside	383040	398563	NO2	2016 AQMA	0.0	8.5	NO	3.0
SA51NO	51	Roadside	375213	397661	NO2	2016 AQMA	3.5	2.5	NO	2.0
SA53NO	53	Urban Background	374757	399891	NO2	NO	7.5	3.5	NO	3.0
SA55NO	55	Roadside	372871	400734	NO2	2016 AQMA	17.5	3.0	NO	2.5
SA56NO, SA57NO, SA58NO	58	Rural	368759	396027	NO2	NO	130.0	1372.0	YES	3.0
SA59NO	59	Roadside	381822	397895	NO2	2016 AQMA	11.0	14.0	NO	3.0
SA60NO	60	Roadside	382445	397724	NO2	2016 AQMA	2.5	4.5	NO	2.0

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SA61NO	61	Roadside	377269	400943	NO2	2016 AQMA	13.5	3.5	NO	2.5
SA62NO	62	Roadside	380768	399637	NO2	2016 AQMA	6.5	4.0	NO	3.0
SA63NO	63	Roadside	374673	399912	NO2	2016 AQMA	4.0	21.5	NO	3.0
SA64NO	64	Roadside	378804	399844	NO2	2016 AQMA	14.0	6.0	NO	2.5
SA65NO	65	Roadside	378584	399220	NO2	2016 AQMA	10	3.0	NO	3.0
SA66NO	66	Roadside	375118	398502	NO2	2016 AQMA	4.5	12.5	NO	3.0
SA68NO	68	Roadside	373570	403096	NO2	2016 AQMA	3.5	2.5	NO	3.0
SA69NO	69	Roadside	379397	401370	NO2	2016 AQMA	8.5	1.5	NO	3.0
SA70NO	70	Roadside	381677	398832	NO2	2016 AQMA	10.5	21.5	NO	3.0
SA71NO	71	Roadside	381351	397185	NO2	2016 AQMA	15.0	1.0	NO	3.0
SA72NO	72	Roadside	377536	401804	NO2	2016 AQMA	2	0.5	NO	3.0
SA73NO	73	Roadside	374576	400611	NO2	2016 AQMA	75.0	3.0	NO	3.0
SA74NO	74	Roadside	376315	399249	NO2	2016 AQMA	5.4	24.0	NO	3.0

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SA75NO	75	Roadside	379608	398539	NO2	2016 AQMA	7.5	0.5	NO	3.0
SA76NO	76	Roadside	380540	398422	NO2	2016 AQMA	6.9	2.9	NO	3.0
SA77NO	77	Roadside	381686	398504	NO2	2016 AQMA	5.6	13.5	NO	3.0
SA78NO	78	Roadside	381220	399530	NO2	2016 AQMA	2.5	1.5	NO	3.0
SA79NO	79	Roadside	382602	398519	NO2	2016 AQMA	2.0	10.0	NO	3.0
SA80NO	80	Roadside	375428	401417	NO2	2016 AQMA	10.4	1.5	NO	3.0
SA81NO	81	Roadside	382561	397722	NO2	2016 AQMA	85.0	2.5	NO	3.0
SA82NO	82	Roadside	375394	397816	NO2	2016 AQMA	10.0	2.2	NO	3.0
SA83NO	83	Roadside	382945	400732	NO2	2016 AQMA	7.7	3.0	NO	2.5
SA84NO	84	Roadside	380776	400834	NO2	NO	2.0	2.0	NO	2.5
SA85NO	85	Roadside	375991	399237	NO2	2016 AQMA	5.7	9.0	NO	2.5
SA86NO	86	Kerbside	383819	401771	NO2	NO	5	0.5	NO	2.5
SA87NO	87	Roadside	372225	395616	NO2	NO	9.0	2.4	NO	2.5

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ST1NO	ST 1	Urban Background	389077.064	392011.822	NO2	NO	99.0	93.0	NO	1.5
ST3NO	ST 3	Urban Background	388550.609	391846.389	NO2	2016 AQMA	8.0	2.0	NO	2.5
ST4NO	ST 4	Rural	396469.167	390800.349	NO2	NO	15.0	20.0	NO	2.5
ST5NO, ST6NO	ST 6	Urban Background	396853	382768	NO2	NO	24.0	20.0	NO	1.5
ST7NO	ST 7	Kerbside	392063.265	386972	NO2	2016 AQMA	3.0	1.0	NO	2.0
ST8NO	ST 8	Urban Background	392016.512	387042.782	NO2	2016 AQMA	14.0	15.0	NO	1.5
ST9NO	ST 9	Urban Background	392742.788	385680.865	NO2	NO	0.0	25.0	NO	1.5
ST10NO	ST 10	Urban Background	392781.3	387271.486	NO2	NO	0.0	6.0	NO	1.5
ST11NO	ST 11	Roadside	391083.207	387938.058	NO2	2016 AQMA	3.0	3.0	NO	2.0
ST13NO	ST 13	Urban Background	384675	386295	NO2	NO	4.0	2.0	NO	2.0
ST2NO, ST12NO, ST14NO	ST 14	Roadside	385047	388339	NO2	2016 AQMA	8.0	1.0	YES	2.0
ST15NO	ST 15	Roadside	389886.321	388961.332	NO2	2016 AQMA	4.0	2.0	NO	2.0
ST16NO	ST 16	Roadside	391568.679	391225.883	NO2	2016 AQMA	20.0	3.0	NO	2.5

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ST17NO	ST 17	Urban Background	388442.177	390077.487	NO2	2016 AQMA	82.0	2.0	NO	2.0
ST18NO	ST 18	Urban Background	389272.176	390440.811	NO2	2016 AQMA	20.0	3.0	NO	2.0
ST19NO	ST 19	Roadside	389479.355	393463.855	NO2	2016 AQMA	0.0	2.2	NO	2.5
ST20NO	ST 20	Urban Background	386921.232	389528.855	NO2	2016 AQMA	3.0	15.0	NO	2.0
ST21NO	ST 21	Urban Background	388598.721	389415.552	NO2	NO	0.0	1.0	NO	2.5
ST22NO, ST23NO, ST24NO	ST 24	Roadside	391483.11	387635.566	NO2	2016 AQMA	5.0	5.0	YES	2.5
ST25NO	ST 25	Roadside	395770.138	388655.432	NO2	NO	5.0	3.0	NO	2.5
ST26NO	ST 26	Urban Background	389396	387357	NO2	NO	0.0	10.0	NO	1.5
ST27NO	ST 27	Urban Background	387091	391384	NO2	NO	0.0	6.0	NO	1.5
ST28NO	ST 28	Roadside	385700.368	386219.938	NO2	2016 AQMA	2.0	3.0	NO	2.5
ST29NO	ST 29	Urban Background	390087.5	388545.187	NO2	NO	0.0	2.0	NO	1.5
ST31NO	ST 31	Roadside	3392441	391747	NO2	2016 AQMA	10.0	2.0	NO	2.5
ST32NO	ST 32	Roadside	389480	390957	NO2	2016 AQMA	30.0	2.0	NO	2.5

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
ST33NO	ST 33	Roadside	390416	390087	NO2	2016 AQMA	10.0	2.0	NO	2.5
ST34NO	ST 34	Roadside	388304	390351	NO2	2016 AQMA	6.0	2.0	NO	2.5
ST35NO	ST 35	Roadside	395020	385360	NO2	2016 AQMA	2.0	2.0	NO	2.5
ST36NO	ST 36	Roadside	389386	390142	NO2	2016 AQMA	0.0	0.0	NO	2.4
TA1NO	T 1	Roadside	394050	397190	NO2	2016 AQMA	1.0	2.0	NO	3.0
TA2NO	T 2	Roadside	394788	394933	NO2	NO	2.0	2.0	NO	3.0
TA3NO	T 3	Urban Background	390961	395417	NO2	2016 AQMA	3.0	2.0	NO	3.0
TA5NO	T 5	Urban Background	400507	396518	NO2	NO	6.0	2.0	NO	3.0
TA10NO	T 10	Roadside	392516	396748	NO2	2016 AQMA	12.0	1.0	NO	3.0
TA11NO	T 11	Roadside	400390	396025	NO2	2016 AQMA	1.0	2.0	NO	3.0
TA13NO	T 13	Roadside	392586	398431	NO2	2016 AQMA	10.0	3.0	NO	3.0
TA14NO	T 14	Roadside	393710	398790	NO2	2016 AQMA	30.0	10.0	NO	3.0
TA16NO	T 16	Roadside	391435	397970	NO2	2016 AQMA	8.0	2.0	NO	3.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TA17NO	T 17	Roadside	389106	398242	NO2	2016 AQMA	4.0	4.0	NO	3.0
TA18NO	T 18	Roadside	391970	395521	NO2	2016 AQMA	35.0	2.0	NO	3.0
TA19NO	T 19	Roadside	392477	395505	NO2	2016 AQMA	1.0	1.0	NO	3.0
TA20NO	T 20	Roadside	394610	395102	NO2	2016 AQMA	3.0	1.0	NO	3.0
TA21NO	T 21	Roadside	400423	395965	NO2	2016 AQMA	1.0	1.0	NO	3.0
TA23NO	T 23	Urban Background	393620	398588	NO2	NO	1.0	9.0	NO	3.0
TA24NO	T 24	Roadside	390475	395621	NO2	2016 AQMA	5.0	2.0	NO	3.0
TA25NO	T 25	Roadside	396950	402329	NO2	2016 AQMA	5.0	2.0	NO	3.0
TA27NO	T 27	Roadside	396177	398218	NO2	2016 AQMA	17.0	2.0	NO	3.0
TA28NO	T 28	Roadside	393050	401038	NO2	NO	5.0	2.0	NO	3.0
TA29NO	T 29	Suburban	393370	399494	NO2	NO	3.0	75.0	NO	3.0
TA30NO	T 30	Roadside	393419	399691	NO2	2016 AQMA	2.0	2.0	NO	3.0
TA31NO	T 31	Suburban	396899	402449	NO2	NO	5.0	2.0	NO	3.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TA32NO	T 32	Suburban	396982	402437	NO2	NO	2.0	2.0	NO	3.0
TA33NO	T 33	Roadside	397010	402560	NO2	NO	2.0	2.0	NO	3.0
TA34NO	T 34	Roadside	397060	402581	NO2	NO	16.0	2.0	NO	3.0
TA35NO	T 35	Roadside	397080	402540	NO2	NO	8.0	2.0	NO	3.0
TA36NO	T 36	Suburban	397060	402387	NO2	NO	2.0	1.0	NO	3.0
TA37NO	T 37	Roadside	396728	402073	NO2	NO	7.0	2.0	NO	3.0
TA38NO	T 38	Urban Background	394006	399392	NO2	NO	11.0	22.0	NO	3.0
TA39NO	T 39	Urban Background	394114	399366	NO2	NO	11.0	1.0	NO	3.0
TA40NO	T 40	Urban Background	394066	399314	NO2	NO	45.0	1.0	NO	3.0
TA41NO	T 41	Urban Background	394118	399259	NO2	2016 AQMA	1.0	2.0	NO	3.0
TA42NO	T 42	Urban Background	394494	399010	NO2	NO	6.0	2.0	NO	3.0
TA43NO	T 43	Roadside	394214	398933	NO2	2016 AQMA	30.0	13.0	NO	3.0
TA44NO	T 44	Urban Background	397418	394398	NO2	NO	22.0	12.0	NO	3.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TA45NO, TA46NO, TA47NO	T 47	Roadside	399719	395805	NO2	2016 AQMA	24.0	5.0	YES	4.0
TA48NO	T 48	Roadside	392699	395733	NO2	NO	5.0	75.0	NO	3.0
TA49NO	T 49	Roadside	393731	398770	NO2	2016 AQMA	46.0	3.0	NO	3.0
TA50NO	T 50	Roadside	393498	398704	NO2	2016 AQMA	140.0	4.0	NO	3.0
TA51NO	T 51	Kerbside	393314	398624	NO2	2016 AQMA	82.0	1.0	NO	3.0
TA52NO	T 52	Roadside	393509	398737	NO2	2016 AQMA	103.0	5.0	NO	3.0
TA53NO	T 53	Roadside	393133	398536	NO2	2016 AQMA	31.0	3.0	NO	3.0
TA54NO	T 54	Roadside	392958	398474	NO2	2016 AQMA	24.0	3.0	NO	3.0
TA55NO	T 55	Roadside	392743	398465	NO2	2016 AQMA	6.0	3.0	NO	3.0
TA56NO	T 56	Roadside	392490	398368	NO2	2016 AQMA	11.0	5.0	NO	3.0
TA57NO	T 57	Roadside	392844	398544	NO2	2016 AQMA	28.0	3.0	NO	3.0
TA58NO	T 58	Roadside	393080	398620	NO2	2016 AQMA	40.0	4.0	NO	3.0
TA59NO	T 59	Roadside	395652	399140	NO2	NO	23.0	2.0	NO	3.0

Diffusion 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) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TA60NO	T 60	Roadside	395747	399112	NO2	NO	9.0	1.0	NO	3.0
TA61NO	T 61	Roadside	395682	399171	NO2	NO	6.0	1.0	NO	3.0
TA62NO	T 62	Roadside	396576	399240	NO2	NO	25.0	4.0	NO	3.0
TA63NO	T 63	Kerbside	394917	400922	NO2	NO	13.0	0.0	NO	3.0
TA64NO	T 64	kerbside	395792	398758	NO2	2016 AQMA	1.0	0.2	NO	3.0
TR5NO	5	Urban Background	379052	392043	NO2	NO	10.0	5.0	NO	4.0
TR9NO	9	Urban Background	380933	395889	NO2	2016 AQMA	20.0	100.0	NO	3.0
TR19NO, TR19ANO, TR19BNO	19b	Urban Background	378783	394728	NO2	NO	65.0	100.0	YES	2.0
TR20NO, TR20ANO, TR20BNO	20b	Roadside	379411	394014	NO2	2016 AQMA	42.0	5.0	YES	3.0
TR21NO	21	Roadside	379619	396371	NO2	NO	700.0	5.0	NO	3.0
TR22NO	22	Kerbside	377061	390086	NO2	2016 AQMA	50.0	1.0	NO	4.0
TR13NO	13	Roadside	381221	396441	NO2	2016 AQMA	300.0	5.0	NO	4.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TR15NO	15	Roadside	379089	393282	NO2	2016 AQMA	350.0	5.0	NO	4.0
TR16NO, TR16ANO	16a	Roadside	377418	395689	NO2	2016 AQMA	30.0	2.0	NO	3.0
TR18NO	18	Urban Background	378822	389010	NO2	NO	15.0	15.0	NO	3.0
TR23NO	23	Roadside	376438	396383	NO2	2016 AQMA	3.0	10.0	NO	3.0
TR23ANO	23a	Roadside	376395	396360	NO2	2016 AQMA	3.0	4.0	NO	3.0
TR24NO	24	Roadside	379263	385812	NO2	NO	16.0	3.0	NO	3.0
TR25NO, TR25ANO, TR25BNO	25b	Urban Background	373755	394477	NO2	NO	10.0	160.0	YES	2.0
TR26NO, TR26ANO	26a	Kerbside	379272	393666	NO2	2016 AQMA	160.0	1.0	NO	3.0
TR27NO	27	Kerbside	371419	390760	NO2	NO	20.0	1.0	NO	2.0
TR28NO	28	Kerbside	376851	387792	NO2	NO	100.0	1.0	NO	2.0
TR29NO	29	Roadside	373906	392820	NO2	NO	10.0	3.0	NO	2.0
TR30NO	30	Urban Background	376789	392806	NO2	NO	0.0	30.0	NO	1.5
TR31NO	31	Kerbside	376206	392695	NO2	NO	120.0	0.5	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI14NO	14	Roadside	366880	403255	NO2	2016 AQMA	0.0	6.0	NO	2.0
WI23NO	23	Roadside	361835	404090	NO2	2016 AQMA	0.0	3.0	NO	2.0
WI24NO	24	Roadside	358341	405539	NO2	2016 AQMA	0.0	8.0	NO	2.0
WI28NO	28	Roadside	366424	399894	NO2	2016 AQMA	1.0	1.0	NO	2.0
WI30NO	30	Roadside	363833	402028	NO2	NO	0.0	1.0	NO	2.0
WI33NO	33	Roadside	359723	405537	NO2	2016 AQMA	30.0	1.0	NO	2.0
WI35NO	35	Kerbside	357132	398670	NO2	2016 AQMA	7.0	1.0	NO	2.0
WI47NO, WI48NO, WI49NO	49	Urban Background	357812	406021	NO2	NO	0.0	177.0	YES	2.5
WI52NO	52	Roadside	362137	396948	NO2	2016 AQMA	35.0	3.0	NO	2.0
WI53NO	53	Urban Background	353896	408518	NO2	2016 AQMA	0.0	14.0	NO	2.0
WI54NO	54	Urban Background	370612	400586	NO2	2016 AQMA	0.0	17.0	NO	2.0
WI63NO	63	Roadside	356928	404982	NO2	2016 AQMA	0.0	8.0	NO	2.0
WI71NO	71	Roadside	368244	402563	NO2	NO	0.0	5.0	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI81NO	81	Roadside	355979	410362	NO2	2016 AQMA	0.0	4.0	NO	2.0
WI114NO	114	Roadside	365115	400259	NO2	NO	0.0	3.0	NO	2.0
WI115NO	115	Urban Background	353845	405360	NO2	2016 AQMA	28.0	1.0	NO	2.0
WI116NO	116	Urban Background	365864	401720	NO2	2016 AQMA	0.0	9.0	NO	2.0
WI121NO	121	Roadside	357088	405158	NO2	2016 AQMA	0.0	4.0	NO	2.0
WI122NO	122	kerbside	356883	405239	NO2	NO	0.5	0.5	NO	2.0
WI124NO	124	Roadside	357310	403672	NO2	NO	3.0	0.5	NO	2.0
WI125NO	125	Roadside	357645	404259	NO2	NO	6.0	0.0	NO	2.0
WI126NO	126	Roadside	355819	402194	NO2	NO	5.0	2.0	NO	2.0
WI127NO	127	Roadside	355484	403854	NO2	NO	6.0	2.0	NO	2.0
WI129NO	129	Roadside	356848	402906	NO2	NO	3.0	2.0	NO	2.0
WI130NO	130	Roadside	356354	403838	NO2	NO	20.0	2.0	NO	2.0
WI131NO	131	Roadside	356667	404065	NO2	NO	3.0	2.0	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI132NO	132	Roadside	356869	404808	NO2	NO	3.0	2.0	NO	2.0
WI133NO	133	Roadside	356748	404786	NO2	NO	3.0	1.0	NO	2.0
WI134NO	134	Roadside	356428	404722	NO2	NO	4.0	1.0	NO	2.0
WI135NO	135	Kerbside	354614	404685	NO2	NO	0.0	1.0	NO	2.0
WI136NO	136	Kerbside	354057	404824	NO2	NO	4.0	1.0	NO	2.0
WI137NO	137	Roadside	353844	404922	NO2	2016 AQMA	7.0	2.0	NO	2.0
WI138NO	138	Roadside	355321	404017	NO2	NO	100.0	1.0	NO	2.0
WI139NO	139	Roadside	355638	404023	NO2	NO	12.0	2.0	NO	2.0
WI140NO	140	Roadside	355816	404062	NO2	NO	4.0	2.0	NO	2.0
WI141NO	141	Roadside	356469	404550	NO2	NO	22.0	2.0	NO	2.0
WI144NO	144	Roadside	360643	402297	NO2	NO	4.0	2.0	NO	2.0
WI145NO	145	Roadside	360515	402212	NO2	NO	3.0	2.0	NO	2.0
WI147NO	147	Roadside	360437	405089	NO2	NO	18.0	2.0	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI148NO	148	Kerbside	361247	404576	NO2	NO	5.0	1.0	NO	2.0
WI149NO	149	Kerbside	363081	403512	NO2	NO	7.0	1.0	NO	2.0
WI150NO	150	Kerbside	361579	404298	NO2	NO	16.0	2.0	NO	2.0
WI151NO	151	Kerbside	361501	404216	NO2	NO	2.0	1.0	NO	2.0
WI152NO	152	Roadside	364021	402391	NO2	NO	10.0	2.0	NO	2.0
WI153NO	153	Roadside	364953	402783	NO2	NO	9.0	1.0	NO	2.0
WI154NO	154	Roadside	365054	403019	NO2	NO	18.0	2.0	NO	2.0
WI155NO	155	Roadside	366233	403024	NO2	NO	4.0	1.0	NO	2.0
WI156NO	156	Kerbside	366320	402136	NO2	NO	8.0	1.0	NO	2.0
WI157NO	157	Roadside	366458	402462	NO2	NO	13.0	2.0	NO	2.0
WI158NO	158	Roadside	365615	401368	NO2	NO	9.0	1.0	NO	2.0
WI159NO	159	Kerbside	368024	403514	NO2	NO	44.0	1.0	NO	2.0
WI160NO	160	Roadside	368671	402250	NO2	NO	18.0	2.0	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI161NO	161	Roadside	369635	402019	NO2	NO	0.0	2.0	NO	2.0
WI162NO	162	Roadside	370534	401953	NO2	NO	5.0	1.0	NO	2.0
WI163NO	163	Kerbside	371234	401895	NO2	NO	15.0	1.0	NO	2.0
WI164NO	164	Roadside	371981	401209	NO2	NO	5.0	1.0	NO	2.0
WI165NO	165	Kerbside	371039	400996	NO2	NO	23.0	2.0	NO	2.0
WI166NO	166	Kerbside	368414	399638	NO2	NO	23.0	1.0	NO	2.0
WI167NO	167	Roadside	363544	397933	NO2	NO	15.0	2.0	NO	2.0
WI168NO	168	Kerbside	362463	397005	NO2	2016 AQMA	15.0	2.0	NO	2.0
WI169NO	169	Roadside	362557	396906	NO2	NO	28.0	2.0	NO	2.0
WI170NO	170	Roadside	362236	396675	NO2	NO	11.0	1.0	NO	2.0
WI171NO	171	Roadside	357095	400717	NO2	NO	21.0	2.0	NO	2.0
WI172NO	172	Kerbside	356881	401314	NO2	NO	3.0	1.0	NO	2.0
WI173NO	173	Roadside	357983	405377	NO2	2016 AQMA	78.0	3.0	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI174NO	174	Roadside	358294	405137	NO2	2016 AQMA	33.0	3.0	NO	2.0
WI175NO	175	Roadside	358537	405774	NO2	2016 AQMA	24.0	6.0	NO	2.0
WI176NO	176	Roadside	359227	405480	NO2	NO	1.0	3.0	NO	2.0
WI177NO	177	Kerbside	356230	410105	NO2	NO	1.0	3.0	NO	2.0
WI178NO	178	Kerbside	356021	410128	NO2	NO	6.0	0.5	NO	2.0
WI179NO	179	Kerbside	354900	410475	NO2	NO	15.0	2.0	NO	2.0
WI180NO	180	Kerbside	362105	396491	NO2	NO	0.0	2.0	NO	2.0
WI181NO	181	Kerbside	354819	406235	NO2	NO	5.0	1.0	NO	2.0
WI183NO	183	Roadside	358595	405297	NO2	2016 AQMA	155.0	2.0	NO	2.0
WI184NO	184	Roadside	358013	405654	NO2	2016 AQMA	14.0	1.0	NO	2.0
WI185NO	185	Kerbside	358054	405613	NO2	2016 AQMA	30.0	1.0	NO	2.0
WI186NO	186	Kerbside	358070	405587	NO2	2016 AQMA	88.0	2.0	NO	2.0
WI188NO	188	Roadside	362111	396526	NO2	NO	18.0	2.0	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI189NO	189	Kerbside	362095	396547	NO2	NO	26.0	2.0	NO	2.0
WI192NO	192	Roadside	356771	403124	NO2	NO	24.0	1.0	NO	2.0
WI193NO	193	Kerbside	363885	403129	NO2	NO	3.0	0.5	NO	2.0
WI194NO	194	Kerbside	371037	402472	NO2	NO	80.0	0.5	NO	2.0
WI195NO	195	Roadside	366254	403598	NO2	NO	95.0	3.0	NO	2.0
WI196NO	196	Kerbside	365850	403263	NO2	NO	130.0	0.5	NO	2.0
WI197NO	197	Kerbside	361411	408031	NO2	NO	25.0	2.0	NO	2.0
WI198NO	198	Kerbside	360370	407235	NO2	NO	16.0	0.5	NO	2.0
WI199NO	199	Roadside	360501	397988	NO2	NO	20.0	0.5	NO	2.0
WI200NO	200	Kerbside	363262	399815	NO2	NO	10.0	1.0	NO	2.0
WI201NO	201	Roadside	356493	406759	NO2	NO	19.0	1.0	NO	2.0
WI202NO	202	Roadside	358222	407262	NO2	NO	6.0	1.0	NO	2.0
WI203NO	203	Roadside	357569	408645	NO2	NO	11.0	2.0	NO	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI204NO	204	Roadside	358161	399510	NO2	NO	17.0	2.0	NO	2.0
WI205NO	205	Kerbside	362151	396604	NO2	NO	6.5	1.0	NO	2.0
WI206NO	206	Kerbside	362162	396325	NO2	NO	66.0	1.0	NO	2.0
WI207NO	207	Kerbside	362171	396329	NO2	NO	65.0	1.0	NO	2.0
WI208NO, WI209NO, WI210NO	210	Roadside	365687	400238	NO2	NO	23.0	2.0	YES	2.0
WI211NO	211	Roadside	372302	401593	NO2	NO	11.0	2.0	NO	2.0
WI212NO	212	Roadside	356827	402135	NO2	NO	143.0	2.0	NO	2.0
WI213NO	213	Roadside	362019	396512	NO2	NO	19.0	1.0	No	2.0
WI214NO	214	Kerbside	361979	396501	NO2	NO	26.0	1.0	No	2.0
WI215NO	215	Kerbside	361981	396490	NO2	NO	16.0	1.0	No	2.0
WI216NO	216	Kerbside	358464	405342	NO2	2016 AQMA	2.0	1.0	No	2.0
WI217NO	217	Kerbside	357780	405306	NO2	NO	20.0	0.5	No	2.0
WI218NO	218	Kerbside	357839	405296	NO2	NO	n/a	n/a	No	n/a

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI219NO	219	Roadside	357484	405407	NO2	NO	59.0	2.0	No	2.0
WI220NO	220	Roadside	357420	405407	NO2	NO	146.0	2.0	No	2.0
WI221NO	221	Roadside	360499	397867	NO2	NO	3.0	2.0	No	2.0
WI222NO	222	Roadside	360491	397842	NO2	NO	12.0	2.0	No	2.0
WI223NO	223	Roadside	360430	397779	NO2	NO	15.0	2.0	No	2.0
WI224NO	224	Roadside	360418	397775	NO2	NO	10.0	2.0	No	2.0
WI225NO	225	Roadside	360459	397995	NO2	NO	11.0	2.0	No	2.0
WI226NO	226	Roadside	360462	398006	NO2	NO	2.0	2.0	No	2.0
WI227NO	227	Roadside	360576	398144	NO2	NO	21.0	2.0	No	2.0
WI228NO	228	Roadside	360578	398126	NO2	NO	4.0	2.0	No	2.0
WI229NO	229	Roadside	360374	397928	NO2	NO	2.0	0.0	No	2.0
WI230NO	230	Roadside	360380	397912	NO2	NO	0.0	2.0	No	2.0
WI231NO	231	Roadside	357473	398990	NO2	NO	25.0	2.0	No	2.0

Diffusion 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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WI232NO	232	Roadside	357635	399502	NO2	NO	15.0	3.0	No	2.0
WI233NO	233	Kerbside	357445	406461	NO2	NO	9.0	1.0	No	2.0
WI234NO	234	Roadside	363136	403467	NO2	NO	10.0	3.0	No	2.0
WI235NO	235	Roadside	365419	399116	NO2	NO	21.0	0.5	No	2.0
WI236NO	236	Kerbside	365386	400353	NO2	NO	5.0	0.5	No	2.0
WI237NO	237	Kerbside	367352	403200	NO2	NO	12.0	0.5	No	2.0
WI238NO	238	Roadside	369056	402146	NO2	NO	10.0	2.0	No	2.0
WI239NO	239	Roadside	357092	404213	NO2	NO	20.0	3.0	No	2.0
WI240NO	240	Kerbside	360220	407146	NO2	NO	14.0	2.0	No	2.0
WI241NO	241	Kerbside	358025	406658	NO2	NO	8.0	0.5	No	2.0

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
Bolton A579 Derby Street	371280	408577	Roadside	N/A	99.59%	-	-	-	-	23
Bury Whitefield	380636	406973	Roadside	N/A	98.69%	28	25	27	19	20
Bury Prestwich	381650	403222	Roadside	N/A	45.15%	**42**	38	39	-	33.3
Bury Radcliffe	378190	407480	Roadside	N/A	46.46%	27	25	26	20	21.7
Glazebury	368759	396027	Rural	N/A	99.01%	13	14	15	11	12
Manchester Oxford Rd	384233	397287	Kerbside	N/A	97.56%	**65**	**62**	**59**	36	**44**
Manchester Piccadilly	384310	398337	Urban Centre	N/A	96.31%	36	35	36	27	30
Manchester Sharston	384179	386086	Suburban	N/A	99.10%	24	24	23	14	16
Oldham Crompton Way	393887	409191	Roadside	N/A	96.52%	32	28	30	23	25
Rochdale Queensway	389325	411411	Roadside	N/A	40.78%	-	-	-	-	28.5
Salford Eccles	377926	398727	Industrial	N/A	99.62%	26	25	25	20	23
Salford M60	374811	400857	Roadside	N/A	98.52%	**43**	**41**	**44**	34	34
Stockport Cheadle A34	385047	388339	Roadside	N/A	95.11%	**43**	37	36	26	28
Stockport Hazel Grv	391481	387637	Roadside	N/A	99.35%	22	25	23	16	19
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	99.70%	-	-	-	29.2	34

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
Tameside Mottram M'r	399719	395804	Roadside	N/A	94.77%	**44**	**43**	**40**	30	36
Trafford Wellacre Academy	373758	394473	Urban Background	N/A	79.45%	15	15	15	11	13
Trafford	378783	394726	Urban Background	N/A	99.19%	19	18	19	14	15
Trafford A56	379413	394014	Urban Traffic	N/A	99.71%	30	29	30	21	23
Wigan Centre	357816	406024	Urban Background	N/A	99.77%	18	17	19	15	17
Wigan Leigh 3	365686	400243	Roadside	N/A	99.59%	-	-	-	23.8	25

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16. (Bury Prestwich, Bury Radcliffe, Rochdale Queensway).**

☒ **Reported concentrations are those at the location of the monitoring site (annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
BO15NO	371435	411690	Kerbside	N/A	100.0	**42.2**	37.8	39.9	29.0	28.1
BO4NO	371394	411718	Urban Background	N/A	92.3	27.5	25.9	27.1	19.3	20.0
BO16NO	371304	411748	Urban Background	N/A	90.4	20.7	21.2	21.7	15.5	16.6
BO3NO	370763	407929	Kerbside	N/A	84.6	**41.3**	**40.3**	**41.2**	31.8	37.1
BO48NO	375397	407457	Urban Background	N/A	100.0	36.2	26.5	27.6	22.7	23.1
BO54NO	372908	412120	Urban Background	N/A	80.8	14.1	13.4	14.9	11.2	12.4
BO53NO	373236	411968	Urban Background	N/A	80.8	19.2	20.2	19.4	16.7	14.2
BO44NO, BO45NO	365599	409845	Urban Background	N/A	100.0	26.3	23.7	23.6	17.7	18.0
BO43NO	365501	409887	Kerbside	N/A	92.3	39.6	36.1	35.5	25.8	26.2
BO11NO	363712	412396	Urban Background	N/A	82.7	14.4	13.6	12.3	9.0	10.9
BO41NO	366286	406561	Urban Background	N/A	100.0	35.0	34.7	35.4	28.3	29.4
BO60NO	373287	405061	Roadside	N/A	100.0	30.8	36.9	32.0	23.8	25.6
BO61NO	374450	405207	Kerbside	N/A	100.0	36.4	38.3	37.2	27.8	31.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
BO62NO	374194	405460	Urban Background	N/A	100.0	**58.4**	**-**	**47.7**	28.4	29.9
BO14NO	373839	406130	Roadside	N/A	90.4	23.4	23.4	23.4	17.4	18.2
BO63NO	374282	406257	Urban Background	N/A	100.0	27.1	24.0	25.0	17.9	18.5
BO64NO	371965	409907	Roadside	N/A	90.4	31.2	27.8	28.6	21.8	21.1
BO65NO	372059	409877	Urban Background	N/A	90.4	30.0	27.9	26.8	21.5	21.8
BO8NO	371352	409094	Kerbside	N/A	65.4	29.2	27.9	27.4	18.5	19.5
BO66NO	371442	411599	Roadside	N/A	100.0	37.0	38.6	36.7	29.0	32.5
BO67NO	365163	405640	Urban Background	N/A	59.6	21.0	21.2	21.2	18.3	17.1
BO68NO	367672	406910	Urban Background	N/A	100.0	32.3	30.3	31.1	22.6	23.7
BO69NO	369030	405809	Roadside	N/A	100.0	**-**	**49.0**	**47.7**	36.0	38.1
BO70NO	368757	405701	Roadside	N/A	100.0	**-**	21.9	23.9	16.1	18.2
BO71NO	370362	405400	Roadside	N/A	100.0	**-**	**46.2**	**53.1**	38.0	**41.5**
BO72NO	370115	405372	Roadside	N/A	75.0	**-**	30.0	30.9	25.4	25.8
BO73NO	371805	409820	Roadside	N/A	100.0	**-**	**45.5**	**44.7**	33.0	37.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
BO74NO	371805	409832	Roadside	N/A	100.0	-	**41.7**	**46.9**	31.8	33.8
BO75NO	371623	409235	Roadside	N/A	84.6	-	25.3	28.8	28.2	19.1
BO76NO, BO77NO, BO78NO	373491	404836	Roadside	N/A	100.0	-	-	-	22.9	24.7
BO79NO, BO80NO, BO81NO	371296	408600	Roadside	N/A	76.9	-	-	-	-	18.7
BOA101	374561	405364	Roadside	N/A	100.0	-	-	-	23.6	25.3
BOA102	374584	405525	Roadside	N/A	84.6	-	-	-	25.2	24.9
BOA103	374526	405906	Roadside	N/A	100.0	-	-	-	20.1	22.5
BOA104	373795	406600	Roadside	N/A	82.7	-	-	-	29.7	34.1
BOA105	373604	406882	Roadside	N/A	100.0	-	-	-	25.8	26.1
BOA106, BOA107	372643	408070	Roadside	N/A	100.0	-	-	-	19.1	24.1
BOA109	373818	409401	Roadside	N/A	100.0	-	-	-	17.9	18.6
BOA110	371501	409694	Roadside	N/A	100.0	-	-	-	30.1	33.4
BOA111	371102	409575	Roadside	N/A	100.0	-	-	-	26.7	28.8
BOA112	371715	408681	Roadside	N/A	92.3	-	-	-	29.2	29.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
BOA113	374510	405522	Roadside	N/A	100.0	-	-	-	23.3	25.9
BOA114	372122	409347	Roadside	N/A	92.3	-	-	-	25.6	26.1
BOA115	371903	409026	Roadside	N/A	82.7	-	-	-	35.7	32.3
BOA116	371803	408976	Roadside	N/A	90.4	-	-	-	29.4	31.0
BOA117	371288	408592	Roadside	N/A	50.0	-	-	-	24.3	25.5
BOA118	371832	409625	Roadside	N/A	100.0	-	-	-	23.0	24.5
BOA119	371328	409251	Roadside	N/A	90.4	-	-	-	25.3	27.1
BU1NO	384372	404917	Roadside	N/A	90.4	31.9	32.3	32.4	24.4	25.3
BU2NO	379101	417145	Roadside	N/A	100.0	32.4	35.7	38.8	25.1	27.4
BU3ANO, BU3BNO, BU3CNO	380636	406973	Roadside	N/A	100.0	26.3	26.4	26.1	25.1	19.1
BU4NO	380964	404831	Roadside	N/A	100.0	-	-	39.2	27.4	28.4
BU5NO	380497	405420	Roadside	N/A	90.4	-	-	27.0	21.1	20.9
BU6NO	379658	410888	Roadside	N/A	100.0	36.1	36.7	36.4	27.5	30.4
BU7NO	381984	411866	Roadside	N/A	100.0	-	-	30.6	23.4	24.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
BU8NO	380754	412619	Kerbside	N/A	100.0	28.4	28.2	34.3	23.7	25.6
BU9NO	379630	411031	Roadside	N/A	82.7	-	-	35.4	27.1	26.9
BU10NO	379854	410978	Roadside	N/A	100.0	-	-	37.1	27.3	27.9
BU11NO	380980	411193	Roadside	N/A	100.0	-	-	**41.3**	32.3	33.5
BU12NO	381344	410744	Kerbside	N/A	92.3	-	-	**53.6**	35.0	**40.9**
BU13NO	381728	410677	Kerbside	N/A	90.4	-	-	**49.7**	34.0	39.8
BU14NO	380398	410455	Roadside	N/A	73.1	-	-	37.5	26.9	26.8
BU15NO	380852	405209	Kerbside	N/A	92.3	-	-	**46.6**	34.4	37.4
BU16NO	380914	404898	Roadside	N/A	100.0	-	-	**46.8**	32.5	36.1
BU17NO	381105	404279	Roadside	N/A	100.0	-	-	35.4	25.7	28.2
BU18NO	382071	411362	Roadside	N/A	100.0	-	-	38.2	27.9	30.3
BU19NO	381321	405115	Roadside	N/A	84.6	-	-	**42.1**	32.7	33.1
BU20NO	382974	405930	Urban Background	N/A	100.0	-	-	-	26.1	28.4
MA8ANO	381398	387501	Urban Background	N/A	100.0	29.2	26.6	28.0	18.2	20.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
MA9ANO	384601	398303	Kerbside	N/A	100.0	**51.1**	**45.8**	**44.9**	32.5	35.7
MA24NO	383968	398070	Kerbside	N/A	100.0	**44.7**	**40.3**	**40.8**	26.8	31.8
MA26ANO	383973	398874	Urban Background	N/A	92.3	35.5	33.4	33.0	22.9	25.9
MA28NO	387951	397430	Roadside	N/A	92.3	38.5	37.1	36.1	26.4	29.4
MA29ANO	384119	397503	Roadside	N/A	100.0	**57.7**	**58.8**	**55.4**	39.0	**44.8**
MA36NO	385203	399750	Roadside	N/A	100.0	34.0	33.1	31.7	24.3	26.7
MA37NO	382829	391493	Roadside	N/A	90.4	**42.6**	39.3	38.7	26.9	29.5
MA59NO, MA60NO, MA61NO	384310	398337	Urban Background	N/A	100.0	35.7	31.6	33.1	22.3	24.6
MA71NO	385161	398290	Roadside	N/A	100.0	**50.4**	**46.1**	**45.3**	31.4	34.2
MA72NO	384761	397384	Urban Background	N/A	100.0	34.6	33.4	32.8	24.5	27.5
MA73NO	388604	396042	Roadside	N/A	100.0	39.0	38.7	38.0	27.3	31.6
MA74NO	385400	390095	Roadside	N/A	100.0	37.1	35.7	33.6	23.3	25.6
MA75NO	387363	394617	Kerbside	N/A	100.0	**47.7**	**47.6**	**47.0**	33.7	39.0
MA77NO	383576	397489	Urban Background	N/A	100.0	38.8	**41.0**	**43.7**	26.9	30.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
MA78NO	386289	396828	Urban Background	N/A	100.0	38.3	33.2	33.0	23.2	27.5
MA79NO	386875	395861	Urban Background	N/A	90.4	31.8	29.9	29.3	22.3	25.6
MA80NO	387358	393990	Roadside	N/A	100.0	34.2	32.2	33.2	22.5	25.7
MA81NO	386589	394083	Urban Background	N/A	100.0	25.2	21.8	23.1	16.6	18.1
MA82NO, MA83NO, MA84NO	384239	397276	Roadside	N/A	100.0	**56.2**	**54.0**	**52.0**	33.9	**40.7**
MA88NO	384469	398981	Kerbside	N/A	92.3	**57.9**	**46.8**	**45.2**	30.1	36.8
MA86ANO	387150	396808	Roadside	N/A	100.0	36.9	32.1	33.6	25.5	27.5
MA87ANO	386992	396569	Roadside	N/A	100.0	37.2	33.2	34.0	22.9	26.4
MA88ANO	386536	396699	Roadside	N/A	100.0	**47.5**	**44.3**	**43.3**	32.5	35.3
MA89ANO	386710	396824	Roadside	N/A	100.0	34.4	30.3	30.3	23.7	25.2
MA90BNO, MA91BNO, MA92BNO	384202	386121	Suburban	N/A	100.0	21.7	20.1	18.9	13.7	14.1
MA93BNO	382419	390010	Roadside	N/A	92.3	**-**	**-**	**42.9**	29.4	33.8
MA94BNO	382072	388388	Roadside	N/A	100.0	**-**	**-**	32.1	25.2	26.0
MA95BNO	386668	397566	Roadside	N/A	100.0	**-**	**-**	**43.4**	31.5	34.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
MA96BNO	385189	397167	Roadside	N/A	100.0	-	-	**46.0**	36.4	**41.0**
MA97BNO	382886	397215	Roadside	N/A	90.4	-	-	32.3	23.4	28.4
MA98BNO	388460	403313	Kerbside	N/A	90.4	-	-	36.2	26.6	28.9
MA99BNO	385400	399245	Roadside	N/A	100.0	-	-	-	26.9	32.9
MA100BNO	383605	402293	Roadside	N/A	100.0	-	-	-	31.2	33.6
MA101BNO	385999	402026	Roadside	N/A	100.0	-	-	-	28.1	35.9
MA102BNO	385792	402952	Roadside	N/A	100.0	-	-	-	28.3	31.0
MA103BNO	385431	400653	Roadside	N/A	100.0	-	-	-	35.5	39.6
MA104BNO	383511	399906	Roadside	N/A	100.0	-	-	-	30.6	36.4
MA112BNO	383987	396734.5	Roadside	N/A	84.6	-	-	-	-	21.4
MA113BNO	385087	396891	Roadside	N/A	84.6	-	-	-	-	28.1
OLMRNO	390746	405397	Roadside	N/A	92.3	-	-	31.5	37.7	28.6
OLSHSNO	390394	405454	Roadside	N/A	100.0	35.2	30.5	36.1	25.1	29.8
OL259BNO	390089	404456	Roadside	N/A	100.0	-	-	-	-	34.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
OL1RANO	388698	404903	Roadside	N/A	100.0	-	-	-	-	24.1
OL434BNO	389367	403280	Urban Background	N/A	100.0	-	-	-	-	28.3
OLOBNO	389715	403625	Roadside	N/A	75.0	**46.3**	38.4	37.3	27.2	27.8
OLPSNO	388747	400973	Urban Background	N/A	100.0	-	-	-	-	32.5
OLWARNO	389237	401310	Roadside	N/A	100.0	-	-	-	-	32.4
OLHRNO	390756	402571	Roadside	N/A	84.6	**44.0**	38.5	**40.6**	30.1	32.6
OLIRSNO	390675	402736	Urban Background	N/A	92.3	-	-	-	-	25.7
OL368MRNO	390976	403252	Roadside	N/A	92.3	-	-	-	-	38.2
OLESNO	391367	404318	Roadside	N/A	92.3	-	-	-	-	27.9
OLARNO	392771	402951	Roadside	N/A	92.3	38.8	29.1	30.6	23.7	25.5
OLWOODNO	393056	404638	Urban Background	N/A	92.3	-	-	-	-	31.1
OLWSMSNO	392947	404854	Roadside	N/A	57.7	-	-	-	-	38.2
OL17SRNO	393643	405343	Kerbside	N/A	92.3	-	-	-	-	39.9
OLHS2NO	393501	405186	Roadside	N/A	92.3	-	-	-	-	25.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
OLRRNO	394210	405752	Roadside	N/A	100.0	-	-	35.3	28.6	32.4
OLHURNO	395561	405751	Roadside	N/A	92.3	-	-	35.8	27.0	30.9
OLCVNO	399533	404454	Roadside	N/A	92.3	-	-	19.1	14.5	15.3
OLHSNO	399589	405511	Roadside	N/A	92.3	-	-	30.0	22.8	25.2
OLCW1NO, OLCW2NO, OLCW3NO	393884	409183	Roadside	N/A	92.3	37.7	30.6	33.3	24.6	28.9
OL21SRNO	392217	407255	Roadside	N/A	100.0	-	-	-	-	**46.3**
OLJSNO	393097	406897	Urban Background	N/A	92.3	-	-	-	-	24.2
OLRDNO	392111	406432	Roadside	N/A	84.6	39.6	33.5	36.2	25.9	27.4
OL12ORNO	392045	407608	Roadside	N/A	90.4	-	-	-	-	**43.2**
OLFANO	391100	406218	Urban Background	N/A	92.3	-	-	-	-	18.4
RO2ANO	388537	409942	Urban Background	N/A	7.7	35.0	28.9	32.7	21.7	-
RO3ANO	388581	409797	Urban Background	N/A	67.3	23.4	20.6	22.1	16.0	16.4
RO4ANO	387080	406278	Urban Background	N/A	100.0	29.5	26.7	33.2	22.2	22.8
RO5ANO	386870	404044	Roadside	N/A	100.0	25.9	31.5	24.5	16.5	16.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
RO6ANO	385413	408320	Kerbside	N/A	90.4	**47.2**	**41.9**	**42.5**	31.8	32.3
RO7ANO	388603	411925	Urban Background	N/A	84.6	34.5	32.3	32.1	25.2	27.7
RO8ANO	388932	412091	Roadside	N/A	92.3	**41.5**	**45.0**	**44.7**	33.6	36.6
RO9ANO	389057	412217	Kerbside	N/A	90.4	**41.6**	**40.5**	39.6	30.3	34.9
RO10ANO	388800	413603	Urban Background	N/A	90.4	18.3	18.7	17.7	14.8	14.9
RO12ANO	392072	415687	Roadside	N/A	92.3	**40.1**	31.4	39.4	30.4	30.3
RO13ANO	392042	415707	Urban Background	N/A	100.0	18.3	13.7	17.2	14.1	15.1
RO14ANO	393665	417816	Rural	N/A	92.3	15.1	29.2	12.9	11.6	10.2
RO15ANO	392976	411906	Roadside	N/A	90.4	29.7	24.2	27.0	20.3	23.0
RO16ANO	392542	411709	Urban Background	N/A	92.3	26.3	22.6	19.9	18.8	18.3
RO17ANO	391214	412609	Urban Background	N/A	82.7	25.7	36.1	23.5	18.5	17.6
RO18ANO	389877	413590	Urban Background	N/A	80.8	-	31.1	26.8	20.9	18.7
RO19ANO	389971	413646	Roadside	N/A	65.4	-	27.2	35.8	29.3	35.4
RO20ANO	385748	408931	Roadside	N/A	50.0	-	27.2	31.3	23.9	24.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
RO21ANO	385820	410776	Roadside	N/A	92.3	-	28.6	37.4	28.3	28.2
RO22ANO	390464	411976	Roadside	N/A	92.3	-	28.6	**43.4**	31.5	32.7
RO23ANO	390377	412030	Roadside	N/A	92.3	-	-	37.8	27.6	31.4
RO24ANO	388089	410822	Urban Background	N/A	92.3	-	-	30.0	24.8	23.1
RO25ANO	387792	406013	Roadside	N/A	100.0	-	-	34.7	25.9	30.9
RO26ANO	389782	414241	Roadside	N/A	92.3	-	-	**41.6**	31.1	32.5
RO27ANO	390710	414563	Roadside	N/A	92.3	-	-	**46.1**	32.7	28.8
RO28ANO	392871	415127	Urban Background	N/A	92.3	-	-	29.5	21.3	22.8
RO29ANO, RO30ANO, RO31ANO	389325	411411	Roadside	N/A	100.0	-	-	-	-	31.1
RO32ANO	385145	407701	Roadside	N/A	92.3	-	-	-	-	26.6
SA1NO	372767	394104	Urban Background	N/A	100.0	20.8	19.7	19.9	14.7	15.5
SA2NO	372140	394210	Urban Background	N/A	92.3	22.3	21.4	20.2	13.3	15.5
SA4NO	377453	401830	Urban Background	N/A	100.0	25.9	25.6	25.9	18.8	20.2
SA9NO	374741	400937	Urban Background	N/A	100.0	25.3	23.4	24.5	18.1	18.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
SA13NO	379613	399784	Urban Background	N/A	90.4	25.3	22.0	22.2	17.0	16.7
SA16NO	371187	404453	Urban Background	N/A	100.0	23.0	21.1	19.8	14.2	17.6
SA20NO, SA21NO, SA22NO	374811	400857	Roadside	N/A	100.0	**41.8**	**40.6**	**41.3**	31.5	33.0
SA23NO, SA24NO, SA29NO	377926	398727	Urban Background	N/A	100.0	27.9	25.8	25.3	18.3	20.5
SA25NO	381304	398014	Urban Background	N/A	100.0	30.8	29.2	30.2	21.2	24.7
SA26NO	380718	399597	Roadside	N/A	100.0	34.6	33.9	32.3	23.9	25.8
SA27NO	383078	398741	Roadside	N/A	100.0	36.8	34.1	37.2	26.7	28.8
SA31NO	374025	401905	Roadside	N/A	100.0	30.4	29.0	29.3	21.3	23.5
SA34NO	375367	397800	Roadside	N/A	100.0	**43.0**	39.3	39.9	30.4	34.1
SA38NO	377796	403065	Roadside	N/A	100.0	29.0	25.8	26.6	19.6	21.6
SA39NO	383040	398563	Roadside	N/A	92.3	**41.6**	39.1	**41.7**	30.4	33.0
SA51NO	375213	397661	Roadside	N/A	100.0	34.3	33.2	34.7	25.0	26.5
SA53NO	374757	399891	Urban Background	N/A	100.0	34.2	29.7	31.6	23.7	25.5
SA55NO	372871	400734	Roadside	N/A	100.0	34.8	33.0	32.2	24.1	24.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
SA56NO, SA57NO, SA58NO	368759	396027	Rural	N/A	100.0	13.1	14.2	14.2	11.1	11.5
SA59NO	381822	397895	Roadside	N/A	100.0	36.7	33.3	32.4	23.0	27.5
SA60NO	382445	397724	Roadside	N/A	100.0	**40.7**	**40.2**	36.7	27.0	32.6
SA61NO	377269	400943	Roadside	N/A	100.0	-	38.9	38.8	28.8	34.0
SA62NO	380768	399637	Roadside	N/A	100.0	-	31.4	32.2	23.8	24.6
SA63NO	374673	399912	Roadside	N/A	100.0	-	**40.5**	**42.7**	29.7	35.3
SA64NO	378804	399844	Roadside	N/A	100.0	-	25.9	27.9	20.5	21.5
SA65NO	378584	399220	Roadside	N/A	100.0	-	**41.8**	**43.1**	36.6	37.9
SA66NO	375118	398502	Roadside	N/A	100.0	-	32.9	32.1	23.9	25.7
SA68NO	373570	403096	Roadside	N/A	100.0	-	**44.4**	**50.6**	34.4	**44.3**
SA69NO	379397	401370	Roadside	N/A	100.0	-	**46.7**	**47.9**	36.0	36.8
SA70NO	381677	398832	Roadside	N/A	100.0	-	28.4	29.7	24.3	23.4
SA71NO	381351	397185	Roadside	N/A	100.0	-	36.8	37.1	25.0	25.9
SA72NO	377536	401804	Roadside	N/A	84.6	-	**47.4**	**49.6**	36.6	38.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
SA73NO	374576	400611	Roadside	N/A	100.0	-	-	**45.6**	34.8	38.5
SA74NO	376315	399249	Roadside	N/A	100.0	-	-	39.9	29.3	30.5
SA75NO	379608	398539	Roadside	N/A	100.0	-	-	33.4	24.0	25.2
SA76NO	380540	398422	Roadside	N/A	100.0	-	-	37.3	28.5	31.3
SA77NO	381686	398504	Roadside	N/A	100.0	-	-	33.6	23.2	25.8
SA78NO	381220	399530	Roadside	N/A	100.0	-	-	**46.7**	36.2	39.6
SA79NO	382602	398519	Roadside	N/A	100.0	-	-	**41.1**	27.3	30.0
SA80NO	375428	401417	Roadside	N/A	100.0	-	-	30.1	23.6	25.5
SA81NO	382561	397722	Roadside	N/A	100.0	-	-	**46.4**	34.8	**42.3**
SA82NO	375394	397816	Roadside	N/A	100.0	-	-	-	36.9	39.6
SA83NO	382945	400732	Roadside	N/A	100.0	-	-	-	-	25.2
SA84NO	380776	400834	Roadside	N/A	100.0	-	-	-	-	25.1
SA85NO	375991	399237	Roadside	N/A	100.0	-	-	-	-	22.3
SA86NO	383819	401771	Kerbside	N/A	100.0	-	-	-	-	**44.0**

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
SA87NO	372225	395616	Roadside	N/A	84.6	-	-	-	-	23.7
ST1NO	389077.064	392011.822	Urban Background	N/A	15.4	22.5	20.0	19.7	15.0	-
ST3NO	388550.609	391846.389	Urban Background	N/A	100.0	29.6	26.0	25.7	19.0	19.5
ST4NO	396469.167	390800.349	Rural	N/A	100.0	15.2	14.9	13.4	9.6	10.9
ST5NO, ST6NO	396853	382768	Urban Background	N/A	100.0	8.6	8.8	8.9	6.3	9.7
ST7NO	392063.265	386972	Kerbside	N/A	100.0	**46.8**	**48.1**	39.5	26.3	25.9
ST8NO	392016.512	387042.782	Urban Background	N/A	100.0	25.5	23.8	21.8	14.0	17.2
ST9NO	392742.788	385680.865	Urban Background	N/A	100.0	14.1	12.7	13.6	9.7	10.9
ST10NO	392781.3	387271.486	Urban Background	N/A	100.0	17.2	14.5	14.5	10.8	11.6
ST11NO	391083.207	387938.058	Roadside	N/A	100.0	39.7	38.1	36.2	21.9	24.4
ST13NO	384675	386295	Urban Background	N/A	100.0	18.4	18.3	18.8	11.6	13.6
ST2NO, ST12NO, ST14NO	385047	388339	Roadside	N/A	100.0	**42.5**	37.3	38.9	26.3	28.4
ST15NO	389886.321	388961.332	Roadside	N/A	100.0	31.8	25.2	22.3	21.0	23.7
ST16NO	391568.679	391225.883	Roadside	N/A	92.3	28.0	25.4	26.2	18.3	19.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
ST17NO	388442.177	390077.487	Urban Background	N/A	100.0	27.7	28.2	26.6	18.4	20.2
ST18NO	389272.176	390440.811	Urban Background	N/A	90.4	38.2	37.0	37.6	26.5	29.3
ST19NO	389479.355	393463.855	Roadside	N/A	92.3	**44.4**	37.8	**40.7**	30.5	32.2
ST20NO	386921.232	389528.855	Urban Background	N/A	84.6	**43.8**	**41.9**	37.7	29.6	32.2
ST21NO	388598.721	389415.552	Urban Background	N/A	100.0	23.8	22.1	21.6	15.2	18.4
ST22NO, ST23NO, ST24NO	391483.11	387635.566	Roadside	N/A	100.0	25.4	26.5	24.6	16.7	18.5
ST25NO	395770.138	388655.432	Roadside	N/A	100.0	30.9	27.4	28.1	19.5	21.5
ST26NO	389396	387357	Urban Background	N/A	100.0	16.6	15.3	15.3	11.0	12.1
ST27NO	387091	391384	Urban Background	N/A	100.0	18.7	16.8	17.5	12.6	13.1
ST28NO	385700.368	386219.938	Roadside	N/A	92.3	**42.4**	**41.3**	38.6	25.7	30.3
ST29NO	390087.5	388545.187	Urban Background	N/A	100.0	19.6	18.5	18.2	13.1	14.3
ST31NO	3392441	391747	Roadside	N/A	100.0	-	24.8	38.2	30.1	31.0
ST32NO	389480	390957	Roadside	N/A	100.0	-	-	34.7	24.8	24.6
ST33NO	390416	390087	Roadside	N/A	100.0	-	-	37.6	25.8	29.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
ST34NO	388304	390351	Roadside	N/A	100.0	-	-	**41.3**	29.0	35.8
ST35NO	395020	385360	Roadside	N/A	100.0	-	-	24.0	18.6	23.5
ST36NO	389386	390142	Roadside	N/A	84.6	-	-	-	-	34.7
TA1NO	394050	397190	Roadside	N/A	100.0	28.1	25.8	25.5	21.4	21.1
TA2NO	394788	394933	Roadside	N/A	100.0	28.6	23.7	25.7	18.3	21.2
TA3NO	390961	395417	Urban Background	N/A	100.0	29.3	28.0	28.5	19.6	21.9
TA5NO	400507	396518	Urban Background	N/A	92.3	14.8	13.9	13.4	10.0	9.8
TA10NO	392516	396748	Roadside	N/A	23.1	39.5	35.1	37.5	28.1	29.7
TA11NO	400390	396025	Roadside	N/A	100.0	**58.4**	**56.7**	**55.1**	39.9	**41.1**
TA13NO	392586	398431	Roadside	N/A	100.0	**42.5**	**41.8**	**41.2**	30.5	33.6
TA14NO	393710	398790	Roadside	N/A	100.0	**40.7**	35.6	37.4	28.9	31.3
TA16NO	391435	397970	Roadside	N/A	100.0	**43.5**	**40.5**	**42.4**	30.9	33.2
TA17NO	389106	398242	Roadside	N/A	100.0	36.4	31.1	34.1	26.6	28.7
TA18NO	391970	395521	Roadside	N/A	100.0	**47.8**	**41.6**	**43.5**	32.1	36.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
TA19NO	392477	395505	Roadside	N/A	100.0	33.1	36.0	37.9	27.1	29.5
TA20NO	394610	395102	Roadside	N/A	100.0	39.5	**40.1**	37.1	28.3	29.9
TA21NO	400423	395965	Roadside	N/A	100.0	**53.8**	**50.9**	**46.8**	36.7	37.9
TA23NO	393620	398588	Urban Background	N/A	92.3	23.4	22.9	22.8	17.4	18.7
TA24NO	390475	395621	Roadside	N/A	100.0	34.4	32.1	35.7	24.7	31.6
TA25NO	396950	402329	Roadside	N/A	100.0	27.9	25.4	28.6	21.9	19.8
TA27NO	396177	398218	Roadside	N/A	100.0	28.8	26.8	28.7	20.7	22.5
TA28NO	393050	401038	Roadside	N/A	90.4	39.3	34.5	35.1	27.8	31.4
TA29NO	393370	399494	Suburban	N/A	100.0	26.5	24.3	24.6	18.4	19.0
TA30NO	393419	399691	Roadside	N/A	100.0	38.3	33.5	36.4	27.3	31.1
TA31NO	396899	402449	Suburban	N/A	100.0	20.0	17.7	27.2	15.9	16.1
TA32NO	396982	402437	Suburban	N/A	100.0	26.8	22.5	25.1	18.5	20.1
TA33NO	397010	402560	Roadside	N/A	32.7	26.1	24.0	24.2	18.2	19.2
TA34NO	397060	402581	Roadside	N/A	92.3	27.1	24.3	23.0	18.7	17.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
TA35NO	397080	402540	Roadside	N/A	100.0	40.0	33.7	36.9	27.7	29.1
TA36NO	397060	402387	Suburban	N/A	100.0	23.5	20.0	22.0	16.1	17.0
TA37NO	396728	402073	Roadside	N/A	100.0	38.3	35.8	31.7	26.6	27.7
TA38NO	394006	399392	Urban Background	N/A	100.0	32.9	28.6	31.1	22.0	23.4
TA39NO	394114	399366	Urban Background	N/A	100.0	35.7	32.7	33.7	24.5	25.9
TA40NO	394066	399314	Urban Background	N/A	100.0	33.5	29.2	31.0	22.3	23.5
TA41NO	394118	399259	Urban Background	N/A	92.3	34.6	31.7	31.7	25.3	25.9
TA42NO	394494	399010	Urban Background	N/A	100.0	32.8	29.8	30.1	21.3	24.5
TA43NO	394214	398933	Roadside	N/A	100.0	**44.1**	39.6	**40.3**	31.2	33.2
TA44NO	397418	394398	Urban Background	N/A	100.0	19.8	15.1	15.5	12.1	12.2
TA45NO, TA46NO, TA47NO	399719	395805	Roadside	N/A	100.0	**55.5**	**55.6**	**55.6**	37.0	39.7
TA48NO	392699	395733	Roadside	N/A	23.1	35.0	30.3	32.8	24.2	26.2
TA49NO	393731	398770	Roadside	N/A	92.3	-	35.4	37.2	27.3	30.8
TA50NO	393498	398704	Roadside	N/A	100.0	-	39.1	**43.5**	33.6	35.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
TA51NO	393314	398624	Kerbside	N/A	100.0	-	**40.4**	37.2	29.7	33.1
TA52NO	393509	398737	Roadside	N/A	100.0	-	**42.8**	**43.7**	32.9	35.3
TA53NO	393133	398536	Roadside	N/A	100.0	-	38.3	36.4	28.3	31.8
TA54NO	392958	398474	Roadside	N/A	100.0	-	**45.0**	**49.2**	36.6	39.9
TA55NO	392743	398465	Roadside	N/A	100.0	-	**52.1**	**55.4**	**40.8**	**42.5**
TA56NO	392490	398368	Roadside	N/A	100.0	-	**42.8**	**43.7**	32.8	35.6
TA57NO	392844	398544	Roadside	N/A	100.0	-	**44.6**	**45.2**	36.8	35.2
TA58NO	393080	398620	Roadside	N/A	100.0	-	34.5	37.6	26.9	29.7
TA59NO	395652	399140	Roadside	N/A	100.0	-	19.6	19.8	15.0	15.9
TA60NO	395747	399112	Roadside	N/A	100.0	-	24.0	27.8	20.2	21.5
TA61NO	395682	399171	Roadside	N/A	100.0	-	23.8	24.0	18.2	20.3
TA62NO	396576	399240	Roadside	N/A	100.0	-	21.8	23.0	17.1	17.2
TA63NO	394917	400922	Kerbside	N/A	100.0	-	-	-	-	23.8
TA64NO	395792	398758	kerbside	N/A	100.0	-	-	-	-	37.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
TR5NO	379052	392043	Urban Background	N/A	65.4	24.1	24.0	24.3	16.3	21.5
TR9NO	380933	395889	Urban Background	N/A	82.7	25.0	24.8	24.1	16.5	20.1
TR19NO, TR19ANO, TR19BNO	378783	394728	Urban Background	N/A	100.0	18.2	20.4	20.4	13.6	15.0
TR20NO, TR20ANO, TR20BNO	379411	394014	Roadside	N/A	90.4	32.4	30.2	28.7	21.2	23.9
TR21NO	379619	396371	Roadside	N/A	75.0	25.6	23.4	27.0	18.5	22.2
TR22NO	377061	390086	Kerbside	N/A	82.7	32.1	33.7	35.3	22.7	22.9
TR13NO	381221	396441	Roadside	N/A	82.7	38.3	35.9	37.5	23.2	28.0
TR15NO	379089	393282	Roadside	N/A	65.4	30.6	29.2	29.9	20.7	22.9
TR16NO, TR16ANO	377418	395689	Roadside	N/A	90.4	29.6	30.2	30.5	22.2	22.5
TR18NO	378822	389010	Urban Background	N/A	80.8	18.1	17.3	18.0	14.5	15.2
TR23NO	376438	396383	Roadside	N/A	82.7	39.6	36.5	36.6	25.1	26.0
TR23ANO	376395	396360	Roadside	N/A	90.4	-	35.8	36.5	25.1	29.5
TR24NO	379263	385812	Roadside	N/A	90.4	27.2	24.1	23.5	15.6	19.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
TR25NO, TR25ANO, TR25BNO	373755	394477	Urban Background	N/A	55.8	14.7	16.0	15.2	13.0	11.5
TR26NO, TR26ANO	379272	393666	Kerbside	N/A	80.8	**45.2**	37.9	38.5	29.1	30.0
TR27NO	371419	390760	Kerbside	N/A	90.4	-	-	21.7	18.6	16.1
TR28NO	376851	387792	Kerbside	N/A	80.8	-	-	29.8	24.9	26.4
TR29NO	373906	392820	Roadside	N/A	82.7	-	-	-	-	18.2
TR30NO	376789	392806	Urban Background	N/A	59.6	-	-	-	-	13.8
TR31NO	376206	392695	Kerbside	N/A	50.0	-	-	-	-	31.3
WI14NO	366880	403255	Roadside	N/A	100.0	34.2	32.6	32.7	25.7	27.2
WI23NO	361835	404090	Roadside	N/A	100.0	34.5	35.9	34.6	25.9	28.5
WI24NO	358341	405539	Roadside	N/A	92.3	32.6	-	-	20.1	21.7
WI28NO	366424	399894	Roadside	N/A	80.8	38.0	34.0	33.6	25.7	29.3
WI30NO	363833	402028	Roadside	N/A	100.0	27.6	26.5	27.5	20.5	21.8
WI33NO	359723	405537	Roadside	N/A	100.0	37.6	38.9	**42.1**	28.7	30.4
WI35NO	357132	398670	Kerbside	N/A	100.0	**41.0**	34.9	37.3	25.2	24.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI47NO, WI48NO, WI49NO	357812	406021	Urban Background	N/A	100.0	23.6	23.0	28.6	18.0	17.8
WI52NO	362137	396948	Roadside	N/A	100.0	**41.6**	37.3	39.4	27.1	30.5
WI53NO	353896	408518	Urban Background	N/A	100.0	27.2	25.4	25.9	18.1	19.4
WI54NO	370612	400586	Urban Background	N/A	100.0	31.6	28.9	30.3	21.7	22.3
WI63NO	356928	404982	Roadside	N/A	100.0	26.9	27.5	28.7	20.3	23.2
WI71NO	368244	402563	Roadside	N/A	100.0	35.0	32.7	33.1	25.9	25.5
WI81NO	355979	410362	Roadside	N/A	100.0	28.6	26.4	28.1	19.3	20.0
WI114NO	365115	400259	Roadside	N/A	100.0	**40.7**	37.9	39.9	30.2	32.1
WI115NO	353845	405360	Urban Background	N/A	100.0	25.7	26.8	27.0	17.6	22.6
WI116NO	365864	401720	Urban Background	N/A	100.0	21.4	19.0	19.6	14.6	15.3
WI121NO	357088	405158	Roadside	N/A	100.0	36.6	37.6	36.9	28.2	31.7
WI122NO	356883	405239	kerbside	N/A	100.0	37.5	**43.2**	38.2	28.0	32.3
WI124NO	357310	403672	Roadside	N/A	100.0	**-**	25.3	27.6	17.5	18.2
WI125NO	357645	404259	Roadside	N/A	90.4	**-**	36.5	34.0	22.3	25.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI126NO	355819	402194	Roadside	N/A	90.4	-	18.2	16.9	13.2	13.8
WI127NO	355484	403854	Roadside	N/A	100.0	-	33.5	32.0	23.0	25.1
WI129NO	356848	402906	Roadside	N/A	100.0	-	**57.6**	**58.2**	34.8	36.7
WI130NO	356354	403838	Roadside	N/A	92.3	-	27.4	28.9	19.9	22.5
WI131NO	356667	404065	Roadside	N/A	100.0	-	29.1	28.2	19.1	21.8
WI132NO	356869	404808	Roadside	N/A	57.7	-	27.0	27.6	20.8	22.2
WI133NO	356748	404786	Roadside	N/A	100.0	-	30.1	31.5	23.2	24.3
WI134NO	356428	404722	Roadside	N/A	100.0	-	24.9	25.4	19.1	19.0
WI135NO	354614	404685	Kerbside	N/A	73.1	-	35.2	37.8	30.3	31.0
WI136NO	354057	404824	Kerbside	N/A	100.0	-	32.7	33.0	23.6	24.9
WI137NO	353844	404922	Roadside	N/A	100.0	-	35.5	35.3	26.4	27.8
WI138NO	355321	404017	Roadside	N/A	100.0	-	22.9	23.3	15.8	18.5
WI139NO	355638	404023	Roadside	N/A	100.0	-	23.3	25.8	18.5	20.8
WI140NO	355816	404062	Roadside	N/A	100.0	-	27.5	27.8	20.3	21.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI141NO	356469	404550	Roadside	N/A	100.0	-	32.8	25.8	19.5	20.7
WI144NO	360643	402297	Roadside	N/A	90.4	-	34.2	34.8	23.8	26.0
WI145NO	360515	402212	Roadside	N/A	100.0	-	28.2	33.0	23.6	25.3
WI147NO	360437	405089	Roadside	N/A	92.3	-	33.1	30.6	23.5	22.6
WI148NO	361247	404576	Kerbside	N/A	90.4	-	27.8	29.1	21.1	24.2
WI149NO	363081	403512	Kerbside	N/A		-	32.9	35.7	24.6	-
WI150NO	361579	404298	Kerbside	N/A	100.0	-	**41.1**	**41.4**	31.7	34.3
WI151NO	361501	404216	Kerbside	N/A	100.0	-	22.7	25.9	19.1	20.1
WI152NO	364021	402391	Roadside	N/A	100.0	-	20.7	23.7	16.8	18.9
WI153NO	364953	402783	Roadside	N/A	100.0	-	22.0	23.6	15.8	17.7
WI154NO	365054	403019	Roadside	N/A	100.0	-	18.6	21.1	14.4	17.1
WI155NO	366233	403024	Roadside	N/A	100.0	-	31.4	24.6	18.1	19.5
WI156NO	366320	402136	Kerbside	N/A	92.3	-	27.5	25.5	19.5	20.1
WI157NO	366458	402462	Roadside	N/A	100.0	-	23.9	26.3	17.5	18.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI158NO	365615	401368	Roadside	N/A	100.0	-	27.4	33.0	21.7	23.3
WI159NO	368024	403514	Kerbside	N/A	100.0	-	24.7	27.4	20.0	22.4
WI160NO	368671	402250	Roadside	N/A	92.3	-	31.1	33.0	24.0	26.3
WI161NO	369635	402019	Roadside	N/A	100.0	-	26.4	28.2	21.3	22.5
WI162NO	370534	401953	Roadside	N/A	100.0	-	29.7	32.7	22.1	25.1
WI163NO	371234	401895	Kerbside	N/A	92.3	-	31.2	35.3	25.5	28.6
WI164NO	371981	401209	Roadside	N/A	100.0	-	25.9	28.4	19.4	21.9
WI165NO	371039	400996	Kerbside	N/A	100.0	-	26.8	29.3	20.5	22.5
WI166NO	368414	399638	Kerbside	N/A	92.3	-	17.8	20.2	15.5	16.9
WI167NO	363544	397933	Roadside	N/A	100.0	-	24.2	26.3	18.7	20.6
WI168NO	362463	397005	Kerbside	N/A	100.0	-	32.3	35.7	24.8	25.4
WI169NO	362557	396906	Roadside	N/A	100.0	-	33.1	32.7	23.9	26.1
WI170NO	362236	396675	Roadside	N/A	100.0	-	28.7	28.5	21.4	22.7
WI171NO	357095	400717	Roadside	N/A	100.0	-	31.5	33.2	24.0	26.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI172NO	356881	401314	Kerbside	N/A	92.3	-	32.7	32.2	22.0	25.1
WI173NO	357983	405377	Roadside	N/A	100.0	-	31.3	35.8	26.6	27.4
WI174NO	358294	405137	Roadside	N/A	100.0	-	33.0	38.2	27.3	32.1
WI175NO	358537	405774	Roadside	N/A	90.4	-	30.6	28.5	20.2	23.4
WI176NO	359227	405480	Roadside	N/A	100.0	-	28.3	33.7	21.9	25.9
WI177NO	356230	410105	Kerbside	N/A	90.4	-	30.5	35.1	20.5	23.5
WI178NO	356021	410128	Kerbside	N/A	100.0	-	**42.1**	**46.1**	30.3	35.2
WI179NO	354900	410475	Kerbside	N/A	100.0	-	24.6	28.6	17.8	18.9
WI180NO	362105	396491	Kerbside	N/A	100.0	-	**57.7**	**57.9**	**41.9**	**44.6**
WI181NO	354819	406235	Kerbside	N/A	100.0	-	32.5	30.8	22.1	28.2
WI183NO	358595	405297	Roadside	N/A	100.0	-	32.0	39.2	27.1	29.2
WI184NO	358013	405654	Roadside	N/A	92.3	-	36.4	30.0	22.5	25.7
WI185NO	358054	405613	Kerbside	N/A	73.1	-	32.7	31.8	23.8	29.0
WI186NO	358070	405587	Kerbside	N/A	100.0	-	32.7	**40.6**	31.8	33.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI188NO	362111	396526	Roadside	N/A	100.0	-	36.4	38.3	27.9	30.6
WI189NO	362095	396547	Kerbside	N/A	100.0	-	34.3	35.1	22.0	25.3
WI192NO	356771	403124	Roadside	N/A	100.0	-	-	33.1	21.0	22.4
WI193NO	363885	403129	Kerbside	N/A	84.6	-	-	-	26.1	30.0
WI194NO	371037	402472	Kerbside	N/A	92.3	-	-	-	14.6	16.6
WI195NO	366254	403598	Roadside	N/A	90.4	-	-	-	14.1	15.9
WI196NO	365850	403263	Kerbside	N/A	100.0	-	-	-	15.6	16.2
WI197NO	361411	408031	Kerbside	N/A	100.0	-	-	-	15.2	17.2
WI198NO	360370	407235	Kerbside	N/A	48.1	-	-	-	20.1	23.9
WI199NO	360501	397988	Roadside	N/A	100.0	-	-	-	21.3	23.1
WI200NO	363262	399815	Kerbside	N/A	100.0	-	-	-	18.7	19.2
WI201NO	356493	406759	Roadside	N/A	100.0	-	-	-	18.6	20.0
WI202NO	358222	407262	Roadside	N/A	100.0	-	-	-	15.1	15.7
WI203NO	357569	408645	Roadside	N/A	100.0	-	-	-	14.2	15.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI204NO	358161	399510	Roadside	N/A	100.0	-	-	-	16.3	18.6
WI205NO	362151	396604	Kerbside	N/A	100.0	-	-	-	22.4	23.0
WI206NO	362162	396325	Kerbside	N/A	100.0	-	-	-	20.4	22.6
WI207NO	362171	396329	Kerbside	N/A	100.0	-	-	-	24.7	27.3
WI208NO, WI209NO, WI210NO	365687	400238	Roadside	N/A	100.0	-	-	-	21.8	24.0
WI211NO	372302	401593	Roadside	N/A	100.0	-	-	-	13.2	15.9
WI212NO	356827	402135	Roadside	N/A	100.0	-	-	-	23.0	25.0
WI213NO	362019	396512	Roadside	N/A	100.0	-	-	-	-	17.1
WI214NO	361979	396501	Kerbside	N/A	100.0	-	-	-	-	17.1
WI215NO	361981	396490	Kerbside	N/A	100.0	-	-	-	-	19.0
WI216NO	358464	405342	Kerbside	N/A	100.0	-	-	-	-	31.0
WI217NO	357780	405306	Kerbside	N/A	65.4	-	-	-	-	24.3
WI218NO	357839	405296	Kerbside	N/A	50.0	-	-	-	-	33.3
WI219NO	357484	405407	Roadside	N/A	92.3	-	-	-	-	19.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
WI220NO	357420	405407	Roadside	N/A	82.7	-	-	-	-	18.5
WI221NO	360499	397867	Roadside	N/A	69.2	-	-	-	-	20.9
WI222NO	360491	397842	Roadside	N/A	76.9	-	-	-	-	22.1
WI223NO	360430	397779	Roadside	N/A	76.9	-	-	-	-	20.7
WI224NO	360418	397775	Roadside	N/A	69.2	-	-	-	-	29.6
WI225NO	360459	397995	Roadside	N/A	76.9	-	-	-	-	19.9
WI226NO	360462	398006	Roadside	N/A	69.2	-	-	-	-	20.8
WI227NO	360576	398144	Roadside	N/A	76.9	-	-	-	-	25.1
WI228NO	360578	398126	Roadside	N/A	51.9	-	-	-	-	21.6
WI229NO	360374	397928	Roadside	N/A	51.9	-	-	-	-	22.8
WI230NO	360380	397912	Roadside	N/A	76.9	-	-	-	-	27.1
WI231NO	357473	398990	Roadside	N/A	67.3	-	-	-	-	27.9
WI232NO	357635	399502	Roadside	N/A	67.3	-	-	-	-	19.0
WI233NO	357445	406461	Kerbside	N/A	67.3	-	-	-	-	19.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
WI234NO	363136	403467	Roadside	N/A	59.6	-	-	-	-	26.8
WI235NO	365419	399116	Roadside	N/A	51.9	-	-	-	-	21.3
WI236NO	365386	400353	Kerbside	N/A	51.9	-	-	-	-	16.4
WI237NO	367352	403200	Kerbside	N/A	51.9	-	-	-	-	20.4
WI238NO	369056	402146	Roadside	N/A	44.2	-	-	-	-	20.7
WI239NO	357092	404213	Roadside	N/A	15.4	-	-	-	-	-
WI240NO	360220	407146	Kerbside	N/A	34.6	-	-	-	-	20.4
WI241NO	358025	406658	Kerbside	N/A	34.6	-	-	-	-	24.3

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

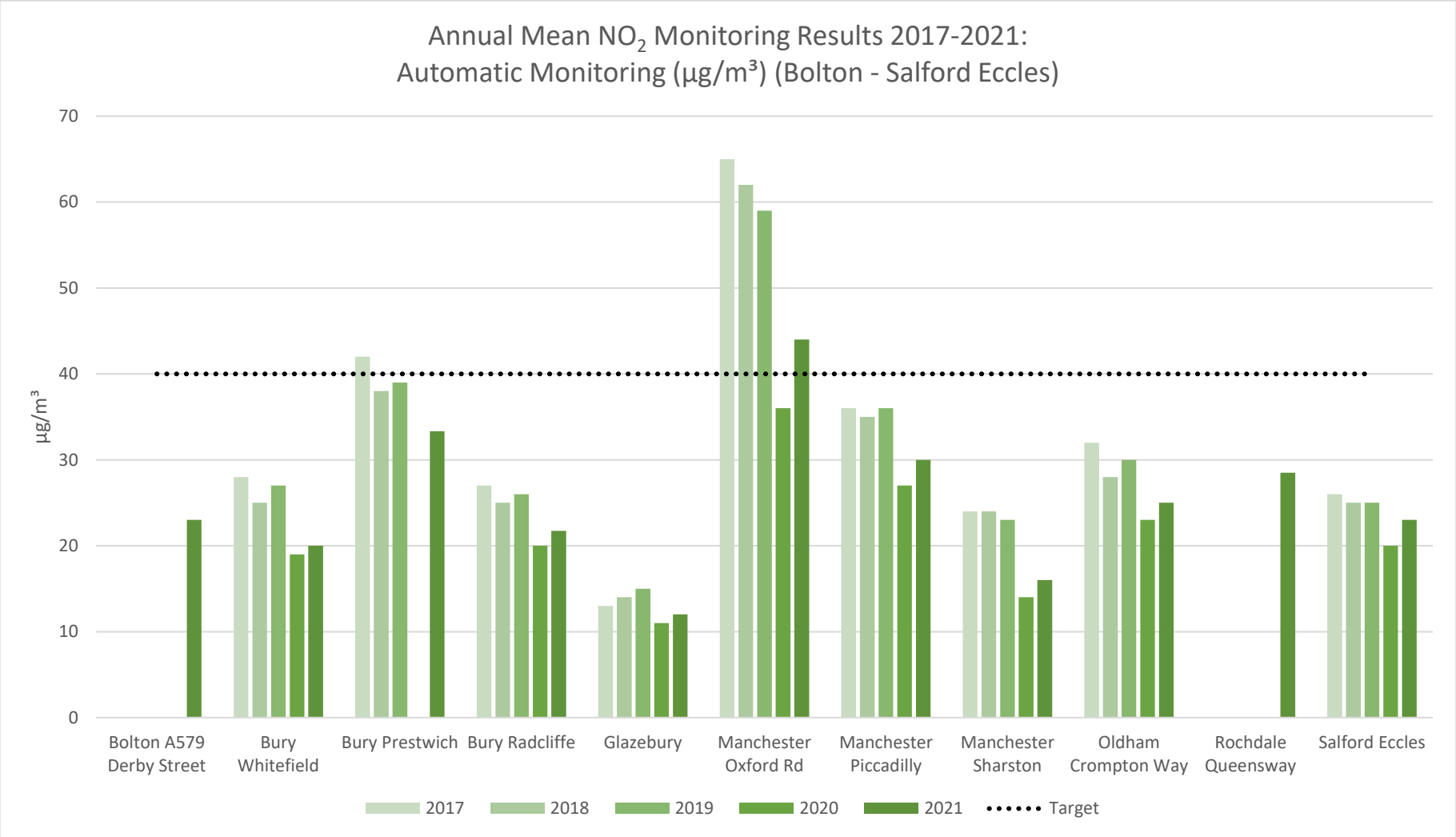
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) 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 is 50%).

Figure A.1 – Trends in Annual Mean NO_2 Concentrations



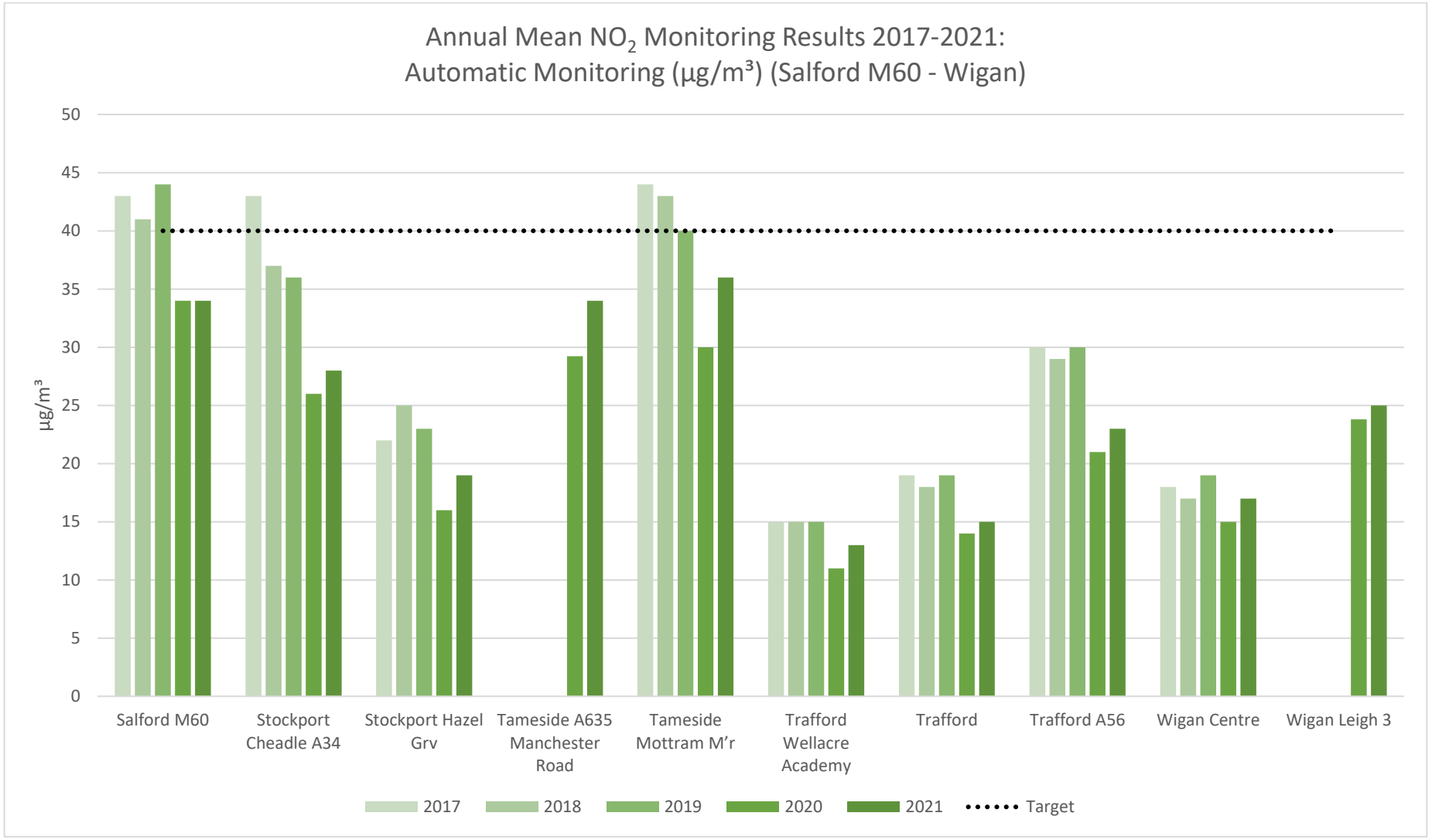

Annual Mean NO2 Monitoring Results 2017-2021:
Automatic Monitoring (µg/m³) (Salford M60 - Wigan)
µg/m³
50
45
40
35
30
25
20
15
10
5
0
Salford M60
Stockport Cheadle A34
Stockport Hazel Grv
Tameside A635 Manchester Road
Tameside Mottram M'r
Trafford Wellacre Academy
Trafford
Trafford A56
Wigan Centre
Wigan Leigh 3
2017
2018
2019
2020
2021
Target

Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
Bolton A579 Derby Street	371280	408577	Roadside	N/A	99.59%	-	-	-	**0(92)**	0
Bury Whitefield	380636	406973	Roadside	N/A	98.69%	0	0	2	0	0
Bury Prestwich	381650	403222	Roadside	N/A	45.15%	0	0	0	**0(91)**	**0(96)**
Bury Radcliffe	378190	407480	Roadside	N/A	46.46%	5	0	0	0	**0(79)**
Glazebury	368759	396027	Rural	N/A	99.01%	0	**0(69)**	0	0	0
Manchester Oxford Rd	384233	397287	Kerbside	N/A	97.56%	6	2	1	0	0
Manchester Piccadilly	384310	398337	Urban Centre	N/A	96.31%	1	0	0	0	0
Manchester Sharston	384179	386086	Suburban	N/A	99.10%	0	0	0	0	0
Oldham Crompton Way	393887	409191	Roadside	N/A	96.52%	0	0	0	0	0
Rochdale Queensway	389325	411411	Roadside	N/A	40.78%	-	-	-	-	0
Salford Eccles	377926	398727	Industrial	N/A	99.62%	0	0	0	0	0
Salford M60	374811	400857	Roadside	N/A	98.52%	0	0	0	0	0

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
Stockport Cheadle A34	385047	388339	Roadside	N/A	95.11%	0	0	0	0	0
Stockport Hazel Grv	391481	387637	Roadside	N/A	99.35%	0	0	0	0	0
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	99.70%	-	-	-	0	0
Tameside Mottram M'r	399719	395804	Roadside	N/A	94.77%	0	0	0	0	0
Trafford Wellacre Academy	373758	394473	Urban Background	N/A	79.45%	0	0	0	0	0
Trafford	378783	394726	Urban Background	N/A	99.19%	0	0	0	0	0
Trafford A56	379413	394014	Urban Traffic	N/A	99.71%	0	0	0	0	0
Wigan Centre	357816	406024	Urban Background	N/A	99.77%	0	0	0	0	0
Wigan Leigh 3	365686	400243	Roadside	N/A	99.59%	-	-	-	**0(87)**	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m^3 have been recorded.

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.2 – Trends in Number of NO_2 1-Hour Means > 200µg/m³

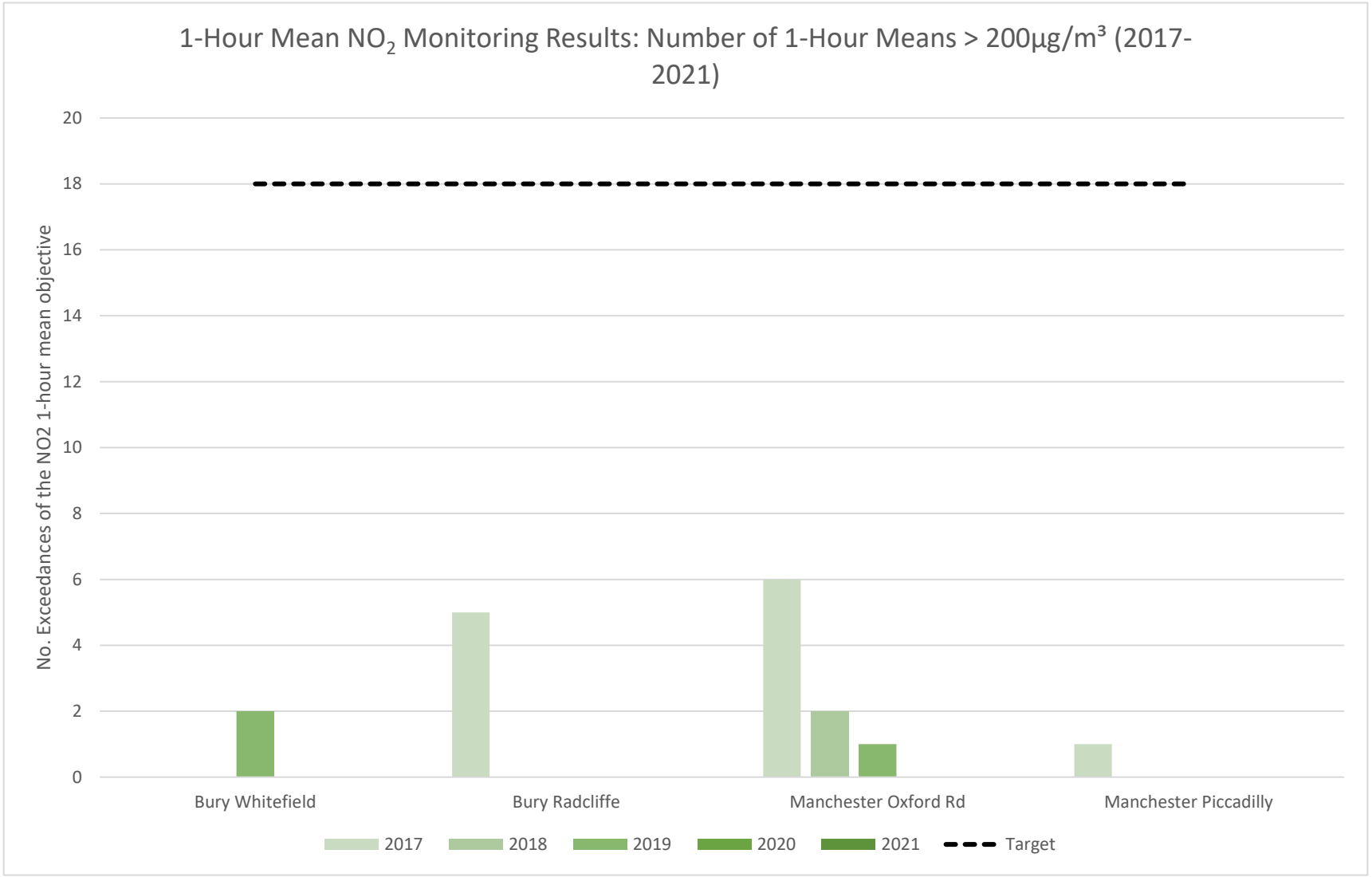


Table A.6 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
Bolton A579 Derby Street	371280	408577	Roadside	N/A	95.70%	-	-	-	-	**17**
Bury Whitefield	380636	406973	Roadside	N/A	96.55%	15	16	18	16	15
Bury Prestwich	381650	403222	Roadside	N/A	52.56%	19	19	19	-	17.5
Bury Radcliffe	378190	407480	Roadside	N/A	26.83%	16	18	17	18	17
Manchester Oxford Rd	384233	397287	Kerbside	N/A	95.48%	27	30	26	18	18
Manchester Piccadilly	384310	398337	Urban Centre	N/A	99.30%	20	21	20	15	15
Manchester Sharston	384179	386086	Suburban	N/A	87.25%	13.4	14.2	**14.2**	11.9	12
Oldham Crompton Way	393887	409191	Roadside	N/A	96.99%	17	19	**19**	15	17
Rochdale Queensway	389325	411411	Roadside	N/A	40.70%	-	-	-	-	15.5
Salford Eccles	377926	398727	Industrial	N/A	99.91%	16	17	15	14	15
Salford M60	374811	400857	Roadside	N/A	97.34%	20	20	21	19	20
Stockport Cheadle A34	385047	388339	Roadside	N/A	99.61%	18	19	17	15	16
Stockport Hazel Grv	391481	387637	Roadside	N/A	99.74%	16	19	15	18	18
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	93.72%	-	-	-	15.8	20
Tameside Mottram M'r	399719	395804	Roadside	N/A	95.65%	17	19	18	17	15

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
Trafford	378783	394726	Urban Background	N/A	94.50%	13	14	15	13	13
Trafford A56	379413	394014	Urban Traffic	N/A	98.29%	15	18	17	14	14
Wigan Centre	357816	406024	Urban Background	N/A	99.91%	15	17	15.7	13	13
Wigan Leigh 3	365686	400243	Roadside	N/A	98.71%	-	-	-	16.3	18

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

Notes:

The annual mean concentrations are presented as µg/m^3.

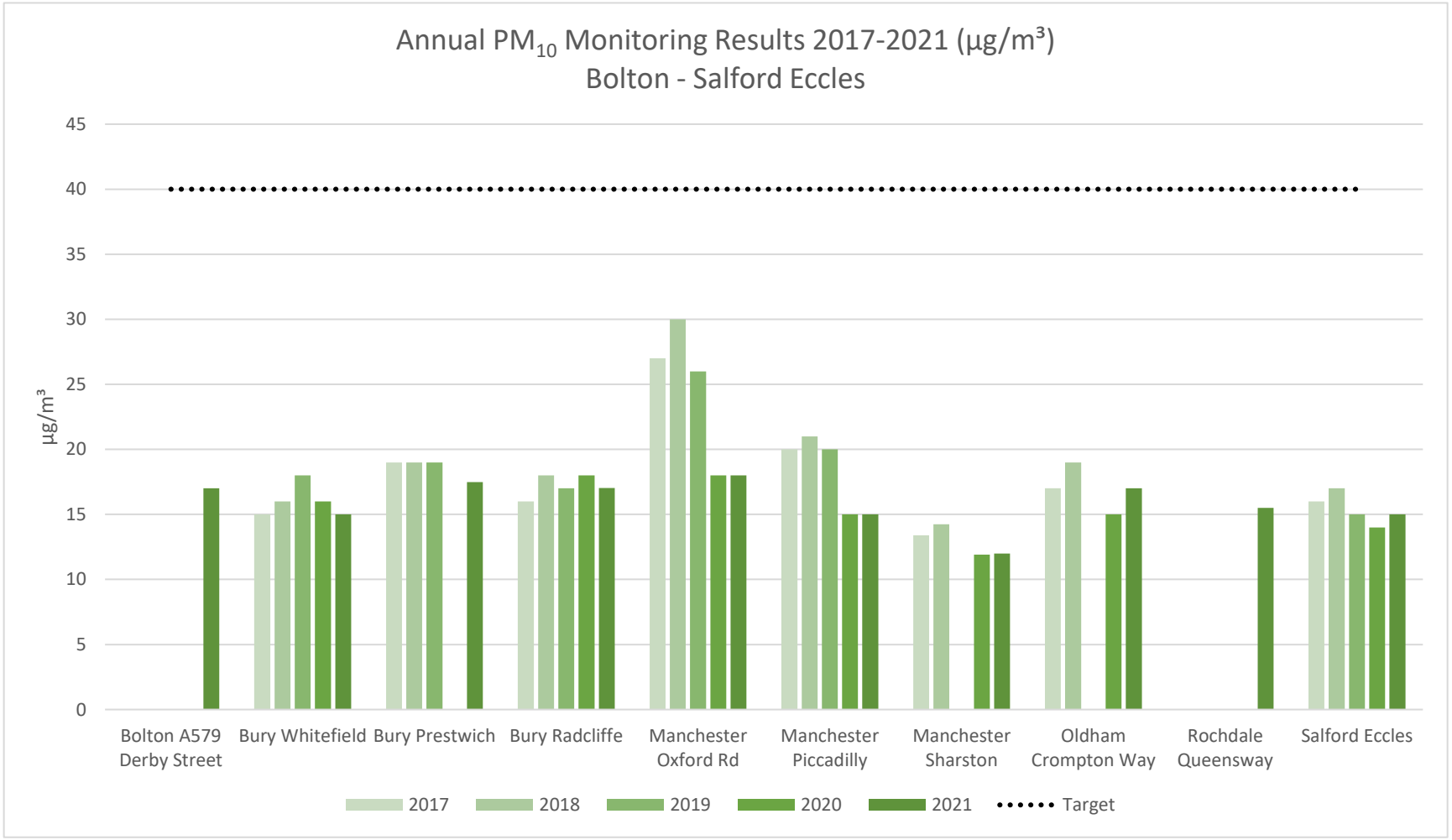
Exceedances of the PM_{10} annual mean objective of 40µg/m^3 are shown in **bold**.

All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) 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 is 50%).

Figure A.3 – Trends in Annual Mean PM_{10} Concentrations



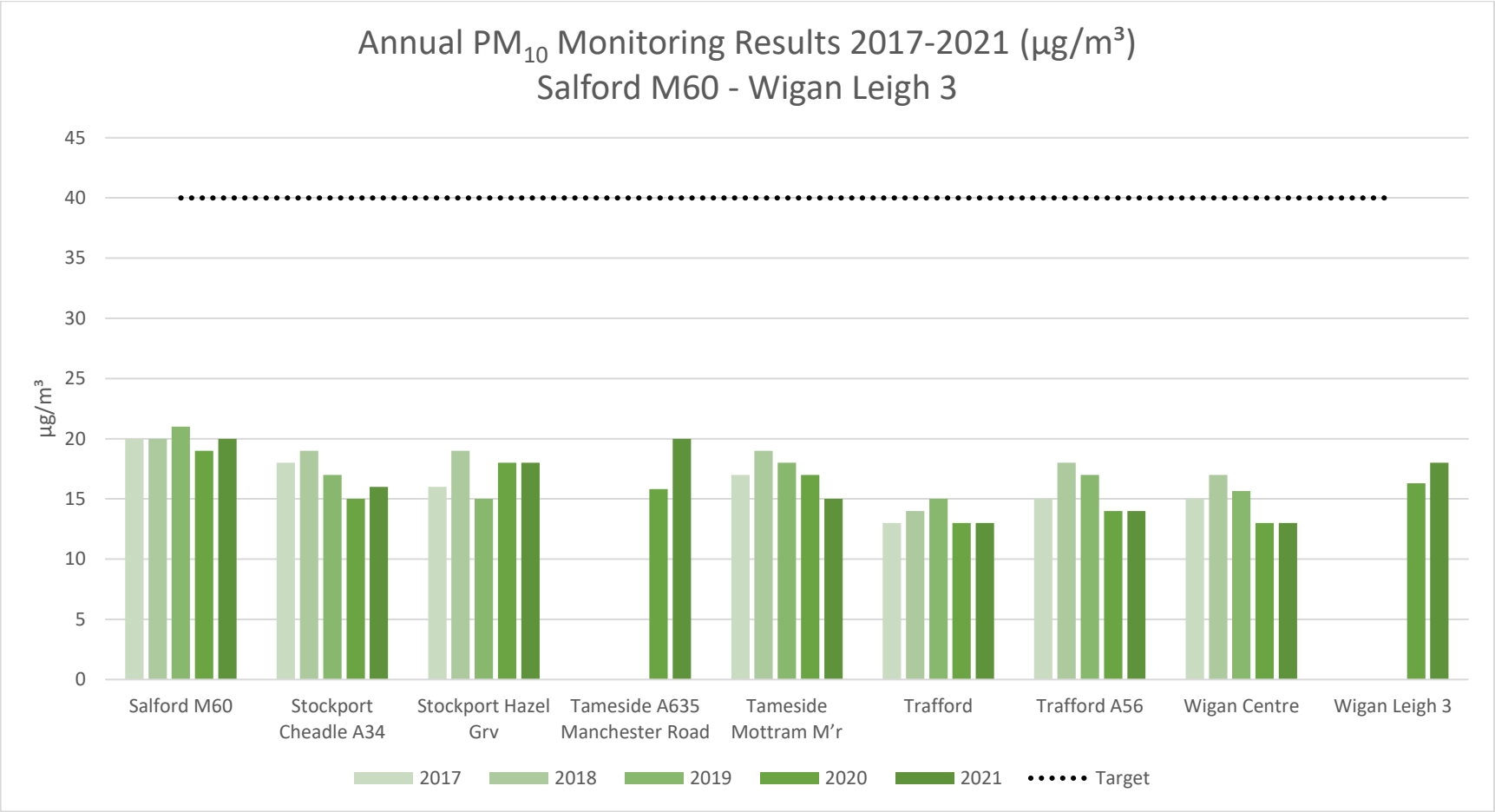

Annual PM10 Monitoring Results 2017-2021 (µg/m³)
Salford M60 - Wigan Leigh 3
µg/m³
45
40
35
30
25
20
15
10
5
0
Salford M60
Stockport Cheadle A34
Stockport Hazel Grv
Tameside A635 Manchester Road
Tameside Mottram M'r
Trafford
Trafford A56
Wigan Centre
Wigan Leigh 3
2017
2018
2019
2020
2021
Target

Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
Bolton A579 Derby Street	371280	408577	Roadside	N/A	95.70%	-	-	-	**1(22)**	2
Bury Whitefield	380636	406973	Roadside	N/A	96.55%	1	2	9	0	0
Bury Prestwich	381650	403222	Roadside	N/A	52.56%	4(29)	1	9	0(25)	1(27)
Bury Radcliffe	378190	407480	Roadside	N/A	26.83%	1	1	10	3	1(23)
Manchester Oxford Rd	384233	397287	Kerbside	N/A	95.48%	15	15	18	5	2
Manchester Piccadilly	384310	398337	Urban Centre	N/A	99.30%	3	2	7	1	2
Manchester Sharston	384179	386086	Suburban	N/A	87.25%	0	0	3	0	0
Oldham Crompton Way	393887	409191	Roadside	N/A	96.99%	2	0	9	0	0
Rochdale Queensway	389325	411411	Roadside	N/A	40.70%	-	-	-	-	0
Salford Eccles	377926	398727	Industrial	N/A	99.91%	5	2	8	0	1
Salford M60	374811	400857	Roadside	N/A	97.34%	8	4	11	0	2
Stockport Cheadle A34	385047	388339	Roadside	N/A	99.61%	0	0	3	0	1
Stockport Hazel Grv	391481	387637	Roadside	N/A	99.74%	1	5(33)	3(26)	0	1

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	93.72%	-	-	-	1(25)	2
Tameside Mottram M'r	399719	395804	Roadside	N/A	95.65%	2	0	7	0	1
Trafford	378783	394726	Urban Background	N/A	94.50%	0	0	3	0	0
Trafford A56	379413	394014	Urban Traffic	N/A	98.29%	0	0	5	1	0
Wigan Centre	357816	406024	Urban Background	N/A	99.91%	3	1	3	1	1
Wigan Leigh 3	365686	400243	Roadside	N/A	98.71%	-	-	-	2(24)	1

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m^3 have been recorded.

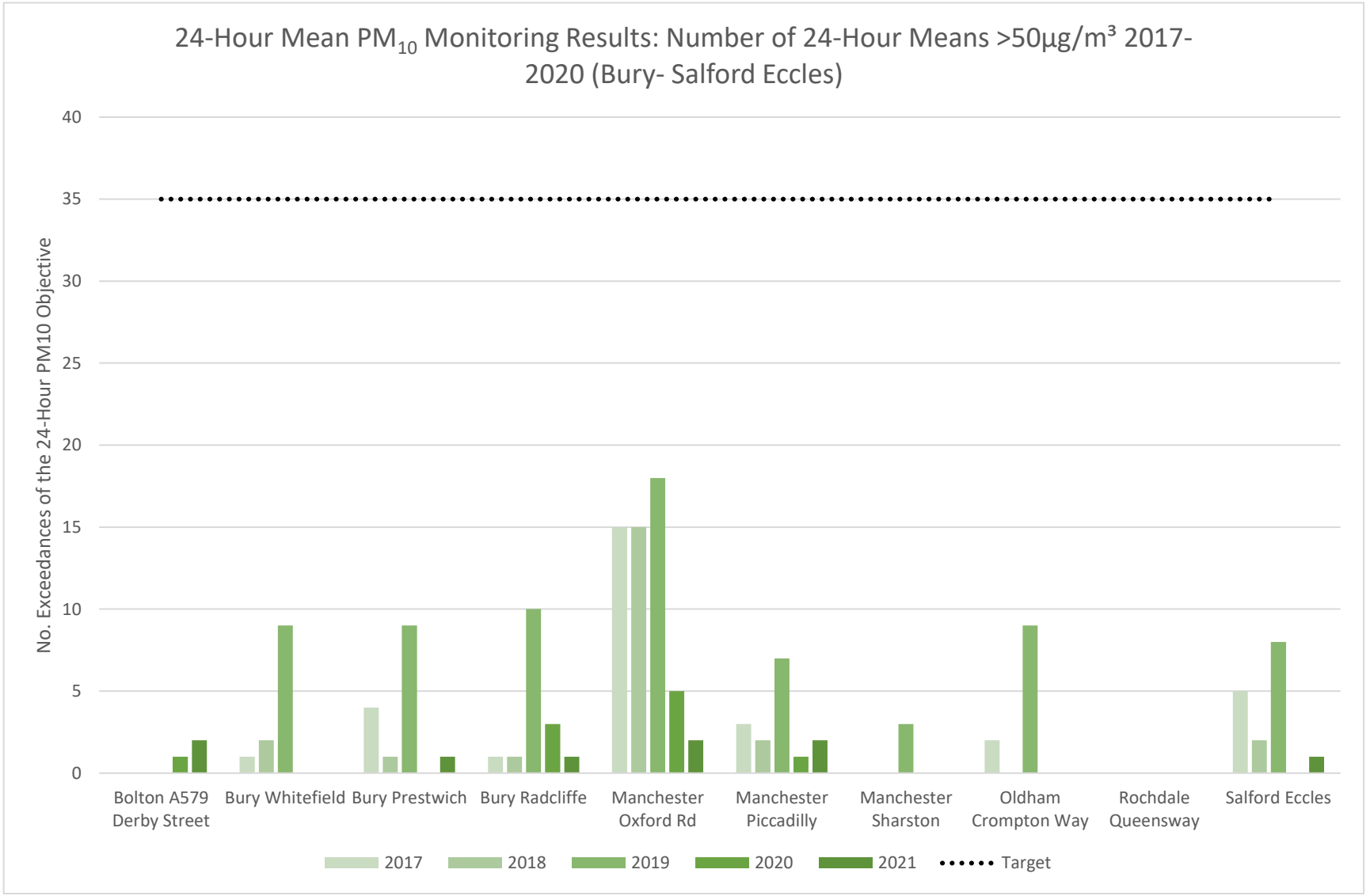
Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) 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 is 50%).

Figure A.4 – Trends in Number of 24-Hour Mean PM_{10} Results > 50µg/m³



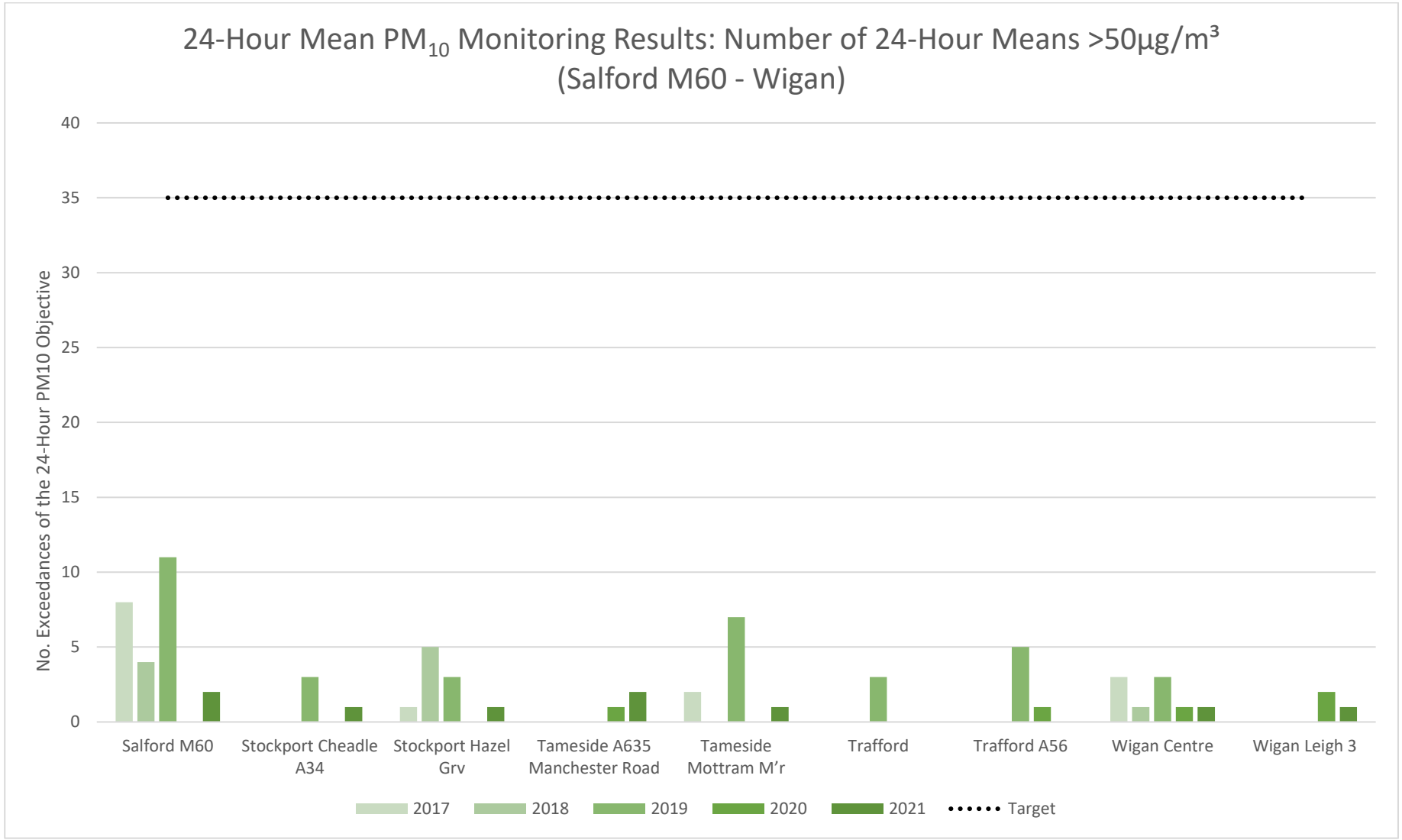

24-Hour Mean PM10 Monitoring Results: Number of 24-Hour Means >50µg/m³
(Salford M60 - Wigan)
No. Exceedances of the 24-Hour PM10 Objective
40
35
30
25
20
15
10
5
0
Salford M60
Stockport Cheadle A34
Stockport Hazel Grv
Tameside A635 Manchester Road
Tameside Mottram M'r
Trafford
Trafford A56
Wigan Centre
Wigan Leigh 3
2017
2018
2019
2020
2021
Target

Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
Bolton A579 Derby Street	371280	408577	Roadside	N/A	95.91%	-	-	-	-	10
Manchester Piccadilly	384310	398337	Urban Centre	N/A	99.30%	8	11	12	8	9
Manchester Sharston	384179	386086	Suburban	N/A	54.85%	7.6	8.1	-	-	6.3
Rochdale Queensway	389325	411411	Roadside	N/A	39.84%	-	-	-	-	9.2
Salford Eccles	377926	398727	Industrial	N/A	99.91%	11	11	9	8	9
Salford M60	374811	400857	Roadside	N/A	92.73%	9	10	10	10	10
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	95.45%	-	-	-	8.4	11
Wigan Centre	357816	406024	Urban Background	N/A	99.91%	10	12	10	8	8
Wigan Leigh 3	365686	400243	Roadside	N/A	95.11%	-	-	-	7.8	9

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

Notes:

The annual mean concentrations are presented as µg/m^3.

All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.5 – Trends in Annual Mean $PM_{2.5}$ Concentrations

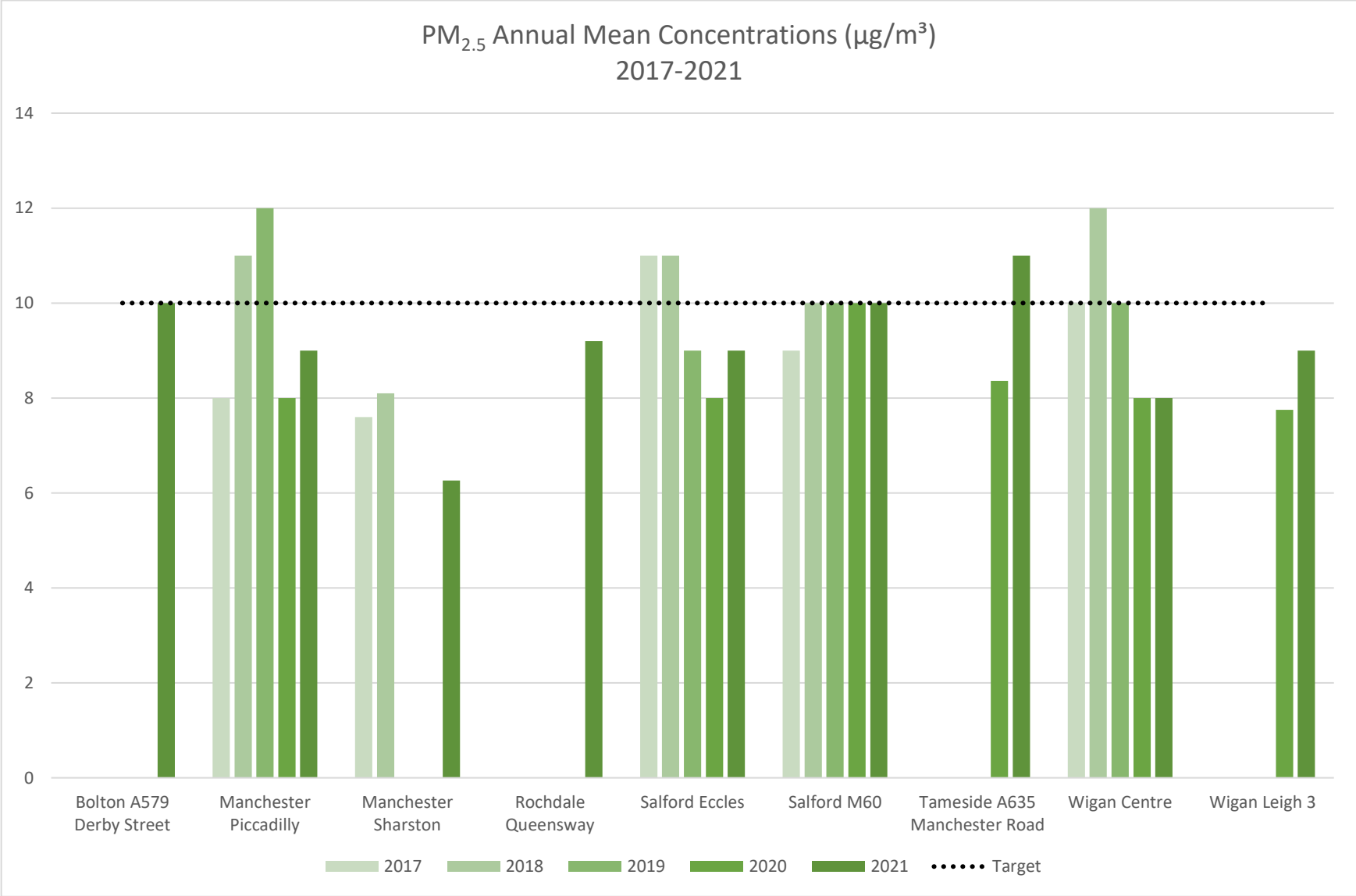


Table A.9 – SO_2 2021 Monitoring Results, Number of Relevant Instances

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	Number of 15-minute Means > 266µg/m³	Number of 1-hour Means > 350µg/m³	Number of 24-hour Means > 125µg/m³
Manchester Piccadilly	384310	398337	Urban Centre	N/A	81.24%	**0(5)**	**0(4)**	**0(3)**
Manchester Sharston	384179	386086	Suburban	N/A	98.70%	0	0	0

Notes:

Results are presented as the number of instances where monitored concentrations are greater than the objective concentration.

Exceedances of the SO_2 objectives are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed a year).

If the period of valid data is less than 85%, the relevant percentiles are provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO_2 2021 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
BO15 NO	371435	411690	41.5	29.5	32.0	24.7	33.1	28.7	25.4	31.0	34.4	38.0	29.4	44.0	32.6	28.1	-	
BO4N O	371394	411718	31.0	28.8	23.1	15.0	20.0	16.5	15.6	20.5	I/S	27.6	28.7	28.5	23.2	20.0	-	
BO16 NO	371304	411748	23.3	21.0	22.1	11.4	16.3	13.0	10.9	15.0	26.3	I/S	24.0	28.6	19.3	16.6	-	
BO3N O	370763	407929	49.6	57.2	I/S	33.2	43.0	I/S	30.9	40.2	45.1	36.5	44.7	51.3	43.2	37.1	31.8	
BO48 NO	375397	407457	36.6	29.6	27.5	20.3	20.6	17.5	21.0	24.8	24.5	27.0	36.5	35.9	26.8	23.1	-	
BO54 NO	372908	412120	20.1	17.9	12.8	8.9	10.0	8.0	I/S	9.6	19.0	< 1.0	17.4	20.3	14.4	12.4	-	
BO53 NO	373236	411968	24.7	20.7	18.0	14.6	15.9	12.2	11.7	13.8	16.2	I/S	17.2	I/S	16.5	14.2	-	
BO44 NO	365599	409845	25.2	21.7	22.2	15.3	18.5	16.1	14.8	17.7	I/S	23.4	29.9	20.7	-	-	-	Duplicate Site with BO44NO and BO45NO - Annual data provided for BO45NO only
BO45 NO	365599	409845	29.3	22.7	24.6	16.2	17.3	15.2	15.5	17.1	18.0	23.5	30.7	28.1	20.9	18.0	-	Duplicate Site with BO44NO and BO45NO - Annual data provided for BO45NO only
BO43 NO	365501	409887	37.9	36.5	34.7	26.0	35.9	30.3	26.0	31.6	35.1	33.9	I/S	7.3	30.5	26.2	-	
BO11 NO	363712	412396	I/S	14.7	11.3	7.4	9.8	8.0	6.4	9.3	9.2	12.0	39.1	I/S	12.7	10.9	-	
BO41 NO	366286	406561	43.5	33.8	38.1	29.2	36.9	29.2	27.6	29.2	36.7	30.4	38.5	36.7	34.2	29.4	-	
BO60 NO	373287	405061	40.1	35.3	28.9	21.7	25.9	20.1	21.0	24.4	29.5	33.0	35.6	41.7	29.8	25.6	-	
BO61 NO	374450	405207	42.1	39.9	32.7	33.7	38.6	35.0	28.2	35.1	39.9	30.3	44.1	42.7	36.9	31.7	-	
BO62 NO	374194	405460	44.2	36.3	35.5	25.9	26.5	27.4	26.5	35.7	34.4	32.3	46.8	45.5	34.8	29.9	-	
BO14 NO	373839	406130	26.1	23.3	19.5	I/S	18.0	13.1	13.5	15.9	20.0	24.2	28.3	31.5	21.2	18.2	-	
BO63 NO	374282	406257	31.4	28.1	21.6	17.6	17.9	13.2	14.6	17.1	21.0	18.5	27.7	30.0	21.6	18.5	-	
BO64 NO	371965	409907	25.0	30.7	25.0	12.7	22.8	18.9	17.8	22.9	24.1	I/S	34.6	35.8	24.6	21.1	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
BO65 NO	372059	409877	33.1	29.8	23.5	15.4	26.1	21.8	20.4	22.7	24.3	I/S	29.9	31.4	25.3	21.8	-	
BO8N O	371352	409094	33.2	28.5	I/S	I/S	I/S	14.2	17.3	17.8	21.8	21.6	28.9	I/S	22.9	19.5	-	
BO66 NO	371442	411599	66.2	36.5	34.4	29.2	37.3	30.4	26.9	33.9	36.9	38.7	40.1	43.0	37.8	32.5	-	
BO67 NO	365163	405640	I/S	24.6	18.9	I/S	14.3	I/S	12.1	13.6	I/S	19.2	I/S	27.8	18.6	17.1	-	
BO68 NO	367672	406910	30.3	46.1	26.6	15.8	26.2	21.6	17.6	26.6	24.0	30.3	32.8	32.8	27.6	23.7	-	
BO69 NO	369030	405809	54.3	42.2	45.1	40.8	46.6	43.8	40.8	46.8	43.9	42.3	56.6	28.2	44.3	38.1	25.3	
BO70 NO	368757	405701	32.5	29.1	18.5	16.5	16.7	15.8	14.5	16.3	21.9	18.1	25.5	29.2	21.2	18.2	-	
BO71 NO	370362	405400	52.8	51.0	48.1	37.5	50.1	45.0	38.7	45.5	48.5	44.0	68.0	49.6	48.2	**41.5**	-	
BO72 NO	370115	405372	37.9	27.0	27.4	20.9	26.5	I/S	I/S	26.2	I/S	40.3	34.9	29.3	30.0	25.8	-	
BO73 NO	371805	409820	46.0	46.6	45.2	34.6	41.9	39.1	33.5	43.2	42.9	48.3	50.7	50.4	43.5	37.4	34.1	
BO74 NO	371805	409832	48.5	37.6	34.9	33.7	40.2	33.1	29.9	37.3	44.3	40.4	43.6	48.5	39.3	33.8	-	
BO75 NO	371623	409235	15.7	30.0	I/S	16.0	I/S	16.0	16.0	18.9	24.0	25.2	28.7	31.3	22.2	19.1	-	
BO76 NO	373491	404836	39.1	34.3	30.3	18.3	27.3	21.1	19.2	24.0	30.0	30.9	36.6	39.5	-	-	-	Triplicate Site with BO76NO, BO77NO and BO78NO - Annual data provided for BO78NO only
BO77 NO	373491	404836	39.4	35.7	27.0	20.3	25.7	20.1	20.1	22.8	27.4	29.6	36.9	38.1	-	-	-	Triplicate Site with BO76NO, BO77NO and BO78NO - Annual data provided for BO78NO only
BO78 NO	373491	404836	40.2	34.9	27.3	18.5	26.9	18.5	19.4	24.7	27.9	29.1	36.1	36.4	28.7	24.7	-	Triplicate Site with BO76NO, BO77NO and BO78NO - Annual data provided for BO78NO only
BO79 NO	371296	408600	37.7	I/S	I/S	16.1	22.7	19.7	18.6	13.1	28.0	29.9	I/S	4.7	-	-	-	Triplicate Site with BO79NO, BO80NO and BO81NO - Annual data provided for BO81NO only
BO80 NO	371296	408600	39.5	I/S	I/S	6.7	15.7	23.8	18.4	22.1	28.9	26.1	I/S	4.8	-	-	-	Triplicate Site with BO79NO, BO80NO and BO81NO - Annual data provided for BO81NO only
BO81 NO	371296	408600	43.0	I/S	I/S	19.1	20.8	22.0	18.9	23.5	29.5	29.7	I/S	4.9	21.8	18.7	-	Triplicate Site with BO79NO, BO80NO and BO81NO - Annual data provided for BO81NO only
BOA1 01	374561	405364	38.6	32.9	28.2	21.8	24.0	18.7	21.8	27.8	29.1	30.5	41.4	37.7	29.4	25.3	-	
BOA1 02	374584	405525	41.6	35.9	31.9	23.6	I/S	22.1	19.8	24.1	27.6	25.6	I/S	37.9	29.0	24.9	-	

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BOA103	374526	405906	41.5	32.0	23.1	20.8	21.7	16.8	17.5	21.0	24.8	25.1	33.4	36.6	26.2	22.5	-	
BOA104	373795	406600	I/S	58.4	50.8	18.4	73.1	35.2	33.6	21.6	43.9	25.2	36.2	I/S	39.6	34.1	-	
BOA105	373604	406882	30.2	35.8	34.9	16.5	29.5	22.9	22.2	29.7	29.0	35.0	37.8	40.0	30.3	26.1	-	
BOA106	372643	408070	I/S	36.0	43.3	31.4	I/S	56.4	26.2	26.5	27.6	I/S	I/S	33.0	-	-	-	Duplicate Site with BOA106 and BOA107 - Annual data provided for BOA107 only
BOA107	372643	408070	36.6	26.8	24.5	17.9	18.8	17.2	16.8	16.2	22.6	23.7	30.9	31.3	28.1	24.1	-	Duplicate Site with BOA106 and BOA107 - Annual data provided for BOA107 only
BOA109	373818	409401	27.0	23.7	24.4	18.5	19.1	17.3	16.4	15.3	20.3	19.5	31.2	27.5	21.7	18.6	-	
BOA110	371501	409694	65.7	45.5	35.8	26.4	33.6	30.2	29.1	35.1	41.1	36.4	43.9	43.6	38.9	33.4	-	
BOA111	371102	409575	42.3	33.7	32.1	24.8	33.1	26.3	28.0	32.3	34.0	37.1	38.6	39.2	33.5	28.8	-	
BOA112	371715	408681	40.2	45.2	36.3	28.7	34.2	32.2	28.4	30.4	38.5	26.6	I/S	40.8	34.7	29.8	-	
BOA113	374510	405522	39.1	33.0	25.5	20.5	24.9	21.1	22.8	30.9	31.2	37.3	37.5	37.3	30.1	25.9	-	
BOA114	372122	409347	41.4	33.1	I/S	24.3	30.2	22.8	18.5	29.7	32.6	32.3	29.9	39.3	30.4	26.1	-	
BOA115	371903	409026	50.4	I/S	33.5	I/S	37.0	30.5	31.1	33.8	36.8	35.8	47.2	39.7	37.6	32.3	-	
BOA116	371803	408976	43.7	39.3	36.8	26.3	31.5	26.9	I/S	32.6	47.5	35.5	39.0	36.9	36.0	31.0	-	
BOA117	371288	408592	38.2	44.2	I/S	17.8	26.5	21.9	20.3	I/S	I/S	I/S	I/S	I/S	28.2	25.5	-	
BOA118	371832	409625	36.0	28.2	25.7	20.2	25.6	18.5	27.8	29.5	32.8	30.5	33.4	33.3	28.5	24.5	-	
BOA119	371328	409251	46.0	33.8	24.6	27.0	29.9	25.3	24.5	28.5	37.9	< 1.0	32.5	36.7	31.5	27.1	-	
BU1NO	384372	404917	29.7	34.6	24.1	< 1.0	26.4	22.7	24.7	23.4	33.4	33.5	35.8	35.7	29.5	25.3	-	
BU2NO	379103	417141	29.9	34.1	29.0	25.5	30.8	29.1	30.2	30.5	35.2	32.6	37.2	38.0	31.8	27.4	-	
BU3ANO	380636	406969	26.5	26.0	19.8	17.7	19.1	13.1	18.0	16.9	23.3	25.5	28.9	31.8	-	-	-	Triplicate Site with BU3ANO, BU3BNO and BU3CNO - Annual data provided for BU3CNO only
BU3BNO	380636	406969	25.7	27.5	20.4	16.9	19.7	16.2	17.5	16.5	23.7	24.8	31.1	28.0	-	-	-	Triplicate Site with BU3ANO, BU3BNO and BU3CNO - Annual data provided for BU3CNO only
BU3CNO	380636	406969	22.8	28.0	19.5	17.3	19.6	16.3	17.9	16.3	23.7	25.5	29.2	27.5	22.2	19.1	-	Triplicate Site with BU3ANO, BU3BNO and BU3CNO - Annual data provided for BU3CNO only

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BU4NO	380964	404831	33.7	37.3	28.7	26.6	31.0	26.6	27.7	29.5	39.6	37.9	35.3	42.5	33.0	28.4	-	
BU5NO	380501	405413	28.5	31.0	20.6	22.2	23.1	18.1	21.0	17.9	24.5	I/S	31.7	28.9	24.3	20.9	-	
BU6NO	379658	410888	35.6	40.7	32.6	32.4	36.6	31.2	34.6	32.0	34.7	38.1	42.3	34.0	35.4	30.4	-	
BU7NO	381984	411866	27.3	31.0	26.7	20.5	26.1	23.0	26.9	20.6	31.6	35.4	38.9	38.2	28.9	24.8	-	
BU8NO	380754	412615	33.9	34.2	22.6	25.6	28.4	22.3	27.1	27.9	31.0	36.4	34.8	33.1	29.8	25.6	-	
BU9NO	379630	411031	35.1	40.9	31.3	22.5	30.1	26.5	25.4	26.0	I/S	34.8	40.7	I/S	31.3	26.9	-	
BU10NO	379854	410978	35.0	34.3	26.9	25.5	32.7	26.8	26.4	27.7	37.7	35.9	38.9	41.7	32.5	27.9	-	
BU11NO	380977	411193	39.9	41.1	33.0	34.8	38.7	35.0	35.2	38.3	44.2	34.6	43.9	48.3	38.9	33.5	-	
BU12NO	381378	410741	34.6	46.0	53.3	45.6	57.0	I/S	42.0	39.0	50.5	46.4	55.1	53.0	47.5	**40.9**	34.4	
BU13NO	381802	410639	43.2	47.7	47.4	43.5	54.5	45.9	42.5	40.8	48.7	46.4	48.4	I/S	46.3	39.8	27.6	
BU14NO	380398	410455	34.9	32.7	27.2	25.0	32.7	28.2	I/S	31.2	34.9	33.3	I/S		31.1	26.8	-	
BU15NO	380852	405204	40.9	50.5	37.3	34.2	41.5	34.2	38.8		48.9	48.8	58.4	45.5	43.5	37.4	30.9	
BU16NO	380916	404891	41.7	49.3	36.3	34.0	41.4	35.2	36.3	37.8	45.9	44.5	50.9	50.0	41.9	36.1	33.2	
BU17NO	381105	404279	36.7	38.8	31.6	29.3	33.0	26.0	32.0	25.2	35.8	34.6	45.0	26.1	32.8	28.2	-	
BU18NO	382071	411362	39.7	42.3	29.5	27.1	32.5	30.0	34.0	34.2	34.3	37.0	40.2	42.6	35.3	30.3	-	
BU19NO	381321	405115	I/S	43.0	33.6	31.2	41.8	32.0	30.6	37.8	43.0	41.2	I/S	50.4	38.5	33.1	-	
BU20NO	382974	405930	29.3	36.2	33.9	23.8	28.9	28.4	31.5	27.6	38.1	34.0	44.1	40.2	33.0	28.4	-	
MA8ANO	381398	387501	32.4	26.9	22.4	17.2	21.0	16.8	19.3	18.4	26.6	25.0	31.9	29.7	24.0	20.6	-	
MA9ANO	384601	398303	46.0	40.5	43.2	29.0	40.7	32.3	39.2	39.8	45.0	46.3	52.6	43.3	41.5	35.7	-	
MA24NO	383968	398070	44.1	33.4	33.0	26.4	37.1	30.4	36.8	33.2	42.4	38.7	45.6	42.7	37.0	31.8	-	
MA26ANO	383973	398874	I/S	30.5	28.5	19.3	28.3	21.4	24.0	22.8	32.3	36.2	44.3	43.2	30.1	25.9	-	

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MA28 NO	387951	397430	47.5	35.4	35.2	25.9	30.4	29.5	34.3	30.9	37.8	32.5	I/S	36.1	34.1	29.4	-	
MA29 ANO	384119	397503	52.0	48.2	44.9	50.3	55.1	44.2	57.8	51.2	61.2	54.1	59.6	46.9	52.1	**44.8**	**42.6**	
MA36 NO	385203	399750	37.4	32.5	28.7	23.5	24.3	24.3	27.9	26.8	36.2	28.6	46.4	35.7	31.0	26.7	-	
MA37 NO	382829	391493	40.7	34.1	30.7	25.3	34.6	28.6	32.7	30.7	36.6	I/S	46.0	37.7	34.3	29.5	-	
MA59 NO	384310	398337	37.3	30.2	29.0	20.6	27.1	20.0	24.5	24.1	32.3	27.8	38.8	34.6	-	-	-	Triplicate Site with MA59NO, MA60NO and MA61NO - Annual data provided for MA61NO only
MA60 NO	384310	398337	37.6	31.9	30.3	19.7	26.7	20.5	24.1	24.0	32.2	30.0	39.2	31.8	-	-	-	Triplicate Site with MA59NO, MA60NO and MA61NO - Annual data provided for MA61NO only
MA61 NO	384310	398337	24.2	31.2	27.1	19.9	26.8	23.0	23.5	23.0	31.3	30.1	39.7	33.7	28.6	24.6	-	Triplicate Site with MA59NO, MA60NO and MA61NO - Annual data provided for MA61NO only
MA71 NO	385161	398290	44.4	40.6	36.5	25.8	38.0	29.2	38.5	35.5	45.0	45.9	52.3	46.0	39.8	34.2	-	
MA72 NO	384761	397384	40.0	31.9	38.2	21.1	29.2	23.6	28.5	26.4	35.9	28.7	42.8	37.0	31.9	27.5	-	
MA73 NO	388604	396042	41.6	35.8	35.3	32.5	37.2	29.6	34.3	32.9	43.4	29.2	47.4	42.1	36.8	31.6	-	
MA74 NO	385400	390095	39.8	29.5	31.2	20.3	27.9	25.0	29.5	22.8	29.3	29.5	38.7	33.8	29.8	25.6	-	
MA75 NO	387363	394617	55.4	47.7	38.9	39.3	47.4	39.0	43.2	40.5	48.9	42.8	53.1	47.8	45.3	39.0	32.3	
MA77 NO	383576	397489	40.6	34.1	33.1	29.5	34.1	27.6	34.7	31.8	43.2	37.9	44.9	37.7	35.8	30.8	-	
MA78 NO	386289	396828	38.3	42.5	31.2	19.7	30.0	21.4	28.6	26.2	34.3	30.2	43.9	36.8	31.9	27.5	-	
MA79 NO	386875	395861	35.1	29.7	29.8	22.2	28.8	26.2	I/S	21.9	27.4	31.6	40.7	34.2	29.8	25.6	-	
MA80 NO	387358	393990	39.1	28.7	27.8	22.1	28.8	25.0	29.0	25.3	33.9	29.7	35.9	33.6	29.9	25.7	-	
MA81 NO	386589	394083	27.4	21.4	20.2	17.1	19.6	15.3	18.9	14.4	23.0	22.6	27.5	25.6	21.1	18.1	-	
MA82 NO	384239	397276	50.1	42.7	44.2	37.1	48.1	40.5	52.9	45.0	56.1	54.0	64.9	52.2	-	-	-	Triplicate Site with MA82NO, MA83NO and MA84NO - Annual data provided for MA84NO only
MA83 NO	384239	397276	47.2	38.2	42.9	31.8	47.5	39.9	53.3	45.0	55.3	46.9	61.4	47.7	-	-	-	Triplicate Site with MA82NO, MA83NO and MA84NO - Annual data provided for MA84NO only
MA84 NO	384239	397276	50.1	38.2	44.5	34.6	43.4	41.7	51.7	42.5	57.2	51.3	62.4	42.4	47.4	**40.7**	37.9	Triplicate Site with MA82NO, MA83NO and MA84NO - Annual data provided for MA84NO only

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MA88 NO	384469	398981	48.0	42.2	39.2	35.6	41.7	I/S	43.4	39.3	50.0	39.1	49.7	42.7	42.8	36.8	29.8	
MA86 ANO	387150	396808	43.7	36.7	28.1	26.7	30.6	24.7	29.7	26.8	36.6	27.9	40.4	32.4	32.0	27.5	-	
MA87 ANO	386992	396569	35.9	30.8	29.6	22.4	30.7	22.4	26.6	25.5	33.6	32.5	43.0	35.9	30.7	26.4	-	
MA88 ANO	386536	396699	41.5	29.8	39.4	29.4	40.6	32.4	39.5	38.2	48.3	50.0	52.8	50.5	41.0	35.3	-	
MA89 ANO	386710	396824	35.0	31.9	29.8	17.1	26.3	19.7	22.3	23.2	29.3	33.1	45.5	37.9	29.3	25.2	-	
MA90 BNO	384202	386121	24.6	15.9	15.4	13.0	13.5	11.2	13.1	11.7	17.1	17.7	25.4	20.3	-	-	-	Triplicate Site with MA90BNO, MA91BNO and MA92BNO - Annual data provided for MA92BNO only
MA91 BNO	384202	386121	21.5	18.2	17.2	12.0	14.1	11.1	13.6	11.9	16.6	15.8	24.9	21.4	-	-	-	Triplicate Site with MA90BNO, MA91BNO and MA92BNO - Annual data provided for MA92BNO only
MA92 BNO	384202	386121	17.6	16.4	15.9	12.6	13.7	12.8	13.4	11.9	16.6	16.0	24.3	22.3	16.4	14.1	-	Triplicate Site with MA90BNO, MA91BNO and MA92BNO - Annual data provided for MA92BNO only
MA93 BNO	382419	390010	42.0	37.3	40.9	32.4	42.0	32.0	39.1	I/S	41.6	37.3	48.1	40.2	39.4	33.8	-	
MA94 BNO	382072	388388	34.7	27.4	33.8	24.6	29.3	25.6	31.1	26.1	30.3	31.1	37.8	31.5	30.3	26.0	-	
MA95 BNO	386668	397566	50.3	40.6	40.0	25.5	37.7	30.0	37.0	34.8	46.4	42.2	53.0	38.4	39.7	34.1	-	
MA96 BNO	385189	397167	61.5	48.2	42.1	31.2	49.5	38.0	54.2	37.8	56.3	48.0	53.8	51.2	47.7	**41.0**	39.0	
MA97 BNO	382886	397215	44.2	31.0	31.0	23.2	33.2	29.7	33.3	28.2	39.0	28.1	42.1	I/S	33.0	28.4	-	
MA98 BNO	388460	403313	45.7	37.0	34.7	22.6	31.2	26.1	26.3	27.4	35.1	I/S	46.0	38.1	33.7	28.9	-	
MA99 BNO	385400	399245	47.1	39.4	36.6	25.8	34.1	26.9	36.6	33.5	40.4	40.9	53.3	44.5	38.3	32.9	-	
MA10 0BNO	383605	402293	40.7	46.4	41.0	37.8	41.1	32.9	32.5	34.3	44.8	39.9	45.5	32.0	39.1	33.6	-	
MA10 1BNO	385999	402026	48.2	43.7	36.4	29.4	43.9	34.3	38.2	37.0	51.7	43.1	47.5	46.9	41.7	35.9	-	
MA10 2BNO	385792	402952	43.3	34.9	33.8	25.1	36.7	31.9	36.1	30.1	43.1	37.2	44.4	36.5	36.1	31.0	-	
MA10 3BNO	385431	400653	53.4	45.7	44.7	36.8	46.9	38.1	44.4	41.1	54.8	43.9	54.4	49.0	46.1	39.6	36.5	
MA10 4BNO	383511	399906	49.1	47.3	42.1	31.6	41.6	31.2	37.1	38.8	49.3	44.6	50.4	44.6	42.3	36.4	35.5	
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MA11 2BNO	383987	396735	N/A	N/A	26.0	20.7	22.3	17.9	21.3	19.6	26.6	24.4	38.4	31.4	24.9	21.4	-	
MA11 3BNO	385087	396891	N/A	N/A	33.8	24.2	31.9	24.6	28.3	28.1	37.1	31.9	47.4	39.8	32.7	28.1	-	
OLM RNO	390746	405397	I/S	34.1	33.4	21.0	31.9	25.7	30.5	24.5	35.6	39.6	48.4	40.5	33.2	28.6	-	
OLSH SNO	390394	405454	42.6	41.5	33.8	26.3	32.5	28.2	30.5	29.3	38.1	33.4	38.1	41.8	34.7	29.8	-	
OL25 9BNO	390089	404456	42.4	40.0	36.8	28.8	37.9	35.0	38.7	35.4	41.8	45.2	50.2	48.9	40.1	34.5	-	
OL1R ANO	388698	404903	23.1	33.4	29.5	16.2	27.5	22.2	25.7	22.9	32.5	30.4	42.7	30.7	28.1	24.1	-	
OL43 4BNO	389367	403280	42.8	37.2	32.6	22.4	30.1	26.2	28.1	31.5	34.2	33.2	37.7	38.8	32.9	28.3	-	
OLOB NO	389715	403625	36.4	32.4	I/S	17.7	28.6	26.9	31.9	30.0	I/S	I/S	46.1	40.5	32.3	27.8	-	
OLPS NO	388747	400973	43.6	28.7	34.3	46.0	31.0	32.0	31.7	32.5	38.3	37.5	48.6	49.8	37.8	32.5	-	
OLW ARN O	389237	401310	37.9	45.0	37.3	24.3	35.7	28.9	31.0	35.2	42.8	44.2	43.7	45.8	37.7	32.4	-	
OLHR NO	390756	402571	I/S	39.9	41.4	28.3	37.8	30.8	35.0	31.9	I/S	43.9	50.4	40.0	37.9	32.6	-	
OLIR SNO	390675	402736	I/S	29.8	34.3	18.9	24.1	21.2	29.2	25.7	33.6	35.8	36.4	39.3	29.8	25.7	-	
OL36 8MR NO	390976	403252	I/S	48.2	42.4	36.0	44.0	35.3	42.6	41.3	46.1	46.6	54.2	51.4	44.4	38.2	36.2	
OLES NO	391367	404318	I/S	34.7	29.6	23.3	34.1	25.5	29.0	28.0	39.8	34.7	35.2	42.5	32.4	27.9	-	
OLAR NO	392771	402951	I/S	28.6	27.8	20.5	29.9	23.7	27.7	23.0	30.7	33.6	43.5	37.7	29.7	25.5	-	
OLW OOD NO	393056	404638	I/S	32.7	33.3	28.2	33.2	32.3	36.8	33.8	39.3	39.3	43.8	44.6	36.1	31.1	-	
OLW SMS NO	392947	404854	I/S	41.7	49.0	I/S	I/S	I/S	I/S	37.0	45.3	46.7	52.0	53.3	46.4	38.2	27.7	
OL17 SRN O	393643	405343	I/S	49.4	44.4	34.8	51.2	35.3	43.4	41.8	53.8	52.5	52.1	51.1	46.3	39.9	32.9	
OLHS 2NO	393501	405186	I/S	34.4	32.5	21.6	26.6	22.4	26.0	25.3	32.0	30.7	38.0	38.5	29.8	25.6	-	
OLRR NO	394210	405752	44.8	33.9	43.9	26.1	36.4	32.2	37.9	34.5	35.6	38.3	43.1	45.2	37.7	32.4	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
OLHURNO	395561	405751	I/S	35.8	36.5	28.3	35.1	31.4	36.1	37.9	39.4	35.1	44.7	35.5	36.0	30.9	-	
OLCVNO	399533	404454	I/S	18.0	18.5	14.3	15.2	15.2	16.6	13.9	19.4	16.7	24.2	23.6	17.8	15.3	-	
OLHSNO	399589	405511	I/S	28.3	29.2	23.6	29.5	24.0	25.6	26.6	32.0	33.9	36.0	34.1	29.3	25.2	-	
OLCW1NO	393884	409183	I/S	30.7	32.6	21.0	27.9	28.8	29.9	28.2	32.7	33.7	< 1.0	34.9	-	-	-	Triplicate Site with OLCW1NO, OLCW2NO and OLCW3NO - Annual data provided for OLCW3NO only
OLCW2NO	393884	409183	I/S	29.3	35.4	22.4	< 1.0	28.8	30.2	27.5	32.5	32.6	43.0	68.1	-	-	-	Triplicate Site with OLCW1NO, OLCW2NO and OLCW3NO - Annual data provided for OLCW3NO only
OLCW3NO	393884	409183	I/S	30.0	32.9	22.6	29.6	52.6	27.4	29.5	32.6	26.2	< 1.0	59.3	33.6	28.9	-	Triplicate Site with OLCW1NO, OLCW2NO and OLCW3NO - Annual data provided for OLCW3NO only
OL21SRNO	392217	407255	54.6	49.0	55.3	42.1	54.7	52.1	50.8	47.2	58.9	59.9	64.0	57.4	53.8	**46.3**	**44.8**	
OLJSNO	393097	406897	I/S	29.7	26.7	16.5	46.9	19.5	22.3	22.0	28.6	30.0	31.1	35.7	28.1	24.2	-	
OLRDNO	392111	406432	36.8	33.8	33.8	16.9	23.6	25.9	29.3	I/S	I/S	38.3	43.4	36.9	31.9	27.4	-	
OL12ORNO	392045	407608	49.6	46.8	53.9	34.5	31.3	48.9	52.3	50.9	62.0	58.2	64.3	I/S	50.2	**43.2**	-	
OLFANO	391100	406218	27.1	23.4	20.0	13.1	17.3	14.6	17.8	14.6	I/S	25.4	31.5	30.2	21.4	18.4	-	
RO2ANO	388537	409942	I/S	34.7	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	-	-	-	
RO3ANO	388581	409797	I/S	< 1.0	< 1.0	I/S	17.7	15.5	17.1	16.0	21.0	15.9	24.8	18.0	18.3	16.4	-	
RO4ANO	387080	406278	33.5	31.4	24.4	18.5	25.2	20.7	19.4	22.4	29.9	33.0	30.7	28.8	26.5	22.8	-	
RO5ANO	386870	404044	27.4	22.2	21.4	15.9	18.4	12.7	13.6	12.6	19.6	18.7	22.3	24.6	19.1	16.4	-	
RO6ANO	385413	408320	44.0	39.8	36.1	I/S	34.8	36.2	34.9	37.0	42.6	34.0	37.3	36.1	37.5	32.3	-	
RO7ANO	388603	411925	I/S	38.4	29.7	18.4	27.6	23.8	23.2	< 1.0	57.3	32.7	33.3	37.9	32.2	27.7	-	
RO8ANO	388932	412091	I/S	42.1	38.1	33.5	39.0	50.9	42.7	42.2	53.9	41.3	47.6	37.1	42.6	36.6	-	
RO9ANO	389057	412217	42.5	40.8	37.1	I/S	39.6	35.9	33.6	37.6	45.0	41.8	47.5	44.8	40.6	34.9	-	
RO10ANO	388800	413603	24.5	20.1	16.3	I/S	13.9	11.4	12.8	9.9	18.5	17.9	23.0	21.9	17.3	14.9	-	

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RO12 ANO	392072	415687	I/S	39.8	38.1	25.6	30.3	34.4	30.4	29.3	42.2	35.3	42.4	39.9	35.2	30.3	-	
RO13 ANO	392042	415707	26.4	19.7	16.4	11.9	12.4	27.3	9.8	9.8	16.6	16.9	20.9	22.4	17.5	15.1	-	
RO14 ANO	393665	417816	I/S	16.0	12.9	7.3	8.2	7.4	6.6	8.3	12.6	15.2	17.6	17.9	11.8	10.2	-	
RO15 ANO	392976	411906	32.5	29.4	27.1	I/S	24.2	41.2	19.7	19.3	25.4	24.4	25.4	26.1	26.8	23.0	-	
RO16 ANO	392542	411709	I/S	29.5	24.6	19.7	23.5	18.1	16.1	15.1	23.7	16.4	21.7	25.3	21.2	18.3	-	
RO17 ANO	391214	412609	I/S	21.3	22.6	I/S	15.3	14.5	16.4	14.8	21.3	23.2	26.8	28.8	20.5	17.6	-	
RO18 ANO	389877	413590	30.3	24.3	20.9	I/S	18.0	15.5	15.8	16.1	23.7	I/S	23.9	29.0	21.8	18.7	-	
RO19 ANO	389971	413646	I/S	40.1	35.8	21.4	38.9	35.6	39.1	36.4	47.6	I/S	I/S	I/S	36.9	35.4	-	
RO20 ANO	385748	408931	49.8	32.5	I/S	I/S	I/S	I/S	I/S	I/S	33.3	29.4	27.9	29.1	33.7	24.9	-	
RO21 ANO	385820	410776	I/S	38.2	35.7	19.7	28.6	25.9	26.6	27.7	40.1	37.9	41.1	39.6	32.8	28.2	-	
RO22 ANO	390464	411976	I/S	33.5	38.3	32.0	39.8	36.5	33.1	35.1	44.5	39.5	45.2	40.5	38.0	32.7	-	
RO23 ANO	390377	412030	I/S	38.6	35.7	31.9	39.8	32.5	31.3	31.4	40.1	33.2	44.6	42.2	36.5	31.4	-	
RO24 ANO	388089	410822	I/S	30.3	29.5	18.5	24.9	20.8	22.3	22.6	32.5	29.7	32.2	32.3	26.9	23.1	-	
RO25 ANO	387792	406013	50.8	38.3	37.7	26.7	29.7	28.6	29.7	30.6	42.8	33.3	42.8	40.6	36.0	30.9	-	
RO26 ANO	389782	414241	I/S	35.2	35.4	34.5	38.8	32.5	36.8	33.4	45.8	39.8	49.3	33.7	37.7	32.5	-	
RO27 ANO	390710	414563	I/S	2.4	12.0	29.6	40.5	34.0	34.5	36.0	50.1	45.6	44.9	39.1	33.5	28.8	-	
RO28 ANO	392871	415127	I/S	28.9	29.1	14.1	26.9	17.7	25.8	20.2	32.3	27.9	35.1	33.8	26.5	22.8	-	
RO29 ANO	389325	411411	38.3	30.0	36.7	I/S	32.5	58.7	< 1.0	< 1.0	41.4	37.7	39.7	41.2	-	-	-	Triplicate Site with RO29ANO, RO30ANO and RO31ANO - Annual data provided for RO31ANO only
RO30 ANO	389325	411411	45.1	35.5	34.8	25.6	34.8	32.2	31.6	30.6	41.0	37.5	41.7	40.7	-	-	-	Triplicate Site with RO29ANO, RO30ANO and RO31ANO - Annual data provided for RO31ANO only
RO31 ANO	389325	411411	I/S	33.5	38.3	27.8	I/S	30.8	31.1	I/S	I/S	I/S	I/S	I/S	36.2	31.1	-	Triplicate Site with RO29ANO, RO30ANO and RO31ANO - Annual data provided for RO31ANO only
RO32 ANO	385145	407701	I/S	46.4	33.1	23.5	26.2	24.5	25.8	25.8	33.3	28.9	36.0	36.2	30.9	26.6	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SA1NO	372767	394104	28.9	17.6	17.8	15.4	15.2	13.6	14.8	13.9	18.4	17.5	20.5	22.9	18.0	15.5	-	
SA2NO	372140	394210	28.3	22.0	18.0	15.2	14.2	13.4	14.6	13.9	18.8	15.3	I/S	24.7	18.0	15.5	-	
SA4NO	377453	401830	32.7	25.4	23.1	20.2	19.9	17.9	18.9	18.8	26.4	19.7	28.5	30.1	23.5	20.2	-	
SA9NO	374741	400937	31.7	25.3	18.7	16.7	20.8	15.9	13.2	18.0	25.5	23.3	21.7	27.3	21.5	18.5	-	
SA13NO	379613	399784	25.7	23.0	20.1	16.0	15.6	12.2	I/S	13.2	20.5	19.0	22.1	26.0	19.4	16.7	-	
SA16NO	371187	404453	28.7	24.4	24.3	13.3	18.0	15.1	14.4	15.3	21.0	21.1	22.7	26.9	20.4	17.6	-	
SA20NO	374811	400857	45.8	45.0	35.2	28.9	43.5	32.5	24.5	35.8	42.4	45.7	32.5	41.8	-	-	-	Triplicate Site with SA20NO, SA21NO and SA22NO - Annual data provided for SA22NO only
SA21NO	374811	400857	34.5	48.3	36.9	27.2	41.0	34.9	25.3	34.0	42.9	48.2	33.4	43.9	-	-	-	Triplicate Site with SA20NO, SA21NO and SA22NO - Annual data provided for SA22NO only
SA22NO	374811	400857	47.4	46.1	34.0	31.2	41.0	36.9	26.7	33.0	44.2	48.9	35.5	51.4	38.3	33.0	-	Triplicate Site with SA20NO, SA21NO and SA22NO - Annual data provided for SA22NO only
SA23NO	377926	398727	32.3	27.5	25.7	19.6	20.7	18.3	19.1	19.4	24.8	20.5	29.5	30.2	-	-	-	Triplicate Site with SA23NO, SA24NO and SA29NO - Annual data provided for SA29NO only
SA24NO	377926	398727	32.6	27.3	25.6	20.9	20.8	17.7	19.3	18.9	24.7	21.0	32.4	29.4	-	-	-	Triplicate Site with SA23NO, SA24NO and SA29NO - Annual data provided for SA29NO only
SA29NO	377926	398727	31.6	22.9	25.5	20.1	20.7	I/S	19.3	19.0	25.6	20.4	29.5	27.8	23.9	20.5	-	Triplicate Site with SA23NO, SA24NO and SA29NO - Annual data provided for SA29NO only
SA25NO	381304	398014	56.2	29.9	25.6	21.8	23.2	21.3	22.2	22.9	31.8	24.2	33.7	31.8	28.7	24.7	-	
SA26NO	380718	399597	43.1	28.0	29.9	25.3	28.4	25.6	26.6	23.0	34.4	23.2	38.9	33.9	30.0	25.8	-	
SA27NO	383078	398741	41.1	35.8	29.1	25.4	30.0	32.7	25.2	30.2	38.2	36.7	36.6	41.5	33.5	28.8	-	
SA31NO	374025	401905	39.1	27.6	25.1	21.2	25.0	21.2	22.2	20.7	29.7	26.1	34.9	34.8	27.3	23.5	-	
SA34NO	375367	397800	46.3	39.9	42.7	34.8	37.7	36.4	35.2	34.6	41.4	40.1	43.6	42.8	39.6	34.1	-	
SA38NO	377796	403065	32.7	25.3	25.7	20.7	23.6	19.0	21.3	19.5	27.8	23.0	30.2	32.6	25.1	21.6	-	
SA39NO	383040	398563	43.5	34.1	34.0	31.7	39.9	36.8	34.1	39.7	49.5	39.8	I/S	39.4	38.4	33.0	-	
SA51NO	375213	397661	43.0	31.5	29.1	24.1	29.4	26.5	25.3	28.6	34.6	26.3	35.8	35.7	30.8	26.5	-	

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SA53 NO	374757	399891	38.6	29.2	33.4	19.1	29.0	24.5	24.4	24.7	29.5	32.9	34.9	35.3	29.6	25.5	-	
SA55 NO	372871	400734	38.4	30.5	28.4	20.3	23.6	21.5	23.1	22.6	32.3	28.9	36.2	37.6	28.6	24.6	-	
SA56 NO	368759	396027	21.9	13.4	13.6	9.1	9.2	8.0	8.7	8.9	13.0	11.7	18.6	19.9	-	-	-	Triplicate Site with SA56NO, SA57NO and SA58NO - Annual data provided for SA58NO only
SA57 NO	368759	396027	22.5	15.6	13.9	10.6	9.7	8.0	8.9	8.7	12.8	11.6	20.0	18.3	-	-	-	Triplicate Site with SA56NO, SA57NO and SA58NO - Annual data provided for SA58NO only
SA58 NO	368759	396027	20.8	15.5	13.8	14.4	10.0	8.4	9.5	9.1	13.5	11.6	19.4	19.1	13.4	11.5	-	Triplicate Site with SA56NO, SA57NO and SA58NO - Annual data provided for SA58NO only
SA59 NO	381822	397895	41.1	33.1	31.3	27.8	31.4	28.1	28.7	25.4	36.3	25.1	40.1	35.5	32.0	27.5	-	
SA60 NO	382445	397724	41.2	32.9	34.6	36.4	39.1	39.5	41.2	36.0	44.1	29.7	41.1	38.9	37.9	32.6	-	
SA61 NO	377269	400943	48.1	39.4	42.7	36.3	40.1	35.2	36.7	35.5	40.9	31.4	45.4	42.1	39.5	34.0	-	
SA62 NO	380768	399637	40.1	29.1	29.4	18.5	25.8	19.4	21.0	23.4	31.5	31.6	37.4	36.1	28.6	24.6	-	
SA63 NO	374673	399912	45.1	38.3	42.4	27.9	46.6	38.1	39.1	37.1	44.1	39.6	50.4	43.2	41.0	35.3	-	
SA64 NO	378804	399844	33.8	28.6	28.1	18.0	21.7	16.8	19.6	18.4	25.1	24.0	35.1	31.2	25.0	21.5	-	
SA65 NO	378584	399220	61.5	42.4	48.0	30.7	40.4	37.1	35.8	37.8	44.4	47.6	55.6	48.2	44.1	37.9	31.5	
SA66 NO	375118	398502	37.6	35.5	26.5	27.5	28.2	25.2	23.3	27.4	37.1	24.9	29.1	37.0	29.9	25.7	-	
SA68 NO	373570	403096	103.0	49.0	43.0	30.5	41.6	36.8	35.2	34.9	49.4	44.6	47.5	102.0	51.5	**44.3**	38.7	
SA69 NO	379397	401370	52.1	36.5	40.4	36.7	42.6	36.1	35.4	41.6	51.0	48.7	49.4	43.2	42.8	36.8	29.2	
SA70 NO	381677	398832	39.5	29.0	27.7	19.7	22.6	20.8	23.0	22.9	30.6	25.7	34.7	30.8	27.3	23.4	-	
SA71 NO	381351	397185	40.8	35.8	26.7	21.2	27.1	21.7	27.7	25.2	32.9	28.8	36.8	36.3	30.1	25.9	-	
SA72 NO	377536	401804	62.2	43.1	45.4	44.5	43.6	I/S	38.6	I/S	46.3	40.0	50.9	37.0	45.2	38.8	33.6	
SA73 NO	374576	400611	51.8	49.3	42.1	33.7	48.7	42.5	35.5	39.1	49.9	42.4	43.6	58.9	44.8	38.5	-	
SA74 NO	376315	399249	40.0	40.0	34.9	24.4	37.3	29.9	29.2	31.1	37.8	40.5	44.8	36.3	35.5	30.5	-	
SA75 NO	379608	398539	22.6	30.6	30.1	24.0	27.9	23.8	24.2	25.3	34.2	29.7	41.7	37.4	29.3	25.2	-	

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SA76 NO	380540	398422	79.2	37.1	35.0	23.0	32.0	25.5	27.0	26.8	38.7	32.3	36.2	44.5	36.4	31.3	-	
SA77 NO	381686	398504	40.7	33.7	30.1	21.3	29.3	22.6	23.1	24.6	34.3	32.5	33.8	34.6	30.1	25.8	-	
SA78 NO	381220	399530	58.8	47.4	44.7	33.2	48.2	39.8	38.9	40.4	52.5	47.5	52.3	49.2	46.1	39.6	36.0	
SA79 NO	382602	398519	51.8	35.5	31.4	24.1	33.2	26.2	28.4	29.2	37.7	35.6	43.8	41.6	34.9	30.0	-	
SA80 NO	375428	401417	38.7	24.6	32.9	24.0	28.4	26.2	29.6	26.3	29.8	28.5	40.0	26.8	29.7	25.5	-	
SA81 NO	382561	397722	54.1	40.6	42.9	38.3	54.5	46.3	46.7	46.5	59.1	52.7	56.9	51.6	49.2	**42.3**	-	
SA82 NO	375394	397816	47.9	46.6	45.7	35.4	45.8	43.9	43.3	45.5	47.6	44.5	57.1	49.2	46.0	39.6	32.7	
SA83 NO	382945	400732	39.1	30.5	25.9	21.7	28.3	21.7	24.0	23.1	32.3	30.4	38.8	36.4	29.4	25.2	-	
SA84 NO	380776	400834	41.0	30.7	27.4	22.0	26.0	22.2	22.7	23.5	33.3	29.6	36.6	34.9	29.2	25.1	-	
SA85 NO	375991	399237	38.1	29.4	28.4	22.0	22.6	18.5	20.5	20.9	27.7	21.7	30.5	30.9	25.9	22.3	-	
SA86 NO	383819	401771	54.5	42.8	47.9	38.3	55.5	49.1	50.8	51.2	55.7	50.1	59.5	58.1	51.1	**44.0**	33.4	
SA87 NO	372225	395616	N/A	N/A	27.5	25.2	25.4	22.8	30.7	25.3	29.3	21.9	36.0	31.4	27.6	23.7	-	
ST1NO	389077	392012	20.4	21.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-	
ST2NO	385047	388339	38.8	29.7	39.1	21.7	34.7	33.0	37.5	27.8	32.4	30.3	43.7	34.2	-	-	-	Triplicate Site with ST2NO, ST12NO and ST14NO - Annual data provided for ST14NO only
ST3NO	388551	391846	30.9	24.6	21.5	18.7	20.1	16.3	18.8	15.1	24.9	21.5	32.2	27.4	22.7	19.5	-	
ST4NO	396469	390800	17.5	12.4	13.0	10.9	10.3	9.7	10.5	9.5	13.2	10.2	19.3	15.9	12.7	10.9	-	
ST5NO	396853	382768	8.3	8.1	10.1	3.9	5.1	5.4	6.0	4.6	6.8	8.8	10.4	8.3	-	-	-	Duplicate Site with ST5NO and ST6NO - Annual data provided for ST6NO only
ST6NO	396853	382768	22.3	15.7	14.4	11.0	13.9	11.1	13.0	9.6	16.0	15.8	22.9	19.1	11.3	9.7	-	Duplicate Site with ST5NO and ST6NO - Annual data provided for ST6NO only
ST7NO	392063	386972	37.5	31.9	16.1	23.6	35.5	26.3	29.9	22.6	31.1	31.2	39.6	35.9	30.1	25.9	-	
ST8NO	392017	387043	25.6	19.4	21.3	16.1	18.0	16.5	18.3	14.0	22.1	17.8	28.5	22.9	20.0	17.2	-	
ST9NO	392743	385681	19.3	13.0	13.4	9.5	9.7	8.6	10.4	7.9	12.6	11.3	20.0	16.3	12.7	10.9	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
ST10 NO	392781	387271	20.0	12.6	15.3	10.0	11.7	8.7	10.1	8.2	13.2	12.8	20.8	18.5	13.5	11.6	-	
ST11 NO	391083	387938	38.4	30.7	34.0	25.5	27.3	21.1	26.7	19.0	26.6	20.8	35.6	35.4	28.4	24.4	-	
ST12 NO	385047	388339	25.0	26.6	35.4	24.8	37.1	33.4	35.9	25.4	32.5	33.0	33.3	34.2	-	-	-	Triplicate Site with ST2NO, ST12NO and ST14NO - Annual data provided for ST14NO only
ST13 NO	384675	386295	20.4	15.5	15.1	13.5	12.4	11.1	12.7	11.0	16.9	15.4	24.8	20.5	15.8	13.6	-	
ST14 NO	385047	388339	27.6	34.8	39.3	29.4	33.3	31.9	35.7	26.9	34.0	32.2	48.4	34.2	33.0	28.4	-	Triplicate Site with ST2NO, ST12NO and ST14NO - Annual data provided for ST14NO only
ST15 NO	389886	388961	36.3	27.3	28.7	22.7	24.4	21.9	25.1	22.3	29.6	27.1	38.8	26.1	27.5	23.7	-	
ST16 NO	391569	391226	I/S	20.0	25.3	17.5	19.3	19.5	21.2	18.4	24.6	19.8	34.8	29.9	22.8	19.6	-	
ST17 NO	388442	390077	34.4	24.7	27.0	19.4	17.0	15.8	19.7	16.9	22.6	20.6	34.0	30.0	23.5	20.2	-	
ST18 NO	389272	390441	42.1	30.7	36.4	27.5	36.4	29.8	33.6	28.5	34.3	I/S	41.0	34.7	34.1	29.3	-	
ST19 NO	389479	393464	44.4	31.4	37.5	29.2	37.1	34.3	38.9	I/S	39.4	36.1	46.2	37.9	37.5	32.2	-	
ST20 NO	386921	389529	I/S	31.1	42.2	34.9	I/S	42.8	45.0	42.2	36.5	18.9	45.7	35.4	37.5	32.2	-	
ST21 NO	388599	389416	32.3	22.5	21.6	15.4	16.9	11.9	16.4	14.4	20.3	29.4	28.0	28.0	21.4	18.4	-	
ST22 NO	391483	387636	27.6	23.8	22.8	20.3	21.2	17.4	21.0	13.8	24.2	15.7	28.0	< 1.0	-	-	-	Triplicate Site with ST22NO, ST23NO and ST24NO - Annual data provided for ST24NO only
ST23 NO	391483	387636	23.3	23.0	18.0	18.8	20.6	18.1	21.5	15.5	24.8	16.9	27.4	26.4	-	-	-	Triplicate Site with ST22NO, ST23NO and ST24NO - Annual data provided for ST24NO only
ST24 NO	391483	387636	27.8	23.9	23.0	19.6	20.2	17.2	21.0	14.0	24.6	14.9	27.1	25.3	21.5	18.5	-	Triplicate Site with ST22NO, ST23NO and ST24NO - Annual data provided for ST24NO only
ST25 NO	395770	388655	27.8	23.5	25.9	18.1	24.8	21.0	25.7	20.7	30.4	22.9	31.0	28.2	25.0	21.5	-	
ST26 NO	389396	387357	22.4	13.8	14.4	10.9	12.0	9.1	11.7	8.8	14.4	11.5	21.9	18.2	14.1	12.1	-	
ST27 NO	387091	391384	22.8	15.7	15.4	13.5	11.7	10.1	11.8	10.1	16.0	13.2	23.0	19.1	15.2	13.1	-	
ST28 NO	385700	386220	40.8	32.4	35.0	30.8	35.9	33.2	36.8	31.5	42.0	31.0	I/S	38.5	35.3	30.3	-	
ST29 NO	390088	388545	25.8	15.6	17.5	10.1	15.0	10.3	12.9	11.0	16.7	13.7	26.3	24.1	16.6	14.3	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
ST31 NO	3392441	391747	43.0	31.0	36.3	27.2	37.8	31.6	36.0	30.1	42.5	35.6	41.7	40.2	36.1	31.0	-	
ST32 NO	389480	390957	38.8	28.4	31.5	20.5	35.3	24.0	25.8	19.4	26.3	24.6	31.1	37.5	28.6	24.6	-	
ST33 NO	390416	390087	41.5	32.3	37.4	24.9	38.0	29.1	33.6	27.4	36.2	33.1	42.2	39.9	34.6	29.8	-	
ST34 NO	388304	390351	43.5	39.1	38.3	38.5	44.3	37.5	42.1	36.6	47.8	37.3	50.6	44.0	41.6	35.8	-	
ST35 NO	395020	385360	27.5	24.2	29.1	21.9	31.2	26.4	29.7	23.8	31.3	21.7	34.1	27.2	27.3	23.5	-	
ST36 NO	389386	390142	N/A	N/A	40.4		35.2	31.9	36.7	33.3	47.2	37.8	55.8	45.3	40.4	34.7	-	
TA1N O	394050	397190	35.0	28.6	27.6	19.8	22.0	15.4	21.8	4.3	24.8	29.4	33.6	32.5	24.6	21.1	-	
TA2N O	394788	394933	25.0	24.0	20.3	20.1	21.1	18.2	22.4	18.2	22.8	24.1	50.6	28.5	24.6	21.2	-	
TA3N O	390961	395417	35.3	26.9	23.3	20.7	22.2	19.4	22.6	22.2	25.8	25.4	31.9	30.3	25.5	21.9	-	
TA5N O	400507	396518	18.0	14.3	10.4	6.3	9.3	8.6	9.4	8.1	11.3	13.1	I/S	16.5	11.4	9.8	-	
TA10 NO	392516	396748	45.1	33.6	32.7	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	37.1	29.7	-	
TA11 NO	400390	396025	46.5	48.5	42.4	39.5	45.4	48.5	50.3	46.7	57.0	52.1	42.9	53.0	47.7	**41.1**	38.2	
TA13 NO	392586	398431	45.9	35.7	37.3	32.9	36.3	25.4	40.6	32.1	45.3	41.4	49.2	47.2	39.1	33.6	-	
TA14 NO	393710	398790	43.0	37.0	35.2	28.5	33.5	31.2	34.4	28.8	37.7	38.3	44.0	44.5	36.3	31.3	-	
TA16 NO	391435	397970	44.6	39.3	37.3	33.2	34.7	35.1	40.6	33.7	38.8	40.8	41.2	44.3	38.6	33.2	-	
TA17 NO	389106	398242	54.2	29.6	29.9	25.3	30.7	21.6	32.2	25.2	34.4	35.2	41.9	39.6	33.3	28.7	-	
TA18 NO	391970	395521	51.7	41.5	41.1	29.9	39.1	40.6	45.2	37.7	46.0	41.0	50.3	45.6	42.5	36.5	27.9	
TA19 NO	392477	395505	46.7	34.3	35.5	31.2	29.3	31.3	34.6	31.6	36.2	30.7	36.1	34.4	34.3	29.5	-	
TA20 NO	394610	395102	46.9	26.9	35.4	22.2	32.7	33.0	37.6	31.2	41.2	39.8	30.7	40.2	34.8	29.9	-	
TA21 NO	400423	395965	41.1	42.5	40.8	43.2	41.9	45.5	52.0	41.3	52.3	39.5	41.3	46.9	44.0	37.9	34.1	
TA23 NO	393620	398588	I/S	24.4	22.5	19.6	18.9	16.6	20.7	15.7	23.3	22.9	26.7	27.8	21.7	18.7	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TA24 NO	390475	395621	92.7	33.9	32.9	27.6	27.8	26.7	34.2	29.2	30.0	27.5	38.0	39.8	36.7	31.6	-	
TA25 NO	396950	402329	18.7	22.9	21.9	17.6	23.8	22.3	23.5	21.0	25.4	21.9	36.2	21.5	23.1	19.8	-	
TA27 NO	396177	398218	31.5	26.5	24.5	22.7	23.9	22.5	25.1	21.1	27.0	26.8	29.1	33.0	26.1	22.5	-	
TA28 NO	393050	401038	41.7	35.0	34.3	32.4	35.2	32.6	36.5	31.2	38.5	41.2	43.5	I/S	36.6	31.4	-	
TA29 NO	393370	399494	25.8	20.5	21.8	17.9	19.5	15.6	15.6	15.8	24.0	25.8	30.9	32.5	22.1	19.0	-	
TA30 NO	393419	399691	45.0	35.0	34.8	25.4	33.3	28.2	35.2	32.4	38.8	41.5	40.9	42.8	36.1	31.1	-	
TA31 NO	396899	402449	20.7	18.8	18.8	13.8	15.8	15.6	16.1	15.4	19.9	19.7	25.9	24.7	18.8	16.1	-	
TA32 NO	396982	402437	25.0	24.8	21.9	20.8	21.1	19.6	20.5	18.3	25.6	24.4	29.4	28.4	23.3	20.1	-	
TA33 NO	397010	402560	30.1	22.1	21.6	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	28.0	25.5	19.2	-	
TA34 NO	397060	402581	28.3	21.4	19.7	16.1	20.4	18.9	8.8	19.0	24.9	24.6	I/S	26.9	20.8	17.9	-	
TA35 NO	397080	402540	40.0	38.5	30.4	24.4	30.4	25.8	32.1	32.9	39.1	36.9	33.8	41.1	33.8	29.1	-	
TA36 NO	397060	402387	28.0	18.8	19.3	15.5	16.4	14.7	17.6	14.2	19.1	20.9	28.1	25.0	19.8	17.0	-	
TA37 NO	396728	402073	31.5	30.2	26.6	26.2	33.2	27.2	35.3	27.6	34.8	35.8	42.4	35.3	32.2	27.7	-	
TA38 NO	394006	399392	31.5	26.0	25.8	20.9	23.9	20.7	24.9	19.9	27.6	31.0	37.0	36.9	27.2	23.4	-	
TA39 NO	394114	399366	41.3	30.5	28.3	23.6	28.0	21.5	24.5	22.2	31.5	35.0	38.6	36.5	30.1	25.9	-	
TA40 NO	394066	399314	33.1	26.2	24.9	22.0	24.7	21.7	22.2	21.5	29.1	28.2	36.7	37.8	27.3	23.5	-	
TA41 NO	394118	399259	I/S	30.5	28.2	21.7	27.1	26.7	30.5	24.0	34.2	31.6	39.9	37.1	30.1	25.9	-	
TA42 NO	394494	399010	38.7	26.0	41.4	22.6	24.2	21.7	24.6	21.7	28.6	27.5	35.7	28.6	28.4	24.5	-	
TA43 NO	394214	398933	47.0	39.6	26.4	32.1	37.3	34.8	37.9	37.5	42.9	40.9	40.5	46.3	38.6	33.2	-	
TA44 NO	397418	394398	19.3	16.8	13.6	9.5	6.8	11.4	13.2	10.0	14.3	15.1	19.7	20.0	14.1	12.2	-	
TA45 NO	399719	395805	46.0	42.0	43.2	37.1	44.6	45.7	58.8	45.7	55.9	40.9	36.3	42.5	-	-	-	Triplicate Site with TA45NO, TA46NO and TA47NO - Annual data provided for TA47NO only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TA46 NO	399719	395805	41.5	45.9	47.1	39.3	41.6	48.9	58.7	46.8	56.2	44.0	44.6	50.2	-	-	-	Triplicate Site with TA45NO, TA46NO and TA47NO - Annual data provided for TA47NO only
TA47 NO	399719	395805	49.5	42.9	46.1	44.0	43.6	48.4	50.1	44.6	56.3	45.9	48.7	40.0	46.2	39.7	25.4	Triplicate Site with TA45NO, TA46NO and TA47NO - Annual data provided for TA47NO only
TA48 NO	392699	395733	38.3	27.8	31.9	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	32.7	26.2	-	
TA49 NO	393731	398770	44.0	31.1	36.0	27.3	30.5	I/S	34.6	31.8	38.9	34.8	45.9	39.2	35.8	30.8	-	
TA50 NO	393498	398704	49.4	41.2	40.9	31.9	35.5	37.0	44.3	37.3	43.9	42.9	48.1	41.3	41.1	35.4	-	
TA51 NO	393314	398624	50.5	32.4	40.1	29.7	30.5	38.6	42.8	33.2	38.1	30.3	50.4	45.7	38.5	33.1	-	
TA52 NO	393509	398737	46.1	38.8	38.6	33.4	39.0	34.1	36.9	33.7	44.6	46.3	50.5	50.2	41.0	35.3	-	
TA53 NO	393133	398536	45.0	39.9	35.0	34.8	33.8	33.5	36.2	32.0	39.1	33.3	40.4	40.4	37.0	31.8	-	
TA54 NO	392958	398474	44.8	49.7	39.7	40.1	46.5	45.2	50.8	42.3	51.5	51.0	44.9	49.7	46.4	39.9	32.0	
TA55 NO	392743	398465	52.1	54.4	47.5	39.2	46.1	47.2	52.2	42.3	55.7	52.5	54.3	50.1	49.5	**42.5**	37.9	
TA56 NO	392490	398368	46.3	38.7	42.5	40.3	36.3	35.0	42.5	37.9	40.7	39.0	50.6	47.0	41.4	35.6	-	
TA57 NO	392844	398544	50.0	42.9	40.3	35.4	35.3	37.2	40.2	32.8	44.7	40.9	42.0	48.8	40.9	35.2	-	
TA58 NO	393080	398620	45.7	30.5	32.8	30.1	25.6	29.4	40.7	29.5	36.3	35.4	39.4	39.4	34.6	29.7	-	
TA59 NO	395652	399140	26.9	19.4	18.2	13.2	14.4	13.0	14.9	12.6	16.5	19.3	26.8	26.3	18.5	15.9	-	
TA60 NO	395747	399112	35.0	23.9	22.7	16.7	22.2	20.8	23.1	20.1	26.7	25.5	32.3	31.1	25.0	21.5	-	
TA61 NO	395682	399171	31.5	24.5	21.2	15.3	20.6	17.6	19.2	18.3	25.0	26.8	30.4	32.2	23.6	20.3	-	
TA62 NO	396576	399240	23.0	20.5	18.8	14.3	16.1	15.9	17.0	15.2	21.7	25.2	27.6	25.2	20.0	17.2	-	
TA63 NO	394917	400922	34.7	26.4	23.8	19.6	25.8	22.3	25.3	20.7	28.8	33.5	34.1	37.2	27.7	23.8	-	
TA64 NO	395792	398758	49.0	44.0	38.6	39.3	41.7	39.7	43.9	35.1	47.7	45.2	49.5	47.9	43.5	37.4	32.5	
TR5NO	379052	392043	32.8	I/S	18.6	20.2	19.8	23.5	I/S	I/S	23.5	I/S	38.3	31.4	26.0	21.5	-	
TR9NO	380933	395889	31.4	I/S	18.6	19.6	17.6	15.7	I/S	17.9	22.2	24.2	36.8	29.2	23.3	20.1	-	

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TR19 NO	378783	394728	28.1	19.3	16.1	12.9	12.7	10.9	12.3	13.8	17.2	16.1	26.8	22.7	-	-	-	Triplicate Site with TR19NO, TR19ANO and TR19BNO - Annual data provided for TR19BNO only
TR19 ANO	378783	394728	26.7	20.4	14.7	13.1	11.9	11.4	11.5	13.8	15.8	17.8	22.9	22.0	-	-	-	Triplicate Site with TR19NO, TR19ANO and TR19BNO - Annual data provided for TR19BNO only
TR19 BNO	378783	394728	30.7	20.5	16.1	13.8	12.2	11.1	12.2	13.7	24.8	15.2	22.6	23.4	17.4	15.0	-	Triplicate Site with TR19NO, TR19ANO and TR19BNO - Annual data provided for TR19BNO only
TR20 NO	379411	394014	33.7	32.3	23.6	21.1	25.6	21.2	I/S	20.4	28.7	I/S	39.3	32.9	-	-	-	Triplicate Site with TR20NO, TR20ANO and TR20BNO - Annual data provided for TR20BNO only
TR20 ANO	379411	394014	30.8	31.0	I/S	20.2	23.9	I/S	I/S	21.6	29.1	I/S	37.0	33.2	-	-	-	Triplicate Site with TR20NO, TR20ANO and TR20BNO - Annual data provided for TR20BNO only
TR20 BNO	379411	394014	38.4	32.0	I/S	22.1	24.0	I/S	I/S	21.2	28.9	28.6	37.3	I/S	27.8	23.9	-	Triplicate Site with TR20NO, TR20ANO and TR20BNO - Annual data provided for TR20BNO only
TR21 NO	379619	396371	32.6	27.7	18.4	19.3	18.7	9.2	I/S	< 1.0	I/S	44.0	33.8	28.5	25.8	22.2	-	
TR22 NO	377061	390086	38.4	31.9	5.4	11.3	28.5	2.5	I/S	I/S	37.8	30.3	42.7	37.1	26.6	22.9	-	
TR13 NO	381221	396441	38.6	34.9	20.7	29.9	27.3	16.5	I/S	I/S	38.6	40.7	44.5	34.3	32.6	28.0	-	
TR15 NO	379089	393282	33.2	31.5	21.1	23.0	I/S	23.1	I/S	24.1	I/S	I/S	35.8	29.8	27.7	22.9	-	
TR16 NO	377418	395689	37.4	31.7	21.4	23.1	20.8	19.5	I/S	< 1.0	27.2	24.5	36.4	33.8	-	-	-	Duplicate Site with TR16NO and TR16ANO - Annual data provided for TR16ANO only
TR16 ANO	377418	395689	22.2	33.5	20.5	24.8	22.0	19.5	I/S	19.8	29.7	24.9	30.5	33.0	26.2	22.5	-	Duplicate Site with TR16NO and TR16ANO - Annual data provided for TR16ANO only
TR18 NO	378822	389010	35.1	20.5	13.9	14.2	13.3	11.9	I/S	12.4	16.5	15.5	23.3	I/S	17.7	15.2	-	
TR23 NO	376438	396383	38.6	31.3	25.4	26.2	23.2	25.1	I/S	I/S	29.4	26.7	47.4	29.4	30.3	26.0	-	
TR23 ANO	376395	396360	43.6	30.0	34.0	29.7	29.3	28.6	I/S	26.5	31.4	30.8	55.8	38.1	34.3	29.5	-	
TR24 NO	379263	385812	26.1	23.9	18.7	19.9	19.4	18.4	I/S	18.3	22.2	17.0	30.5	39.0	23.0	19.8	-	
TR25 NO	373755	394477	22.5	I/S	12.1	11.6	9.5	9.5	I/S	I/S	10.6	I/S	14.9	I/S	-	-	-	Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only
TR25 ANO	373755	394477	21.9	I/S	13.8	12.3	9.9	9.6	I/S	I/S	I/S	I/S	14.3	I/S	-	-	-	Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only
TR25 BNO	373755	394477	22.1	I/S	13.3	11.9	10.0	10.0	I/S	I/S	13.7	I/S	14.0	I/S	13.3	11.5	-	Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only
TR26 NO	379272	393666	40.6	I/S	28.6	25.9	22.8	26.3	I/S	28.2	39.3	44.0	47.7	I/S	-	-	-	Duplicate Site with TR26NO and TR26ANO - Annual data provided for TR26ANO only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TR26 ANO	379272	393666	41.6	41.1	25.1	24.4	30.6	28.5	I/S	26.1	41.4	40.6	54.0	I/S	34.9	30.0	-	Duplicate Site with TR26NO and TR26ANO - Annual data provided for TR26ANO only
TR27 NO	371419	390760	25.4	17.0	12.5	13.9	13.1	13.2	I/S	12.9	18.5	17.7	30.5	31.0	18.7	16.1	-	
TR28 NO	376851	387792	36.7	30.9	24.5	25.5	28.6	25.0	I/S	24.5	32.9	I/S	36.3	42.0	30.7	26.4	-	
TR29 NO	373906	392820	28.4	I/S	18.3	16.4	19.3	19.9	I/S	17.7	19.6	18.4	29.7	24.1	21.2	18.2	-	
TR30 NO	376789	392806	N/A	N/A	N/A	13.5	13.8	12.0	I/S	I/S	14.8	15.5	22.3	21.0	16.1	13.8	-	
TR31 NO	376206	392695	N/A	N/A	N/A	N/A	37.9	35.4	I/S	I/S	38.2	34.6	39.6	35.7	36.9	31.3	-	
WI14 NO	366880	403255	38.7	23.5	34.0	28.1	30.1	26.8	24.7	27.7	37.0	32.1	42.2	34.0	31.6	27.2	-	
WI23 NO	361835	404090	42.1	30.3	33.6	32.0	33.3	27.1	28.1	27.1	36.0	31.9	38.9	37.2	33.1	28.5	-	
WI24 NO	358341	405539	35.1	27.8	I/S	19.8	22.7	18.9	19.4	18.6	27.1	31.0	26.3	30.3	25.2	21.7	-	
WI28 NO	366424	399894	37.1	34.9	32.5	I/S	34.5	31.3	34.4	27.5	37.7	30.2	40.4	I/S	34.1	29.3	-	
WI30 NO	363833	402028	34.0	23.8	25.6	20.9	21.1	21.0	23.6	20.1	29.1	23.7	30.4	31.4	25.4	21.8	-	
WI33 NO	359723	405537	44.7	39.2	33.3	28.5	37.4	31.5	28.8	29.6	39.6	34.5	38.7	37.7	35.3	30.4	-	
WI35 NO	357132	398670	40.1	33.2	33.9	19.3	27.8	21.5	21.7	24.0	29.3	31.9	33.8	29.4	28.8	24.8	-	
WI47 NO	357812	406021	34.0	27.0	21.7	13.8	15.4	12.5	12.0	14.5	21.9	24.1	25.6	30.9	-	-	-	Triplicate Site with WI47NO, WI48NO and WI49NO - Annual data provided for WI49NO only
WI48 NO	357812	406021	26.2	27.9	19.8	13.7	15.0	13.0	11.7	13.7	21.7	22.2	25.8	31.0	-	-	-	Triplicate Site with WI47NO, WI48NO and WI49NO - Annual data provided for WI49NO only
WI49 NO	357812	406021	33.5	26.3	20.9	13.5	15.5	12.3	12.0	14.6	21.6	23.3	24.5	32.2	20.7	17.8	-	Triplicate Site with WI47NO, WI48NO and WI49NO - Annual data provided for WI49NO only
WI52 NO	362137	396948	41.2	35.2	32.8	27.6	38.3	32.0	28.3	30.2	43.2	35.0	40.8	40.5	35.4	30.5	-	
WI53 NO	353896	408518	31.9	23.3	23.0	17.6	19.2	17.2	17.4	16.8	23.0	23.2	29.0	29.2	22.6	19.4	-	
WI54 NO	370612	400586	39.5	31.2	25.0	18.5	24.4	20.7	18.1	19.7	25.6	26.4	31.7	30.8	26.0	22.3	-	
WI63 NO	356928	404982	33.7	29.6	26.8	26.0	23.4	23.9	23.5	23.7	30.4	26.9	28.5	27.0	27.0	23.2	-	
WI71 NO	368244	402563	41.4	32.2	31.4	28.4	31.5	30.1	30.1	27.3	1.7	30.2	35.5	35.5	29.6	25.5	-	

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WI81 NO	355979	410362	33.6	26.6	23.6	18.4	22.7	17.6	21.3	16.6	25.7	22.5	30.5	19.4	23.2	20.0	-	
WI11 4NO	365115	400259	46.5	37.4	38.0	36.0	33.5	37.2	33.4	33.7	35.8	36.9	41.7	38.4	37.4	32.1	-	
WI11 5NO	353845	405360	30.7	31.5	21.1	25.7	24.7	24.5	18.3	28.5	34.7	24.1	20.5	31.2	26.3	22.6	-	
WI11 6NO	365864	401720	28.1	22.0	17.0	13.9	13.0	12.1	12.0	12.3	17.9	17.4	24.0	24.3	17.8	15.3	-	
WI12 1NO	357088	405158	45.9	34.8	36.1	33.1	35.2	36.0	34.1	31.4	40.5	32.1	43.4	40.4	36.9	31.7	-	
WI12 2NO	356883	405239	45.3	40.9	31.7	32.6	39.0	35.0	32.7	34.6	43.4	30.8	41.1	43.0	37.5	32.3	-	
WI12 4NO	357310	403672	31.4	24.2	22.8	15.6	17.6	14.9	14.4	16.0	21.4	22.6	24.6	28.7	21.2	18.2	-	
WI12 5NO	357645	404259	35.5	32.9	27.8	I/S	27.7	28.5	23.7	24.0	32.1	28.0	32.8	29.3	29.3	25.2	-	
WI12 6NO	355819	402194	26.1	21.3	17.3	I/S	11.8	9.5	10.0	10.1	14.2	15.3	19.1	22.1	16.1	13.8	-	
WI12 7NO	355484	403854	38.0	31.2	26.8	22.5	29.2	28.0	25.2	24.4	36.5	26.7	32.5	28.7	29.1	25.1	-	
WI12 9NO	356848	402906	44.3	47.4	43.4	33.8	43.4	41.0	37.2	37.8	47.3	41.7	49.6	45.5	42.7	36.7	32.0	
WI13 0NO	356354	403838	26.9	31.7	26.9	22.6	I/S	20.0	19.7	21.0	28.2	25.1	31.1	34.7	26.2	22.5	-	
WI13 1NO	356667	404065	35.7	27.7	26.4	22.8	21.6	16.4	26.5	18.5	25.2	23.8	29.9	29.1	25.3	21.8	-	
WI13 2NO	356869	404808	36.7	29.9	26.8	18.6	20.1	18.4	17.8	I/S	I/S	I/S	I/S	I/S	24.0	22.2	-	
WI13 3NO	356748	404786	39.8	32.9	29.4	20.2	24.5	23.4	20.5	23.2	32.0	27.1	30.8	34.7	28.2	24.3	-	
WI13 4NO	356428	404722	30.3	28.7	23.9	21.8	17.7	18.7	1.1	18.0	24.9	21.6	30.6	27.6	22.1	19.0	-	
WI13 5NO	354614	404685	44.6	37.2	38.4	26.5	33.6	30.0	29.6	I/S	42.8	I/S	41.7	I/S	36.0	31.0	-	
WI13 6NO	354057	404824	37.2	26.3	31.5	24.5	23.9	26.4	26.2	23.4	31.4	25.5	38.1	33.1	29.0	24.9	-	
WI13 7NO	353844	404922	44.3	41.9	34.2	21.7	29.6	28.0	24.6	29.5	37.5	27.9	31.9	36.6	32.3	27.8	-	
WI13 8NO	355321	404017	33.5	25.8	20.1	12.7	17.7	14.2	14.2	15.6	22.3	20.5	25.9	35.0	21.5	18.5	-	
WI13 9NO	355638	404023	36.5	27.8	25.1	19.1	21.7	18.8	16.8	18.4	26.4	23.8	26.8	28.9	24.2	20.8	-	

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WI14 0NO	355816	404062	36.2	23.5	24.7	20.2	20.2	18.8	19.7	21.6	29.1	23.7	30.4	32.6	25.1	21.6	-	
WI14 1NO	356469	404550	31.9	29.3	23.1	18.3	18.4	17.2	25.3	18.1	25.0	22.9	27.3	31.4	24.0	20.7	-	
WI14 4NO	360643	402297	41.4	30.8	32.1	19.8	27.4	25.5	I/S	22.5	31.8	27.7	37.2	36.6	30.3	26.0	-	
WI14 5NO	360515	402212	38.6	33.5	30.5	23.2	26.7	26.1	17.1	21.7	31.7	30.4	38.9	34.1	29.4	25.3	-	
WI14 7NO	360437	405089	33.6	26.7	25.8	18.3	I/S	19.6	20.4	22.7	28.8	27.5	32.3	32.8	26.2	22.6	-	
WI14 8NO	361247	404576	36.1	26.2	26.3	21.5	25.9	22.8	22.4	20.2	45.3	I/S	32.9	30.0	28.1	24.2	-	
WI14 9NO	363081	403512	I/S	I/S	I/S	I/S	I/S	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-	-	
WI15 0NO	361579	404298	46.6	39.7	38.6	37.1	39.5	41.8	42.3	38.0	26.5	37.8	50.6	40.7	39.9	34.3	-	
WI15 1NO	361501	404216	30.8	26.7	23.0	19.5	20.7	18.0	16.4	18.3	25.8	23.4	27.2	30.8	23.4	20.1	-	
WI15 2NO	364021	402391	34.1	27.0	21.4	17.8	18.0	15.6	15.4	15.3	22.7	19.5	26.7	30.7	22.0	18.9	-	
WI15 3NO	364953	402783	27.7	26.1	19.6	17.0	17.6	15.6	13.7	15.4	22.6	20.4	25.0	25.7	20.5	17.7	-	
WI15 4NO	365054	403019	32.5	20.7	18.6	16.6	15.1	13.8	15.8	14.7	20.9	18.3	25.2	27.0	19.9	17.1	-	
WI15 5NO	366233	403024	35.0	22.6	20.3	18.4	18.4	16.6	18.3	17.8	25.0	21.4	28.9	29.6	22.7	19.5	-	
WI15 6NO	366320	402136	36.7	I/S	20.3	20.2	21.8	17.1	18.6	18.6	27.7	22.9	23.1	30.5	23.4	20.1	-	
WI15 7NO	366458	402462	32.6	22.2	21.9	18.4	19.4	19.5	20.3	18.0	23.1	18.5	23.2	24.6	21.8	18.8	-	
WI15 8NO	365615	401368	37.9	29.2	27.4	22.5	21.5	20.8	24.3	20.6	26.6	24.8	36.1	33.9	27.1	23.3	-	
WI15 9NO	368024	403514	39.9	29.9	26.0	20.9	22.9	21.7	20.9	17.7	27.3	23.0	32.2	29.5	26.0	22.4	-	
WI16 0NO	368671	402250	37.7	I/S	29.9	25.6	33.3	24.7	24.4	26.0	33.8	30.1	35.5	34.8	30.5	26.3	-	
WI16 1NO	369635	402019	40.8	27.6	26.7	18.7	22.4	19.5	20.8	20.0	29.3	21.3	33.4	33.6	26.2	22.5	-	
WI16 2NO	370534	401953	39.2	31.5	28.8	24.1	25.4	26.9	22.5	23.9	36.1	21.0	35.3	34.9	29.1	25.1	-	
WI16 3NO	371234	401895	41.7	30.7	33.2	27.3	32.7	30.8	34.4	27.8	I/S	32.6	44.4	30.6	33.3	28.6	-	

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WI16 4NO	371981	401209	34.8	25.5	24.8	19.1	23.7	18.9	19.9	21.6	27.0	25.8	32.1	32.1	25.4	21.9	-	
WI16 5NO	371039	400996	35.6	24.5	26.0	20.8	23.8	22.1	23.7	21.1	27.9	24.6	30.5	32.8	26.1	22.5	-	
WI16 6NO	368414	399638	28.2	22.8	I/S	16.8	16.0	15.4	15.5	15.3	20.3	16.2	24.5	24.9	19.6	16.9	-	
WI16 7NO	363544	397933	34.1	24.6	24.8	19.6	20.7	19.5	20.4	18.9	24.9	22.4	30.2	26.9	23.9	20.6	-	
WI16 8NO	362463	397005	41.5	31.9	24.8	23.5	27.2	22.3	23.8	23.0	32.7	31.2	40.4	32.8	29.6	25.4	-	
WI16 9NO	362557	396906	41.7	27.6	31.2	25.7	25.6	29.2	27.0	28.6	32.8	28.2	34.6	31.3	30.3	26.1	-	
WI17 0NO	362236	396675	31.4	24.9	25.0	22.5	23.7	25.8	24.9	25.7	27.8	22.8	35.1	27.0	26.4	22.7	-	
WI17 1NO	357095	400717	38.5	32.5	29.8	25.3	26.6	27.1	25.8	27.8	36.5	30.5	35.3	31.3	30.6	26.3	-	
WI17 2NO	356881	401314	33.8	30.3	28.5	23.2	24.9	I/S	24.3	23.1	33.2	29.9	36.8	33.4	29.2	25.1	-	
WI17 3NO	357983	405377	39.9	32.5	32.8	21.3	29.4	24.9	22.5	31.7	41.0	33.5	33.5	39.4	31.9	27.4	-	
WI17 4NO	358294	405137	43.3	31.1	38.5	28.3	35.0	33.2	37.0	35.5	41.9	34.4	50.1	40.2	37.4	32.1	-	
WI17 5NO	358537	405774	34.7	22.2	25.5	23.7	24.7	20.6	I/S	20.0	27.5	27.5	32.2	40.7	27.2	23.4	-	
WI17 6NO	359227	405480	39.4	30.9	28.8	22.3	26.2	23.1	24.5	24.3	33.3	30.8	42.2	35.5	30.1	25.9	-	
WI17 7NO	356230	410105	36.1	27.4	25.7	21.1	22.1	22.7	I/S	21.7	29.9	28.3	32.8	32.3	27.3	23.5	-	
WI17 8NO	356021	410128	44.4	39.8	38.6	35.1	38.3	41.9	40.4	37.1	47.6	36.2	49.0	42.9	40.9	35.2	-	
WI17 9NO	354900	410475	33.8	23.7	21.0	18.0	18.5	15.6	17.7	15.9	23.7	21.0	27.7	26.7	21.9	18.9	-	
WI18 0NO	362105	396491	51.0	43.4	54.9	45.0	54.2	54.1	49.7	49.8	59.6	46.7	61.4	52.0	51.8	**44.6**	-	
WI18 1NO	354819	406235	39.4	35.4	33.9	26.9	31.3	30.2	28.2	27.2	36.0	31.2	36.3	37.5	32.8	28.2	-	
WI18 3NO	358595	405297	38.2	33.1	38.0	29.4	30.1	30.6	29.8	29.8	35.5	34.4	39.8	38.1	33.9	29.2	-	
WI18 4NO	358013	405654	39.6	31.2	28.6	22.8	28.9	26.5	24.7	27.5	I/S	28.2	35.4	34.9	29.8	25.7	-	
WI18 5NO	358054	405613	40.3	33.3	28.0	I/S	31.9	26.4	I/S	I/S	38.5	30.8	34.8	39.3	33.7	29.0	-	

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WI18 6NO	358070	405587	46.7	44.1	38.6	31.0	37.4	33.3	31.1	35.8	44.9	37.2	41.3	42.5	38.7	33.2	-	
WI18 8NO	362111	396526	39.5	35.2	36.5	30.1	37.1	32.3	32.5	32.8	38.4	35.3	38.8	38.9	35.6	30.6	-	
WI18 9NO	362095	396547	43.2	32.5	24.7	24.6	28.5	27.8	25.0	23.9	33.6	25.5	30.4	32.8	29.4	25.3	-	
WI19 2NO	356771	403124	36.1	27.6	25.7	20.4	26.2	21.3	16.6	22.1	31.9	25.7	26.7	32.6	26.1	22.4	-	
WI19 3NO	363885	403129	43.6	34.3	39.2	28.0	34.5	30.5	28.0	I/S	39.5	31.2	I/S	40.0	34.9	30.0	-	
WI19 4NO	371037	402472	28.0	18.4	18.2	13.8	17.5	14.6	14.6	I/S	19.8	17.0	25.4	25.1	19.3	16.6	-	
WI19 5NO	366254	403598	24.0	20.4	15.4	I/S	16.5	15.5	13.6	13.7	21.5	16.0	21.5	25.9	18.5	15.9	-	
WI19 6NO	365850	403263	23.9	21.3	18.2	14.8	14.5	14.7	17.3	13.7	19.3	18.8	25.2	23.8	18.8	16.2	-	
WI19 7NO	361411	408031	28.3	21.9	19.9	15.1	16.5	15.3	14.5	13.1	18.9	20.8	27.3	29.0	20.1	17.2	-	
WI19 8NO	360370	407235	36.1	23.6	26.3	22.7	22.3	27.8	I/S	I/S	I/S	N/A	N/A	N/A	26.5	23.9	-	
WI19 9NO	360501	397988	33.3	30.5	24.9	24.1	25.5	23.3	23.8	23.4	28.8	24.2	29.8	30.6	26.9	23.1	-	
WI20 0NO	363262	399815	31.8	22.9	21.4	18.8	19.5	17.6	17.8	17.5	24.1	20.8	29.3	26.7	22.4	19.2	-	
WI20 1NO	356493	406759	31.5	27.4	22.0	17.6	19.6	16.5	17.5	17.5	25.0	23.8	30.4	30.5	23.3	20.0	-	
WI20 2NO	358222	407262	27.2	21.7	19.2	12.8	15.5	12.5	12.9	12.3	17.8	17.7	23.5	26.2	18.3	15.7	-	
WI20 3NO	357569	408645	18.6	20.4	17.6	16.8	16.9	18.5	12.4	13.6	21.3	15.4	21.0	22.8	17.9	15.4	-	
WI20 4NO	358161	399510	30.2	23.1	22.8	20.1	17.4	17.4	17.3	17.8	21.4	20.1	27.1	24.6	21.6	18.6	-	
WI20 5NO	362151	396604	32.0	29.4	25.0	23.6	22.9	23.7	20.1	23.1	30.0	27.6	29.5	34.3	26.8	23.0	-	
WI20 6NO	362162	396325	33.6	31.5	20.8	25.1	24.2	25.9	19.6	21.7	30.0	22.8	28.7	31.8	26.3	22.6	-	
WI20 7NO	362171	396329	37.3	28.5	26.2	27.8	33.2	32.0	33.0	24.6	33.6	31.6	39.5	34.3	31.8	27.3	-	
WI20 8NO	365687	400238	37.9	28.6	30.6	21.7	26.4	24.4	24.9	19.2	27.7	27.5	35.6	32.7	-	-	-	Triplicate Site with WI208NO, WI209NO and WI210NO - Annual data provided for WI210NO only
WI20 9NO	365687	400238	36.7	30.0	28.7	21.0	25.8	22.2	24.2	18.0	28.0	28.3	39.5	30.2	-	-	-	Triplicate Site with WI208NO, WI209NO and WI210NO - Annual data provided for WI210NO only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
WI210NO	365687	400238	37.4	28.9	29.3	20.3	26.2	22.2	I/S	19.7	27.6	28.9	36.3	31.9	27.9	24.0	-	Triplicate Site with WI208NO, WI209NO and WI210NO - Annual data provided for WI210NO only
WI211NO	372302	401593	30.2	21.5	17.4	14.0	14.7	12.2	12.7	11.5	20.6	15.1	24.6	27.0	18.5	15.9	-	
WI212NO	356827	402135	33.4	35.9	29.2	21.0	28.8	25.9	21.7	25.6	33.3	28.9	28.3	36.2	29.0	25.0	-	
WI213NO	362019	396512	30.4	22.5	17.8	17.7	16.1	15.8	14.4	14.0	21.7	15.1	22.5	30.6	19.9	17.1	-	
WI214NO	361979	396501	24.1	21.5	19.0	14.9	18.8	18.2	14.7	14.8	22.4	17.3	25.9	26.9	19.9	17.1	-	
WI215NO	361981	396490	30.3	24.1	20.7	18.8	17.9	19.4	18.7	18.2	25.0	18.5	25.6	27.7	22.1	19.0	-	
WI216NO	358464	405342	39.4	31.8	33.4	29.1	36.8	33.3	31.5	32.1	40.8	41.5	49.1	33.5	36.0	31.0	-	
WI217NO	357780	405306	N/A	31.3	28.0	18.4	27.0	21.7	21.8	22.2	I/S	I/S	32.1	I/S	25.3	24.3	-	
WI218NO	357839	405296	N/A	37.5	33.7	29.5	32.2	32.9	33.4	I/S	I/S	I/S	I/S	I/S	33.2	33.3	-	
WI219NO	357484	405407	N/A	28.6	23.6	17.6	19.5	17.4	16.4	18.1	24.8	21.6	30.1	29.0	22.4	19.3	-	
WI220NO	357420	405407	N/A	24.7	22.3	I/S	18.7	16.3	17.5	16.4	22.3	19.9	28.3	29.0	21.5	18.5	-	
WI221NO	360499	397867	N/A	N/A	N/A	15.4	I/S	20.1	21.8	18.4	29.9	24.6	30.4	31.2	24.0	20.9	-	
WI222NO	360491	397842	N/A	N/A	N/A	22.7	26.8	24.2	21.9	13.1	31.7	27.5	30.3	33.0	25.7	22.1	-	
WI223NO	360430	397779	N/A	N/A	N/A	20.9	21.5	21.1	21.5	20.4	27.2	24.6	29.2	30.4	24.1	20.7	-	
WI224NO	360418	397775	N/A	N/A	N/A	25.8	34.2	31.1	28.7	I/S	38.3	34.3	37.9	38.3	33.6	29.6	-	
WI225NO	360459	397995	N/A	N/A	N/A	17.4	20.5	18.4	17.7	18.5	27.1	24.7	30.6	33.1	23.1	19.9	-	
WI226NO	360462	398006	N/A	N/A	N/A	17.8	20.9	20.4	19.3	I/S	26.7	24.1	28.5	31.4	23.6	20.8	-	
WI227NO	360576	398144	N/A	N/A	N/A	20.3	28.6	28.8	26.1	15.7	34.9	31.4	38.0	39.3	29.2	25.1	-	
WI228NO	360578	398126	N/A	N/A	N/A	20.6	24.7	I/S	I/S	I/S	28.0	23.3	31.7	28.7	26.2	21.6	-	
WI229NO	360374	397928	N/A	N/A	N/A	I/S	25.5	I/S	21.8	20.1	28.3	24.9	I/S	30.8	25.2	22.8	-	
WI230NO	360380	397912	N/A	N/A	N/A	26.7	34.4	29.9	26.5	27.8	36.2	29.1	37.7	35.8	31.6	27.1	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.86	Annual Mean: Distance Corrected to Nearest Exposure	Comment
WI23 1NO	357473	398990	N/A	N/A	N/A	N/A	32.1	29.1	28.9	28.4	37.0	28.4	33.7	31.5	31.1	27.9	-	
WI23 2NO	357635	399502	N/A	N/A	N/A	N/A	20.1	15.9	19.3	13.2	21.1	22.9	25.3	31.9	21.2	19.0	-	
WI23 3NO	357445	406461	N/A	N/A	N/A	N/A	19.7	16.3	15.3	16.6	24.2	23.4	29.7	30.0	21.9	19.7	-	
WI23 4NO	363136	403467	N/A	N/A	N/A	N/A	N/A	26.0	23.7	25.8	31.9	30.4	36.3	40.2	30.6	26.8	-	
WI23 5NO	365419	399116	N/A	N/A	N/A	N/A	N/A	N/A	22.0	18.6	25.0	23.7	31.3	30.6	25.2	21.3	-	
WI23 6NO	365386	400353	N/A	N/A	N/A	N/A	N/A	N/A	14.9	11.9	19.9	17.6	26.2	26.1	19.4	16.4	-	
WI23 7NO	367352	403200	N/A	N/A	N/A	N/A	N/A	N/A	19.1	17.4	26.3	23.1	27.0	32.1	24.2	20.4	-	
WI23 8NO	369056	402146	N/A	N/A	N/A	N/A	N/A	N/A	19.5	17.3	I/S	23.5	30.7	29.1	24.0	20.7	-	
WI23 9NO	357092	404213	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.4	19.4	I/S	I/S	I/S	-	-	-	
WI24 0NO	360220	407146	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26.2	19.8	31.2	29.3	26.6	20.4	-	
WI24 1NO	358025	406658	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29.7	27.8	33.1	36.6	31.8	24.3	-	

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1**

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16**

☐ **Local bias adjustment factor used**

☒ **National bias adjustment factor used**

☒ **Where applicable, data has been distance corrected for relevant exposure in the final column**

☐ **Greater Manchester confirm that all 2021 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**.

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

New or Changed Sources Identified Within Greater Manchester During 2021

Bolton Metropolitan Borough Council

The pollution control team of the Council were consulted on 527 planning applications during 2021, many of these were for relatively small developments which did not require an air quality assessment. Detailed air quality assessments were required and considered for 12 larger developments, mostly for large residential sites. Taking into account the expected year of opening of the developments the air quality impact was expected to be negligible / not significant at all sites. Mitigation methods were recommended, including measures such as EV Charging provision and alternatives to on-site combustion for heating and cooking. Construction Environmental Management Plans to reduce the impact on dust levels and air quality were also required for sites where there would be a significant amount of construction or demolition works.

Two applications for installations under the Environmental Permitting Regulations were received during 2021 by Bolton Council. These were for:

- De La Rue Security Threads, Elland Close, Westhoughton, Bolton, BL5 3XE – this was for an A2 coating process, involving solvents and abatement using a thermal oxidiser.
- Moncliffe Quarry, Georges Lane, Horwich, BL6 6RT – this was for a Part B mobile crusher and cement batching process. The application is currently under review.

Bury Council

Air Quality Assessment reports for a number of sites have been reviewed and assessed in 2021. The air quality assessments all demonstrated that the impacts would be not significant at relevant receptor locations. All planning applications with parking spaces have been required to install EV charging points. The specification for which is submitted and assessed by Bury Council. Construction and environmental management plans are also required for the construction phase of larger developments.

An application for a 240kW Biomass Boiler at a care home was accompanied by a Detailed Air Quality Assessment report. The Air Quality Assessment concluded that air quality issues were not a constraint to the development with the chimney height at 7.2m. However, to avoid the likelihood of the ground level concentration of combustion products becoming prejudicial to health, or a nuisance, the chimney height was required to terminate above the apex of the building (7.8m).

Three new Part B Processes became operational in 2021: a mobile crushing and screening process; a mortar batching plant; and a petrol filling station. Two processes closed and the permits were surrendered: a dry cleaners and a cement batching plant.

Manchester City Council

Planning applications requiring an Air Quality Assessment:

- 57no. planning applications required an AQ Assessment in 2021. With the exception of the following application, all assessments resulted in a negligible outcome in terms of potential impacts of the operational phase of the development on local air quality. Where construction phase impacts were identified, mitigation actions were secured by planning condition, as was any mitigation required to address identified new introduced exposure effects.
- 129444/FO/2021 | Erection of 12 No. industrial units with Use Class E(g), B2 and B8 uses with ancillary offices (42782 sqm) together with service areas, car parking, landscaping and boundary treatment following demolition of existing building | Former Mather & Platt Foundry Grimshaw Lane Manchester M40 2BA. Adverse impacts identified by AQA; planning conditions imposed to ensure that vehicle fleet associated with the development is compliant with the latest emissions standards, a proportion of the fleet to be electric vehicles, and 32% of the car parking spaces required to have minimum 7kW EV charge points.

Biomass applications, CHP, or district heating:

- 130478/FO/2021 | Installation of external CHP equipment, together with acoustic enclosure and exhaust flue, erection of new bin store with associated 1.9 metre high fencing | The Waterside Hotel And Leisure Club Wilmslow Road Manchester M20 5WZ.

- 129564/FO/2021 | Electrium Sales Ltd Wylex Works Sharston Road Manchester M22 4RA | Installation of a plant room and fuel silo for a new biomass boiler system

No applications under the PPC regime were received during 2021.

Oldham Metropolitan Borough Council

In 2021 The Pennine Acute Hospitals NHS Trust was granted planning permission for a 1.35MWth (input) gas fired combined heat and power plant at the Royal Oldham Hospital. An air quality assessment was submitted with the application which identified the impact the new site would have on local air quality was insignificant.

2021 saw the opening of a new secondary school off Huddersfield Road, Diggle. The new school replaced the existing secondary school in Uppermill and has a capacity of 1,500 pupils. An air quality report was submitted as part of the planning application in 2015 which modelled the change in air quality and assessed the impact of the new as negligible and therefore not significant. The school recently received the Modeshift STARS for education bronze award for its travel plan.

Another secondary school academy for up to 1200 pupils at Booth Street, Oldham, was granted planning permission in 2021. An air quality assessment was submitted with the application which modelled the air quality impact at a number of receptors around the school and at the new school itself. The modelling and assessment showed that the impact of the new school on existing receptors would negligible and that the levels at the school itself would be below the air quality objectives.

In 2021 Outline Planning Permission was granted for up to 400 homes on the site of a current distribution centre off Beal Lane in Shaw. An Air Quality assessment was submitted as part of the application which examined the effects the site would have on receptors in the areas. The result of the survey found the site would have a negligible effect on receptors in the area.

Rochdale Metropolitan Borough Council

Rochdale BC received 24 planning applications for which an AQ assessment was required, this also includes the requirement for dust assessments and the installation of EV charging points.

Salford City Council

A search was conducted using the Salford City Council planning public access website pages for all types of major development planning applications with an associated air quality assessment, which were granted planning permission during 2021. 20 results were found, with the majority (15) relating to major large and small scale dwelling developments.

The associated air quality assessments concluded that none of these new developments were deemed to have a significant adverse impact on air quality. Dust control mitigation measures were proposed during the construction/ demolition phase for all the developments. Recommended mitigation measures also included the installation of electric vehicle charging points at the majority of developments in accordance with EPUK/ IAQM 'Land-Use Planning & Development Control: Planning For Air Quality' guidance.

There have been no planning applications related to large biomass installations, combined heat and power (CHP) or district heating schemes in 2021.

In 2021, 1 x part A and 1 x part B industrial installations were granted a permit in Salford under the Environmental Permitting (England and Wales) Regulations 2016. The air quality impact of these installations is not considered to be significant assuming the use of best available techniques to minimise pollution.

Stockport Metropolitan Borough Council

In 2021 Stockport MBC received 123 planning applications requiring an air quality assessment. None of them showed the potential for greater than a negligible outcome. No applications related to biomass, CHP, or district heating.

No new permitted Processes likely to have an impact on the AQMA were issued. There were no changes to the number and type of permitted processes in the borough.

Tameside Metropolitan Borough Council

Tameside MBC has not identified any new sources relating to air quality within the reporting year of 2021.

Trafford Metropolitan Borough Council

In 2021 there were no new emissions sources developed within Trafford with a potential to have a significant adverse impact upon Local Air Quality.

Wigan Metropolitan Borough Council

Two applications for Part B Environmental Permits were on hand at the writing of the 2020 ASR. Both were for biomass boilers <1Mw (Chapter 5, Section 5.1, Part B (a, v) of The Environmental Permitting Regulations 2016); both have now been permitted.

Additional Air Quality Works Undertaken by Greater Manchester During 2021

Greater Manchester

Bolton Metropolitan Borough Council

In 2021, Bolton Council officially adopted an ambitious climate change strategy that aims to make council operations carbon neutral by 2030.

The wide-ranging plan also sets out how the council will work with other organisations in Bolton to address climate change.

In 2019, Bolton Council declared a climate emergency and committed to play its part in tackling climate change, with this new strategy setting out its plans.

Development of the strategy was led by the Bolton Vision Partnership, which brings together organisations across Bolton including Bolton at Home, Bolton University, Bolton CCG, Bolton Community and Voluntary Sector, Bolton College, NHS Bolton Foundation Trust and the council.

Measures set out in the strategy include:

- Enhancing green space and planting more street trees
- A shift towards more sustainable transport and encouragement of more walking and cycling
- Reducing carbon emissions across our buildings and our fleet
- Ensuring new developments take climate change targets into account
- Sustainable waste management
- Promoting skills to boost the green economy
- Supporting the voluntary and community sector and our volunteer networks to act on climate change.

Whilst the focus of the Climate Change Strategy is to achieve carbon neutrality, many of the measures contained in the plan will also help improve air quality, for example improving

energy efficiency in buildings and moving towards renewable energy will reduce emissions from combustion associated with heating.

Oldham Metropolitan Borough Council

Oldham Council carried out a review of its NOx tube locations following NOx modelling work carried by TFGM. The new tube locations were deployed at the start of 2021. Results from these tubes will be used to identify any additional actions the Council should take to reduce levels in areas where residents may be exposed to levels of exceedance of the annual average of NOx.

QA/QC of Diffusion Tube Monitoring

Diffusion Tubes operating in Greater Manchester are prepared and analysed by Staffordshire Scientific Services using the 20% triethanolamine (TEA) in water method. The laboratory method is UKAS accredited, and the laboratory takes part in the AIR-PT independent quality assurance scheme. Results from 2021 indicate a 100% satisfactory performance.[35]

Diffusion Tube Annualisation

Annualisation is required for any site with data capture less than 75% but greater than 25%. Sites requiring annualisation are listed in Table C.2. Defra's Diffusion Tube Processing Tool was used for annualisation.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within this ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous

[35] Staffordshire County Council, Staffordshire Highways Laboratory, NO2 diffusion Tube analysis GQ Results – April 2022 summary

analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Greater Manchester have applied a national bias adjustment factor of 0.86 to the 2021 monitoring data. A summary of bias adjustment factors used by Greater Manchester over the past five years is presented in Table C.1.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	03/22[36]	0.86[37]
2020	National	03/21	0.85
2019	National	03/20	0.93
2018	National	03/19	0.87
2017	National	03/18	0.89

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1. 34 Diffusion Tubes recording annual mean concentrations over 36ug/m3 were adjusted for relevant exposure. Results are provided in more detail below in Table C.4.

[36] For more information, see the National Bias Adjustment Factor Spreadsheet.

[37] 14 Studies applicable to the factor.

QA/QC of Automatic Monitoring

Greater Manchester Air Quality Network (GMAQN)

Automatic air quality analysers in the GMAQN are subject to a high level of quality assurance/ quality control. All analysers are either operated as part of the national Automatic Urban and Rural Network (AURN) or to equivalent standards.

Data management and ratification

Analysers that are not part of or affiliated to the AURN are part of the 'Calibration Club' scheme run by Ricardo-AEA. Data management and ratification procedures are equivalent to the AURN, the main features being:-

- Data screened daily for errors including manual and automatic checks.
- Data scaled in accordance with AURN and DEFRA Technical Guidance (TG 16) procedures.
- Any data errors or faults reported to Local Site Operators on the same or next working day.
- Independent audits twice per year.
- Final data set scaled and ratified to same standard as the AURN.

Automatic data used in the report is fully ratified.

Analyser service and maintenance

Automatic analysers that are not part of or affiliated to the AURN have a dedicated Equipment Support Unit (ESU), which is currently Enviro Technology Services Ltd. The ESU service contract specification includes:

- Analyser routine servicing and maintenance twice per year to manufacturers specifications and AURN procedures.
- 48 hour callout to attend analyser non-routine maintenance and breakdown repair events.
- Air conditioning system routine service and maintenance in accordance with the manufacturers recommendations and 48 hour callout to attend analyser non-routine maintenance and breakdown repair events.
- Fixed wire and portable appliance electrical testing.

Local Site Operators (LSOs)

Local authority officers carry out LSO duties, which includes:

- Management of automatic sites within their local authority area.
- Routine instrument calibrations using calibration gases traceable to primary standards – every 2 weeks for Roadside sites, every 4 weeks for Urban Background/ Urban Industrial sites.
- Emergency call-out visits, including carrying out some simple or temporary repairs as directed by the AURN management unit, Ricardo or the ESU.

Live and historic data is available at **Air Quality England** and **CleanAirGM**.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

All Automatic PM_{10} and $PM_{2.5}$ continuous analysers use BAM and FIDAS, which are reference equivalent and do not require correction.

A number of different instruments are used in Greater Manchester for the measurement of particles. Historically TEOM have been used, but DEFRA replaced a number of instruments with TEOM FDMS and some sites use the BAM or Partisol.

The reference method for the UK PM_{10} Objectives (and EU limit values) is based upon measurements from a gravimetric sampler. This samples over a 24 hour period and the particulate proportion less than 10 microns (PM_{10}) is measured by the mass difference before and after exposure. It is labour intensive and the UK, and European countries have invested heavily in the TEOM (Tapered Element Oscillating Microbalance). The TEOM measurements have been historically adjusted by a factor of 1.3 to make them gravimetric equivalent. However to further improve the technique; the measurement was modified by lowering the sampling temperature from 50°C to 30°C and adding a dryer to remove water vapour. This system is referred to a Filter Dynamics Measurement System (FDMS) and is equivalent to the EU reference method.

Due to widespread use of the TEOM, and its reliability and the need to report to the EU using an 'equivalent method', The Volatile Correction Model (VCM) was developed by Kings College London, to adjust the TEOM data. Studies have shown that FDMS sites within 200 kilometres can be used to correct the TEOM data as it assumes that the sample lost by the heating is the same over this geographical area. Sufficient FDMS sites have only been available since 2008/9 for the correction to be applied. VCM corrections have been applied to TEOM analyser results automatically since 2014 and historic records within the ASR have been altered to reflect VCM corrected results.

Automatic Monitoring Annualisation

Annualisation was undertaken for Bury Prestwich (45.15% NO_2 data capture, 52.56% PM_{10} data capture), Bury Radcliffe (46.46% NO_2 data capture, 26.83% PM_{10} data capture, Rochdale Queensway (40.78% NO_2 data capture, 40.70% PM_{10} data capture, 39.84% $PM_{2.5}$ data capture), and Manchester Sharston (39.84% $PM_{2.5}$ data capture). See Table C.2 for more information.

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

Table C.2 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Salford Eccles	Annualisation Factor Glazebury	Annualisation Factor Manchester Piccadilly	Annualisation Factor (N/A)	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
BO8NO	1.0296	1.0206	0.9171		0.9891	22.9	22.7	
BO67NO	1.0715	1.1376	0.9859		1.0650	18.6	19.9	
BOA117	1.0046	0.9857	1.1727		1.0544	28.2	29.7	
OLWSMSNO	0.9783	0.9873	0.9081		0.9579	46.4	44.5	
RO3ANO	1.0857	1.1412	0.9035		1.0434	18.3	19.0	
RO19ANO	1.1189	1.1596	1.0714		1.1166	36.9	41.2	
RO20ANO	0.8661	0.8250	0.8853		0.8588	33.7	28.9	
TA10NO	0.8311	0.7663	1.1954		0.9309	37.1	34.6	
TA33NO	0.8211	0.7695	1.0439		0.8782	25.5	22.3	
TA48NO	0.8311	0.7663	1.1954		0.9309	32.7	30.4	
TR5NO	0.9259	0.9013	1.0570		0.9614	26.0	25.0	
TR15NO	0.9280	0.8940	1.0573		0.9598	27.7	26.6	
TR25NO	0.9523	0.9269	1.1208		1.0000	-	-	*Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only*

Site ID	Annualisation Factor Salford Eccles	Annualisation Factor Glazebury	Annualisation Factor Manchester Piccadilly	Annualisation Factor (N/A)	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
TR25 ANO	0.9523	0.9269	1.1208		1.0000	-	-	*Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only*
TR25 BNO	0.9523	0.9269	1.1208		1.0000	13.3	13.3	*Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only*
TR30 NO	0.9974	1.0140	0.9673		0.9929	16.1	16.0	
TR31 NO	1.0095	1.0457	0.9058		0.9870	36.9	36.4	
WI13 2NO	1.0067	1.0000	1.2155		1.0741	24.0	25.8	
WI19 8NO	0.9610	0.9368	1.2492		1.0490	26.5	27.8	
WI21 7NO	1.0743	1.1127	1.1602		1.1158	25.3	28.2	
WI21 8NO	1.0912	1.1413	1.2635		1.1653	33.2	38.7	
WI22 1NO	1.0558	1.0754	0.9163		1.0158	24.0	24.4	
WI22 4NO	1.0325	1.0620	0.9772		1.0239	33.6	34.4	
WI22 6NO	1.0325	1.0620	0.9772		1.0239	23.6	24.2	
WI22 8NO	0.9543	0.9601	0.9598		0.9581	26.2	25.1	
WI22 9NO	1.1098	1.1777	0.8611		1.0495	25.2	26.5	
WI23 1NO	1.0857	1.1412	0.9035		1.0434	31.1	32.5	

Site ID	Annualisation Factor Salford Eccles	Annualisation Factor Glazebury	Annualisation Factor Manchester Piccadilly	Annualisation Factor (N/A)	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
WI23 2NO	1.0857	1.1412	0.9035		1.0434	21.2	22.1	
WI23 3NO	1.0857	1.1412	0.9035		1.0434	21.9	22.9	
WI23 4NO	1.0774	1.1167	0.8612		1.0184	30.6	31.2	
WI23 5NO	1.0390	1.0665	0.8439		0.9831	25.2	24.8	
WI23 6NO	1.0390	1.0665	0.8439		0.9831	19.4	19.1	
WI23 7NO	1.0390	1.0665	0.8439		0.9831	24.2	23.8	
WI23 8NO	1.0395	1.0822	0.8782		1.0000	24.0	24.0	
WI24 0NO	0.9230	0.9230	0.8216		0.8892	26.6	23.7	
WI24 1NO	0.9230	0.9230	0.8216		0.8892	31.8	28.3	

Table C.3 – NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
BO3NO	0.5	2.5	37.1	18.5	31.8	
BO69NO	1.5	31.5	38.1	19.0	25.3	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
BO71NO	1.5	301.5	41.5	18.9	-	*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*
BO73NO	2.0	5.0	37.4	21.80029	34.1	
BU12NO	0.5	2.4	40.9	17.75398	34.4	

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
BU13 NO	0.5	11.5	39.8	17.8	27.6	
BU15 NO	0.5	4.5	37.4	20.5	30.9	
BU16 NO	2.2	7.2	36.1	26.1	33.2	
MA29 ANO	2.5	4.5	44.8	29.7	**42.6**	*Predicted concentration at Receptor above AQS objective.*
MA75 NO	0.5	3.5	39.0	19.5	32.3	

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
MA82 NO, MA83 NO, MA84 NO	3.0	8.0	40.7	29.7	37.9	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
MA88 NO	1.0	6.0	36.8	17.4	29.8	
MA96 BNO	3.0	5.0	41.0	25.8	*39.0*	*Predicted concentration at Receptor within 10% the AQS objective.*
MA10 3BNO	2.0	4.0	39.6	20.3	*36.5*	*Predicted concentration at Receptor within 10% the AQS objective.*
MA10 4BNO	2.0	2.5	36.4	19.6	35.5	

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
OL368MRNO	4.4	6.4	38.2	19.5	*36.2*	*Predicted concentration at Receptor within 10% the AQS objective.*
OLWSMSNO	4.6	36.6	38.2	20.8	27.7	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
OL17SRNO	0.2	1.7	39.9	20.0	32.9	
OL21SRNO	2.0	2.5	46.3	17.2	**44.8**	*Predicted concentration at Receptor above AQS objective.*
SA65NO	3.0	13.0	37.9	21.1	31.5	

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
SA68 NO	2.5	6.0	44.3	18.8	*38.7*	*Predicted concentration at Receptor within 10% the AQS objective.*
SA69 NO	1.5	10.0	36.8	18.5	29.2	
SA72 NO	0.5	2.5	38.8	20.5	33.6	
SA78 NO	1.5	4.0	39.6	22.7	36.0	
SA82 NO	2.2	12.2	39.6	22.9	32.7	

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
SA86 NO	0.5	5.5	44.0	19.1	33.4	
TA11 NO	2.0	3.0	41.1	11.0	*38.2*	*Predicted concentration at Receptor within 10% the AQS objective.*
TA18 NO	2.0	37.0	36.5	24.0	27.9	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
TA21 NO	1.0	2.0	37.9	11.0	34.1	
TA45 NO, TA46 NO, TA47 NO	5.0	29.0	39.7	12.4	25.4	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
TA54 NO	3.0	27.0	39.9	26.1	32.0	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
TA55 NO	3.0	9.0	42.5	26.1	*37.9*	*Predicted concentration at Receptor within 10% the AQS objective.*
TA64 NO	0.2	1.2	37.4	19.3	32.5	
WI12 9NO	2.0	5.0	36.7	14.8	32.0	
MAN1[38]	3.0	8.0	29.7	44.0	40.4	*Predicted Concentration at Receptor above AQS objective*

[38] Manchester Oxford Rd Automatic Monitoring Station

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
TAM1 [39]	5.0	9.0	36.0	12.4	31.9	

[39] Tameside Mottram Moor Automatic Monitoring Station

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1 – Map of Automatic Monitoring Sites

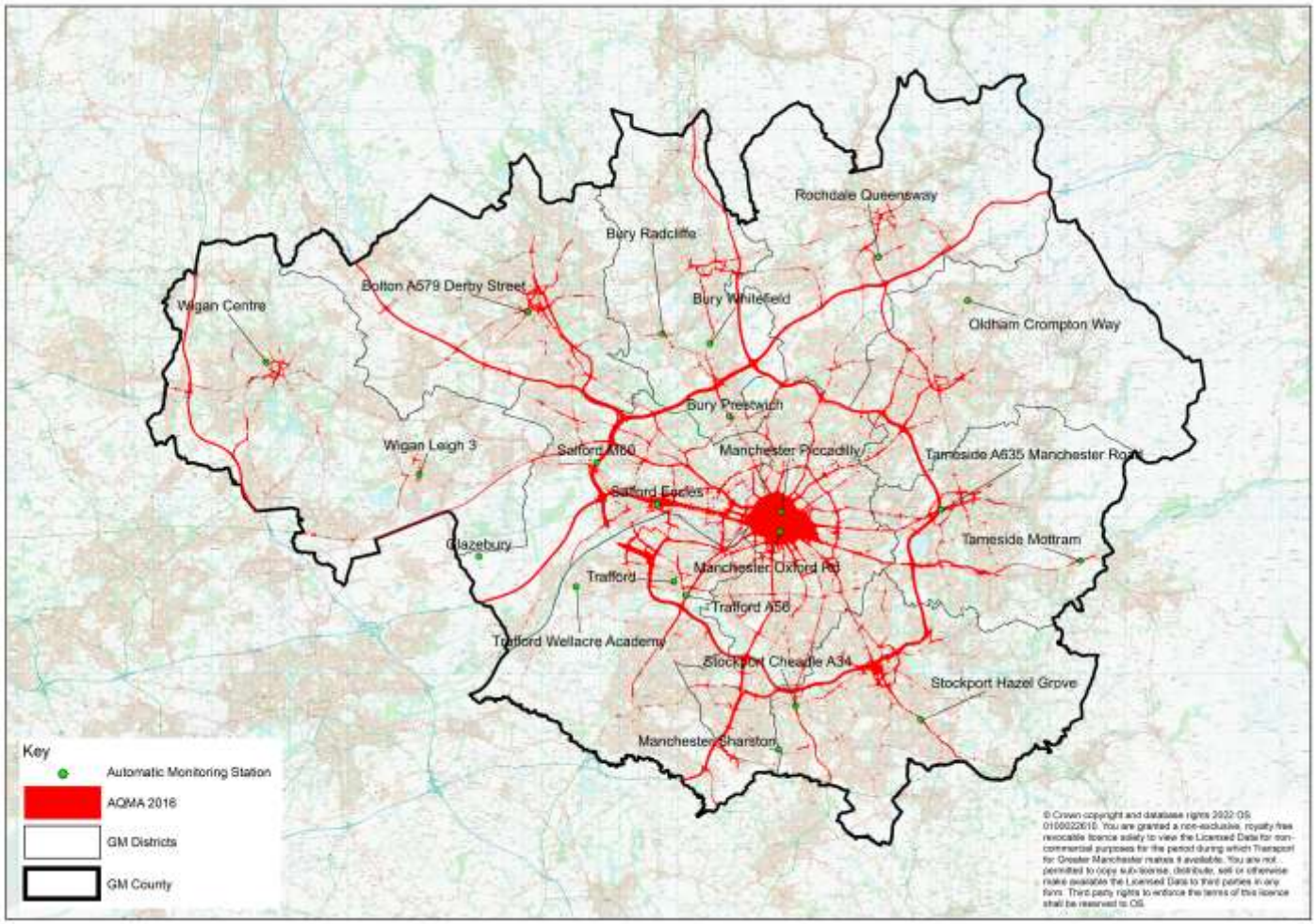


Figure D.2 – Map of Non-Automatic Monitoring Sites (North East GM)

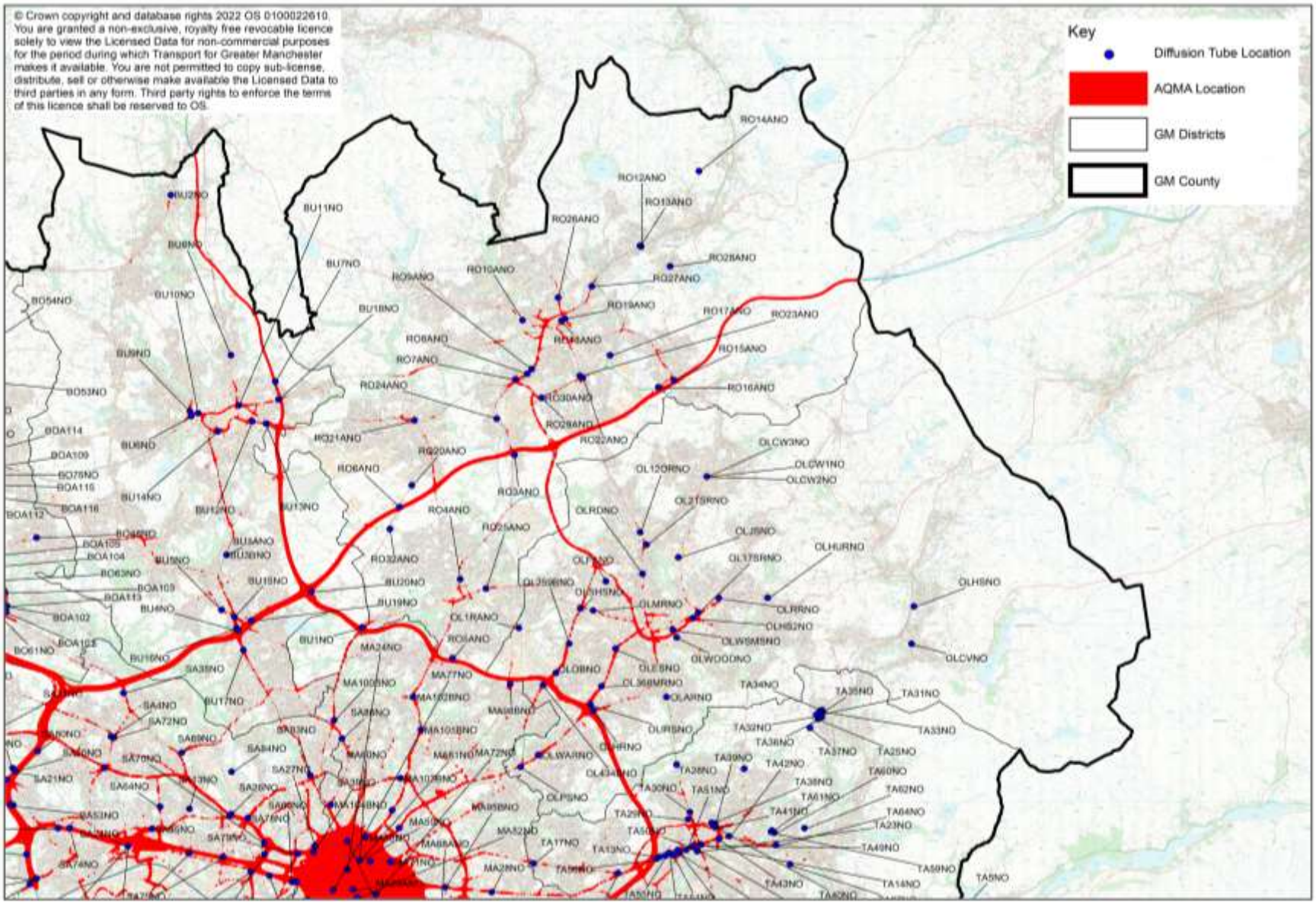


Figure D.3 – Map of Non-Automatic Monitoring Sites (North West GM)

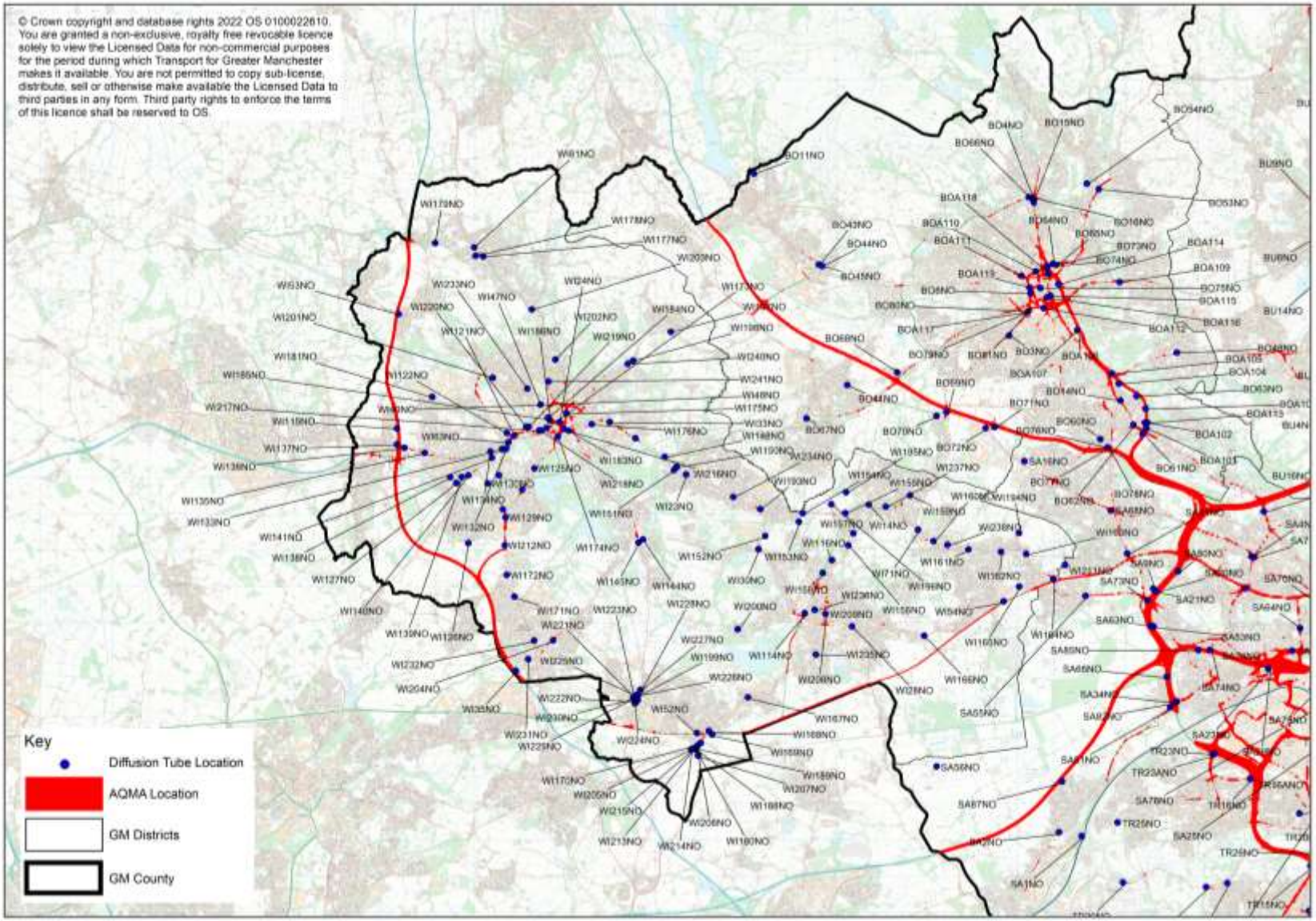


Figure D.4 – Map of Non-Automatic Monitoring Sites (South East GM)

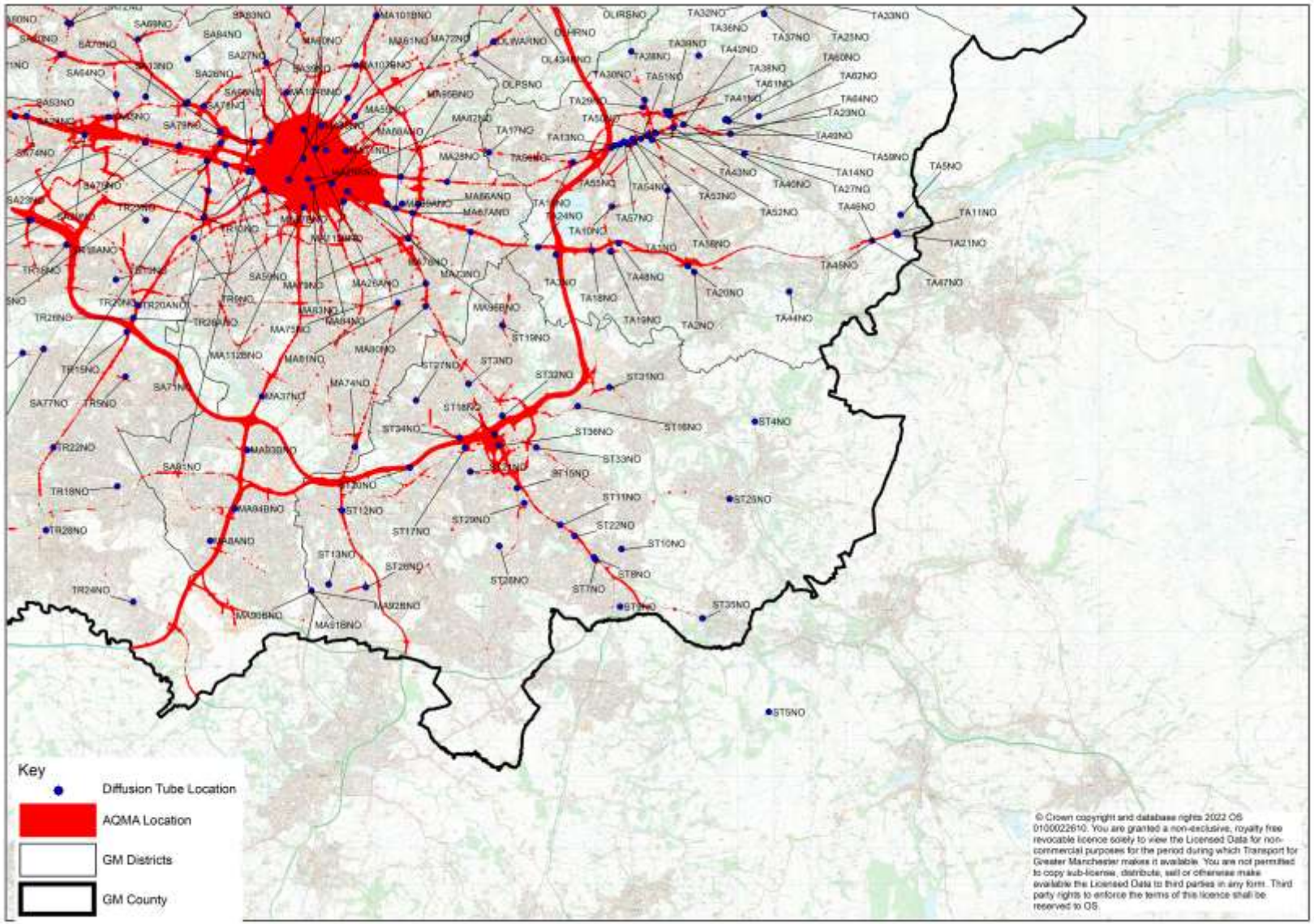
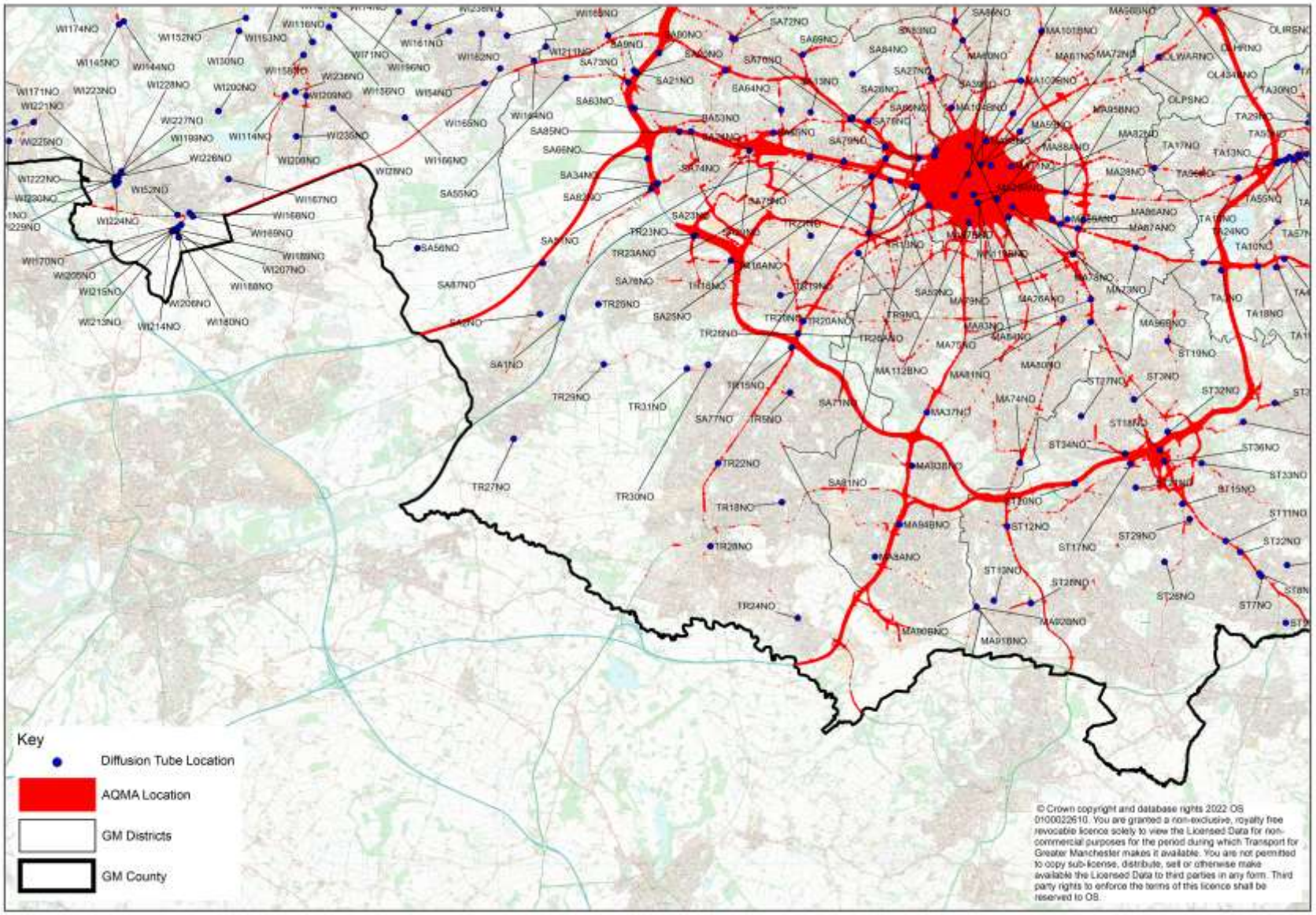


Figure D.5 – Map of Non-Automatic Monitoring Sites (South West GM)



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[40]

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

[40] The units are in micrograms of pollutant per cubic metre of air (µg/m^3).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.