



# GMCA

**GREATER  
MANCHESTER  
COMBINED  
AUTHORITY**

## 2023 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995  
Local Air Quality Management, as amended by the  
Environment Act 2021

Date: June 2024

LAQM Annual Status Report 2023

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# Executive Summary: Air Quality in Our Area

## Air Quality in Greater Manchester

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer, and can cause a range of health impacts, including effects on lung function, exacerbating of asthma, increasing hospital admissions and mortality. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to between 29,000 and 43,000 deaths a year<sup>1</sup>.

Air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to poor air quality<sup>2</sup>.

Greater Manchester has a population of more than 2.8 million residents in 10 local authorities over an area of approximately 500 square miles. Within the city region 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.

This Annual Status Report has been prepared to fulfil the Greater Manchester authorities' duties under the Environment Act 1995. It specifically reports air quality based on the Local Air Quality Management (LAQM) monitoring regime and its progress against actions within the Greater Manchester Air Quality Action Plan (AQAP). It is, however, important to note that Greater Manchester is currently developing a Clean Air Plan (GM CAP) to tackle exceedances of nitrogen dioxide (NO<sub>2</sub>) at the roadside in compliance with a government direction.<sup>3</sup> The Clean Air Plan has its own monitoring regime, which has different criteria to

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<sup>1</sup> UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

<sup>2</sup> Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

<sup>3</sup> [The Environment Act 1995 \(Greater Manchester\) Air Quality Direction 2022 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/111111)

LAQM and, as such, the CAP monitoring results are included in this document but are reported separately<sup>4</sup>.

Table ES1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from.

**Table ES1- Description of Key Pollutants**

Pollutant	Description
Nitrogen dioxide (NO <sub>2</sub> )	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur dioxide (SO <sub>2</sub> )	Sulphur dioxide (SO <sub>2</sub> ) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate matter (PM <sub>10</sub> and PM <sub>2.5</sub> )	<p>Particulate matter is everything in the air that is not a gas.</p> <p>Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes.</p> <p>PM<sub>10</sub> refers to particles under 10 micrometres. Fine particulate matter or PM<sub>2.5</sub> are particles under 2.5 micrometres.</p>

Statutory Technical Guidance TG 22<sup>5</sup> requires local authorities to report on NO<sub>2</sub>, PM<sub>10</sub> (Particulate Matter less than 10µm in diameter), and SO<sub>2</sub> (Sulphur Dioxide). Whilst the responsibility for meeting the PM<sub>2.5</sub> targets sits with national government, local authorities have a role to play in delivering reductions in PM<sub>2.5</sub>. These are reported in more detail in Section 3.2.

Long-term trends show that there has been an improvement in air quality when looking at NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> data and no exceedance of the SO<sub>2</sub> objective since ASR reporting began in 2015. However, the COVID-19 pandemic and its associated travel restrictions

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<sup>4</sup> The Local Authorities must have due regards to the Statutory Technical Guidance TG 23 when monitoring air quality and to relevant exposure, whereas the Clean Air Plan monitoring is related to roadside concentrations.

<sup>5</sup> [LAQM-TG22-August-22-v1.0.pdf \(defra.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/731222/LAQM-TG22-August-22-v1.0.pdf)

reduced concentrations and associated exceedances significantly (to just two exceedances of the NO<sub>2</sub> annual mean objective in 2020, measured at manual/diffusion tube sites). In the short-term since 2020, NO<sub>2</sub> concentrations in Greater Manchester have been returning towards pre-COVID levels as transport behaviour ramped back up, until 2023, where we have started to see an overall decrease compared to 2021 and 2022. When compared to 2019 levels, there has been a significant improvement which has been displayed over the years post COVID-19.

Travel in Greater Manchester has returned broadly to pre-pandemic levels. However, there has been a change in travel behaviour and how the transport network is used, with weekday peak periods still below pre-pandemic levels. Below is a table identifying how transport use has increased since 2022.

**Table ES2**

Mode of transport	Increase in use 2023 vs 2022
Metrolink	17%
Rail	13%
Bus	5%
Highways	2%

With regards to the LAQM results in 2023, there were 12 exceedances of the annual mean objective for NO<sub>2</sub> recorded across the city region at non-automatic stations. The maximum concentration was recorded at Oxford Street in Manchester as 49.6µg/m<sup>3</sup> and, when distance corrected for exposure, was 43.4µg/m<sup>3</sup>.

GM CAP monitoring data showed 64 locations where exceedances of the NO<sub>2</sub> annual mean limit value in GM were indicated, with a further 78 locations considered to be at risk of exceeding the limit. The GM CAP monitoring data indicates that air pollution has generally decreased compared with 2022.

Across all automatic monitoring sites, both for LAQM and CAP, two exceedances were recorded, Manchester Oxford Road (LAQM) at  $41\mu\text{g}/\text{m}^3$  and Manchester Bridge Street (CAP) at  $54\mu\text{g}/\text{m}^3$ . Manchester Bridge Street was a new addition to the automatic monitoring network, installed in September 2022 as part of the GM CAP to measure roadside concentrations – and this report shows the first full year of monitoring data. As [the Bee Network](#) develops, Bridge Street will see a fully electrified bus fleet on this busy corridor in the coming years<sup>6</sup>, which should improve  $\text{NO}_2$  concentrations. Manchester Oxford Road historically has often recorded the highest  $\text{NO}_2$  concentration in the city region, however  $\text{NO}_2$  concentrations have continued to decline and in 2023 recorded  $18\mu\text{g}/\text{m}^3$  less than 2019.

In 2023 there were 12  $\text{NO}_2$  exceedances recorded at non-automatic stations and 2 at automatic monitoring sites. This compares with 59 non-automatic sites and 3 automatic site exceedances respectively in 2019, and 16 and 1 from 2022 (see the table ES3 below for comparison).

**Table ES3 LAQM Exceedances**

Exceedances of the annual limit for $\text{NO}_2$ at non-automatic and automatic sites									
2019		2020		2021		2022		2023	
Non-Automatic	Automatic	Non-Automatic	Automatic	Non-Automatic	Automatic	Non-Automatic	Automatic	Non-Automatic	Automatic
59	3	2	0	13	1	16	1	12	1
59 locations		2 locations		13 locations		16 locations		12 locations	
<b>N.B. Diffusion tubes are co-located at automatic sites and therefore the number of actual locations is represented by the non-automatic sites</b>									

<sup>6</sup> [REDACTED]

[REDACTED]

[REDACTED]

## Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan<sup>7</sup> sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter (PM<sub>2.5</sub>), the pollutant most harmful to human health. The Air Quality Strategy<sup>8</sup> provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero<sup>9</sup> details the government's approach to reduce exhaust emissions from road transport through several mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and most Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

The 10 Greater Manchester local authorities continue to introduce measures to address air pollution contained within the Greater Manchester AQAP, as well as developing a Clean Air Plan as directed by government.

By way of background, in 2016 an Air Quality Management Area (AQMA) was declared for NO<sub>2</sub> covering areas across GM modelled to be greater than 35µgm<sup>-3</sup> as an annual mean. An accompanying AQAP was also produced following a programme of consultation and workshops with key stakeholders, including the Greater Manchester local authorities, Public Health England (now UK Health Security Agency), Transport for Greater Manchester (TfGM) and Highways England (now National Highways), to gain feedback on the new measures proposed in the draft plan.

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<sup>7</sup> Defra. Environmental Improvement Plan 2023, January 2023

<sup>8</sup> Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

<sup>9</sup> DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018



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:** This includes standardising 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 are a crucial part of the transport network, carrying by far the most public transport journeys, and give opportunities to improve air quality. New legislative developments, the adoption of the Greater Manchester Bus Strategy and improvements to vehicle standards will all help ensure that bus continues to play a vital role into the future,
- **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 air quality improvements.
- **Information and resources:** Educating and informing the public, businesses and policy makers is vital in bringing air quality improvements.

Much of this report is set out according to these themes. In 2023, progress has been made on several actions in the Air Quality Action Plan. Highlights include:

## **The Bee Network**

[The Bee Network](#) is Greater Manchester's vision for a joined up, touch in, touch out, London-style transport system. Eventually, it will be a one-stop-shop for all local journeys. Whether catching a bus, tram, train or walking, cycling or wheeling, it will be:

- Easier to get around, with joined-up services.
- Great value, with capped fares and flexible tickets.
- Simpler to plan, with easy-to-understand passenger information.
- Accessible, so everyone can use it.
- More reliable and more sustainable.

The Bee Network's dedicated website launched in September 2023 and has information on live departures, travel alerts and schedules. There is help with journey planning and ways to travel and the ability to purchase tickets and passes

## **Bus**

24 September 2023 was a landmark day for GM, which became the first city region in England to take control of its buses after nearly 40 years of deregulation. As part of the [Bee Network](#), Greater Manchester Combined Authority (GMCA) is delivering a bus franchising scheme for local services across all 10 districts in GM.

Transport for Greater Manchester (TfGM) is responsible for operating the franchising scheme on behalf of the GMCA and has the authority to contract bus operators to run local bus services under franchise agreements, including planning the bus network, specifying vehicles and where and when they run.

Bus franchising is being delivered across the city region in three phases:

- 24 September 2023: Bee Network bus services introduced in Bolton, Wigan and parts of Bury, Salford and Manchester.
- 24 March 2024: Bee Network bus services introduced in Oldham, Rochdale and parts of Bury, Salford and north Manchester.
- 5 January 2025: Bee Network bus services will run in Stockport, Tameside, Trafford and the remaining parts of Manchester and Salford.

Through its [Bus Strategy](#), GM has set out its vision for the future bus network with an initial target for a 30% increase in patronage by 2030 from 2022/23 levels. GM aims for its bus system to:

- Provide consistent and attractive car-free connectivity for all.
- Connect to other parts of the Bee Network and longer distance public transport.
- Support attractive urban places, including town centres and new developments.
- Have a positive impact on public health and the environment.
- Provide people with more travel options in the day and night.
- Be accountable and a source of shared local pride.

To achieve this, more people need to choose to travel by bus and other more sustainable forms of transport. TfGM's ambition is for the full electrification of GM's bus fleet (and supporting infrastructure) by 2032, with 50% of the fleet to be zero emission by 2027. As

more vehicles are replaced with zero-emission alternatives, the positive environmental difference that buses can make will grow. At the end of 2023, GM had approximately 82 zero-emission buses in operation, 50 operating out of Bolton Depot & 32 out of Sharston Depot. GM has an aspiration for all buses to be EV by 2032<sup>10</sup>.



*Brand new Bee Network EVs ready for roll out.*

### **Starling Bank Bike hire scheme**

The Greater Manchester cycle hire scheme, which launched in November 2021, has continued to be a success.

Starling Bank Bikes<sup>11</sup> are contributing to the ongoing efforts to improve air quality and play a vital role in GM's sustainable transport network by enabling people who don't own a bike (or don't have it with them) to choose active travel. Riders who make the switch from a car journey to a hire bike can save 80mg of nitrogen oxide (NO<sub>x</sub>) for every km travelled (based

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<sup>10</sup> [GM Bus Strategy - PUBLICATION.pdf \(ctfassets.net\)](#)

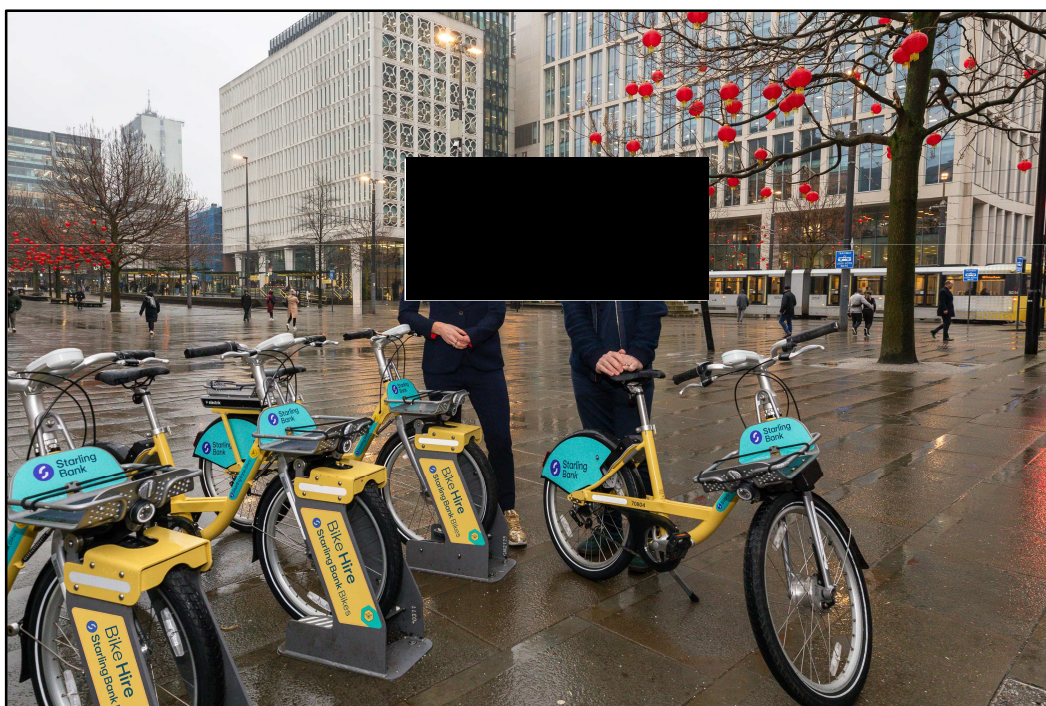
<sup>11</sup> In January 2024, Starling Bank became the first sponsor of the scheme.

on the Euro 6d diesel car regulatory emission standard)<sup>12</sup>. In 2023, it was reported that 32% of NO<sub>x</sub> emissions came from transport alone.<sup>13</sup>

The Starling Bank Bike scheme is vital to encouraging modal shift away from the private car and has gained 72,000 active users since launching in November 2021, with more than 1.5 million kilometres ridden so far, giving an approximate saving of 120 kg of NO<sub>x</sub>.

Money generated from Starling Bank's sponsorship is being reinvested into the scheme, supporting ongoing operational costs, such as bike and stand maintenance and future expansion.

The long-term ambition is to extend the scheme beyond the current operation in parts of Manchester, Trafford and Salford to other GM boroughs.



*Active Travel Commissioner Dame Sarah Storey and Greater Manchester Mayor Andy Burnham in St Peter's Square with the newly sponsored Starling Bank Bikes.*

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<sup>12</sup> [Commission Regulation \(EU\) No 459/2012 of 29 May 2012 amending Regulation \(EC\) No 715/2007 of the European Parliament and of the Council and Commission Regulation \(EC\) No 692/2008 as regards emissions from light passenger and commercial vehicles \(Euro 6\)Text with EEA relevance \(europa.eu\)](#)

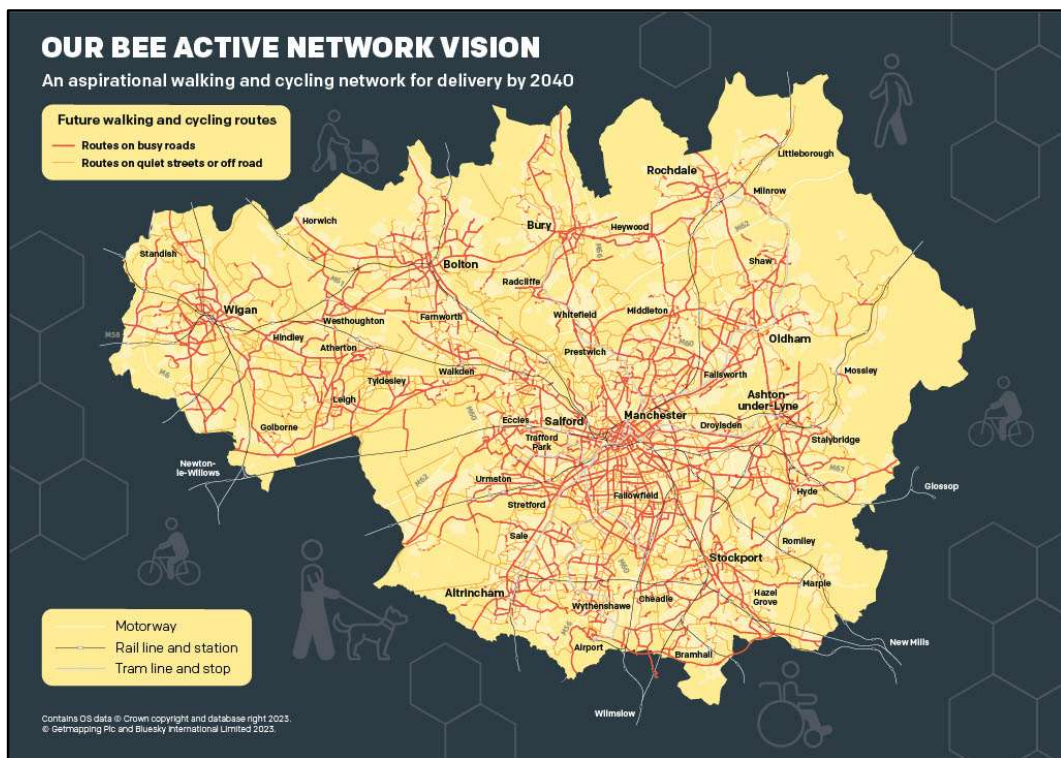
<sup>13</sup> <https://www.gov.uk/government/statistics/transport-and-environment-statistics-2023/transport-and-environment-statistics-2023>

## Active Travel

In December 2023, Active Travel Commissioner Dame Sarah Storey set out a bold new road map for cycling, walking and wheeling in GM, following a major review of active travel infrastructure across the city region.

The city-region’s plan to build the UK’s largest cycling, walking and wheeling network – known as the [Bee Active Network](#) – has been reviewed and brought up to date to ensure it is fully joined up with the wider Bee Network, GM’s vision for a London-style public transport network.

The Bee Active Network, as set out in a new report by Dame Sarah, ‘[Refreshing Greater Manchester’s Active Travel Mission](#)’<sup>14</sup> will see walking and wheeling prioritised, making neighbourhoods safer and more accessible for pedestrians and wheelchair users on their journeys. Cyclists are also set to benefit with the construction of more segregated cycleways and protected junctions along major transport corridors.



Map showing planned Bee Active cycling and walking network by 2040

An updated Bee Active Network map (above) shows how 2,734km of cycling, walking and wheeling routes will connect neighbourhoods, towns, city centres and public transport hubs over the coming decades. The network will comprise 1,170km routes on busy roads, 932km on quiet roads and 631km of off-road routes, to be complete by 2040.

Data shows that 95% of people using public transport in GM include walking as part of their trip at some point, so the new network and associated infrastructure will make those journeys easier.

[Cycle and Stride for Active Lives](#), a TfGM-backed initiative that helps community groups become more active through walking and cycling, is going from strength-to-strength. More than 30 new groups have joined Cycle and Stride for Active Lives following the latest round of applications, taking the total number involved to an impressive 65.



*Mayor of GM, Andy Burnham, visiting a social support group in Heywood encouraging the Cycle & Stride for Active Lives initiative.*

## **Defra Air Quality Grant**

Air Quality Grant funding awarded by Defra in 2022 <sup>15</sup> has been used to inform residents about the health impacts of wood-burning stoves, along with safer ways of burning solid fuel. In 2023, TfGM coordinated a second GM-wide information campaign, on behalf of the 10 GM local authorities, to raise awareness of the harmful effects to human health and pollution emitted from solid fuel burning, with a particular focus on woodburning stoves.

The project has four elements:

- Informing the public of the harmful effects to both health and the environment of burning the incorrect fuel or the right fuel incorrectly. Additionally, information was given on the legal requirements around smoke control areas, and the new powers to issue fixed penalty notices for emitting smoke from a chimney.
- Installing 40 MCERTS compliant Indicative Monitors (four in each local authority area) to measure PM<sub>2.5</sub> and to help determine if the information campaigns have had any impact on the PM<sub>2.5</sub> burden across the region.
- An update on the Emissions Inventory EMIGMA to determine which are the greatest contributors to PM<sub>2.5</sub>
- Research into the behaviours behind burning solid fuel, the type of fuel people burn, why they burn solid fuel, whether they are aware of the smoke control legislation, and what would make them change their habits.

[For further details go to section 2.3 in the main body of this report.](#)

## **Clean Air Plan Update**

The government has instructed many local authorities across the UK to take quick action to bring harmful NO<sub>2</sub> air pollution levels within legal limits. In GM, the 10 local authorities, with the support of GMCA and TfGM, are working together to develop a Greater Manchester Clean Air Plan (GM CAP) to tackle NO<sub>2</sub> exceedances at the roadside. In June 2021 the GMCA endorsed a final GM CAP and policy following a review of the information from the GM CAP consultation and wider data, evidence and modelling work. The plan was then agreed by the 10 GM local authorities. This included a GM-wide category C

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<sup>15</sup> [£11.6m boost for local authorities to tackle air pollution - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/11-6m-boost-for-local-authorities-to-tackle-air-pollution)

charging Clean Air Zone (CAZ), where non-compliant HGVs, LGVs, buses, minibuses, coaches, and taxi and private hire vehicles which did not meet emission standards would have been charged to drive in the proposed CAZ.

It was originally intended that the CAZ would go live from 30 May 2022. Work to install the CAZ signage and Automatic Number Plate Recognition (ANPR) cameras for monitoring the CAZ began in summer 2021, alongside the development of back-office systems. The CAZ was designed to comply with a legal direction from government issued before the coronavirus pandemic, to deliver compliance with NO<sub>2</sub> legal limits on the local road network by 2024<sup>16</sup>. However, since then there have been significant vehicle supply chain issues and the cost of living increased, leading to concerns about the availability of compliant vehicles and financial hardship for local people.

Late in 2021, GM commissioned an independent review of emerging global supply chain issues and the impact this could have on the cost and availability of vehicles. Based on this the Mayor of Greater Manchester and Leaders determined that the original Clean Air Plan was unworkable. Government agreed in February 2022 to lift the previous legal direction requiring GM to achieve compliance with legal NO<sub>2</sub> limits by 2024. Government gave GM until July 2022 to present a revised plan to achieve compliance with legal levels of NO<sub>2</sub> on the local road network in the shortest time possible and by no later than 2026<sup>17</sup>. The '[Case for a new Greater Manchester Clean Air Plan](#)'<sup>18</sup> was submitted to the Secretary of State in July 2022.

In January 2023, government asked GM for additional evidence, including modelling how its investment-led approach performs (in terms of delivering compliance with legal NO<sub>2</sub> levels) against the 'benchmark' of a charging Clean Air Zone, to address the NO<sub>2</sub> exceedances identified in central Manchester and Salford.

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<sup>16</sup> [Environment Act 1995 \(Greater Manchester\) Air Quality Direction 2019 \(publishing.service.gov.uk\)](#), subsequently revoked by Environment Act 1995 (Greater Manchester) Air Quality Direction 2020.

<sup>17</sup> [The Environment Act 1995 \(Greater Manchester\) Air Quality Direction 2022 \(publishing.service.gov.uk\)](#).

<sup>18</sup> [REDACTED]



In April 2023, the government advised of a review of its bus retrofit programme as it had evidence that retrofitted buses have poor and highly variable performance in real-world conditions. Due to the bus retrofit review the requested evidence needed further work.

In December 2023, GM submitted an update to the Secretary of State on the 'Case for a new Greater Manchester Clean Air Plan' and confirmed that an appraisal of GM's proposed investment-led plan has been undertaken against a benchmark charging Clean Air Zone (CAZ) in the centre of Manchester and Salford. GM's evidence shows that the investment-led, non-charging plan can achieve compliance in 2025, ahead of the benchmarked charging Clean Air Zone.

To summarise, the investment-led plan includes:

- **£51.2m investment in 64 zero-emission electric (ZEB) buses and upgrades to electric vehicle charging infrastructure at bus depots in Manchester, Bolton and Middleton:** Bringing buses back under local control through the Bee Network allows Greater Manchester to run ZEBs on routes where they can have the biggest impact on improving air quality.
- **£22.5m Clean Taxi Fund:** Providing grants of between £3,770 and £12,560 to help eligible taxis (Hackney Carriages and Private Hire Vehicles) licensed with a Greater Manchester local authority meet a new minimum emission standard by 31 December 2025.
- **£8m Electric Hackney Upgrade Fund:** Providing grants of between £7,530 and £12,560 to help eligible owners of GM-licensed hackneys who meet the minimum emission standard help upgrade to a Zero Emission capable vehicle.
- **£5m investment in local traffic measures:** To manage traffic flow on roads in Manchester and Salford, including Regent Road and Quay Street.

It is for government to determine what measures GM is to implement – modelling has shown that only the investment-led GM CAP complies with the requirement placed on the 10 GM local authorities to deliver compliance in the shortest possible time and by 2026 at the latest.

## Conclusions and Priorities

The 2023 ASR covers in detail progress on all actions listed in the AQAP and includes information on the development of the GM CAP and a summary of GM CAP air quality monitoring results.

The GM local authorities under the LAQM regime carry out air quality monitoring for NO<sub>2</sub> using a combination of:

- **Continuous automatic monitoring sites:** There are currently 24 continuous air quality monitoring stations, 3 of which are CAP specific sites, 14 are located at the roadside.
- **Diffusion tubes:** In 2023 there were 356 monitoring locations for Local Air Quality Management purposes (LAQM). In addition, there were 295 monitoring locations for the GM CAP.

Details of these sites as well as data for 2023 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](#)<sup>19</sup>.

In 2023, GM has seen a reduction of non-automatic sites exceeding the annual mean for NO<sub>2</sub> by four – from 16 to 12, compared to 2022 . There was still only 1 exceedance for automatic monitoring which was recorded at Manchester Oxford Road, the same site as in 2022. An additional site new for 2023, was installed on Manchester Bridge Street to support the GM CAP. Although Bridge Street has measured an exceedance of the annual limit, with regards to LAQM there is no relevant exposure nearby. A triplicate CAP Diffusion Tube site installed 53m from the monitoring station on Bridge Street (again for the GM CAP) measured concentrations 13µg/m<sup>3</sup> less than the monitoring station, indicating that this may be a localised issue. Further analysis of the results show that high levels are measured during the early hours of the morning between just after midnight at

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<sup>19</sup> [Data Hub | Clean Air Greater Manchester](#) ( [REDACTED] )

weekends and around 6am during the week, indicating that these levels may be associated with vehicles idling whilst illegally parked.

Table ES4 below summarises NO<sub>2</sub> concentrations and exceedances of the annual mean objective (AMO) across sites set up for LAQM purposes (automatic and non-automatic) across GM in 2023.

**Table ES4: Summary of LAQM NO<sub>2</sub> monitoring in GM in 2023**

Authority	Automatic sites (with valid data capture 2023) <sup>20</sup>	Non-automatic sites	Concentration range (all sites) (µg/m <sup>3</sup> )	Exceedances of NO <sub>2</sub> Annual Mean (non-automatic sites)		Increase / Decrease of Exceedances on Year
				In AQMA	Outside AQMA	
Bolton MBC	1	47	40.4 - 8.9	1	-	+1
Bury MBC	3	20	38.7 - 18.8	-	-	-1
Manchester CC	3	40	49.6 - 14.2	2	-	-2
Oldham MBC	1	27	45.0 - 15.8	2	-	-1
Rochdale MBC	1	28	32.6 - 11.6	-	-	0
Salford CC	3	48	43.2 - 10.8	1	1	-2
Stockport MBC	2	30	34.3 - 5.7	-	-	0
Tameside MBC	2	53	45.2 - 9.6	3	-	0
Trafford MBC	3	15	29.8 - 11.3	-	-	0
Wigan MBC	2	48	43.8 - 13.9	1	1	+1
<b>Total measurements</b>	<b>24</b>	<b>356</b>	<b>49.6 - 5.7</b>	<b>10</b>	<b>2</b>	<b>-4</b>

Trends in NO<sub>2</sub> concentrations across sites set up for LAQM purposes in GM in 2023 can be summarised as follows:

- The highest NO<sub>2</sub> annual mean concentration recorded at an LAQM automatic site in 2023 was 41µg/m<sup>3</sup>, measured at Oxford Road. This annual mean concentration is down from 43µg/m<sup>3</sup> in 2022, recorded at the same site.
- In 2023, there was only one increase for an automatic air quality monitoring site which was operational in 2022. The increase in NO<sub>2</sub> annual mean concentration of 1 µg/m<sup>3</sup> was measured at a rural background location at Glazebury, measuring 12 µg/m<sup>3</sup>, the same concentration as in 2021.

<sup>20</sup> >25% (3 months or more) data capture.

- There have been no exceedances of the NO<sub>2</sub> 1-hour mean objective (more than 18 exceedances of an hourly concentration of >200 µg/m<sup>3</sup>) in 2023. Nor was there an exceedance of this objective in 2022 and 2021.
- Of all 356<sup>21</sup> LAQM diffusion tubes operating across Greater Manchester in 2023, the highest annual mean concentration recorded was 49.6 µg/m<sup>3</sup> at Manchester Oxford Street, which is inside the AQMA. When adjusted for relevant exposure the annual mean concentration at this location was 43.1 µg/m<sup>3</sup>.
- Of the 350 LAQM diffusion tube sites operating in Greater Manchester in 2023 that were operating in 2022, 249 recorded lower annual means than 2022 of up to 15 µg/m<sup>3</sup>, seven remained the same and 49 recorded higher annual means by up to 9.4µg/m<sup>3</sup>.
- In 2023 across the diffusion tube sites set up for LAQM purposes, 12 exceedances of the Annual Mean Objective (AMO) for NO<sub>2</sub> (40 µg/m<sup>3</sup>) were recorded. This is an improvement on 16 recorded in 2022 and a significant improvement on 2019 where 62 diffusion tube locations exceeded the AMO. Of those monitoring stations operational in 2020 (the pandemic year), in 2023, five have measured concentrations less than 2020, seven have measured the same as 2020 and five have shown a slight increase in the 2020 concentrations, by a maximum of 5 µg/m<sup>3</sup>. However all monitoring stations which were operational in 2019 have measured concentrations less than those recorded in 2019, by up to 18 µg/m<sup>3</sup> at Oxford Road.

From the 20 monitoring stations which measured PM<sub>10</sub> in 2023, there were no reported increased concentrations compared to 2022. One of the sites recorded the same concentration of PM<sub>10</sub> as in 2022 and the other 18 sites recorded a decrease of PM<sub>10</sub> of up to 6µg/m<sup>3</sup>. As per last year, there were no recorded exceedances of the annual mean objective (40µg/m<sup>3</sup>) for PM<sub>10</sub> in 2023.

In 2023, all ten automatic monitoring stations recording PM<sub>2.5</sub> showed a decrease in annual mean concentrations of between 1 and 3µg/m<sup>3</sup>. All monitoring stations were

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<sup>21</sup> Wigan reduced the number of diffusion tube locations in 2023 which had consistently recorded low concentrations of NO<sub>2</sub> and considered no longer beneficial in informing the LAQM.

compliant with the national air quality objective for PM<sub>2.5</sub> (25 µg/m<sup>3</sup>) in 2023 and were below the new government target level of 10 µg/m<sup>3</sup>, to be met in 2040.

There were two exceedances of the annual NO<sub>2</sub> national air quality objective in 2023 that were recorded at non-automatic sites located outside of the AQMA, as follows:

1. WI180NO – Winwick Lane, Wigan: Mitigation measures are being implemented in Wigan through a local air quality action plan which has contributed to a 3µg/m<sup>3</sup> reduction in annual mean NO<sub>2</sub> concentrations since 2022.
2. SA86 – Bury Old Road, Salford: This monitoring site measured an annual mean NO<sub>2</sub> concentration of 43 ug/m<sup>3</sup> in 2023 after bias correction. The monitoring site is approximately 0.5m away from the kerb. After distance correction, the 2023 annual mean NO<sub>2</sub> concentration is calculated to be 32 ug/m<sup>3</sup> at the nearest relevant receptor, which is not exceeding the annual mean NO<sub>2</sub> national air quality objective. In addition, the monitoring site is only 8m away from the AQMA boundary and most sections of Bury Old Road in Salford are covered by the AQMA. Therefore, the current Greater Manchester Air Quality Action Plan will still be valid to ensure that air quality objectives will be achieved at this location.

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.

### **Greater Manchester Clean Air Plan**

For 2023, the GM CAP survey comprised 295 monitoring locations including eight co-location sites with continuous analysers (the total number of sites fluctuated during the year as a small number of sites had to be moved or decommissioned). Results that can be compared with the annual average Limit Value standard are available at 248 locations, following the review of data capture and siting criteria.

GM CAP monitoring data showed 64 locations where exceedances of the NO<sub>2</sub> annual mean limit value in GM were indicated, with a further 78 locations considered to be at risk of exceeding the limit. The GM CAP monitoring data indicates that air pollution has generally decreased compared with 2022. Analysis of the factors influencing pollution emissions and air quality indicate that the concentrations have been affected by:

- An increase in car traffic compared with 2022, but also a cleaner vehicle fleet as a result of natural churn as older cars are replaced by newer cleaner models.
- The launch of locally controlled Bee Network bus services, and introduction of new electric buses.
- The operations of retrofit Euro V buses, which are known to exhibit variable emissions performance under real-world conditions.

Table ES5 below summarises NO<sub>2</sub> concentrations and exceedances of the annual mean across sites set up for GM CAP purposes in 2023, with further details given under Section 2.3.1: “CAP Monitoring Results 2023”.

**Table ES5 - CAP Monitoring Results Summary**

<b>Authority</b>	<b>Non-automatic sites (with valid data capture 2023)[1]</b>	<b>Concentration range (all sites) (µg/m<sup>3</sup>)</b>	<b>No. Exceedances of NO<sub>2</sub> Annual Mean LVs (non-automatic sites)</b>
<b>Bolton MBC</b>	19	<b>42.5 - 26.7</b>	2
<b>Bury MBC</b>	19	<b>42.8 - 29.1</b>	3
<b>Manchester CC</b>	109	<b>58.6 - 26.1</b>	39
<b>Oldham MBC</b>	13	<b>41.5 - 30.7</b>	1
<b>Rochdale MBC</b>	6	39.4 – 29.0	0
<b>Salford CC</b>	32	<b>43.2 - 26.5</b>	4
<b>Stockport MBC</b>	24	<b>49.9 - 26.5</b>	7
<b>Tameside MBC</b>	19	<b>46.6 - 19.9</b>	7
<b>Trafford MBC</b>	4	34.0 - 28.6	0
<b>Wigan MBC</b>	3	<b>47.2 - 30.4</b>	1
<b>Total</b>	248	<b>58.6 – 19.9</b>	64

## **The Changing Profile of Road Using Vehicles**

In 2023 across the UK, the number of new vehicle registrations showed an increase of 16%, when compared to 2022. At the end of December 2023, there were more than 1,015,000 licensed zero-emission vehicles on the road, representing 2.5% of all vehicles.

Comparing 2023 with 2022, in the UK, there were:

- 2,535,000 vehicles registered for the first time, an increase of 16%.
- 342,000 vehicles registered for the first time that were zero emission, an increase of 17%.
- 314,000 cars registered for the first time that were zero emission, an increase of 18%.

At the end of December 2023, compared to December 2022, in the UK there were:

- 41.2 million licensed vehicles, an increase of 1%.
- 1,015,000 licensed zero-emission vehicles, an increase of 47%, including 931,000 zero-emission cars, an increase of 48%.

At the end of 2023, zero-emission vehicles accounted for 2.5% of all road using vehicles, an increase of 0.8 percentage points from the end of 2022<sup>22</sup>.

## **Local Engagement and How to get Involved**

There are many ways a Greater Manchester resident can get involved in helping to make the city region one of the best places in the world to grow up, get on and grow old. We can all take actions to reduce outdoor air pollution. Although not covered by this report, indoor air quality – and how we can improve it – should not be forgotten (further information can

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<sup>22</sup> [Vehicle licensing statistics: 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/vehicle-licensing-statistics-2023)



be found on [GM Clean Air website](#)<sup>23</sup> and [GM Burn Better web page](#)<sup>24</sup>). Making small changes to our daily habits can make a big difference.

### **Travelling to work**

For some, getting to work by car may be the most convenient way to travel, but may not be the most sustainable. In the UK, cars and taxis are the main contributors of air pollution caused by transport, making up 52% of the 24% that comes from transport in 2023.<sup>25</sup>

Ultimately, we want to take pressure off our roads by reducing the number of private cars in use where possible. A surprising number of short journeys in GM are made by private car when walking, cycling or wheeling should be the first option. In 2022, the 15% of car trips that were 1km or less equated to about 150 million annual car journeys by GM residents. These could have been walked in around 15 minutes or cycled in around four minutes and saved an estimated 12 tonnes of NOx<sup>26</sup>.

Here are a few ways we can make a difference to our air quality by changing the way we travel to work where possible:

- **Walking:** If your workplace is close enough and you're fit and able enough to walk, this would be a great idea. Or consider walking for part of your journey. We are always looking to improve GM's streets by making them more inclusive, user friendly and safe – making it easier for us all to walk.
- **Cycling:** Most workplaces will be aware of the government [cycle to work scheme](#), which employers can sign up to for their employees, helping them to buy a bike and use this for travelling into work. GM is supporting businesses and organisations to make sure facilities are in place to remove barriers to cycling to work, like providing secure cycle parking or showers. More information about cycling in GM, for work or

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<sup>23</sup> [REDACTED]

<sup>24</sup> [REDACTED]

<sup>25</sup> <https://www.transportenvironment.org/te-united-kingdom/topics/cars>

<sup>26</sup> Based on Euro 6 standard for a diesel engine of 0.08g/km

leisure, can be found [on the Bee Active website<sup>27</sup>](#). Business support regarding cycling, can be found on the travel planning for employers web page [28](#).

- **Active Travel infrastructure:** Since May 2020, more than 100km of Bee Network standard infrastructure has been delivered including 19km of protected cycling, walking and wheeling routes along major roads and 20 protected junctions. Meanwhile, a further 78km of schemes are in development and are due to be completed within the next three years. This works towards making sure all infrastructure meets the Bee Network standards, encouraging more sustainable travel.
- **Public Transport:** [The Bee Network](#) is Greater Manchester’s vision for a joined up, touch in, touch out, London-style transport system, already making it easier to get around. Eventually, it will be a one-stop-shop for all local journeys. Whether you catch the bus, tram, train or walk, cycle or wheel, it will be:
  - Easier to get around, with joined up services.
  - Great value, with capped fares and flexible tickets.
  - Simpler to plan, with easy-to-understand passenger information.
  - Accessible, so everyone can use it.
  - More reliable and more sustainable.

More than 50% of Greater Manchester’s buses are now under local control as part of the Bee Network, with the rest to follow in January 2025. TfGM is working with operators to make sure Bee Network services supports travel to work, also carrying out thorough network reviews to identify ways to improve.

In 2022, to help with the cost of living, the capped bus fare plan was brought forward a year and will remain in place until September 2024, with adult single journeys capped at £2, children at £1, adult all-day travel capped at £5 with children capped at £2.50.

## Private Vehicles

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<sup>27</sup> [REDACTED]

<sup>28</sup> [REDACTED]

If car or taxi is the only way to get to work, there's still things you can do to improve air quality within GM:

- **Park & Ride:** GM has a large Park & Ride network so you can make part of your journey by car, park up and catch the bus, tram and train to work. Parking is always free if you have the right public transport ticket. Find out more about [the Bee Network website](#), which has a list and map of all the Park & Rides within the city region.
- **Car Share:** If you and a colleague (or two) can share the commute it's a great way to take unnecessary car journeys off the road.
- **Consider going electric:** More and more people in GM are choosing electric vehicles as costs reduce and more and more charging points are installed. Going electric could help reduce your emissions and can even save you money on fuel and maintenance. Greater Manchester has more than a 1,000 public and privately owned charging points and is working to deliver more publicly owned charging infrastructure – with a target of 4,500 charging points live by 2028. [Zap Map](#) is a great website to help you find your nearest charging points on a map. Find out more about going electric on the [Greater Manchester Electric Travel website](#).
- **Get your vehicle serviced regularly:** Looking after your car and making sure simple things like tyre pressures are topped up will not only save you money in fuel, but mean fewer harmful emissions. For example, it's estimated that the materials given off from wear and tear from brake linings are 49% particulate matter (PM<sub>10</sub>)<sup>29</sup>.
- **Switch your engine off:** Try not to leave the engine running if you are stopped, or going to be stopped, for thirty seconds or more – just start up again when you're ready to move. This will not only improve air quality but also save you money. According to research<sup>30</sup> a car can use up to 10g of fuel per minute of idling, which can equate to NO<sub>2</sub> emissions of 44.1µg/m<sup>3</sup> if parked on a typical street with buildings either side. That means idling engines can make a big contribution to

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<sup>29</sup> [https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1907101151\\_20190709\\_Non\\_Exhaust\\_Emissions\\_typeset\\_Final.pdf](https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1907101151_20190709_Non_Exhaust_Emissions_typeset_Final.pdf)

<sup>30</sup> [REDACTED]

exceedances of the legal limit of for harmful NO<sub>2</sub> of 40µg/m<sup>3</sup>. On top of that, engine idling for 10 minutes a day over a year could cost up to £50 a year in fuel.<sup>31</sup>

- **Driving Style:** Reducing your speed and driving in a way that reduces the need for hard cornering and braking can also help reduce harmful particulate matter. According to Defra<sup>32</sup> in the UK PM<sub>2.5</sub> from brake and tyre wear in 2021 was 18% above its total in 1990, and particulate matter from road abrasion was 15% higher than in 1990. Road abrasion and brake and tyre wear together make up 84% of PM<sub>10</sub> emissions from transport in 2021.
- **Agile working:** If possible, making hybrid working arrangements with your employer to alternate between office and remote working, would potentially reduce the number of private vehicles on Greater Manchester's roads that contribute towards poor air quality.

## Leisure Travel

When it comes to things to do, GM has something for everyone, from shopping, sporting events, theatres, concerts and museums, to cafes, bars and restaurants. We're making it easy to get out and about by public transport and active travel so you can help our environment. Everything you need to plan your journey can be found on [the Bee Network website](#). You can also [download the Bee Network app](#) to plan journeys, see travel alerts and buy tickets.

- **Bus:** Information on the Bee Network and other local bus services can be found [here](#). Check out routes and timetables and even understand the ticketing plan relevant to your journey.
- **Cycle, walking and wheeling:** Getting around under your own steam is among the best and cheapest ways to get around Greater Manchester and the best for the environment. To understand the cycle routes in your area, you may want to check your local council's website. The [Bee Active website](#) has everything you need to get

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<sup>31</sup> Using data within TRL's report (17) and a diesel price of £1.45/l

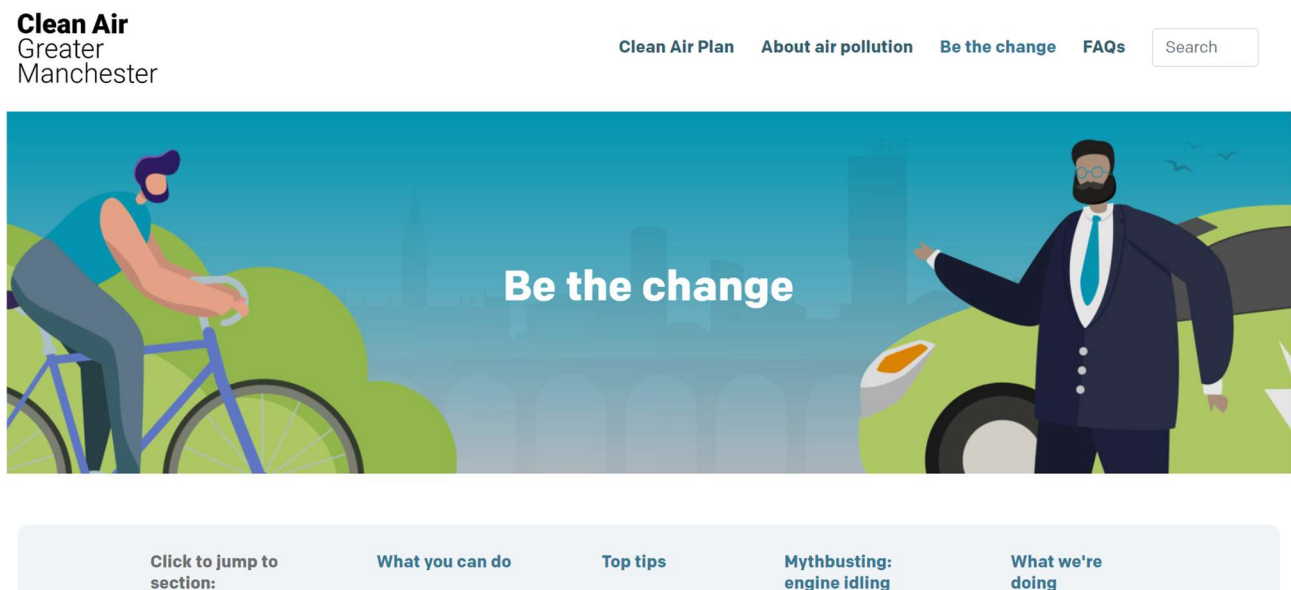
<sup>32</sup> [Transport and environment statistics: 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/transport-and-environment-statistics-2023/transport-and-environment-statistics-2023#air-pollution)  
<https://www.gov.uk/government/statistics/transport-and-environment-statistics-2023/transport-and-environment-statistics-2023#air-pollution>

started, from learning to ride, how to borrow, buy or hire a bike – and keep it well maintained – as well as finding the best walking and cycling routes around Greater Manchester.

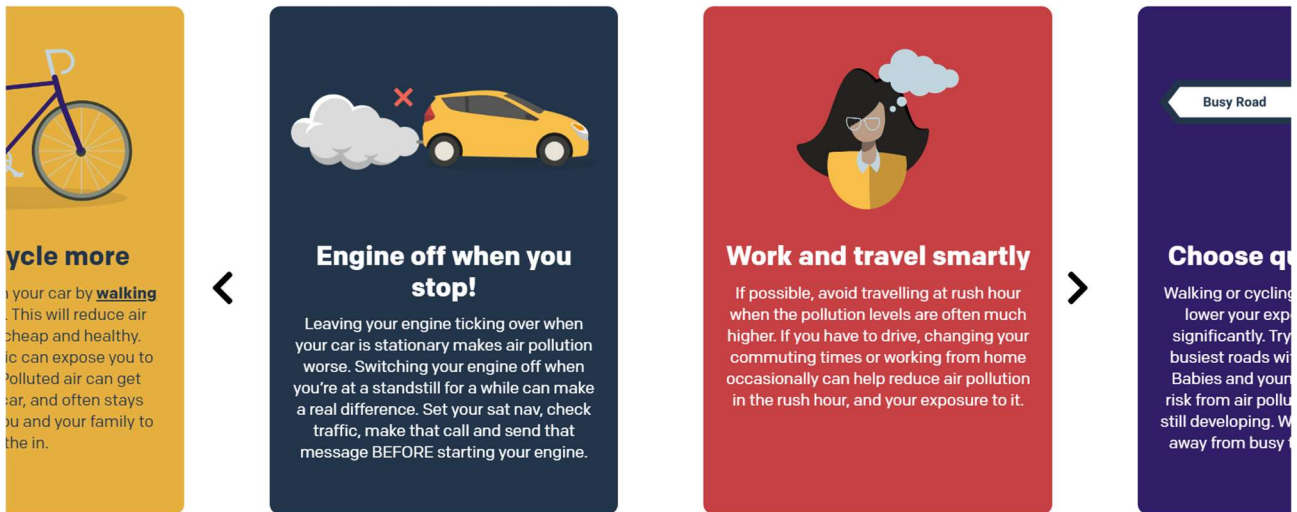
- **Tram:** With 99 stops and a network of lines across Greater Manchester, the fully accessible Metrolink tram system is a key part of the Bee Network. Find everything you need to get around by tram on [this webpage](#), from tram maps, schedules and routes, to stop information, park and ride sites, tickets and passes and more.

For more information using public transport within GM, customers can use the [Journey Planner](#)<sup>33</sup>, which is constantly being updated to provide the best user experience.

[cleanairgm.com](#) contains a wealth of information and data on local air quality, the GM CAP, and how [you can play your part in reducing and avoiding air pollution](#). There is a section for schools also included on the website that includes a free air quality toolkit for schools to download. Some examples are below.



Clean Air GM website 'Be the change' webpage.



An interactive section giving 'top tips' to avoid and reduce air pollution.



A 'mythbusting' section to clarify some common misconceptions about engine idling.



## Registration

The 'Schools toolkit' webpage with registration form found [here](#)

Residents can sign up for pollution alerts on the [Forecast & Alerts webpage<sup>34</sup>](#) on the cleanairgm.com. There were 673 users across GM as of January 2024, with registered subscribers in all GM districts, up from 543 the year before. The number of days that received at least one MODERATE (or higher) forecast in the year 2023 was 153, down from 183 in 2022.

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

Authority	Days that have received at least one MODERATE (or higher) forecast in 2023	Number of subscribers (January 2024)
<b>Bolton</b>	16	77
<b>Bury</b>	15	19
<b>Manchester</b>	15	304
<b>Oldham</b>	15	13
<b>Rochdale</b>	17	41
<b>Salford</b>	15	54
<b>Stockport</b>	15	51
<b>Tameside</b>	14	18
<b>Trafford</b>	15	39
<b>Wigan</b>	16	57
<b>Total</b>	<b>153</b>	<b>673</b>

## Local Responsibilities and Commitment

This ASR was prepared by the Greater Manchester Air Quality Working Group with the support of the officers listed on page ii of this report.

This ASR has been approved by:

- Bury MBC: Chris Horth, Unit Manager – Environment Team
- Bolton MBC: Andrew Bolan, Head of Service, Regulatory Services
- Manchester CC: Hayley Falls, Assistant Director of Infrastructure & Environment
- Oldham Council: Neil Crabtree, Head of Public Protection



- Rochdale MBC: Nicola Rogers, Assistant Director, Information, Customers & Communities
- Salford CC: Rob Owen, Head of Highways and Network Management
- Stockport MBC: Sue Stevenson, Head of Highways and Transportation
- Tameside MBC: Emma Varnam, Assistant Director Operations and Neighbourhoods
- 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: Jilla Burgess-Allen Stockport MBC<sup>35</sup>

If you have any comments on this ASR please send them to: TfGM, 2 Piccadilly Place, Manchester, M1 3BG. Email [info@cleanairgm.com](mailto:info@cleanairgm.com)

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<sup>35</sup> The ASR has also been reviewed by Dr. Kristina Poole, Consultant in Health Protection & Head of Health Protection (Greater Manchester), UK Health Security Agency.

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# 1 Local Air Quality Management

This report provides an overview of air quality in GM during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), 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 to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies used by GM to improve air quality and any progress that has been made. The statutory air quality objectives applicable to LAQM in England are presented in Table E.1 below.

**Table E.1 Air Quality Objectives in England<sup>36</sup>**

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO <sub>2</sub> )	40µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM <sub>10</sub> )	40µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	125µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	266µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

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<sup>36</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).



## 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 18 months. The AQAP should specify how air quality targets will be achieved and maintained, and provide dates by which measures will be carried out.

A summary of AQMAs declared by GM 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>. Appendix D contains maps of air quality monitoring locations in relation to the AQMAs.

The air quality objectives pertinent to the current AQMA designation relate to the NO<sub>2</sub> annual mean.

In agreement with Defra, the decision to review the current AQMA and consequently the AQAP is being delayed until the outcome of the new GM CAP is determined. At a meeting on 20 December 2023, Greater Manchester's Air Quality Administration Committee agreed the latest Clean Air Plan proposals for submission to the government's Joint Air Quality Unit. Government will then decide what the final Clean Air Plan includes. The next steps for the Greater Manchester Clean Air Plan are dependent on feedback from the government, which is expected later in 2024. Once the details of the approved CAP are known the GM authorities will review the AQMA to determine if the CAP alone will bring about compliance with LAQM regime locations. It is expected that this will commence in the winter of 2024, at which point Defra will be consulted on GM's plans and timelines.

#### 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 Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
AQMA Greater Manchester	Declared 01/05/2016	NO2 annual mean (40µg/m <sup>3</sup> )	An area covering the 10 districts of Greater Manchester, including arterial routes, district centres, and airport.	YES	58.7 <sup>37</sup>	43.1 <sup>38</sup>	0	Greater Manchester Air Quality Action Plan 2016-2021, (16.12.2016)	<a href="https://cleanairm.com/technical-documents/">https://cleanairm.com/technical-documents/</a>

Transport for Greater Manchester confirms the information on UK-Air regarding their AQMA(s) is up to date.

Transport for Greater Manchester confirms that all current AQAPs have been submitted to Defra.

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<sup>37</sup> Oxford Road, Distance corrected.

<sup>38</sup> Oxford Street, Distance corrected

## 2.2 Progress and Impact of Measures to address Air Quality in Greater Manchester

The following sections of the report are organised as follows: Section 2.2.1 provides Transport for Greater Manchester's city-region-wide updates, often impacting many or all 10 Local Authorities. Section 2.2.2 provides more in-depth updates from each of the 10 Local Authorities. Local Authorities are organised alphabetically.

Each Section provides updates according to the measures outlined in the 2016 – 2021 Greater Manchester Air Quality Action Plan.

A shorter summary of GM-wide updates can be viewed at Table 2.2.

Defra's appraisal of last year's ASR concluded that the report is detailed, concise and satisfies the criteria of the relevant standards.

GM has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 39 measures are included within Table 2.2, with the type of measure and the progress Greater Manchester has made during the reporting year of 2023 presented.

The key progressed and completed measures are:

- **Submission of the investment-led Clean Air Plan to government for approval.**
- **Cycle Hire:** The Bee Network Cycle Hire Scheme has continued to grow through 2023 and has gained sponsorship. Since launching in November 2021, the scheme has gained 72,000 active users, with more than 1.5m kilometres collectively ridden so far, giving an approximate a saving of 120 kg of NOx.
- **Amazon E-Cargo bikes:** Successful implementation of E-Cargo bikes used for the world's largest E-Commerce company. Looking to carry this on with others who have hubs in GM.
- **Active travel:** Continuing to develop a comprehensive active travel network across GM. Plans have been developed for 2,734km of cycling, walking and wheeling routes to connect neighbourhoods, towns, city centres and public transport hubs over the coming decades.
- **Bus franchising:** The start of bus franchising in September 2023 means that all Greater Manchester buses will be brought under public control as part of the Bee

Network by January 2025. This now allows for many air quality targets to be prioritised from a public transport perspective.

**City Region Sustainable Transport Settlements (CRSTS) investment in Bus priority.** Bus infrastructure is one of the core elements of GM's CRSTS programme, which will help shape GM's Bee Network. In 2023, business cases for five Quality Bus Transit Routes, two Bus Corridor Upgrades, six City Centre Radials as well as various 'pinch point' and maintenance schemes were in the process of development with local authorities. In total, this represents £219.8m of investment.

- **Introduction of more Electric Buses:** The launch of the first locally controlled franchised bus services in 2023 saw an additional 50 electric buses. As roll out of the franchised Bee Network bus services continues through to completion in January 2025, the number of Zero Emission Buses will continue to increase. GM ambition is to have a fully electric bus fleet by 2032.

Where there have been, or continue to be, barriers restricting implementation of these measures, these are also included within Table 2.2.

The principal challenges and barriers to implementation that GM anticipates facing include, in summary:

- **Pursuing licensing standards:** So that all Hackney and Private Hire Vehicles comply with emissions standards set out in the government's Clean Air Zone Framework.
- **Delivery & Service Plan of Toolkits:** The resources needed in implementing this measure have not seen the improvements expected. The dedicated resource at TfGM is no longer funded.
- **Engine idling enforcement issues:** Enforcement is not straightforward due to difficulty obtaining driver/owner details and the fixed penalty notice sum not covering the cost to local councils of the enforcement action taken.
- **Demand and supply for promoting alternative fuels:** Infrastructure needed to deliver the fuel to the end user and the availability of H2 vehicles in the market.
- **Cycle hire programme setbacks:** The cycle hire has encountered setbacks due to vandalism, however, an action plan is making good progress towards tackling this. As of January 2024 approximately 700 bikes were back in circulation.

GM is awaiting a response from government to the GM investment-led Clean Air Plan, which was submitted to JAQU in December 2023.

GM anticipates that the measures stated above and in Table 2.2 will achieve compliance with the legal limit for NO<sub>2</sub> in 2025.

## **2.2.1 Progress on actions across Greater Manchester**

### **1 Development Management and Planning Regulation**

#### **(AQAP1.1) Construction Management Guidance**

Updates on these actions are given by District below.

#### **(AQAP1.2) Development Planning Guidance**

Updates on these actions are given by District below.

#### **(AQAP1.3) Cumulative Development Database**

This database is no longer being updated as it was not providing Local Authority Officers with any useful additional insight.

#### **(AQAP1.4) Clean Air Zone Appraisal**

Further details of the status of the Clean Air Plan in GM are described above in the Clean Air Plan Update section of the Executive Summary, Actions to Improve Air Quality.

#### **(AQAP1.5) 20mph Zones**

Updates on this action are given by district below.

#### **(AQAP1.6) Encouraging Travel Planning**

We are working to encourage employers to assess their workforce travel habits and move them to more sustainable modes. This is done via readily available tools on TfGM's dedicated [business portal](#)<sup>39</sup>, through ongoing direct engagement and, in 2024, has been amplified using a business-to-business public transport campaign, bringing communications tools (developed in collaboration with firms) for businesses within easy reach. At the time of writing over 2,000 people had visited the dedicated campaign pages

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<sup>39</sup> [REDACTED]

[online](#)<sup>40</sup>. In 2024 TfGM has also helped the NHS in GM to develop a travel survey to enable workforce travel planning.

### **(AQAP1.7) 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 the city region.

Implementation of standards by GM local authorities was paused with the GM CAP.

GM local authorities are now pursuing licensing standards, subject to governance and approvals, so that all Hackney and Private Hire Vehicles comply with emissions standards set out in the government's Clean Air Zone Framework.

### **(AQAP1.8) Green Infrastructure**

Updates on this action are given by District below.

## **2 Freight and Heavy Goods Vehicles**

### **(AQAP2.1) Delivery and Servicing Plan Toolkit**

The Delivery and Servicing Plan Toolkit was developed by TfGM and included as an action in the 2016 AQAP. Previous ASR submissions, which can be found on the [cleanairgm.com](http://cleanairgm.com)<sup>41</sup>, detail how the tool was promoted. Although the toolkit was successful initially, it did not deliver sufficient improvements in air quality to justify the resource needed to promote its use further.

### **(AQAP2.2) Urban Distribution Centres**

GM has worked with a number of businesses/couriers to facilitate sustainable travel and e-cargo bikes solutions in GM. Couriers have stated that they trial this mode of transport in GM due to the high quality of the cycling network. An example of this working in full flow is

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<sup>40</sup> [REDACTED]

<sup>41</sup> [Monitoring reports | Clean Air Greater Manchester](#) [REDACTED]  
[REDACTED]

Amazon's use of e-cargo bikes out of their delivery hub at Trafford Park. Unveiled as part of a five-year £300 million investment in the electrification and decarbonisation of the company's UK transportation network, e-cargo bikes and walkers are now expected to make more than two million deliveries a year. Amazon say these deliveries will take traditional delivery vans off the nation's roads, alleviating city centre traffic congestion and improving air quality.

### **(AQAP2.3) Urban Consolidation**

Worked with several businesses/couriers to facilitate sustainable travel and e-cargo bikes solutions in Greater Manchester. Couriers state that they trial this mode of transport in Greater Manchester due to high quality of the cycling network.

### **(AQAP2.4) Access for Freight to Key Economic Centres and Sub-regional Freight Facilities**

As per last year's submission, refreshing the Greater Manchester Freight Strategy will provide guidance at a strategic, multi-modal level (relating to both potential and progress). TfGM are currently discussing details with the ten GM districts. Freight policy and strategic direction will be incorporated into the forthcoming GM Local Transport Plan.

### **(AQAP2.5) Freight Information Channels**

As per last year's submission, the Travel Demand Team is now well established at TfGM and, post-COVID lockdown, will continue to work on best methods for sharing information to a freight specific audience. We continue to invest in CLOCS<sup>42</sup> (Construction Logistics and Community Safety) and benefits to safety and environment.

### **(AQAP2.6) Diesel Transport Refrigeration Units (TRUs)**

As per last year's submission, there has yet to be any progress on this measure and its value to GM priorities has been called into question. As a result, this action has been suspended.

### **(AQAP2.7) Engine Idling**

A report 'Tackling Vehicle Idling – Options' was produced by the Greater Manchester Air Quality Working Group in August 2022, setting out options for enforcement against idling

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<sup>42</sup> [REDACTED]

vehicles and raising awareness of the issue. It determined that the Fixed Penalty Notice of £20 was low and difficult to enforce, however, should the FPN not be paid there is a maximum penalty upon conviction of £1,000. Government's Air Quality Strategy – Framework for local delivery<sup>43</sup> identifies stopping vehicle idling as an enforcement tool for local authorities to use in tackling hot spots where unnecessary idling is known, such as outside schools or around areas which are particularly vulnerable to poor air quality such as hospitals. Further work into the benefits of tackling unnecessary idling will be undertaken in 2024.

### **(AQAP2.8) Alternative Fuels**

The Trafford Green Hydrogen project<sup>44</sup> has been successful in securing grant funding and planning permission to become Europe's largest liquid air energy storage facility and one of the largest battery storage schemes in the UK. The development will have the ultimate capacity of 200MW, which will be sufficient to take around 8,000 petrol cars off the road. The Greater Manchester Air Quality Working Group is keen to ensure that there are no unintended consequences by combusting hydrogen in an internal combustion engine, which under certain conditions can give rise to more NO<sub>2</sub> and PM than a diesel alternative, which identifies that further research is needed in this field<sup>45</sup>.

TfGM is rolling out EV chargers through the Early Measures and Taxi Electric Vehicle Charging Infrastructure (EVCI) programmes. We are also developing further proposals to expand the publicly owned vehicle charging network using Low Emission Vehicle Infrastructure (LEVI) and City Region Sustainable Transport Settlement (CRSTS) funding. We promote the use of electric vehicles as part of the '[Electric Travel](#)' website.<sup>46</sup>

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<sup>43</sup> [Air Quality Strategy - Framework for local authority delivery \(publishing.service.gov.uk\)](https://assets.publishing.service.gov.uk/media/64e8963d63587000d1dbf9d/Air_Quality_Strategy_Web.pdf)  
[https://assets.publishing.service.gov.uk/media/64e8963d63587000d1dbf9d/Air\\_Quality\\_Strategy\\_Web.pdf](https://assets.publishing.service.gov.uk/media/64e8963d63587000d1dbf9d/Air_Quality_Strategy_Web.pdf)

<sup>44</sup> [The Project — Trafford Green Hydrogen](#)

<sup>45</sup> [Redacted]

<sup>46</sup> [Home Page | TfGM Electric Travel](#) [Redacted]

### **3 Buses**

#### **(AQAP3.1) Bus Priority Programmes**

Bus infrastructure is one of the core elements of GM's CRSTS programme, which will help shape GM's Bee Network. In 2023, business cases for five Quality Bus Transit Routes, two Bus Corridor Upgrades, six City Centre Radials as well as various 'pinch point' and maintenance schemes were in the process of development with local authorities. In total, this represents £219.8m of investment.

##### Quality Bus Transit

- Rochdale – Oldham - Ashton
- Wigan – Bolton
- Bury – Rochdale
- Ashton – Stockport
- Wigan – Leigh
- Salford Crescent – MediaCityUK

##### Bus Corridor Upgrades

- Sale West to Altrincham Bus Network Improvements

##### City Centre Radials

- Oldham Road
- Ashton New Road Radial
- Wellington Road (Stockport) Radial
- Stockport Road (Manchester) Radial
- Rochdale Road
- Wilmslow Road Radial

#### **(AQAP3.2) Bus Improvements**

Investment in cleaner buses is the most important mechanism for reducing exceedances and improving air quality under GM's proposed investment-led Clean Air Plan. GM is now able to deliver this through the roll out of locally controlled, franchised bus services across all 10 GM local authorities as part of the Bee Network.



TfGM is responsible for operating the franchising scheme on behalf of the GMCA and has the authority to contract bus operators to run local bus services under franchise agreements, including planning the bus network, specifying vehicles and where and when they run.

Bus franchising is being delivered across the city region in 3 phases:

- 24 September 2023: Bee Network bus services introduced in Bolton, Wigan and parts of Bury, Salford and Manchester.
- 24 March 2024: Bee Network bus services introduced in Oldham, Rochdale and parts of Bury, Salford and north Manchester.
- 5 January 2025: Bee Network bus services will run in Stockport, Tameside, Trafford and the remaining parts of Manchester and Salford.

Through its [Bus Strategy<sup>45</sup>](#), GM has set out its vision for the future bus network with an initial target for a 30% increase in patronage by 2030 from 2022/23 levels. GM wants its bus system to:

- Provide consistent and attractive car-free connectivity for all.
- Connect to other parts of the Bee Network and longer distance public transport.
- Support attractive urban places, including town centres and new developments.
- Have a positive impact on public health and the environment.
- Provide people with more travel options in the day and night.
- Be accountable and a source of shared local pride.

The GM Bus Strategy highlights that transport currently accounts for around a third of carbon emissions in GM. Local authorities have declared a Climate Emergency and the city region aims to be completely carbon neutral by 2038. To achieve this, more people need to choose to travel by bus and other more sustainable forms of transport. TfGM's ambition is for the full electrification of GM's bus fleet (and supporting infrastructure) by 2030, with 50% of the fleet to be zero emission by 2027. As more vehicles are replaced with zero-emission alternatives, the positive environmental difference that buses can make will grow.

GM had the following ZEBs in operation as of 31<sup>st</sup> December 2023, with more planned:

- 35 electric buses funded by government's Ultra-Low Emission Bus (ULEB) scheme, 32 operated by Stagecoach on the 111 and 43 routes connecting Manchester City

Centre, Manchester Airport, five hospitals and three universities. This fleet join the Bee Network when the final phase of franchised services starts running from 5 January 2025. With an additional 3 buses for Manchester Community Transport

- 100 electric buses funded from government's City Region Sustainable Transport Settlement (CRSTS).
  - 50 buses now operating out of Bolton depot and being used on franchised bus services in the first areas to join the Bee Network in September 2023: Bolton, Wigan, parts of Bury, Salford and Manchester.
  - A further 50 ZEB's are to be delivered to support the ongoing roll out of bus franchising with services in Bury, Rochdale and Oldham and parts of Manchester, Salford and Tameside in March 2024.
- 170 ZEB's are to be procured, partially funded by DfT's Zero Emission Buses Regional Area (ZEBRA) scheme.
- Around 250 more buses are to be delivered between 2024 – 2027 funded through CRSTS.

### **(AQAP3.3) Hybrid Bus Improvements**

In April 2023, government advised TfGM that it was to pause any new spending on bus retrofit as it had evidence that retrofitted buses have poor and highly variable performance in real-world conditions.

This followed a JAQU-funded study which indicated that retrofitted buses were not reducing emissions as expected.

In the light of the government's new evidence, JAQU issued revised general guidance to authorities producing Clean Air Plans nationwide. In summary, this required that air quality modelling should no longer assume any air quality benefits from a retrofitted bus.

Government advised that it anticipated a six-month focused research programme to quickly investigate the causes of poor bus retrofit performance and how it could be improved would be reported in Autumn 2023.

To date the outputs of this study have not been made available to GM.

In the absence of the outcome of the government's bus retrofit study, GM has incorporated the revised guidance from JAQU into the modelling which underpins the development of the GM CAP.

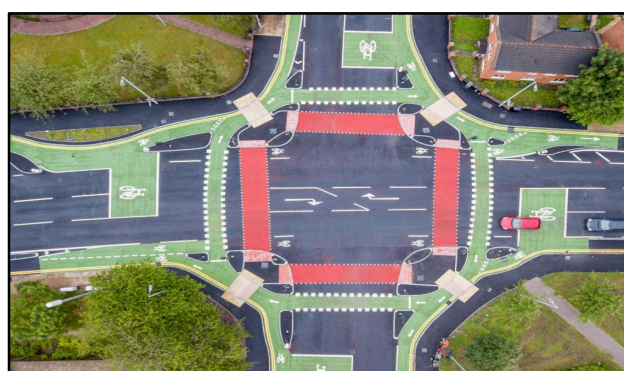
### **(AQAP3.4) Trial of Low-Emission Vehicles**

In 2023, we have continued to prioritise electrification of the GM bus fleet through the bus franchising process and using CRSTS funding, meaning no other trials of low-emission vehicles were conducted in 2023. Zero-Emission Bus (ZEB) data will be analysed to identify any opportunities for optimisation, with the analysis of the franchised Bee Network fleet starting to take place now as each phase of franchised services goes live. We expect to have more data on this for next year's ASR.

## **4 Cycling**

### **(AQAP4.1) Cycle Programmes**

GM's mission to deliver the first fully connected active travel network in the UK, as part of the Bee Network, has continued apace in 2023, supported by TfGM-led sustainable travel promotion schemes. Over 100km of Bee Network standard active travel infrastructure has now been delivered, and over £100m of schemes funded through the Mayor's Cycling and Walking Challenge Fund (MCF) have now been completed, with 27km being completed in 2023 alone. Major schemes such as Phase 3 of the Chorlton Cycleway (in Manchester) and Standish Mineral Line (in Wigan) were completed in 2023, including four new 'Cyclops' junctions – the new junction design pioneered in GM for the first time in the UK, which enables full Dutch-style protection of all movements for those cycling and wheeling. The total number of schemes at full delivery phase has increased from 47 in 2022 to 77 in 2023, with 65 complete and a further 12 on-site.



*First completed Cyclops junction in Hulme, Manchester.*

*New Sparrow Crossing at Cheadle School.*



*A segregated cycle lane runs alongside a bus stop on the Castleton to Rochdale scheme.*

[Cycle & Stride for Active Lives](#) is a TfGM-backed initiative that helps community groups become more active through walking and cycling and is going from strength-to-strength. More than 30 new groups have joined Cycle and Stride for Active Lives following the latest round of applications, taking the total number involved to an impressive 65.

The project – which has been made possible by a £1m grant from the London Marathon Foundation – has welcomed a diverse range of people and groups from across GM. These include children from disadvantaged communities, those with learning difficulties and other disabilities and people from ethnically diverse communities.

Further to this, £100,000 of funding for 19 new bike libraries across GM has also been secured through the Active Travel England/Department for Transport Capability and Ambition Fund.

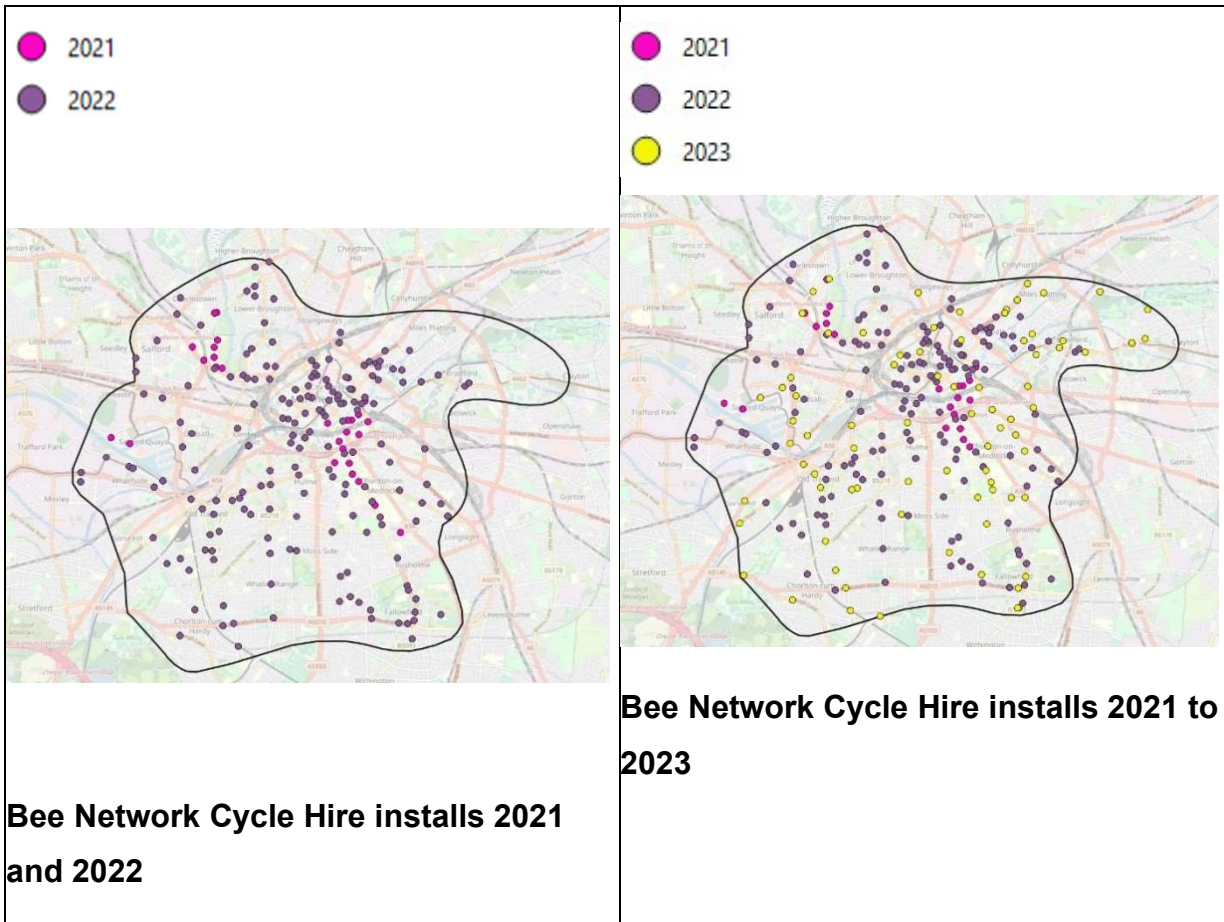
Bike libraries are local hubs that allow people to borrow a bicycle, like a book, to try out. They aim to boost access to bicycles and give people a chance to give cycling a go.



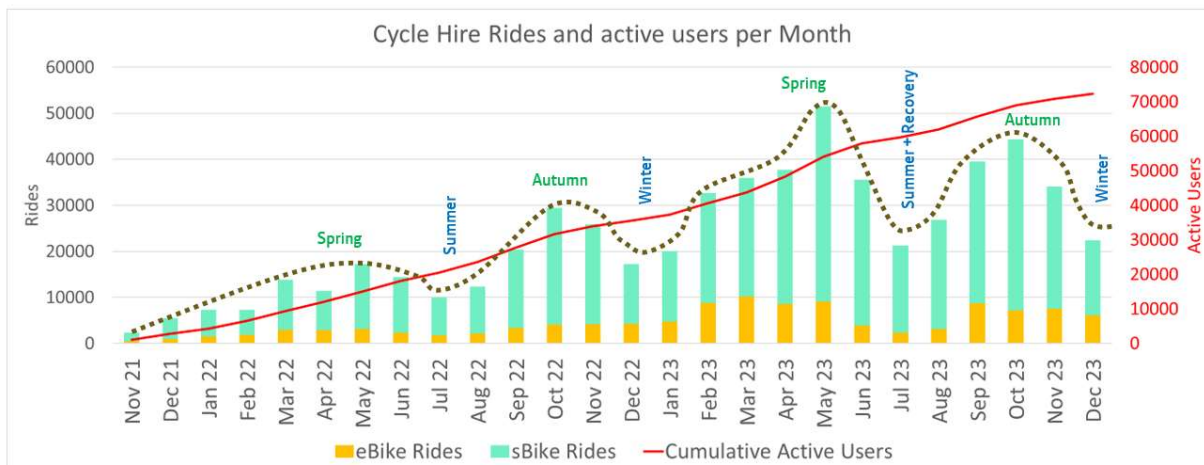
*Mayor of GM Andy Burnham, visiting a social support group in Heywood encouraging the Cycle & Stride for Active Lives initiative.*

#### **(AQAP4.2) Public Cycle hire**

After GM's first cycle hire scheme launched in November 2021, it has expanded in 2022 and 2023 throughout Manchester, Salford and Trafford – now with over 2,500 stands.



Usage has continued to exceed expectations in most areas with an average of 2.23 rides per bike per day in 2023 compared to 1.87 in 2022. This amounted to over 400,000 rides made in 2023 and a total of just under 600,000 or 1.5 million kilometres ridden since opening. Seasons, weather, academic holidays and bike availability are the main factors influencing usage. Unfortunately, between March and May 2023, vandalism increased with new areas of GM being serviced and more bikes and stands. An action plan was rolled out with the least popular stations with high levels of vandalism suspended whilst the scheme was brought under control. This affected usage over the summer of 2023, but the scheme was still attracting on average 3,000 new users a month in 2023, bringing the total number of active users to over 70,000.



In 2024 surveys will be conducted, in line with the Monitoring and & Evaluation Plan, to determine how effective the scheme has been at reaching people across GM. In the meantime, the 'Bee Network Cycle Hire End of Journey Survey' in 2023 showed 12% of cycle rides replaced journeys that would have been made using a car or van as a driver (4.1%), a motorbike or moped (1.4%) or a taxi/app-based minicab service (6.5%) from 778 responses. 26% of 713 responses indicated that journeys were made to/from work and 21% were for other work-related reasons.

**(AQAP4.3) Cycle Logistics**

TfGM have worked with a range of providers who are piloting cargo bike and e-cargo bikes projects in the city region. GM is seen as a suitable and attractive location for this given the wide-ranging infrastructure meets cargo bike requirements.

Via the Community Access Grant, we have supported local small businesses in investing in cargo bikes.

**(AQAP4.4) Walking & Wheeling to 2040**

GM has set out a refreshed Active Travel Mission, supported through activation and access areas of work, under the guidance of Dame Sarah Storey, GM's Active Travel Commissioner. More information on this can be found in the executive summary.

In addition to this, more than £1m was spent by May 2023 on new and improved cycle storage at stops across Metrolink's Bury line. High-quality cycle parking, including covered Sheffield stands with lighting and CCTV in highly visible and accessible locations, were installed at eight stops as part of the project, making it easier and safer for people to scoot or cycle to and from their local tram stop rather than taking their cars.



*New cycle storage at the Radcliffe stop on Metrolink's Bury line.*

## **5 Travel Choices**

### **(AQAP5.1) Car Clubs**

Car clubs are being encouraged as part of a drive to get employers to assess their workforce travel habits and move them to more sustainable modes. This is done via readily available tools on TfGM's dedicated [business portal](#) and through ongoing direct engagement.

### **(AQAP5.2) Dynamic Road Network Efficiency and Travel Information System**

The signal network in GM includes:

- 2,500 sets of traffic signals (1,400 junction and 1,100 pedestrian crossings).
- Over half (1,400) run on adaptive control with signal timings varying depending on demand to help minimise delays.
- 118 sites include control of Metrolink trams, providing them with full priority.
- A growing number of sites (currently 140) include priority for late running buses with funding available for a further 250 junctions through CRSTS.



- 60 sets of signals are managed on behalf of National Highways to improve coordination across national and locally managed networks.

Day to day management of the network includes:

- Urban Traffic Control engineer working with TfGM's Operational Control Centre (OCC) to monitor the network making changes to the signal timings when necessary.
- Working with local authorities both in advance and during roadworks to help minimise delays.
- Developing and improving a range of signal strategies for known or recurrent demands on the network such as events and National Highways diversion routes.
- Reviewing and evolving signal timings based on changes in land use, travel behaviour etc.

TfGM has also been working with Google on an AI project to ensure signal timings are optimised to reduce stop-start traffic and emissions. This initiative has delivered local benefits where signal timings were adjusted. Additionally, having the performance and operation of GM's signal asset reviewed by an independent third party provided assurance that the signal network was working well with the development of the asset and day to day operation delivering benefits.

Works to enhance TfGM's OCC are nearing completion. The new space enables bus franchise operators, TravelSafe and Greater Manchester Police (GMP) as well as comms and control centre colleagues from TfGM to be co-located, enabling a coordinated approach to managing the Bee Network.

Through the Christmas Market period seasonal travel behaviour affected congestion levels across GM at retail and town centres and the Regional Centre. During December weekend volumes in the Regional Centre were 12% above typical, equivalent to an additional 80k journeys to, from or through the Regional Centre. A programme of interventions was developed and delivered to manage seasonal congestion, events and travel demand. Effective measures delivered as part of the programme, including traffic signal strategies deployed by the OCC, will be adapted and adopted as BAU.

## 6 Cars

### (AQAP6.1) Plugged-in Places EV Charging Network

Good progress has been made in this area in the calendar year. Department for Transport data shows 1,035 publicly available charging points (January 2024), up from 619 in January 2023, across a wide range of transport providers.

### (AQAP6.2) Car Use Allowances

Updates on these actions are given by District below.

### (AQAP6.3) Local Authority Parking Charges

Updates on these actions are given by District below.

### (AQAP6.4) School Travel

#### School Streets

Over the 2023 calendar year, 14 school street schemes were trialled in six GM districts – 12 of which remain in delivery.

School name(s)	District	Status
St Peter's C of E Primary School	Bolton	In delivery
Guardian Angels RC Primary School	Bury	In delivery
Chesham Primary School	Bury	Trialled and no longer in delivery
Manley Park Primary School	Manchester	In delivery
Brookburn Primary School	Manchester	In delivery
St Augustine's C of E Primary School	Manchester	In delivery
St James' C of E Primary School	Manchester	In delivery
Our Lady's RC Primary School	Manchester	In delivery
St. Anne's C of E (Aided) Primary School	Oldham	In delivery

Buckstones Primary School	Oldham	In delivery
Greswell Primary and Nursery School	Tameside	Trialled and no longer in delivery
Russell Scott Primary School	Tameside	In delivery
Seymour Park Community Primary School	Trafford	In delivery
Urmston Primary School, English Martyrs Primary School and Urmston Grammar School	Trafford	In delivery

### **Youth Travel Ambassador**

Over the 2023 calendar year, 17 secondary schools participated in two tranches of the Youth Travel Ambassador (YTA) programme (delivered across two academic years), which has seen approximately 250 students and 25 staff appointed as travel ambassadors.

The YTA programme empowers students to deliver effective active travel behaviour change campaigns within their school communities, effectively impacting air quality by increasing the number of students walking, wheeling, and cycling to school, and thus, reducing car use and emissions.

In 2023, around 310 programme activities were delivered in YTA schools to support those aims, reaching circa 17,600 students.

### **Modeshift STARS for Education**

Modeshift STARS for Education is an online school travel planning platform. It aims to support schools and colleges in identifying and addressing travel issues to increase levels of active travel.

In March 2023, the Active Travel Team devoted 0.6FTE officer time to support the districts in using the system effectively and help schools gain STARS accreditation, and therefore increase their levels of walking and cycling. Since March, the programme has grown and by December 2023 12 primary schools and seven secondary schools had gained their

accreditation (due to their involvement in the YTA programme) . This was up from 10 primary and one secondary school in 2022.

56% of the staff and pupils who attend these 19 schools travel to school by active means, while 32% drive (the remaining 12% use public transport). While the dataset is limited and inconsistent, it does indicate a 1% increase in active modes and a 7% drop in car usage since 2016.

### Own the Ride

This project was started in the summer term of 2022. It was initially aimed at secondary school children in GM with the purpose of encouraging them to cycle more often. A new course was devised with our contractor 'Bike Right', specifically aimed at teenagers, which focused on increasing confidence, riding safely and local route planning.

During the delivery of the project, it was discovered that there was a lack of training at beginner level (Learn to Ride courses delivered at primary school). Therefore, some of the funding for this project was used to fill this gap.

83 sessions of both courses combined took place in 2023, training around 900 pupils. As part of this project, schools were also given the opportunity to acquire free bikes for their school/community group. 97 bikes were acquired and delivered to mainly secondary schools to be used for various purposes, including being lent to students who do not have access to bikes and for bike clubs. The project was closed December 2023.

### Scheme Activation



All new Mayoral Challenge Fund (MCF) funded active travel infrastructure has an associated activation budget to spend specifically on supporting local schools, businesses and community groups to use this new infrastructure. The Active Travel Team, alongside council partners, have worked on a range of initiatives to promote the schemes and overcome barriers to walking wheeling and cycling.

While limited data on modal and attitudinal shift is available, the initiatives have undoubtedly made active travel a more instinctive choice for local people.

In May 2023, 19 schools (in Oldham and Bolton) hosted a theatre performance which highlighted the causes and dangers of poor air quality, and the role walking, scooting and cycling to school can play in improving it. These interactive sessions were a fun, relatable and empowering way to learn about air quality. The programme reached 919 Year 5 pupils and their teachers. Year 5 pupils were targeted as they would be going to year 6 shortly and would be in a position to travel independently.



Elsewhere, the Active Travel Team worked with Bury Council to deliver floor markers around newly improved crossings. The stickers have simple messaging and an attractive design to make the walking option more attractive. Since their installation in August 2023 good feedback has been received.

As part of the King Street and Union Street (central Oldham) scheme activation, nine educational sites were engaged and 32 training sessions and 11 events were delivered, with additional grants, assets and resources provided. The active travel message promoted through this scheme is expected to have directly engaged 800 people and reached over 15,000.

Activation in the Chadderton area of Oldham is ongoing. In September a community event was held, supporting the active travel message and providing guided walks for those less confident in walking alone. Free cycle maintenance was offered and locks provided for those worried about storing their cycle securely.

### **Cycle and Stride for Active Lives**

The Cycle and Stride for Active Lives scheme (running until September 2024) supports community groups and people in GM to become more active through walking, cycling and wheeling.

Over the 2023 calendar year, 37 grants have been paid out C&S community organisations. This has enabled community groups to purchase or gain access to cycling and walking equipment and resources, such as bicycles, storage, walking shoes, and deliver regular walking and cycling activities for their community. Many of the community

groups have trained up community champions in First Aid Training (x60 people), ride leader training (x36 people), walk leader training (x77 people), Level 2 City & Guilds bicycle maintenance course (x1 person). Over 300 led walks and rides have taken place within the community groups in 2023.

Community group leaders are well versed in the benefits of being active both for individuals and communities, and the positive impact this has on the environment if people choose to walk, cycle and wheel instead of taking the car, especially for short journeys under one mile. This valuable knowledge and community champion expertise is being passed to participants across the 65 community groups currently on the C&S scheme.

## **7 Information & Resources**

### **(AQAP7.1) Website and Online Resources**

There were fewer public updates on the Greater Manchester Clean Air Plan in 2023 as GM worked to provide government with evidence to support its proposals for an investment-led, non-charging Clean Air Plan. As a result, there were fewer visits to [cleanairm.com](http://cleanairm.com) than in 2022, when the site attracted a significant surge in visitor numbers.

- 2023 saw 187,561 people (unique pageviews) visit the site, compared to 1,305,102 people in 2022.
- There were also 346,271 pageviews, compared to 1,564,097 in the previous year.

However, the 'bounce rate' for the Clean Air website during 2023 was 36.96%, much improved on the 55.64% figure in 2022.

This shows that while the site received fewer visits, more people were staying on the website and engaging with its content. Most websites will see bounce rates fall somewhere between 26% and 70%.

The most visited pages in 2023 were:

- The Clean Air Plan page with 195,984 page views (147,792 users)
- The homepage with 88,901 page views (69,941 users).
- The FAQs page with 9,300 page views (8,003 users).

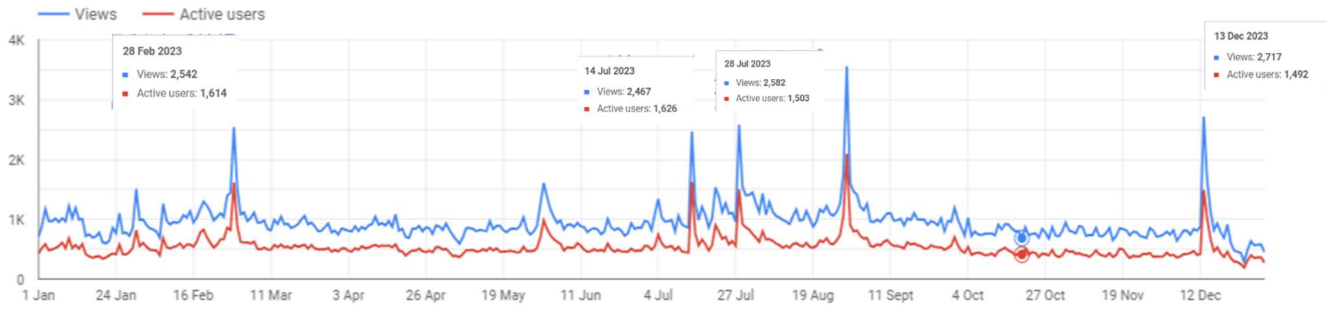
Traffic to the site was spread relatively evenly across the year, with some spikes in visits surrounding Clean Air Plan announcements in February, July and December. There was

also an uplift in visits to the site at the end of August, potentially due to the expansion of London's Ultra Low Emission Zone (ULEZ) on 29 August 2023.

- **In February 2023**, following an Air Quality Administration Committee a Clean Air Plan customer update newsletter was issued and media coverage of the committee resulted in an uplift of 27,583 pages in February, which was a 15% increase on the previous month, January.
- **In July 2023** GM leaders wrote to the Environment Secretary to advise that issues with the government's bus retrofit programme and potential impacts on the Clean Air Plan meant that GM couldn't submit supporting evidence in June, as anticipated. The website's Clean Air Plan and FAQ pages were updated, and a customer update newsletter and media coverage resulted in an uplift of 32,477 page views in July, which was a 28% increase on June, the previous month.
- **On 29 August 2023** the site received the highest number of visitors (3,554 page views), which was the day the ULEZ was expanded across all London's boroughs. This led to increased media coverage and public interest, comparing Greater Manchester's investment-led Clean Air Plan proposals against the capital's charging ULEZ.
- **In December 2023** the Clean Air Plan page was significantly updated to reflect the submission to government of GM's Clean Air Plan proposals. The plan would see £86.7m invested in cleaner buses, taxis and measures to manage traffic flows on some roads in Manchester and Salford – using funding already awarded to GM by government. The website homepage banner pointed to the updated Clean Air Plan page. A major news conference, media coverage and emailed customer update resulted in 24,573 page views in December, an increase of 5% on November.

Other activity on cleanairgm.com in 2023 included updates to the Data Hub so that it included the most up-to-date air pollution data for nitrogen dioxide across GM. This included changes to the map of diffusion tubes for the Clean Air Plan and Local Air Quality Management monitoring data.

29 Aug 2023  
■ Views: 3,554  
■ Active users: 2,094



## (AQAP7.2) Online Route Finding

A new [journey planner](#) went live on the TfGM.com website in 2023. The journey planner has also been available on the new [Bee Network app](#) since Quarter 1 2024.

22nd Jan
Dep 11:46
Options

**From:** Manchester United Footb...

**To:** Manchester City FC

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**Cycle**  
 Cycle the entire journey  
**Show details** 45 min

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**Include cycle hire in your journey**  
 Hire a bike as part of your journey. [Download the app today.](#)  
**Show details | Fewer options** 51 min

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**Public transport**  
 Use bus, tram or train on your journey  
**Show details | Fewer options** 39 min

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**Public transport - Option 2**  
 Use bus, tram or train on your journey  
**Show details** 39 min

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**Public transport - Option 3**  
 Use bus, tram or train on your journey  
**Show details** 39 min

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**Drive**  
 Drive the entire journey  
**Show details** 18 min



### (AQAP7.3) Pollution Alert

People can sign up for pollution alerts on the '[Forecasts and Alerts](#)' page<sup>47</sup> on the [cleanairm.com](#). There were 673 users across GM as of January 2023 with registered subscribers in all GM districts, up from 543 the year before. The number of days that received at least one MODERATE (or higher) forecast in the year 2023 was 153, up from 183 in 2022.

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

Authority	Days that have received at least one MODERATE (or higher) forecast in 2023	Number of subscribers (January 2024)
Bolton	16	77
Bury	15	19
Manchester	15	304
Oldham	15	13
Rochdale	17	41
Salford	15	54
Stockport	15	51
Tameside	14	18
Trafford	15	39
Wigan	16	57
<b>Total</b>	<b>153</b>	<b>673</b>

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<sup>47</sup> [REDACTED]

#### **(AQAP7.4) Health Effects of Air Pollution in Greater Manchester**

Work will be undertaken with partners to determine the health effects of air quality across the whole of the GM region.

As reported in 2022, the health impacts of air quality are explored and explained in detail within the [Chief Medical Officer's Annual Report 2022<sup>48</sup>](#), with an [executive summary<sup>49</sup>](#) also available. The report explains how air pollution has negative effects on health throughout the course of life, from pre-birth to old age, and how the effects of air pollution can be seen across the population. The report highlights that outdoor air quality in this country has improved significantly since the 1980s and lays out a series of recommendations to help us collectively go further to reduce air pollution.

Improvements in air quality have already been associated with improved health outcomes and the report explains how further reductions in air pollution will lead to significant reductions in diseases such as coronary heart disease, stroke and lung cancer. [A 2023 study by Asthma + Lung UK](#) (using Fingertips and NOMIS data for England) found that Manchester and Salford have some of the highest emergency admission and death rates for lung conditions in the UK. The study points to the health inequalities across the UK, with multiple locations suffering from higher risk of emergency admission located in the North West of England.

While there have been improvements in air quality, air pollution remains the most significant environmental risk to human health, causing chronic illness and attributable deaths, especially in urban areas like GM.

People's exposure to air pollution depends on where they live, work and go to school, and recent research\* has shown that the most deprived groups are exposed to the highest levels of pollution. There are also certain groups within society who are particularly vulnerable to poor air quality, these include pregnant women, children and people with health conditions.

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<sup>48</sup> <https://assets.publishing.service.gov.uk/media/639aeb81e90e0721889bbf2f/chief-medical-officers-annual-report-air-pollution-dec-2022.pdf>

<sup>49</sup> <https://assets.publishing.service.gov.uk/media/6389ee858fa8f569f9c823d2/executive-summary-and-recommendations-air-pollution.pdf>

\*A [recent University of York study](#)<sup>50</sup> found deprivation-based inequality in exposure to nitrogen oxides from transport, heating and other sources.

As part of developing the GM CAP – the 10 GM local authorities have set out on [cleanairm.com](#) how poor air quality affects everyone’s health. It’s linked to conditions like asthma, heart disease, stroke, some cancers, and early deaths. The website shows that the local authorities are working to make GM a cleaner and healthier place to live in, work in and visit. More information is available at [Clean Air Greater Manchester | Air Pollution & You](#).

### **(AQAP7.5) Contingency Report Plan**

Greater Manchester Resilience Forum (GMRF) has robust plans in place to respond to major events such as fires. The 2024 to 2025 [Adverse Weather Health Plan](#) ([publishing.service.gov.uk](#))<sup>51</sup> covers the following National Risk Register (NRR) 2023 weather-related hazards, with a significant impact on health:

- heat (high temperatures and heatwaves)
- cold (low temperatures and snow)
- flooding (coastal flooding, fluvial flooding, surface water flooding)
- drought

This year’s plan also covers an additional hazard not covered by the NRR 2023:

- thunderstorm asthma

Further integration of the Plan with the following Natural and Environmental Hazards will be covered in future iterations of the Plan:

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<sup>50</sup> [Deprivation based inequality in NOx emissions in England - Environmental Science: Advances \(RSC Publishing\)](#)

<sup>51</sup> [Adverse Weather Health Plan \(publishing.service.gov.uk\) -](#)

[REDACTED]

- wildfires
- poor air quality

#### **(AQAP7.6) TfGM Air Quality Team**

TfGM have staffing resources in place to support the local authorities in implementing the AQAP. TfGM works in collaborative partnerships with officers across GM authorities and partner organisations and stakeholders, such as the UKHSA and local universities, to drive continuous improvement in air quality.

#### **(AQAP7.7) Air Quality Monitoring Database**

TfGM is collating all air quality data and maintaining the database. This data is now being published on [cleanairgm.com](https://cleanairgm.com).

#### **(AQAP7.8) Traffic Flow Data**

Traffic flow data gathering was conducted as part of the Clean Air Plan work to understand how effective a charging Clean Air Zone would be against an investment-led, non-charging Clean Air Plan through modelling. With this, as per AQAP 5.2, TfGM has also been working with Google on an AI project to ensure signal timings are optimised to reduce stop-start traffic and emissions. This initiative has delivered local benefits where signal timings were adjusted.

Additionally, having the performance and operation of GM's signal asset reviewed by an independent third party provided assurance that the signal network was working well with the development of the asset and day to day operation delivering benefits.

TfGM is looking into the adverse reported NO<sub>2</sub> levels at the new Manchester Bridge Street monitoring station and utilising the traffic data available. This will help influence decisions moving forward of how to improve air quality in the area.

#### **(AQAP7.9) Awareness Raising**

Updates on these actions are given by District below.

### **2.2.2 Progress on Actions in Local Authorities**

#### **2.2.2.1 Bolton Metropolitan Borough Council**

##### **1 Development Management and Planning Regulation**

#### **(AQAP1.1) Construction Management Guidance**

Where planning applications are received for developments which involve a substantial amount of building work conditions are imposed requiring the submission and implementation of a construction management plan. The construction management plans require measures to reduce emissions from the building works, including (but not limited to) measures such as wheel cleaning / wheel washes, damping down of haul roads and stockpiles and inspections off-site to ensure that there are no visible emissions of site.

### **(AQAP1.2) Development Planning Guidance**

Air quality assessments are required for significant developments, such as large residential developments, industrial estates, combustion processes and large retail premises. The air quality assessments are considered to determine whether the proposed development would have a significant impact on air quality in the area.

### **(AQAP1.6) Encouraging Travel Planning**

Conditions are imposed on major planning applications requiring the implementation of travel plans. The types of development that would require travel plans include schools, industrial estates and some residential developments.

### **(AQAP1.8) Green Infrastructure**

Bolton Council works with City of Trees ( [REDACTED] ) in relation to identifying suitable locations and planting trees in the borough. Over 13,550 trees have been planted through this partnership. A tree and woodland strategy 'All Our Trees' has been developed, which identifies the potential air quality benefits of green infrastructure.

Over the next year (2024) City of Trees is intending to plant 11.48ha of new woodland / hedgerow and 146 standard trees on sites within Bolton.

The Council is also collaborating with Manchester, Bolton and Bury Canal Society and the Canal Trust to plant trees along the canal and the River Irwell.

The National Lottery Heritage Fund awarded £1.9 million to pay for a project at Smithills Estate, in which 130,000 native broadleaf trees were planted. The project supported other nature conservation and restoration schemes within the Smithills Estate, encouraging volunteering and participation in the outdoor environment.

The Council and its partners have also developed a number of decarbonisation projects. Whilst these projects are aimed primarily at reducing carbon emissions, they will also reduce other emissions, contributing to local air quality improvements. These include a £5

million scheme to retrofit and upgrade almost 200 homes in Westhoughton to deliver more energy-efficient properties, reducing emissions and fuel bills. The Council have also been successful in a funding bid from the Green Heat Network Fund. £11 million has been awarded to develop a district heating system in the town centre, which would use an air source heat pump to extract warmth from sewers that run beneath the town centre. Low carbon heating enabled by the scheme would be provided to a mixture of public buildings and residential and commercial properties, including Bolton town hall, the central library and Le Mans Crescent, social housing developments and the University of Bolton, replacing traditional fossil fuel heating systems and reducing emissions.

## **6 Cars**

### **(AQAP6.2) Car Use Allowances**

Car allowances within the Council are only paid for essential journeys, car parking charges are only paid in exceptional circumstances, which encourages people to walk / use public transport for appointments in town and district centres. People are encouraged to host and attend meetings using tele-conferencing rather than in-person to reduce the need to travel. The Council has invested in tele-conferencing facilities (screens, speakers) etc. to improve the capacity for hosting remote meetings.

### **(AQAP6.4) School Travel**

St. Peters school in Farnworth introduced the first School Streets initiative. The scheme closes roads around the school, encouraging families to walk and cycle rather than use cars, thus reducing emissions.

## **2.2.2.2 Bury Metropolitan Borough Council**

### **1 Development Management and Planning Regulation**

#### **(AQAP1.1 & 1.2) Construction Management Guidance & Development Planning Guidance**

- Air Quality Assessment Reports are requested for major developments where the impact of local air quality maybe significant.
- EV chargepoints for all residential and commercial (with car parking spaces) are required through the planning and building regulations approval process.
- A GM Air Quality Task and Finish Group are looking into standardising Planning Conditions across GM.

- Planning Policy team are looking into developing a Bury Policy on Air Quality and Pollution Control with the aim of preventing both new and existing development from contributing to, or being adversely affected by, unacceptable levels of pollution and poor air quality. Under this policy, applicants would have to submit a Pollution Assessment.
- Draft GM Places for Everyone plan includes a policy which requires planning applications to submit air pollution data so that development is only permitted where air quality would be acceptable or provide suitable mitigation and restricts developments which would generate significant point source pollution.
- New Town Centre Plans include air quality considerations.

#### **(AQAP1.4) Clean Air Zone feasibility study**

- The Greater Manchester local authorities have submitted a proposal to government to implement an investment-led plan to protect the health of their communities and to ensure we comply with the government direction to meet the target for nitrogen dioxide in the shortest time possible and by 2026 at the latest. In response to a government request, this investment-led plan has been assessed against the benchmark of a Clean Air Zone (CAZ) in the centre of Manchester and Salford. Evidence from the appraisal shows that only the Investment-led plan complies with the requirement placed on the ten GM authorities to deliver compliance by 2026 at the latest. The proposed plan will mainly use bus franchising, the taxi licensing regime and measures from local authorities to reduce the emissions from both the bus and taxi fleet.

#### **(AQAP1.5) 20mph Zones**

The following 20mph Zone schemes have been introduced:

- a. Arley Avenue, Bury - featuring traffic calming measures.
- b. Colville Drive, Bury - 20mph and School Scheme featuring traffic calming measures.
- c. Crow Lane, Ramsbottom
- d. Stanley Road, Radcliffe - featuring traffic calming measures.
- e. Rufford Drive, Whitefield - 20mph and School Scheme featuring traffic calming measures.

Four more schemes are planned for 2024.

#### **(AQAP1.6) Encouraging Travel Planning**

- Travel Plans are required and submitted with certain planning applications.
- The Council's full-time active travel officer is continuing to encourage behaviour change and the use of new infrastructure. This post has funding for an additional 12 months to cover 2023/24.
- We are currently working with local communities, schools and colleges to encourage active travel and this includes the mapping of "safer routes" by "Living Streets" Our Highways Officers are now looking at options to activate these safer routes.

#### **(AQAP1.8) Green Infrastructure**

- The formal examination of our Places for Everyone plan has been completed. This plan describes our plans for our green infrastructure.
- Our new town centre redevelopments are progressing and will include green space provision (Bury, Prestwich, Radcliffe and Ramsbottom).
- City of Trees are locating to Barnfield Park, Prestwich where they are currently storing trees prior to planting. They aim to create a new tree nursery on this site.
- Total number of trees planted in 2023 in Bury is 2,647 whips and 191 standard trees.

## **4 Cycling**

#### **(AQAP4.1) Cycle Programmes**

Cycle infrastructure improvements have been implemented at:

- Jubilee Way (cyclops junction)
- Bury Old Road (junction improvements)
- A number of crossings have been improved in East Bury





*Local secondary school pupils try out the new cyclops junction at Jubilee Way, Bury.*

- The go ahead for an Active Neighbourhood in the Fishpool/Pimhole area has been received and work should be commencing in early 2024. This work will include improved active travel infrastructure around a new bridge at Pimhole following consultation with local stakeholders.
- Bike Libraries have opened at Clarence Park, Radcliffe and Openshaw Park, Bury, Bury Library, Prestwich (Creative Living) with plans to install a further facility at Ramsbottom.



*Bury Bike Library.*

- An award scheme called Mode Shift Stars has been implemented. This award will be granted to schools or other establishments where pupils change travel mode to active travel/public transport. Guardian Angels RC Primary school has achieved this status. We are currently looking at a further eight schools, a medical centre and a hospital and the possibility of rolling this out further to more of our medical centres.
- Bikeability training is being carried out in schools to build cycle confidence. This is delivered by the Nationwide Cycling Academy (NCA) and offered to all Primary Schools and High Schools in the Borough. There have been 1,850 places allocated to deliver Level 1 and 2 training to Year 5 or Year 6 pupils with an additional 52 Level 3 places for High Schools. There are 195 places for Plus Balance training and 70 Learn to Ride places. So far, 1,287 children have taken part in the Level 1 and 2 training, and 135 children completed the Plus Balance training. 43 places have been taken for the Level 3 training and 49 Learn to Ride. It is expected that the majority of the remaining places will be utilised by the end of March 2024.
- TfGM Learn to Ride and Road Rider Ready training courses are available for free and is delivered fortnightly in Clarence Park (TfGM's North Manchester hub for training).
- Basic and intermediate bike maintenance courses are offered by the [Nationwide Cycling Academy in Whitefield](#).
- The Wheels for All programme is continuing at Clarence Park and is now active at Bury Athletics Club.
- A Bike Hospital has been set up at Clarence Park where Bury families can come to have their bikes repaired.



*People take part in the Wheels for All project.*

#### **(AQAP4.2) Public Cycle hire**

- Radcliffe, Clarence Park, Openshaw Park and Bury Library public bike hire/libraries are operational and being used. There is an aspiration to have a bike library in each ward, but this will depend on the availability of funding.

### **5 Travel Choices**

#### **(AQAP5.1) Car Clubs**

- The E Car Club pilot scheme is still in operation at Bury Market Street Car Park and Fairfax Street Car Park in Prestwich offering two electric car club cars at each location. We are currently considering options for rolling out a borough-wide Car Club scheme.



*E Car Club at Market Car Park, Bury*

## **6 Cars**

### **(AQAP6.1) Plugged-in Places EV Charging Network**

- Rapid charge hubs have been provided for Taxis.
- A concessionary contract for an EVCI provider to install charge points on council car parks has been awarded.

### **(AQAP6.2) Car Use Allowances**

- Council employees have access to the car clubs provided in the E Car Club Pilot Scheme.

### **(AQAP6.4) School Travel**

- The School Street scheme at Guardian Angels RC Primary is still operational but it has been difficult to develop further schemes due to limited resource in our highways team.
- Bury Council's Public Health Team are looking to develop a public health accreditation scheme to reward schools adopting active travel programmes.
- Fourteen of our primary schools are involved in WOW which is an active travel tracking project operated via Living Streets.



A poster designed by a Year 1 pupil to encourage active safe travel at one of our WOW schools.

- Bikeability training is being carried out as detailed in **AQAP 4.1**.

The Bury's Walking and Cycling Forum continues to be well attended and provides a dynamic arena for consultation and the exchange and development of ideas from Bury stakeholders.

## 7 Information & Resources

### (AQAP7.9) Awareness Raising

- A Burn Better GM campaign is operating over Winter 2023/24. This is mainly a social media campaign to raise awareness of the implications of wood burning and how to minimise pollution from solid fuel burners. [Burn Better GM: Reduce the harm and pollution from burning solid fuels – GM Green City](#)



*Social media post promoting the BurnBetterGM campaign.*

- The GM bid to Defra for an AQ Grant Scheme to raise awareness of PM<sub>2.5</sub> has been granted and is underway. The includes air monitoring to help understand source apportionment and areas where the problem is greatest. Locations for the air quality sensors have been identified so that installation can begin in early 2024.

### 2.2.2.3 Manchester City Council

## 1 Development Management and Planning Regulation

### (AQAP1.1) Construction Management Guidance

- Continued to promote the council's published [AQ & Planning Guidance](#)<sup>52</sup> for developers including best practice air pollution control measures for demolition and construction site works.
- Produced recommended minimum emissions standards for Non-Road Mobile Machinery for city centre major developments.

### (AQAP1.2) Development Planning Guidance

- Action complete.
- Continued to promote the council's [AQ & Planning Guidance](#) for developers.
- Continued with planning development requirements, including:
  - Air quality impact and exposure assessments
  - Mitigation such as electric vehicle charge points
  - Boiler emissions standards
  - Travel plans

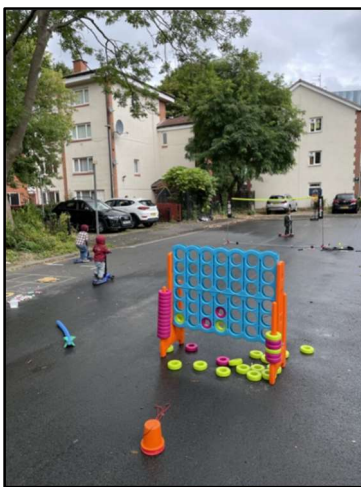
### (AQAP1.5) 20mph Zones

- The Manchester Active Travel Strategy and Investment Plan (MATSIP) was adopted by the Council in February 2023 and includes active neighbourhoods/safer streets, school streets and speed restrictions.
- Active and School Streets activities continued throughout year – see [Active Streets](#) photos below, and AQAP6.4 - School Travel.

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<sup>52</sup> [AQ & Planning Guidance](#)

[https://www.manchester.gov.uk/downloads/download/5199/environmental\\_and\\_public\\_protection\\_information\\_for\\_developers](https://www.manchester.gov.uk/downloads/download/5199/environmental_and_public_protection_information_for_developers)



**Active Streets fun in Levenshulme**

The @MCC\_Levenshulme Neighbourhood Officers posted some great photos on X (formerly Twitter) on Monday after a fantastic day of fun. ['Active Streets'](#) is an initiative delivered by MCR Active and Neighbourhood Teams to temporarily close a residential street, creating a safe community zone to bring people together outdoors.

*Active Streets programmes across Manchester*

**(AQAP1.6) Encouraging Travel Planning**

- Planning continued working with developers to secure sustainable transport strategies for new developments and reducing car parking where possible.

**(AQAP1.7) Taxi and Private Hire Quality Controls to Prioritise Low Emission Vehicles**

- Electric vehicle charging for taxis, working with TfGM for 4 x locations (Chinatown, Rusholme, Sharston and Cheetham ward). The first three locations were operational as of December 2023 and the remaining site will become operational in 2024.
- Minimum Licensing Standards for taxis and PHV forms part of the CAP proposal submitted to government in 2023.



## **(AQAP1.8) Green Infrastructure**

- **Trees:** During 2023 much work was undertaken engaging with key stakeholders and developing a draft Tree and Woodland Action Plan, which will be approved in 2024. Significant pieces of work were undertaken and delivered to support strategy development, including Growing Manchester's Trees and City Roots. Both plans can be found here: [Trees | Green and blue infrastructure | Manchester City Council](#). In 2023 a total of 5097 trees were planted on known schemes by the council and their partners, including 8 orchards and 3623 hedge trees. Working with continued, active support from key organisations including City of Trees, the Council identified over 390 new locations for mature standard trees and again secured significant additional funding, with all new planting to be delivered by March 2024.
- **Greater Manchester Green Spaces Fund:** 22 Manchester projects out of the 86 approved projects across the whole of GM receiving funding of up to £40,000 for individual schemes.
- **Schools:** 37 Manchester schools granted £10K from Department for Education for 'Grey to Green' interventions including green screens. Case studies are to be created and shared at green school network. Other funding sources are to be shared to enable schools to duplicate.

## **2 Freight and Heavy Goods Vehicles**

### **(AQAP2.1) Delivery and Servicing Plan Toolkit**

- Facilities Management and the Zero Carbon Estates team continued working on a smart Building Management System project at Hulme District Office to optimise and control building systems lowering energy and emissions, whilst also providing proactive maintenance information, allowing remote access for maintenance activity, lowering travel and indirect emissions from contractors.
- Manchester City Council (MCC) and contractor vehicles: Mobile Support Team: 11 of 14 vans are electric. Mitie: Fully electric vehicles. Equans: Number of electric vehicles in the Equans fleet is constantly growing, and new vehicles will join the fleet working on the MCC contract over the coming months.

- Continued progressive replacement of ICE vehicular fleet with electric vehicles.
- Cycles (eCargo and other) deployed into operational fleet.

#### **(AQAP2.7) Engine Idling**

- The council continues to have regard to the anti-idling options report previously produced for GM AQ officers and continues to seek to resolve any issues informally and via an education and awareness-raising approach via the Neighbourhood teams' school engagement activities.

#### **(AQAP2.8) Alternative Fuels**

- Continued to upgrade council fleet with EVs wherever feasible.
- Commenced project to seek to switch remaining refuse disposal vehicles over to EVs (already 50%).

### **3 Buses**

#### **(AQAP3.1) Bus Priority Programmes**

- Design and business case development is ongoing for five 'Streets for All' corridor schemes under the City Regional Sustainable Transport Settlement (CRSTS) which will look to deliver bus journey benefits alongside cycling, walking and public realm improvements on five major radial roads.

### **4 Cycling**

#### **(AQAP4.1) Cycle Programmes**

- Manchester has over £50.4m of committed or delivered active travel schemes, across the Mayor's Challenge Fund and tranches of Active Travel Fund. The flagship 5km Chorlton Cycleway will complete construction early in 2024, and three more major schemes will begin construction in 2024 – City Centre Triangle (ATF2), Victoria North Eastern Gateway (MCF) and Levenshulme and Burnage Active Neighbourhood (MCF/MCC). In addition, as per the above, design and business case development is ongoing for five 'Streets for All' corridor schemes under the

CRSTS which will look to deliver cycling benefits alongside walking, bus and public realm improvements on five major radial roads.

#### **(AQAP4.2) Public Cycle hire**

- Bee Network Cycle Hire has been fully deployed and is operational within the city centre and surrounding areas, as far east as Beswick and the Etihad Campus and as far south as Chorlton and Fallowfield. Usage is ahead of pre-implementation assumptions, with 72,000 active users and 1.5m kilometres ridden, despite issues with theft and damage of bikes during summer 2023 causing shortages of bikes available to hire. The Recovery Plan implemented from summer 2023 has reduced this impact. 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 GM, and contributing to modal shift towards sustainable travel. Sponsorship by Starling Bank was announced February January 2024.

#### **(AQAP4.3) Cycle Logistics**

- Following the launch of Amazon's e-cargo bike delivery scheme in 2022, Zedify and Deliver Green have begun operations in Manchester, based in Chorlton and East Didsbury respectively. MCC continues to work with Amazon and other couriers to explore other cycle logistics activity and opportunities.

#### **(AQAP4.4) Walking & Wheeling to 2040**

- Cycles (e-cargo and other) deployed into operational fleet – use of e-cargo bikes and Starling Bank Bikes by council staff where possible.
- Cycle September successfully promoted internally prior to and during the month, seeing MCC finish 12th nationwide and 2nd in GM, 10,500+ miles in total cycled 3,800+ for commuting saving approximately 1027kg of CO<sub>2</sub>. Internal prize giveaways generated good content that was shared on the Hive. Engagement workshops continued and a 'Staff Travel Digital Guide' was published in time for Carbon Literacy Action Day in December 2023

## **5 Travel Choices**

### **(AQAP5.1) Car Clubs**

- MCC continues to partner with Enterprise Car Club to provide staff with a flexible way to hire a low-emission car for in-work travel.
- 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.
- Development of a GM-wide car club continued, with MCC involvement.

### **(AQAP5.2) Dynamic Road Network Efficiency and Travel Information System**

- No MCC update.

## **6 Cars**

### **(AQAP6.1) Plugged-in Places EV Charging Network**

- EV charge point installations continuing.
- EVC for taxis, working with TfGM for 4 x locations (Chinatown, Rusholme, Sharston and Waterloo Street). The first three locations are now operational as of December 2023, the remaining site will become operational in 2024.
- Local EV Infrastructure (LEVI) grant scheme project: 150-200 charge points in off-street locations in council-owned car parks.

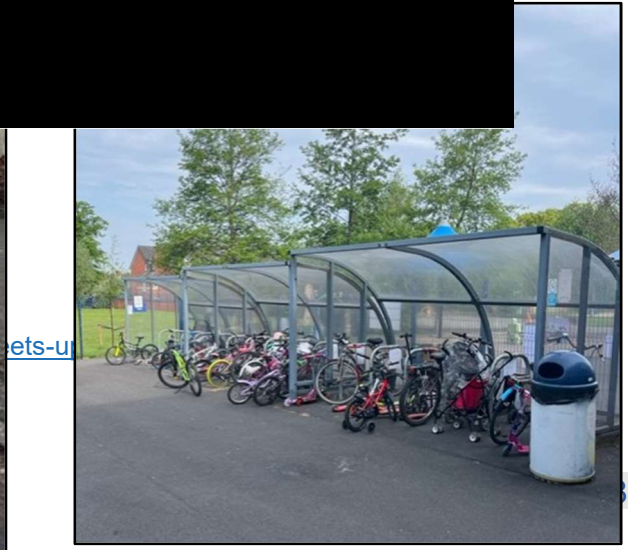
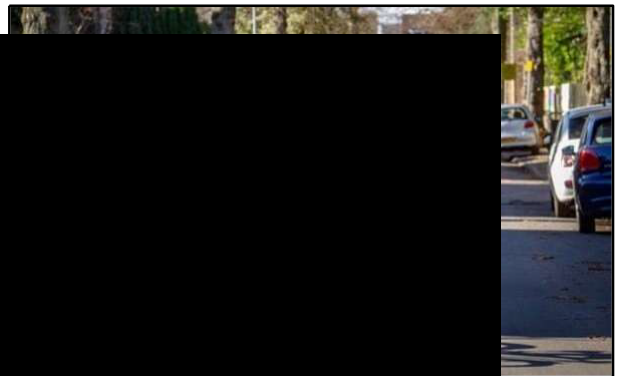
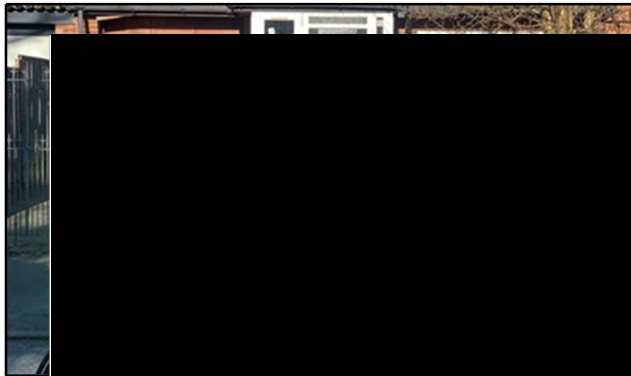
### **(AQAP6.2) Car Use Allowances**

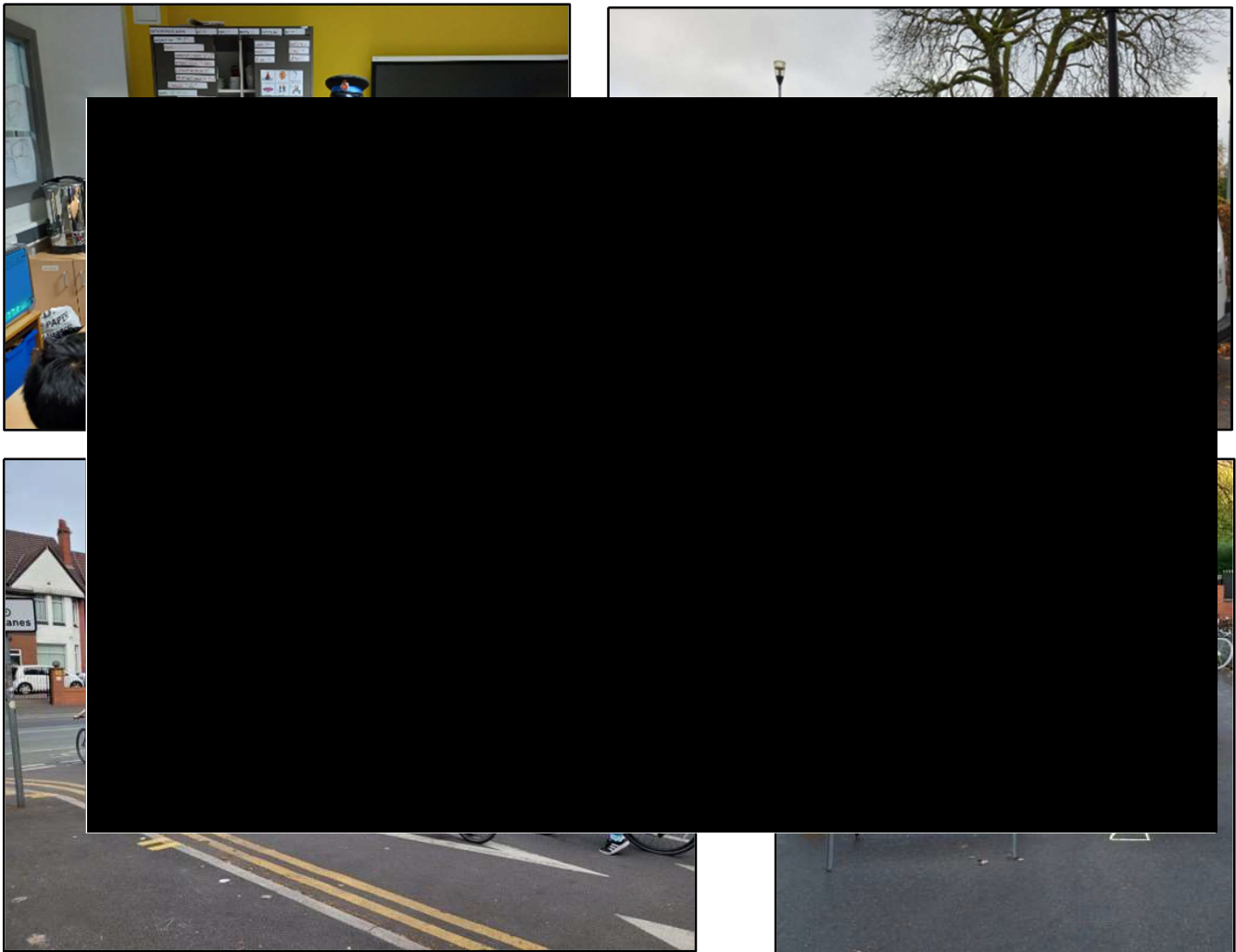
- Continued to review, develop and promote sustainable and active travel options for staff, including cycle mileage and EV purchase via salary sacrifice scheme.

### **(AQAP6.4) School Travel**

- During 2023 a 'School Streets' trial was undertaken at seven schools across Manchester. The trial was a success and it is expected that all seven will make the school streets permanent in 2024. MCC continue to investigate the feasibility of a further roll out of school streets and the feasibility of ANPR camera enforcement.

- During 2023 the council's Neighbourhood teams coordinated approximately 30 School Street and Active Street events across Manchester.
- Funding was awarded to implement walking bus and secured for another school taking part in School Street trial to establish a bike train. Cycling training to set and practice route and build confidence.
- Additional activities were undertaken to implement Junior PCSO groups and related school assemblies with parent/carer engagement to deter idling outside of school, all working to embed more sustainable modes of travel to school ultimately with a view to improving air quality.
- [Walk Ride<sup>53</sup>](#) created a [training package<sup>54</sup>](#) for volunteers marshalling School Streets on behalf of the council.
- Advice provided to drivers in discussions at School Streets and the impact on air quality.
- Dame Sarah Storey, GM's Active Travel Commissioner, visited a School Street in Whalley Range.





- Anti-idling: the council continued to tackle idling with an education and awareness-raising approach via the Neighbourhood teams' school engagement activities.
- Bid submitted for Defra AQ Grant funding for 'Air We Breathe' project – a programme with schools in Moss Side and Hulme to explore acceptable behavioural change in terms of reducing car use at pick up/drop off by parents, teachers and school children. This is based on them being presented with the air quality data from outside schools measured over 6-12 months which is an indicator of the peaks and troughs. If the bid is successful, the work will coproduce acceptable behaviour change, identify other barriers and monitor how long any behavioural change lasts and why/why not.

## 7 Information and Resources

### **(AQAP7.1) Website and Online Resources**

- Council website updated with domestic burning legislative changes.

### **(AQAP7.3) Pollution Alert**

- Clean Air Practices – Four GP surgery pilot trials completed in central Manchester area to raise awareness for patients, especially those with respiratory conditions who may be exposed to poor air quality, to sign up to the Clean Air GM pollution alerts (direct or via [MCC page<sup>55</sup>](#)). Communications materials including leaflets, posters and digital display went into development and production for comment by the pilot group of GPs before final versions presented to other GPs as part of the wider city-wide roll out.

### **(AQAP7.9) Awareness Raising**

- Active Travel – see AQAP1.5.
- Schools – see AQAP6.4.
- Clean Air Practices – see AQAP7.3.
- Domestic Burning campaign - the council is involved with the Defra-funded GM campaign which aims to reduce particulate pollution from domestic solid fuel burning and raise awareness of the health and environmental impacts of stoves use.

## **2.2.2.4 Oldham Metropolitan Borough Council**

### **1 Development Management and Planning Regulation**

#### **(AQAP1.1) Construction Management Guidance**

The impact and control of particulates and dust from the construction and demolition of numerous developments was controlled by assessing or requesting Construction Environmental Management Plans (CEMPs) using IAQM construction management

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[https://www.manchester.gov.uk/info/500288/public\\_health/8445/air\\_pollution\\_in\\_manchester#:~:text=There%20are%20lots%20of%20simple,Greater%20Manchester%20\(cleanairgm.com\)](https://www.manchester.gov.uk/info/500288/public_health/8445/air_pollution_in_manchester#:~:text=There%20are%20lots%20of%20simple,Greater%20Manchester%20(cleanairgm.com))

guidance. Environmental Health continues to offer support and advice to developers at the preapplication stage of the planning process helping to ensure the correct reports, including air quality and CEMPs are submitted as part of the application.

### **(AQAP1.2) Development Planning Guidance**

In 2023 Environmental Health at Oldham Council were consulted on 350 planning applications. All were assessed against the latest Institute of Air Quality Management (IAQM) planning guidance and, where appropriate, relevant conditions relating to Air Quality were recommended to Planning. Numerous of these applications were submitted with Air Quality Assessments which were also reviewed and commented on using IAQM guidance.

### **(AQAP1.5) 20mph Zones**

20mph zones were introduced in parts of Saddleworth in 2020. Levels of monitored NOx have been seen to be consistently 4 to 5 µg/m<sup>3</sup> less than the measured levels in 2019, however it is uncertain at this stage how much of this reduction is due, in part, to a reduction in traffic levels post covid, improvement in the fleet euro category and the 20mph speed limit.

### **(AQAP1.6) Encouraging Travel Planning**

We continued to engage with the TfGM Travel Choices and Active Travel Teams to promote the active travel, travel choice programmes and journey planning across Oldham. The council's transport, parking and travel website links directly to TfGM's "Every Journey. Every day" travel planning website. In addition, it encourages residents to cycle as an alternative to other more polluting forms of transport.

### **(AQAP1.7) Taxi and Private Hire Quality Controls to Prioritise Low Emission Vehicles**

All new licensed vehicles now have to meet Euro 6 emission standards for diesel.

### **(AQAP1.8) Green Infrastructure**

We have planted 1,000 standards and 2.5 hectares of new woodland. The vast majority of this planting is in the built environment and will contribute to improved air quality. A further 82 trees were planted in the Oldham Town centre re-development scheme.



## **2 Freight & Heavy Goods Vehicles**

### **(AQAP2.1) Delivery and Servicing Plan Toolkit**

We are in the process of moving into our new Council Office building in the centre of Oldham, The Spindles. Once this move is complete, we will consider whether it is appropriate to introduce the Delivery and Servicing Plan Toolkit to this building.

## **3 Buses**

### **(AQAP3.1) Bus Priority Programmes**

Oldham is working with TfGM to develop proposals for the Rochdale – Oldham - Ashton Quality Bus Transit corridor. These range from junction improvements and bus lanes to prioritise bus movements and active travel. In addition, a public realm scheme is being developed for Royton town centre which includes SuDS elements and planting.

### **(AQAP3.2) Bus Improvements**

Also working with TfGM on a programme of bus pinch point schemes, to deliver improvements on key bus routes to tackle localised issues which cause delays to bus journeys as well as bus stop improvements to improve accessibility for all.

A 'Red Route' is being considered for the A62 which restricts any stopping, waiting, parking etc and will be enforced by ANPR cameras.

Bus priority is being implemented at traffic signals and junctions to improve bus journey times and waiting.

### **(AQAP3.4) Trial of Low-Emission Vehicles**

Through bus franchising the Oldham bus depot will be fully electrified and the bus fleet fully electric or hybrid.

## **4 Cycling**

### **(AQAP4.1) Cycle Programmes**

Oldham is delivering an extensive programme of active travel schemes across the borough. These are at varying stages of development, design and/or delivery. These are beginning to build a more coherent network for both cycling and walking.

We are also in the process of developing a Local Cycling and Walking Infrastructure Plan (LCWIP) for Oldham. This will be developed during spring/summer 2024 and will be produced in consultation with relevant officers, partners, and the public. This will give us a defined delivery plan of where future active travel infrastructure links can be delivered and can be used when bidding for future funding or seeking developer contributions for active travel improvements.

#### **(AQAP4.2) Public Cycle hire**

GM are leading on the cycle hire scheme and at present Manchester, Salford and Trafford are included in the scheme. There are plans to extend the scheme out to other GM districts but there are no timescales for this as yet.

### **5 Travel Choices**

#### **(AQAP5.1) Car Clubs**

TfGM are leading on a Strategic Outline Business Case for a GM Car Club proposal and mobility hubs using City Region Sustainable Transport Settlement (CRSTS).

### **6 Cars**

#### **(AQAP6.1) Plugged-in Places EV Charging Network**

In February 2023 the council granted planning permission for the installation of up to eight ultra-rapid electric vehicle charges at a retail park close to the town centre.

#### **(AQAP6.2) Car Use Allowances**

The council continues to operate its staff car user allowance whose aim is to encourage staff to use cars that minimise harmful exhaust emissions, run on 'greener' fuels, and minimise consumption of fuel where possible. The council also aims to discourage non-essential use of cars by staff in the conduct of their work to help reduce congestion, improve air quality and improve road safety. This is supported through various council initiatives such as the Travel at Work Protocol, Climate Change Strategy, Greater

Manchester Air Quality Action Plan and the Greater Manchester Local Transport Plan. We continue to offer a generous 32p a mile mileage rate for pedal cycle use to encourage staff to cycle rather than use cars, where possible, for work journeys. To encourage staff to travel to work by public transport rather than car the council offers a loan scheme to help staff pay for annual public transport season tickets.

#### **(AQAP6.4) School Travel**

Oldham Council are working on the development and delivery of a School Streets programme. School Streets are initiatives around our schools to keep streets open for walking and cycling, but to restrict vehicle access at school drop-off and pick up times. There are exemptions for residents, blue badge holders, emergency vehicles etc but vehicle movements are kept to a minimum. This is to encourage more active travel to school and/or parking further away, a safer environment around the school, cleaner air and a more pleasant environment for pupils, parents, and staff alike. They aren't appropriate in all cases i.e. main roads, bus routes, busy through routes. Schools need to be fully on board and have a significant role to play in promotion of the scheme, behaviour change and their own school travel plan on an ongoing basis.

In addition to the above the council are about to begin a school travel campaign, promoting active travel, the benefits for pupils and parents, and to promote various initiatives to school and parents / pupils.

## **7 Information and Resources**

### **(AQAP7.1) Website and Online Resources**

Throughout 2023 social media was used to try and improve the air quality in Oldham by raising awareness. The Burn Better campaign was regularly promoted encouraging residents who use solid fuels to use the right fuels correctly to reduce air pollution. The Bee Network free cycle training and the promotion of walking routes was also heavily promoted. The locations of our electric vehicle charging network was published on the Council's I love Oldham Facebook page in an attempt to improve the uptake and use of electric vehicles in the borough.

### **(AQAP7.2) Online Route Finding**

The council's transport, parking and travel website links directly to TfGM's "Every Journey. Every day" travel planning website.

### **2.2.2.5 Rochdale Metropolitan Borough Council**

#### **1 Development Management and Planning Regulation**

##### **(AQAP 1.1 & 1.2) Construction Management Guidance & Development Planning Guidance**

All new developments are required to follow appropriate guidance to control emissions both during demolition and construction of new developments and redevelopment. This is to ensure all emissions from sites are contained and controlled.

Rochdale BC has an ongoing transport strategy which is a framework to guide the development of transport improvements across the borough for the period up to 2026. The Transport Strategy is critical in enabling the council and its partners to achieve its economic, social, regeneration and environmental objectives. It will primarily support, guide and be developed further through the Greater Manchester Transport Fund, future Greater Manchester Local Transport Plans and the Local Development Framework (LDF).

It will also support the delivery of other corporate strategies and programmes, including the Sustainable Communities Strategy, the Borough Renaissance Masterplan and the borough's Economic Development, Infrastructure and Investment and Health Strategies. It will also contribute to the delivery of the Greater Manchester Strategy transport priorities and consider the travel impacts of building new schools and the "Healthy Futures" re-organisation of specialist hospital services across GM. The Transport Strategy is also a key document in lobbying for further improvements to the local public transport network.

We are developing planning guidance to include sustainable building methods and the use of renewable energy, including the installation of solar panels, to require developers to become more sustainable. This also includes requiring all new developments, both commercial and domestic, to install EV charge points as part of the planning process. We also have requirements for redevelopment of both domestic and commercial premises.

##### **(AQAP1.4) Clean Air Zone Appraisal**

Rochdale BC is working alongside the other GM authorities to implement the Clean Air Plan which is currently under review. We are working to support the plan. We are also working on the support of Hackney and Private Hire vehicles to switch to low emission/ EV vehicles and working in support of the proposed minimum standards.

#### **(AQAP1.5) 20mph Zones**

All new and existing housing developments are all subject to 20mph zones, this is to improve both road safety and air quality. Reducing speeds and traffic through residential areas to improve air quality.

#### **(AQAP1.6) Encouraging Travel Planning**

Rochdale BC provides information on traffic, events and ongoing works both on the council website and on active travel boards across the borough. This information allows residents to plan their journeys in advance of any events and works, reducing congestion.

#### **(AQAP1.8) Green Infrastructure**

In 2023 work was completed on phase 1 of the Living streets project, this scheme was developed to improve cycling and walking routes linking into the Bee Network development. Starting in Castleton, close to the railway station it is a development linking into the 1,800 mile joined up cycling and walking network across GM. This project also included the creation of car parking, green spaces and EV charging facilities to improve the area.

Phase 2 has completed its consultation with works now underway. The scheme, which will connect Castleton directly to Rochdale Town Centre, proposes to provide a range of benefits including:

- More greenery.
- Improved street lighting.
- Opportunities for public to help plant landscaped areas.
- Improved footpath materials to enhance the public realm and comfort for people walking.
- Road re-surfacing.
- 20mph speed limits and traffic calming measures.

- Improved signs and road markings for cyclists.
- Benches.
- Bike pumps for public use.
- Junction upgrade to improve crossing facilities for pedestrians and cyclist.

This project connects the GM Bee Network to Rochdale town centre and will include additional cycle lane connections and upgrades to major road junctions. This proposed route will make use of the old Manchester Road sections of the highway that run parallel to the A58 dual carriageway of Manchester Road. Upgrades to these routes will also include improvements to street lighting, footpaths, street signs, landscaping and electric vehicle charging points.

The recently completed Bee Network Scheme in Castleton was designed to Streets for All Design Guide specifications as will all future Bee Network schemes where possible.

## **2 Freight and Heavy Goods Vehicles**

### **(AQAP2.8) Alternative Fuels**

Following completion of the Heywood link Road significant plans have been developed for the building of commercial and domestic properties along the route and surrounding area. Planning applications have been submitted for the development. The £400m masterplan, covering 316 acres, to bring new jobs, homes and improved highways infrastructure to the southern part of the borough has completed the first phase and continues with 1.45 million sq ft of commercial space, and up to 1,000 new homes. Plans have been approved for the construction of a distribution centre and office space.

## **3 Buses**

### **(AQAP3.4) Trial of Low-Emission Vehicles**

Rochdale BC has been preparing for bus franchising. Tranche 1 was implemented on Sunday 24 September 2023 in the Wigan and Bolton area but included the 471 Bolton–Bury–Rochdale service with all the stops on the route being re-branded and improved where possible before the start date. Tranche 2 includes Oldham, Rochdale and parts of Bury, Salford and North Manchester and launched on Sunday 24 March 2024. This will

include a fleet of 21 new euro 6 buses. Small franchises in Rochdale and Oldham will have 40 new fleet specially sized for these routes.

Rochdale BC is working on the purchase of Middleton bus station in order to update electrification and provide charging points to the new fleet.

A fleet of 50 ZEB (Zero Emission Buses) will be going to Oldham Depot, when these are put into service some of these will operate Rochdale Bus Services.

Rochdale BC is also working with GM Transport Strategy Group on sessions for the bus franchise update in drop-in sessions for councillors and other interested parties

Work has been ongoing for a public consultation on the Rochdale Section of the Rochdale – Oldham – Ashton QBT (Quality Bus Transit) Corridor to improve bus journey times for services along the A671 route and improve access and facilities for pedestrians and cyclists to and along the route.

This scheme will be designed to the specifications set out in the recently approved Streets for All Design Guide approved by Bee Network Committee in December 2023.

## **4 Cycling**

### **(AQAP4.4) Walking & Wheeling to 2040**

As part of Phase one of the Bee Network scheme linking Castleton to Rochdale town centre so far 1km of 1.5m segregated cycle lane has been created on both sides of the road creating a safe cycle network. Phase two is underway to provide a segregated cycle way from The Royal Toby to Rochdale Town Centre which is due to be completed in 2025.

The Council also offers access to cycles free to use for the public as part of a bike library located in Kirkholt. There is also access to mountain bikes at Hollingworth Lake Activity Centre.

Work has also been completed on a new cycle route creating a new cycling and walking route from Morton Street, past the historic St Leonard's Church, through to Long Street, Middleton.

## **5 Travel Choices**

### **(AQAP5.2) Dynamic Road Network Efficiency and Travel Information System**

Work has been ongoing into the possibility of Rochdale BC developing a car club alongside other local authorities. This would be for the use of both members of the public and staff at the council. We are looking at a phased approach to the roll out of car clubs with a mixture of electric and traditional internal combustion engine (ice) vehicles used, with the view that in the future all vehicles will be zero emission. All vehicles must be clean air zone compliant from the start of the contract. The car club will be available for

- The public
- Businesses
- Council staff

## **6 Cars**

### **(AQAP6.4) School Travel**

Rochdale BC does not issue car allowances to council staff; there are council car parks which offer parking permits which are charged based upon the emissions of a vehicle.

## **7 Information and Resources**

### **(AQAP7.9) Awareness Raising**

As part of the council's commitment to both climate change and achieving the goal of becoming carbon neutral by 2038 a number of training opportunities have been available to staff members to increase awareness and knowledge on issues. These include Carbon Literacy training and Climate Conversations which have been made available to all staff members.

Rochdale BC has developed a Climate Change Strategy and Delivery Plan which identifies the urgent action we need to take to achieve environmental sustainability. The strategy has been developed with the Climate Emergency Working Group.

The strategy includes:

- Overview of the climate crisis and sustainability.
- National and regional climate change policy position.



- Climate emergency in Rochdale.
- Sustainable development goals.
- Collaborative action.
- Council responsibilities.
- Resources.
- Governance.
- Engagement and communications.
- Measuring our progress.



Rochdale BC is continuing to operate the Eco Business Scheme which allows companies to sign up and commit to becoming more environmentally friendly and encourages the use of best practice such as using energy efficient equipment and recycling among other pledges. 189 number of companies have made the pledge.

### 2.2.2.6 Salford City Council

#### 1 Development Management and Planning Regulation

##### (AQAP1.1) Construction Management Guidance

- Salford Local Plan policy PH1: Pollution control sets out the local approach to the relationship between planning and air quality and requires new developments to minimise and mitigate pollution during both the construction and operational phases of development.
- 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 development planning applications where appropriate regarding travel planning, electric vehicle charging and dust control. 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.

#### **(AQAP1.6) Encouraging Travel Planning**

- 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.
- The Walkden Park & Ride scheme opened to the public in September 2023. This has provided 109 car parking spaces, including eight disabled spaces and two EV bays. Motorcycle parking and a secure cycle hub (24 secured by card access and eight publicly available spaces) were also provided for commuters.

#### **(AQAP1.7) Taxi and Private Hire Quality Controls to Prioritise Low Emission Vehicles**

Between 2018-2021 proposals for harmonised Minimum Licensing Standards (MLS) for taxis and private hire vehicles were developed by the 10 GM authorities to achieve a single vision for licensed vehicles in future. The MLS also support the GM Clean Air Plan proposals to tackle air pollution across the conurbation.

Following consultation in 2020, final vehicle standards proposals were approved by Cabinet in Salford in December 2021:

- All new licenses are required to have UK Clean Air Zone compliant vehicles.
- All existing licenses are required to have UK 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.

Whilst these standards were adopted in Salford and remain in place at this time, they were not adopted by all GM local authorities.

The Department for Transport issued updated guidance in November 2023, which states that ‘Licensing authorities should not impose age limits for the licensing of vehicles’. As such, Salford Licensing will be reviewing current policy position.

GM local authorities are subject to a government legal direction to achieve compliance with the NO<sub>2</sub> annual air quality limit value by 2026 and are still awaiting confirmation on whether there will be financial support to the sector for replacement of vehicles that do not meet Clean Air Zone emissions standards under the Greater Manchester Clean Air Plan. Therefore, it is intended to revise the date for which all existing licensed vehicles must meet UK Clean Air Zone emissions standards, from 1 April 2024 to 31 December 2025.

## **2 Freight and Heavy Goods Vehicles**

### **(AQAP2.7) Engine Idling**

- A report ‘Tackling Vehicle Idling – Options’ was produced by the Greater Manchester Air Quality Working Group with substantial input from Salford City Council in August 2022, that set out options for enforcement of idling vehicles and raising awareness of the issue.
- Anti idling social media messages were promoted by Salford City Council in June 2023 as part of a national Clean Air Day campaign.

### **(AQAP2.8) Alternative Fuels**

The potential use of EV refuse vehicles in Salford has been reviewed over the last couple of years. However, current barriers for uptake include: Charging capacity of Turnpike Depot (an investment in a new sub-station would be required, which is still under discussion); Concern over vehicle reliability/ suitability and vehicle capital cost. The City Council has just taken delivery of 10 x Euro 6 refuse vehicles. These are all fitted with electric bin lifts that will reduce fuel usage by approx 1,4000 litres per vehicle per year.

A Department for Transport (DfT) E-scooter trial started at the University of Salford Peel Park and Fredrick Road campuses in October 2020. Subsequent extensions were:

- A route to Media City UK 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
- An expansion to include parts of Pendleton and Weaste in 2022

The trial period has been extended to May 2026 and we are awaiting further guidance from the DfT on any extensions or legislative changes.

A further extension to Eccles is planned and Salford City Council will also be undertaking a re-procurement exercise to identify potential new operators to cover the extended trial period recently authorised by the DfT.

Initially 200 E-scooters were deployed, and this has now grown to 300 with the expansion to Salford Royal Hospital and Pendleton. Scooters are monitored for usage and trip destinations. On a monthly basis, the total mileage of the E-scooter fleet is over 44,500.

A lot of interest has been shown in the trial 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 from the City Council website [E-Scooter trial page<sup>56</sup>](#).

## 4 Cycling

### (AQAP4.1) Cycle Programmes

The City Council is continuing to expand its network of on and off-road routes with a number of new cycle routes recently completed in and around Salford. Recently completed routes are:

- Liverpool Street - Creation of segregated cycle lanes on both sides of the street, including bus stop bypasses and new pedestrian crossings.
- Trafford Road – The creation of segregated cycle lanes for the length of the road, providing a traffic free cycle route along Trafford Road.
- Swinton Greenway – A 2.5km off road route between Manchester Road and Monton Road. This opened in June 2022 and has proved popular with pedestrians,

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<sup>56</sup> <https://www.salford.gov.uk/parking-roads-and-travel/e-scooters/>

dog walkers and cyclists. The scheme was “Highly Commended” at the Chartered Institute of Highways & transportation (CIHT) NW 2023 transport awards.

- RHS Bridgewater Way – Linking the RHS Bridgewater Gardens with Boothstown marina, Worsley village and Walkden Train station. The Scheme opened in Spring 2023.

Funding has been secured to deliver the following routes in 2024/25. Works are expected to start on site in Summer 2024:

- Irwell St – Improved public realm, crossing facilities and short n/bound cycle lane between Stanley St and Trinity Way to improve access to the new Eden office development.
- Oldfield Road – Provision of segregated cycle routes connecting Chapel Street to Regent Road via Oldfield Rd.
- Chapel Street East Phase 1 – Provision of segregated cycle tracks.

More routes are being planned and developed and are outlined on the City Council website [Cycling and Walking pages<sup>57</sup>](#).

#### **(AQAP4.2) Public Cycle Hire**

Salford City Council have worked with Beryl, TfGM, Manchester City Council & Trafford Council to provide a public cycle hire scheme. This was launched in selected locations within Salford in November 2021. The scheme has rolled out to further parts of Salford and also covers parts of Manchester and Trafford.

The cycle hire scheme provides a low-cost form of transport for users travelling within Salford, Manchester and Trafford.

The scheme has suffered from issues of vandalism and low usage, which led to a number of locations being temporarily suspended during 2023. These problems are being tackled as part of a TfGM plan.

Further information on the cycle hire scheme is available from the City Council website [Public cycle hire page<sup>58</sup>](#).

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<sup>57</sup> <https://www.salford.gov.uk/parking-roads-and-travel/cycling-and-walking/>

<sup>58</sup> <https://www.salford.gov.uk/parking-roads-and-travel/cycling-and-walking/public-cycle-hire/>

### **(AQAP4.3) Cycle Logistics**

A 'bike library' providing e-cargo bike hire for businesses to make sustainable deliveries is operational and managed by Manchester Bikes of Chapel St on behalf of the City Council. A number of small business and large organisations have also received e-cargo bikes as direct loans to utilise for their business travel.

The scheme continues to be successful and is being monitored to increase take up amongst local businesses.

## **5 Travel Choices**

### **(AQAP5.1) Car Clubs**

The City Council currently uses a fleet of 14 x Co-Wheels car club vehicles from the Civic Centre site (10 x petrol vehicles and 4 x EV's). During normal working hours, these are reserved for staff travel. Due to more staff working remotely following the Covid-19 pandemic, the number of vehicles in the fleet was reduced from 23.

As part of a Business Travel Review, a review of the utilisation of Co-Wheels car club vehicles has been undertaken in order to inform the number of vehicles that we would need for a retender. The procurement specification is being drawn up for Procurement Board in March 2024.

## **6 Cars**

### **(AQAP6.1) Plugged-in Places EV Charging Network**

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 Salford Local Plan Policy A10. This policy is more stringent than electric vehicle charging provision standards suggested by IAQM/EPUK guidance.

EV charging infrastructure requirements for new buildings and buildings undergoing major renovations are now specified in Building Regulations (Approved Document S), which took

effect in June 2022. Local planning policies on EV charging point standards will be superseded by any higher standards introduced through the Building Regulations.

As part of the GM Clean Air Plan proposals 28-30 taxi only rapid charge points are to be installed across GM tailored to locations to support zero emissions capable taxis to operate across GM. TfGM held a consultation process with Taxi and Private Hire Drivers to identify locations for EV chargers in Salford to support the trades in late 2020. Taxi chargers have been successfully installed at Church St car park Swinton as part of this project, with sites at Hankinson Way, Pendleton and John William St, Eccles car parks to follow.

Locations of publicly accessible charging points are available via the Zap Map website.

### **(AQAP6.2) Car Use Allowances**

The 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.

This includes the introduction of a flexible travel hierarchy, to allow managers and employees to make informed decisions on the most efficient, effective & sustainable ways to travel for business:

1. Walking and cycling
2. Public transport
3. Car share
4. Car club
5. Car rental/taxi
6. Private vehicle (grey fleet)

The Council has transitioned to a more hybrid way of working blending home, office and community underpinned by a digital first approach. A further review of sustainable travel arrangements will be undertaken following a data led approach. A business travel

consultation has taken place and is now in its final stages, with a timeline being developed to ensure that a new approach to business travel is taken forward from April 2024. Dependent upon the recompense scheme this may include a period of staff consultation. This will inform the next phase of our sustainable travel scheme to ensure it meets the travel needs of the organisation and our employees, taking into account the most efficient and effective way to complete our work to achieve the best outcomes in terms of environment, costs and time.

### **(AQAP6.3) Local Authority Parking Charges**

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.

### **(AQAP6.4) School Travel**

Salford City Council have 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. Work is on-going to engage with these schools and contact other schools to get more signed up.

Salford City Council work with Living Streets and other organisations to promote active travel and reduce journeys by car to schools. We currently have a number of schools signed up to Living Streets' WOW Walk Once a Week.

Salford City Council has secured funding from TfGM to deliver a school street. Work is ongoing to progress implementation with a suitable local school to help reduce journeys made by cars and by parents of children attending schools.

Engagement with schools to educate pupils on air quality issues and positive actions that can be taken to reduce air pollution carried out as part of previous Clean Air Day activities.

The Clean Air Greater Manchester website includes a school's toolkit to raise awareness of air pollution practical ways to involve teachers, parents and pupils to improve air quality.

## **7 Information and Resources**



### **(AQAP7.9) Awareness Raising**

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.

Social media campaigns to raise public awareness of the GM Clean Air Plan proposals have continued during 2023.

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, Mar 2022, winter 2022 & winter 2023.

In June 2023 as part of a national Clean Air Day campaign, a social media campaign was carried out to raise awareness of air quality issues and active travel measures to reduce air pollution. A staff wellbeing walk was organised from Salford Civic Centre to encourage active travel.

The City Council investigated 73 complaints related to smoke nuisance in 2023 and had contact with both the complainant and the alleged source. The majority of complaints were related to domestic burning (e.g. garden bonfires) and smoke from commercial premises, and therefore this will have a beneficial effect on raising awareness of air pollution issues.

### **2.2.2.7 Stockport Metropolitan Borough Council**

#### **1 Development Management and Planning Regulation**

##### **(AQAP1.6) Encouraging Travel Planning**

Stockport has continued to work with TfGM and businesses / developers via the Travel Plan Toolkit.

Stockport continues the process of reviewing its Local Plan including identifying 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 Places for Everyone.

The Local Plan is being supported by an 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 the guidance note on the delivery of EV in new developments continues to support the promotion of adequate charging and the Zero-Emission Vehicle Charging Infrastructure (ZEVCI) Interim Policy Statement which clarifies the aims of the borough in regards to the delivery of supporting infrastructure for the changing car market is being utilised to support actions regarding EV in the borough.

### **(AQAP1.7) Taxi and Private Hire Quality Controls to Prioritise Low Emission Vehicles**

Stockport Council is working with the other GM boroughs to implement an emission standard for Taxi and Private Hire Vehicles.

## **2 Freight and Heavy Goods Vehicles**

### **(AQAP2.7) Engine Idling**

Work is continuing to encourage vehicles to not be left idling when parked. The focus for this is around our education locations with our turn it off campaign which 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. We have also promoted this message as part of our school street locations.

### **(AQAP2.8) Alternative Fuels**

Stockport continues working with the other GM boroughs on the Clean Air Plan which has included work to encourage upgrades to a less polluting vehicle.

## **3 Buses**

### **(AQAP3.2) Bus Improvements**

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

buses provided through the Successful Zebra Bid and through bus franchising will help reduce transport emissions further.

## 4 Cycling

### (AQAP4.1) Cycle Programmes

Stockport is continuing to deliver activation activities for walking and cycling improvements including:

- Bramhall Park to A6 cycle route – Opened and promoted to the public.
- Heatons Cycle Link – The first phase of the Heatons Cycle Link has been completed and promoted it is being extended via works in Heaton Mersey Common in the coming year.
- Hazel Grove Torkington Park; The first phase of the Hazel Grove Links (resurfaced, widened lit path through Torkington Park) has been promoted to the public.
- A6MARR Cycle/Walking Links - has been promoted to the public.

The most recently delivered walking and cycling schemes include:

- Marketplace and Underbanks: a new pedestrianisation scheme for the Market Place and Underbanks that will improve the visitor experience for residents and businesses as part of the regeneration of the town centre. Including automated bollards and related Traffic Regulation Orders.
- Mauldeth Road: crossing facilities for active travel users on Mauldeth Road at its junction with Kingsleigh Road.
- Bosden Fold, Hazel Grove – zebra crossing to improve pedestrian access to St Simons Primary School.
- Urban Traffic Control (UTC) Scheme Manchester Road: improving a crossing at Manchester Road / Bourne St from a Pelican Crossing to a Toucan Crossing.
- UTC Scheme Broadstone Road: to signal Broadstone Road / Broadstone Hall Rd North / South, Heaton Chapel, including Toucan crossings on all arms of the junction.
- Bramhall: Path improvement from Bramhall Lane South to Dawlish Close
- Turves Road: New Puffin crossing on Turves Road, Cheadle improving access to a well-used PROW.

- Compstall Road: New Puffin crossing on Compstall Road, Romiley, to improve access to Romiley Station.
- New Sparrow crossing on Stockport Road and links between Oak Road and Newland Road, Cheadle.
- New Sparrow crossing on Cheadle Road and links between Bruntwood Lane and Brookfield Park, Cheadle.
- Improved path connection through Brookfield Park from Shiers Drive to Brookfield Road.

#### **(AQAP4.2) Public Cycle hire**

Stockport continues to be open to discussions with TfGM regarding the expansion of cycle hire into the borough as part of the Bee Network. They have also encouraged groups who have expressed interest in developing their own bike hire schemes (bike libraries) to apply for any available funding that existed.

### **5 Travel Choices**

#### **(AQAP5.1) Car Clubs**

All casual car users have continued to be offered access to the Car Club for work trips. The 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 with a specific push to residence with a discount in initial membership undertaken in the spring of 2023.

### **6 Cars**

#### **(AQAP6.1) Plugged-in Places EV Charging Network**

Stockport 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 this includes working with a private supplier to address the need to expand the public charging network. In 2023 this resulted in the delivery of the first public private partnership location being delivered in Romiley. 3 further sites will be on site in the first quarter of 2024.

### **(AQAP6.2) Car Use Allowances**

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

### **(AQAP6.3) Local Authority Parking Charges**

Following the pandemic and the change in working location with a greater move to working from home staff parking in the Civic Complex is charged for via a mobile payment app provided by Ringo. 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. A loading facility for staff who are only at the office to access equipment has also been provided to support journeys.

### **(AQAP6.4) School Travel**

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 continues to be delivered at all schools who except the offer for this training. The Council has continued to deliver school streets three school streets Traffic Regulation Orders were changed from experimental to permanent in 2023 and a new location was introduced as a trial which is expected to be made permanent in 2024. There has also been research undertaken.

## **7 Information and Resources**

### **(AQAP7.9) Awareness Raising**

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 and ATF schemes such as the provision of Bike Dr events and cycle training in locations where new routes have been completed. Stockport also held its Third Summer Weekend long event called Stockport Moves that included Cycling and Walking events and activities. Stockport also continues to support walking groups such as wellbeing walks (formally health walks) and confidence walks – designed to build

people's ability to walk increased distance in a safe environment and so facilitate the ability use walking as a mode of transport in the future.

#### **2.2.2.8 Tameside Metropolitan Borough Council**

##### **(AQAP1.1 & 1.2) Construction Management & Development Planning Guidance**

Where planning applications are received for developments which involve a substantial amount of building work conditions are imposed requiring the submission and implementation of a construction management plan in line with the latest Institute of Air Quality Management guidance. The construction management plans require measures to reduce emissions from the building works, including measures such as wheel cleaning / wheel washes, damping down of haul roads and stockpiles and inspections off-site to ensure that there are no visible emissions from the site.

Tameside Council requires air quality assessments for larger planning applications in line with the latest Institute of Air Quality Management (IAQM) planning guidance. 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.

##### **(AQAP1.6) Encouraging Travel Planning**

Tameside's Sustainable Modes of Travel Strategy promoting sustainable school travel is currently being reviewed.

## **2 Freight and Heavy Goods Vehicles**

### **(AQAP2.7) Engine Idling**

The Council's Environmental Protection Team responded to complaints from residents and businesses in relation to engine idling associated with freight and heavy goods vehicles. Officers investigated complaints and contacted businesses located within the borough where vehicles regularly leave engines idling and also where drivers associated with the business have been identified as leaving engines idling unnecessarily for extended periods of time.

## **4 Cycling**

### **(AQAP4.1) Cycle Programmes**

The Council operates a borrow a bike scheme, allowing all staff from the Council, Tameside and Glossop Clinical Commissioning Group, Greater Manchester Pension Fund and contracted consultants to access a bike for both business and personal use for up to two weeks at a time.

The Council also has a Cycle to Work salary sacrifice scheme, which offers all its employees and Elected Members the opportunity to save money on the hire of a bike and accessories, up to the value of £5,000.

## **5 Travel Choices**

### **(AQAP 5.2) Dynamic Road Network Efficiency and Travel Information System**

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. Work on the design and implementation of eight walking and cycling routes across the borough (listed below) has progressed.

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

The Rayner Lane Droylsden scheme provides an improved off-highway cycle and pedestrian route between the Ashton Moss Metrolink stop on Lord Sheldon Way and Heron Drive and a cycle / pedestrian route on the Audenshaw old railway line via filtered access points. This is part of the same scheme as Stamford Drive (below), the Business Case has been submitted to TfGM. A potential start date of May 2024 and completion by November 2024 subject to TfGM approval.

The Stamford Drive to Granville Street scheme aims to improve the environment for neighbourhoods south of A635 Stamford Street between Ashton and Stalybridge. It aims

to reduce the volume and speed of vehicles on the residential streets, where a significant number of vehicles currently reroute to avoid queues on the main road. It also aims to promote cycling by providing safe crossings and a direct quiet route.

The scope of the A57 Crown Point Junction and A57 Denton to Hyde schemes are currently under review following the recent announcement of the LUF (Levelling Up Fund) Denton has led to a redefining of the vision for the area.

The Albion Way scheme in Ashton proposes the introduction of segregated cycle lanes between Penny Meadow and Oldham Road and revised junctions incorporating improved pedestrian facilities. Revised scheme options are currently being considered following feedback given during consultation.

The Schemes at Clarendon Road Audenshaw, Rayner Lane Droylsden, Ross Lave Lane Denton, Stamford Street Ashton and Manchester Road Audenshaw are all currently on hold.

The objectives of the Active Travel Funding phase 2 (ATF2) programme are to help create an environment that is safe and attractive for both walking and cycling to replace journeys previously made by car and public transport. Longer term the plans will also help to deliver significant health, environment and congestion benefits by contributing to the development and roll out of the GM Bee Network.

Four prioritised ATF2 schemes have been progressed through the design and development process in consultation with TfGM and currently going through the Council's governance process for approval. The schemes are located at:

Oldham Road and Newman Street, Ashton-under-Lyne - These two schemes will introduce improved and segregated facilities for cyclists on Oldham Road – between Dean Street and Burlington Street and improved and segregated facilities for pedestrians and cyclists on Newman Street – between Oldham Road and Cavendish Street.

Stockport Road, Ashton-under-Lyne - This scheme will introduce segregated facilities for cyclists on Stockport Road, Ashton, between Hamilton Street and Guide Lane. The scheme includes treatments at bus stops, to allow cyclists to pass behind a bus platform, the replacement of existing, two-stage, pedestrian crossings, to enable people to cross in a single stage and treatments at some side roads to improve cycle and pedestrian priority.



Guide Lane, Audenshaw - This scheme will introduce segregated facilities for cyclists on Guide Lane, Audenshaw, between Scott Gate and the junction with Stamford Road / Shepley Road. The scheme includes treatments at bus stops, to allow cyclists to pass behind a bus platform and treatments at some side roads to improve cycle and pedestrian priority. The scheme also proposes to change the priorities at the junction of Enville Street and Poplar Street, and to modify the approach to the junction with the B6169 Shepley Road to make this safer for all traffic.

In addition, colleagues across the Council are delivering a range of walking and cycling initiatives to provide residents with the skills and confidence to switch to active travel. This includes community safety, population health and youth services.

## **6 Cars**

### **(AQAP6.1) Plugged-in Places EV Charging Network**

Planning conditions for installation of EV charging points within new residential and commercial installations are included routinely.

EV charging infrastructure has been completed within the following Council owned car parks; Water Street, Ashton (Ashton pool), Henrietta Street, Ashton, Rassbottom Street, Stalybridge & Dukinfield Town Hall.

## **7 Information and Resources**

### **(AQAP7.1) Website and Online Resources**

The Council has promoted walking and cycling routes and green space use across the borough including links to the gmwalking.com website. The website also hosts information around LAQM, Smoke Control Areas and the burning of waste.

### **(AQAP7.9) Awareness Raising**

A number of awareness raising campaigns have been run on the Council's social media accounts around the environmental impact of bonfires and burning waste and the correct use of wood burning stoves.

### **2.2.2.9 Trafford Metropolitan Borough Council**

#### **1 Development Management and Planning Regulation**

In 2023 the Council's Pollution team reviewed 582 planning applications for new developments within Trafford with over 80 of these applications being reviewed in relation to potential air quality impacts from new construction and also demolition. Applications received 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 GM Clean Air Plan (projected exceedances of legal limits 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 legal limit values.

##### **(AQAP1.1) Construction Management Guidance**

Planning applications are reviewed and checked utilising guidance contained within the Institute of Air Quality Management guidance note: Planning for Air Quality. The Council's Air Quality Management Area is provided on the Council's GIS system and the GM Clean Air Plan exceedance locations are available here.

Construction and demolition works can cause short- 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 which are utilised to control impacts from construction and demolition on local air quality.

##### **(AQAP 1.2) Development Planning Guidance**

Details of air quality requirement as part of planning applications to the Council is provided within the Trafford Planning Validation Checklist.

Planning conditions for installation of EV charging points within new residential and commercial installations are included routinely. The Council require applicants to provide a scheme detailing the provision of low emission vehicle charging infrastructure which is subject to review and approval. Significant applications that have been received in 2023 in relation to air quality impacts include:

- Mixed use redevelopment of Stretford Town Centre
- Warehousing estate in Carrington
- HS2
- Small energy reserve facilities
- Residential development within Air Quality Management Area

### **(AQAP1.6) Encouraging Travel Planning**

Under the Council's Planning Application Validation Process guidance is provided to applicants and developers as to when sustainable plans will be required. This is dependent upon the size and type of the development. Travel plans are reviewed and conditions imposed to ensure suitable provisions are made.

### **(AQAP1.8) Green Infrastructure**

In 2023 work was focused on woodland management and returning to existing schemes to maintain and replace. Two new planting schemes were introduced:

1. Rodean Gardens, Flixton – 18 standards
2. Davyhulme Park – 100 whips with DP Primary

## **4 Cycling**

### **(AQAP4.1) Cycle Programmes**

Trafford Council's Executive approved a strategy to get more people walking, wheeling and cycling across the borough. The Walking, Wheeling and Cycling strategy will support residents to choose active travel every day. The overall goal over the next 10 years will be:

- 90% of journeys under one mile will be taken by foot or wheeled equipment (e.g. cycles, scooter, wheelchair, mobility scooter).
- 80% of journeys under five miles will be taken by foot or wheeled equipment (e.g. cycles, scooter, wheelchair, mobility scooter).

The strategy will address key challenges, look at the opportunities to develop active travel and build on the borough's wealth of assets.

The key objectives of the strategy will see the Council provide leadership and inspiration and lead by example, to overcome challenges the strategy will enable the change needed and look to improve access through physical infrastructure. This will be supported by the recent appointment of the Council's Walking, Wheeling and Cycling Lead and Highways and Transportation Programme Manager.

#### **(AQAP4.2) Public Cycle Hire**

Installation of 350 cycle hire stands as part of the Bee Network across 41 locations in Trafford.

#### **(AQAP4.3) Cycle Logistics**

Considerable information regarding cycling programmes, routes, clubs, equipment and safety is provided by the Council.

#### **(AQAP4.4) Walking & Wheeling to 2040**

Trafford Council implemented the A56 Phase 1 cycling facilities along the A5014 Chester Road between April – May 2023

- A CYCLOPS junction was completed at Talbot Road / White City Way in Dec 2023, the first of 3 junctions along Talbot Road funded by the Mayoral Challenge Fund (MCF)
  - Works are currently underway on the second junction of Talbot / Chester
  - Works are about to begin on the third junction Talbot/Great Stone Road
- Delivery of the Bee Network Crossing scheme with new segregated cycling and walking crossing across Dunham Road at the junction with Gorse Lane – completed Dec 2023

There is ongoing implementation and consultation on a number of cycling and active travel schemes. These schemes include Urmston Active Neighbourhood, A56 Chester Road Cycling and Walking Improvements and Dunham Road.

- Consultation was completed on three MCF Schemes
  - Phase 2 A56 from M60 Junction 7 to Talbot Rd – Designs have been approved and Business Case is awaiting approval. Aiming to be on site in Spring 2024.

- Phase 1a Seymour Grove / Talbot Road / Chester Rd Junctions / Boyer Street - Designs have been approved and Business Case is being finalised. Aiming to be on site in Spring/Summer 2024.
- Urmston Area Active Neighbourhood Phase 1 - Flixton West (Route C) & Davyhulme Park (Route D) – further development and consultation on Flixton West (Route C) expected in Spring 2024.
- Junction designs underway on key intersections A56 South as part of Sale West to Altringham Network Improvements including safer pedestrian crossings.

## **6 Cars**

### **(AQAP6.1) Plugged-in Places EV Charging Network**

Be.EV Electric Vehicle charging infrastructure:

Agreement for 87 chargers supplying 174 bays, which includes Trafford Council's first hub facility at Sale Waterside featuring eight units and facilities for 16 spaces in one area.

Currently have coverage in 14 out of the 21 wards in Trafford and due to the constraints of land and power availability looking at on street charging and potentially other measure to increase coverage.

- TESLA supercharger hub has opened at the Trafford Centre.
- Ultra-rapid charging hub has opened at White City Retail Park, Stretford.

Prior to the first occupation of the site, a scheme for the provision of low emission vehicle charging points for that phase shall be submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved scheme.

### **(AQAP6.4) School Travel**

Six Trafford schools participated in School Streets trials over a fortnight of activity in 2023. School Streets are created when restrictions are placed on motor traffic during school drop off and pick up times. The street is open only to vehicles driven by residents, local businesses, and blue badge holders, meaning that children can enjoy a less polluted and less congested journey into school. It also encourages children and their parents to cycle or walk to school. Trials will now continue at each of the schools involved with the aim of

making them permanent. Data collection and resident consultation will remain a part of all future trials.

- Council staff are incentivised to use bicycles for work through provision of the cycle to work scheme and infrastructure at Council buildings. Staff can also claim payment for miles travelled on bicycles for work visits as alternative to car usage.

## **7 Information and Resources**

### **(AQAP7.9) Awareness Raising**

The Council provides access to a number of resources in relation to air quality and active travel:

- Detailed online resource for cycling within Trafford via the Council's website.
- Engine idling information available via the Council's website.
- Access to air quality monitoring data is available via the Council's website.
- Trafford provide information and advice regarding solid fuel burning via the Council's website.
- The Council's social media channels have been used as part of a wider GM campaign to promote responsible use of solid fuel burners within Trafford.

#### **2.2.2.10 Wigan Metropolitan Borough Council**

### **1 Development Management and Planning Regulation**

#### **(AQAP1.7) Taxi and Private Hire Quality Controls to Prioritise Low Emission Vehicles**

The emission policy will now be applicable for all new or vehicle change applications. This is Euro 4 for petrol vehicles and Euro 6 for diesel vehicles.

In line with the recent GM Clear Air Proposal, consideration will also be given shortly to amending our policy further in line with the following:

“The proposed Clean Taxi Fund is tied to the need for GM-licensed taxis to meet a minimum vehicle emission standard of Euro 4 petrol or Euro 6 diesel - so that by 31 December 2025 all GM Taxis would be compliant with emission standards.”

## **2 Freight and Heavy Goods Vehicles**

### **(AQAP2.1) - Delivery and Servicing Plan Toolkit**

EV van for Fleet Services - Fleet Services are also in the process of having an ED9 fitted out with a purpose-built Mobile mechanical engineer van, to support the fleet and provide roadside repairs/SMR. The vehicle should improve the roadside fix rate and keep vehicles on station and operational.

### **(AQAP2.7) - Engine Idling**

Wigan Council's operational fleet is fitted with state-of-the-art Telematics via our provider Michelin (Masternaught). This provides significant insight into the overall performance of the fleet via a number of individual metrics. Engine Idle, fuel efficacy, utilisation, driving standards, are just a few that are actively measured to enable Fleet and operational services, maximise fleet performance and mitigate costs and accidents.

The system also integrates an in-cab coaching system. This audio/visual aid provides instant feedback/coaching using a traffic light-based system and live feedback for harsh events, such as speeding, idling, harsh braking and acceleration, all of which can be set using the system.

- Fleet Services are in the early stages of a Fleet review that will look at several factors around transitioning to EV and other types of alternative fuel (hydrogen).

It will encompass vehicles, and if there are suitable replacements, how much they would cost to replace, along with the energy requirement needed to maintain operations. It will look at infrastructure requirements including AC chargers, DC Chargers, Solar, wind, and battery storage and look at the challenges of adoption, both for the taxpayer, but also operational services.

### **(AQAP2.8) - Alternative Fuels**

Euro 6 Fleet compliance – Wigan Council made the decision in 2020 to ensure that all the fleet was to be compliant with the then proposed GM Clean Air Zone. This now stands at 97% compliance, with all remaining assets not Euro 6 having replacement vehicles on order/pending delivery.

In 2022, Wigan Council transitioned their mayoral car to EV from diesel. Providing newly elected mayors with a sustainable EV to undertake their democratic duties. With the Mayor being the principle political member of the Council, it was essential that this position lead by example since the council declared a climate emergency in 2018.

The Council operate 7 EV LCV's. These are made up of Maxus ED3, Maxus ED9, and Nissan E-NV200. The Councils Pest Control team, who operate 5 of the EV LCVs, are 100% emission free when it comes to their operational fleet.

The Council have four dedicated charge points at their Fleet Services location at their depot in Wigan. These charge Points are 7kWh.

Wigan Council are currently investigating the viability of HVO as a transitional fuel. While not operational, a trial on some vehicles is in the pipeline and should this be successful and cost effective, would eventually be phased into operational fleet with the ability to accept HVO as a fuel (this is over 90%, but with a small number of exceptions).

## **4 Cycling**

### **(AQAP4.1) Cycle Programmes**

Throughout 2023 the Be Well Activation and Active Outdoor teams have delivered a range of cycle programmes to encourage leisure cycling and to promote active travel. Activities include:

- Guided/led cycle rides targeted at adults, families, new cyclists and experienced riders.
- Mass participation events such as Cycle Three Sisters.
- School interventions including free bike giveaways, Dr Bike sessions, cycle maintenance training.
- Cycle training for all ages including Learn to Rides courses for adults and young people, Bikeability balance training for 4-6 year olds and 1 2 1 rides for adults.
- The launch of the Borough's first bike library, where bikes and accessories can be loaned for up to 2 months with the option of purchasing the bike at a discounted rate after the loan.

Some of the key outputs include:

- 464 Guided Rides led.



- 2,759 attendances at guided rides
- 58 Dr Bike sessions delivered across school and community settings.
- 1,086 free bike checks and basic repairs provided.
- This equates to £38,010 worth of work provided free of charge.
- 91 young people aged 4-12 years accessing free cycle training.
- 1,300 people attending our two Cycle Three Sisters events in May/September.

### **(AQAP4.2) Public Cycle Hire**

In March 2023 the Borough's first bike library was launched at Leigh Youth Hub. The library works in the same way that a book library does, where you can borrow a bike and accessories free of charge for up to 2 months. At the end of the loan there is an option to purchase the bike at a heavily discounted rate. Some outputs from the library include:

- 155 bike library members
- 132 bikes loaned out.
- 40% of bikes loaned to the public purchased by the member at a discounted rate.
- All funds generated from bike sales re-invested into the library.
- 92% of members (36 members asked) increased the amount the cycling they did as a result of loaning a bike from the library.
- 30+ bikes checked and repaired by our mechanics through our Free Dr Bike scheme.
- Cycle training delivered for young people with 30 4-6 year olds accessing balance bike training and 49 6-12 year olds accessing Learn to ride sessions.
- Monthly Guided Rides held from the library, explores local routes.



The library has been recognised by TfGM as the largest and busiest in GM, which is an excellent achievement given the library has only been in operation for 9 months.



## **6 Cars**

### **(AQAP6.1) Plugged-in Places EV Charging Network**

Through the last year, Wigan Council have worked closely with the GM EVCI Working Group and other key stakeholders to begin work on the Wigan Borough EVCI Strategy. At present, the Council has submitted a funding bid to secure resource for this work and expects to complete the strategy within the 24/25 financial year. The strategy will be in alignment with the GM-wide EVCI strategy and take into consideration the specific needs for our communities such as requirements for on-road charge points and how to support our residents as we work towards our climate goals.

#### Charge Points:

Wigan charging points - EV points near Wigan, Greater Manchester   


Leigh charging points - EV points near Leigh, Greater Manchester   


Above is a link to the charge points on the BEV network that are on Council Car Parks along with all other charge points around the Borough as a whole.

Below car parks are on the above links, but represent the Council Charge points only:

#### Wigan:

Mona Street 2 X 7Kw chargers

Water Street 2 x 7Kw chargers

Harrogate Street 2 X rapid chargers 50Kw

Loire Drive 2 X rapid chargers 50Kw + 2 Rapid Charges for taxis only

Chatworth Street 2 x Rapid charges taxis only

#### Leigh:

Spinning Gate 2 X 7Kw chargers

Lord Street 2 x 7Kw Chargers

Church Street 2 x 7 Kw chargers

Doctors Nook 2 x 7Kw chargers

Leigh TH car park 2x 7Kw chargers + 2 rapid charges for Taxis only

### **(AQAP6.4) School Travel**

In Wigan we use the Modeshift STARS system to help schools achieve their school travel plan accreditation. The aim of the travel plans is to increase walking and cycling levels around schools, which in turn reduces the amount of vehicles, creating a safer and healthier environment. We have a total of 139 schools registered to the system, however even though getting them to update their plan and renew it annually is a challenge, we have just managed to get two of the schools to the 'very good' level of accreditation. These are the only two schools in the whole of GM who are currently working at this level. One of which has managed to half the amount of children travelling to school by car since starting work with us on their travel plan, which is a fantastic achievement. They have both delivered some great walking and cycling initiatives including the introduction of a school street scheme and independent cycling opportunities on school grounds.

We can provide or support schools with a number of their travel initiatives that contribute to their accreditation such as road safety lessons, Junior CEO scheme and School Street Schemes etc. There are also other teams internally and externally who can work on these initiatives with the schools. These teams include the BeWell Team who offer schemes such as Bike Maintenance, Bikeability and organised walks.

We have just launched a new Road Safety Champion scheme and it has received a great uptake from schools across the borough. The pupil Road Safety Champions choose a different topic to focus on each term and promote it within the school community using methods such as social media, assemblies, noticeboards. The most popular topic that they all launched recently was the Be Bright Be Seen topic, to cover travelling to school safely in the darker months. Our Road Safety/Active Travel lessons are continuing to be popular with schools and we are reaching a large number of pupils across the borough with these educational messages.

## **7 Information and Resources**

### **(AQAP7.1) Website and Online Resources**

We have a planned Air Quality Wigan, that is in line for launch in the next month regarding education residents and school age children on the dangers of Air Pollution. This is part of a DEFRA awarded grant.

**(AQAP7.9) Awareness Raising**

Alongside the DEFRA funded education programme, the Climate Response Team engage with Schools, Businesses and Residents on Air Quality issues. These include educational seminars/lessons to talks to local health care professionals. We also attend roadshows with information regarding Air Quality and climate change related issues.

Wigan Council is also starting a Climate Awareness training course that all council staff must attend. Air quality is mentioned within this training.

Table 2.2 – Progress on Measures to Improve Air Quality

Below are the top 3 measures Greater Manchester would like to bring to the attention of its residents.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	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	Decision for Inclusion in Top 3 Measures	Comments / Barriers to Implementation
4	(AQAP 1.4) Clean Air Zone Feasibility Study	Traffic Management	UTC, Congestion Management, Traffic Reduction	2017	2025	TfGM & LA's	JAQU	No	Partially Funded	> £10 million	Planning	Reduction in NO <sub>2</sub> across GM to bring about compliance with legal limit	Reduce Traffic; Increase Efficiency; Improve Fleet	As stated in 2021 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 <a href="http://www.cleanairgm.com">www.cleanairgm.com</a>	The Clean Air Plan will have a significant effect on improving air quality within Greater Manchester. This will be achieved by zero emission vehicles operating in areas which currently have exceedances of NO <sub>2</sub> , for example. This will ensure legal limits for the mentioned pollutant are met.	The investment-led plan was submitted to JAQU in December 2023. GM is awaiting a response from government
18	(AQAP 3.2) Bus Improvements	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2017	On-going	TfGM	Mixed	No	Not Funded	< £10k	Implementation	Reduction in NO <sub>2</sub> to bring about compliance with legal limit	Improve Fleet	Investment in cleaner buses represents the most important mechanism for reducing exceedances under Greater Manchester's proposed Investment-led Clean Air Plan, improving air quality and is grounded in the ability now provided by GM operating a bus franchising scheme.	Buses have come back under public control in Greater Manchester, with the final services doing so at the start of 2025. Taking pride in our public transport in Greater Manchester, promoting a low emission fleet across the region is vital to improving air quality.	As part of bus franchising.

39	(AQAP 7.9) Awareness Raising	Public Information	Via other mechanisms	2017	On-going	TfGM & LA's/Directors of Public Health	TfGM & LA's – BAU Activity/Defra Grant	Yes	Funded	£10k - £50k	Implementation	An estimated reduction in PM2.5 of 1-2µg/m <sup>3</sup>	<p>Reduce Traffic; Increase Efficiency; Improve Fleet Increased awareness of health impact from solid fuel burning</p>	<p>As well as resource pages supplied on council's websites and being involved with the Burn Better GM campaign, further measures throughout the LAs include:</p> <p>Manchester has continued to promote awareness by visiting schools &amp; GPs.</p> <p>Rochdale has made Carbon Literacy training and Climate Conversations available to all staff members.</p> <p>Stockport has supplied the provision of Bike Dr events and cycle training in locations where new routes have been completed, held its Third Summer Weekend long event called Stockport Moves that included Cycling and Walking events and also continues to support walking groups &amp; confidence walks.</p> <p>Wigan Council is starting a Climate Awareness training course that all council staff must attend.</p>	<p>Awareness Raising is vital for continuous development throughout the region amongst LAs. By reaching out to residents and training staff members, this will only encourage more sustainable initiatives to help improve air quality within Greater Manchester. This will be a continued measure reported on throughout future ASRs as we want to promote the measures taking place to ensure it is documented that we a serious about improvement.</p>	N/A
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**Table 2.3 – AQAP Update**

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	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	(AQAP 1.1) Construction Management Guidance	Policy Guidance & Development Control	Air Quality Planning & Policy Guidance	2017	2017	LA's	LA – BAU Activity	No	Funded	< £10k	Completed	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	A GM Task & Finish Group is improving standardisation of conditions across GM. Construction management guidance is now referred to by many of the local authority environmental management teams. Further details are described by district in the accompanying ASR report.	N/A
2	(AQAP 1.2) Development Planning Guidance	Policy Guidance & Development Control	Air Quality Planning & Policy Guidance	2017	2017	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. Further details around Planning Guidance are described by district in the accompanying ASR report.	N/A
3	(AQAP 1.3) Cumulative Development Database	Policy Guidance & Development Control	Air Quality Planning & Policy Guidance	2017	2017	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 was found to have limited value to Local Authorities.	Limited Use.
4	(AQAP 1.4) Clean Air Zone Feasibility Study	Traffic Management	UTC, Congestion Management, Traffic Reduction	2017	2021 – 2023	TfGM & LA's	JAQU	No	Partially Funded	> £10 million	Planning	Reduction in NO2 across GM to bring about compliance with legal limit	Reduce Traffic; Increase Efficiency; Improve Fleet	As stated in 2021 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 <a href="http://www.cleanairgm.com">www.cleanairgm.com</a>	The final investment led plan was submitted to JAQU in December 2023. GM are awaiting a response from Government
5	(AQAP 1.5) 20mph zones	Traffic Management	Reduction of speed limits, 20mph zones	2018	2022	TfGM & LA's	LA – Various Funding Sources	No	Not Funded	< £10k	Implementation	N/A	Increase Efficiency	More 20mph zone schemes and traffic calming measures are being explored/introduced across GM, linked to pedestrian safety, including five new introductions across Bury at Arley Avenue (Bury), Colville Drive (Bury), Crow Lane (Ramsbottom), Stanley Road (Radcliffe) & Rufford Drive (Whitefield). In Manchester, the Manchester Active Travel Strategy and Investment Plan (MATSIP) was adopted by the Council in February 2023 and Active and School Streets activities continued throughout year. Rochdale require that all new and existing housing developments are all subject to 20MPH zones.	N/A

6	(AQAP 1.6) Encouraging Travel Planning	Promoting Alternative Travel	Personalised Travel Planning	2017	Ongoing	TfGM	TfGM – BAU Activity	No	Funded	£50k - £100k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	<p>TfGM continues to encourage employers to assess their workforce travel habits and move them to more sustainable modes. via tools on TfGM's dedicated business portal and through ongoing direct engagement.</p> <p>Whilst travel plans remain a popular documentation when planning applications are submitted, other news relating to AQAP1.6 included:</p> <p>Bury has a full time Active Travel Officer is in place to encourage behaviour change, whilst work continues to encourage active travel amongst local communities, schools and colleges.</p> <p>Salford opened the Walkden Park &amp; Ride scheme opened to the public in September 2023.</p> <p>Stockport's guidance note on the delivery of EV in new developments continues to support the promotion of adequate charging and the Zero-Emission Vehicle Charging Infrastructure (ZEVCI) Interim Policy Statement.</p> <p>More information for each LA can be found in the above sections.</p>	N/A
7	(AQAP 1.7) Taxi and Private Hire Quality Controls to Prioritise Low Emission Vehicles	Promoting Low Emission Transport	Taxi Licensing Conditions	N/A	2024	Local Authority	Local Authority – BAU Activity	No	Funded	£50k - £100k	Implementation	To bring about compliance with the legal limit for NO2	Reduce Traffic; Increase Efficiency	<p>Full public consultation on Minimum Licensing Standards was undertaken in parallel with GM CAP at the end of 2020 across Greater Manchester. Implementation of standards by GM Districts was paused with the GM CAP.</p> <p>More information for each LA can be found in the above sections such as working with TfGM for taxi electrification and meeting Euro VI standards currently.</p>	The GM districts are now pursuing licensing standard so that all Hackney and Private Hire Vehicles comply with emissions standards set out in the Government's Clean Air Zone Framework.



8	(AQAP 1.8) Green Infrastructure	Transport Planning & Infrastructure	Other	2019	2022	TfGM	TfGM – BAU Activity	No	Funded	£10k - £50k	Implementation	N/A	Increase Efficiency	<p>Bury has developed a 'Places for Everyone' plan as well as bike libraries being set up at towns across the area. Bike training is carried out across school and Mode Shift Starts has been set up to encourage children to use green infrastructure.</p> <p>Manchester is developing a draft Tree and Woodland Action Plan, along with utilising the Greater Manchester Green Spaces Fund as well as promoting 'Grey to Green' interventions.</p> <p>Oldham has increased woodland spaces and town centre green space developments.</p> <p>Rochdale has completed phase 1 of the Living Streets project with phase 2 underway. This has seen the creation of green spaces, EV charging facilities and improvement to the active travel network.</p> <p>Trafford introduced two new planting schemes at Rodean Gardens &amp; Davyhulme Park.</p> <p>More information for each LA can be found in the above sections.</p>	N/A
9	(AQAP 2.1) Delivery & Servicing Plan Toolkit	Freight & Delivery Management	Delivery & Service Plan	2017	Ongoing	TfGM	TfGM – BAU Activity	No	Funded	£10k - £50k	Completed	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	<p>There has been limited progress in this particular measurable. Some highlights from LAs include:</p> <p>Manchester City Council had their Facilities Management and Zero Carbon Estates team working on a smart Building Management System project at Hulme District Office. Continued progressive replacement of ICE vehicular fleet with electric vehicles and cycles.</p> <p>Wigan have an EV van for Fleet Services to be attended to.</p>	The resources needed in implementing this measure have not seen the improvements expected. The dedicated resource at TfGM is no longer funded. Updated to 'Greater Manchester is currently considering its role and resourcing for freight activity. Local Authorities continue to use the Delivery and Servicing Plan guidance with businesses and public bodies'.
10	(AQAP 2.2) Urban Distribution Centres	Freight & 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	<p>Worked with a number of businesses/couriers on the facilitation of sustainable travel and e-cargo bikes solutions in Greater Manchester. Couriers state they trial in Greater Manchester due to high</p>	Market dependant factors

														quality of the cycling network.	
11	(AQAP 2.3) Urban Consolidation	Freight & Delivery Management	Other	2019	TBC	TfGM	TfGM – BAU Activity	No	Funded	£10k - £50k	Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	Worked with a number of businesses/couriers on the facilitation of sustainable travel and e-cargo bikes solutions in Greater Manchester. Couriers state they trial in Greater Manchester due to high quality of the cycling network.	N/A
12	(AQAP 2.4) 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	N/A	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. Freight policy and strategic direction will be incorporated into the forthcoming Local Transport Plan.	N/A
13	(AQAP 2.5) Freight Information Channels	Freight & Delivery Management	Other	2017	On-going	TfGM	TfGM – BAU Activity	No	Funded	£10k - £50k	Implementation	TBC	Reduce Traffic; Increase Efficiency	Travel Demand Team are 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	(AQAP 2.6) Diesel Transport Refrigeration Units (TRUs)	Freight & Delivery Management	Other	N/A	TBC	TfGM	TfGM – BAU Activity	No	Not Funded	N/A	Aborted	N/A	Increase Efficiency; Improve Fleet	There has yet to be any progress on this measure and its value to GM priorities has been called into question. As a result this action has been suspended.	This topic is not at the forefront of current freight debates.
15	(AQAP 2.7) 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	A report 'Tackling Vehicle Idling – Options' was produced by the Greater Manchester Air Quality Working Group in August 2022, that set out options for enforcement of idling vehicles and raising awareness of the issue.	The enforcement of idling is not straight forward due to difficulty obtaining driver/owner details and the FPN sum will not cover the cost of the enforcement action taken. Government need to review this legislation.
16	(AQAP 2.8) 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 the Green Hydrogen Trafford site have been approved. TfGM rolling out chargers through the Early Measures and Taxi EVCI programmes. Continue to promote the use of Electric Vehicles as part of the 'Electric Travel' website.	Demand and supply. Infrastructure needed to deliver the fuel to the end user and the availability of H2 vehicles in the market.

17	(AQAP 3.1) Bus Priority Programmes	Transport Planning & Infrastructure	Bus Route Improvements	2017	On-going	TfGM	TfGM – CRSTS	No	Funded	£500k - £1 million	Implementation	To bring about compliance with the legal limit for NO2 by 2025	Reduce Traffic; Increase Efficiency	In 2023, business cases for 5 Quality Bus Transit Routes, 2 Bus Corridor Upgrades, 5 City Centre Radials as well as various Pinch Points and Maintenance schemes were in the process of development with Local Authorities. Improvements aim to increase bus patronage and reduce dependence on private vehicles.	N/A
18	(AQAP 3.2) Bus Improvements	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2017	On-going	TfGM	Mixed	No	Not Funded	< £10k	Implementation	Reduction in NO2 to bring about compliance with legal limit	Improve Fleet	Investment in cleaner buses represents the most important mechanism for reducing exceedances under GM's proposed Investment-led Clean Air Plan, improving air quality and is grounded in the ability now provided by GM operating a bus franchising scheme.	As part of bus franchising.
19	(AQAP 3.3) Hybrid Bus Improvements	Vehicle Fleet Efficiency	Promoting Low Emission Transport	2017	On-going	TfGM	TfGM – BAU Activity	No	Funded	£500k - £1 million	Aborted	N/A	Increase Efficiency	<p>In April 2023, government advised TfGM that it was to pause any new spending on bus retrofit as it had evidence that retrofitted buses have poor and highly variable performance in real-world conditions.</p> <p>Government advised that it anticipated a six-month focused research programme to quickly investigate the causes of poor bus retrofit performance.</p> <p>In the absence of the outcome of the government's bus retrofit study, GM has incorporated the revised guidance from JAQU, into the modelling which underpins the development of its Clean Air Plan.</p>	To date the outputs of the government research programme have not been made available to GM.
20	(AQAP 3.4) Trial of Low Emission Vehicles	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2017	On-going	TfGM	TfGM – BAU Activity	No	Funded	> £1 million	Complete	N/A	Improve Fleet	Franchising and CRSTS funding are prioritising electrification of the GM bus fleet, meaning no other trials of Low Emission Vehicles were conducted in the last two years. Zero Emission bus data will be analysed in order to identify any opportunities for optimisation.	

21	(AQAP 4.1) Cycle Programmes	Promoting Travel Alternatives	Promotion of Cycling	2017	On-going	TfGM	Mixed	No	Partially Funded	> £10 million	Implementation	Reduction in NO2 and PM	Reduce Traffic	GM's mission to deliver the first fully connected active travel network in the UK, as part of the Bee Network, has continued apace in 2023, and continued to be supported by TfGM-led sustainable travel promotion schemes.	N/A
22	(AQAP 4.2) Public Cycle Hire	Transport Planning & Infrastructure	Public Cycle Hire Scheme	2017	On-going	TfGM	Mayor's Challenge Fund	No	Funded	> £10 million	Implementing	Reduction in NO2 and PM	Reduce Traffic	After the introduction of Cycle Hire to GM in November 2021 the Bee Network scheme expanded in 2022 and 2023 throughout Manchester, Salford and Trafford with now over 2500 stands.  Usage has continued to exceed expectations in most areas with an average of 2.23 rides per bike per day in 2023 compared to 1.87 in 2022.  GM has a new sponsor Starling Bank	The cycle hire programme has encountered setbacks due to vandalism. An action plan is in place to resolve this.
23	(AQAP 4.3) Cycle Logistics	Promoting Travel Alternatives	Promotion of Cycling	2017	On-going	TfGM	TfGM – BAU Activity, INTERREG	No	Funded	£500k - £1 million	Planning	Reduction in NO2 and PM	Reduce Traffic	Amazon have increased their e-cargo bikes in GM, partly due to the high levels of appropriate infrastructure in the area. We are continuing to work with Amazon and other couriers to explore other cycle logistics activity across the conurbation.	Our wide cycleways have meant that companies such as Amazon are attracted to the region.
24	(AQAP 4.4) Walking & Wheeling to 2040	Promoting Travel Alternatives	Promotion of Cycle & Walking	2017	On-going	TfGM	TfGM – BAU Activity and range of DfT Funding	No	Partially Funded	> £10 million	Implementation	Reduction in NO2 and PM	Reduce Traffic	GM has set out a refreshed Active Travel mission, supported through Activation and Access areas of work, under the guidance of Dame Sarah Storey, our new Active Travel Commissioner.	N/A

25	(AQAP 5.1) 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	Reduction in NO2 and PM	Reduce Traffic; Improve Fleet	<p>To encourage employers to assess their workforce travel habits and move them to more sustainable modes. This is done via readily available tools on TfGM's dedicated business portal and through ongoing direct engagement.</p> <p>Across GM:</p> <p>Bury has an E Car Club pilot scheme still in operation whilst considering options for rolling out a borough wide Car Club scheme.</p> <p>Manchester continues to partner with Enterprise Car Club to provide staff with a low emission car for work. Continued promotion for sustainable travel and a GM-wide car club being developed.</p> <p>Salford City Council currently uses a fleet of 14 x Co-Wheels car club vehicles from the Civic Centre site (10 x petrol vehicles and 4 x EV's).</p> <p>Stockport have a Staff Travel Plan and Guidance on Car Club usage. The public use of the car club cars continues to be promoted with a specific push to residence with a discount in initial membership undertaken in the spring of 2023.</p>	
26	(AQAP 5.2) Dynamic Road Network Efficiency and Travel System Information	Public Information	Via other mechanisms	2017	On-going	TfGM	TfGM – BAU Activity	No	Funded	£1 million - £10 million	Implementation	N/A	Increase Efficiency	<p>TfGM has been working with Google on an AI project to ensure signal timings are optimised to reduce stop-start traffic and emissions. This initiative has delivered local benefits where signal timings were adjusted. Additionally, having the performance and operation of GM's signal asset reviewed by an independent third party provided assurance that the signal network was working well with the development of the asset and day to day operation delivering benefits.</p> <p>Works to enhance TfGM's Operational Control Centre are nearing completion. The new space enables bus franchise operators, TravelSafe and GMP as well and comms and control centre colleagues from TfGM to be co-located, enabling a coordinated approach to managing the Bee Network.</p>	N/A

27	(AQAP 6.1) 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	Reduction in NO2	Improve Fleet	Good progress made in this area in calendar year. DfT data shows 1035 publicly available charging points (Jan 2024), from 619 in January 2023. This is across a wide range of transport providers.  The Be.EV network continues to grow, with a programme of chargers specifically for taxi and PHV implemented during the calendar year. In Jan 2024, the Be.EV network stood at 222 devices.	N/A
28	(AQAP 6.2) 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	(AQAP 6.3) 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	(AQAP 6.4) School Travel	Promoting Travel Alternatives	School Travel Plans	2017	On-going	TfGM & LA's	TfGM & LA – BAU Activity	No	Partially Funded	£10k - £50k	Implementation	Reduces NO2 and PM	Reduce Traffic; Increase Efficiency	Over the 2023 calendar year, 14 school street schemes were trailed – 12 of which remain in delivery.  The Youth Travel Ambassador (YTA) programme continues to be a success with c. 250 students and 25 staff appointed as travel ambassadors in 2023. With this, c. 310 programme activities were delivered in YTA schools, reaching c. 17,600 students.  Other projects such as Modeshift STARS, Own the Ride & Cycle and Stride for Active Lives have all experienced support and growth in 2023.	General modal shift especially from parents needing persuasion to find an alternative to dropping their children off at school in private cars.

31	(AQAP 7.1) Website & Online Resources	Website & Online Resources	Via the Internet	2017	2019	TfGM	TfGM – BAU Activity	No	Funded		Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	There were fewer public updates on the Greater Manchester Clean Air Plan in 2023 as Greater Manchester worked to provide government with evidence to support its proposals for an investment-led, non-charging Clean Air Plan. As a result, there were fewer visits to cleanairgm.com than in 2022, when the site attracted a significant surge in visitor numbers.  However, the 'bounce rate' for the Clean Air website during 2023 was 36.96%, much improved on the 55.64% figure in 2022. This shows that while the site received fewer visits, more people were staying on the website and engaging with its content	N/A
32	(AQAP 7.2) Online Route Finding	Promoting Travel Alternatives	Personalised Travel Planning	N/A	On-going	TfGM	TfGM – BAU Activity	No	Funded		Implementation	Reduction in NO2 and PM	Reduce Traffic; Increase Efficiency	TfGM have a new journey planner go live in 2023 and will soon be live on the TfGM App.	N/A
33	(AQAP 7.3) Air Pollution Alert	Public Information	Via other mechanisms	2018	On-going	TfGM	TfGM – BAU Activity	No	Funded	£10k to £50k	Complete	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	The GM Pollution alert service has been set up and can be signed up for <a href="https://cleanairgm.com/data-hub/forecast-and-alerts/">https://cleanairgm.com/data-hub/forecast-and-alerts/</a> . There were 673 users as of January 2024.	N/A
34	(AQAP 7.4) Health Effects of Air Pollution in Greater Manchester	Public Information	Via the internet	2017	On-going	TfGM	UKHSA BAU	No	Funded		Implementation	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet		

35	(AQAP 7.5) 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	Adverse Weather Health Plan 2024-25 has been published	Poor air quality and wildfires are to be included in the next iteration
36	(AQAP 7.6) TfGM Air Quality Team	Other	Other	2017	On-going	TfGM	TfGM – BAU Activity	No	Funded	£10k - £50k	Completed	N/A	Reduce Traffic; Increase Efficiency; Improve Fleet	TfGM will provide staff resource to support partners in implementing this plan and to provide support for key local authority roles. TfGM's resource works in a collaborative partnerships with officers across GM authorities and partner organisations to drive continuous improvement in air quality.	N/A
37	(AQAP 7.7) 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 air quality data and maintaining the database. This data is now being published on the <a href="#">Clean Air GM</a> website.	N/A
38	(AQAP 7.8) 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 Clean Air Plan, as per AQAP 5.2, TfGM have also been working with Google on an AI project to ensure signal timings are optimised to reduce stop-start traffic and emissions.	N/A



39	(AQAP 7.9) Awareness Raising	Public Information	Via other mechanisms	2017	On-going	TfGM & LA's	TfGM & LA's – BAU Activity	Yes	Funded	£10k - £50k	Implementation	Reduction in NO <sub>2</sub> and PM <sub>2.5</sub> ?	Reduce Traffic; Increase Efficiency; Improve Fleet	<p>As well as resource pages supplied on council's websites and being involved with the Burn Better GM campaign, further measures throughout the LAs include:</p> <p>Manchester has continued to promote awareness by visiting schools &amp; GPs.</p> <p>Rochdale has made Carbon Literacy training and Climate Conversations available to all staff members.</p> <p>Stockport has supplied the provision of Bike Dr events and cycle training in locations where new routes have been completed, held its Third Summer Weekend long event called Stockport Moves that included Cycling and Walking events and also continues to support walking groups &amp; confidence walks.</p> <p>Wigan Council is starting a Climate Awareness training course that all council staff must attend.</p>	N/A
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## 2.3 PM<sub>2.5</sub> – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy<sup>59</sup>, local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter (PM<sub>2.5</sub>). There is clear evidence that PM<sub>2.5</sub> (particulate matter smaller than 2.5 micrometres in diameter) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

GM is taking the following measures to address PM<sub>2.5</sub>:

**Bolton:** The Council investigated 34 complaints related to smoke nuisance and 31 complaints about fumes and odours in 2023. These included complaints about domestic burning, commercial burning (open fires) and fumes from commercial premises. No financial penalties were issued for chimney smoke complaints during 2023. In addition, the Council investigated 9 complaints related to dust from commercial/ industrial premises, the majority of which related to dust from construction sites. No formal action was taken in relation to the complaints, however advice was given, raising awareness of air quality implications and hopefully preventing future problems.

The Council is reviewing its smoke control areas and procedures in relation to smoke emissions, provide a consistent approach to dealing with smoke emissions across the borough and provide consistent information for members of the public. Further awareness raising in relation to smoke control issues as part of the GM domestic smoke campaign will be taking place later this year.

**Bury:** Bury Council investigated 27 domestic chimney smoke complaints in 2023 and all were dealt with informally. No financial penalties were issued.

**Manchester:** MCC investigated 21 domestic chimney smoke complaints in 2023 and issued warning letters to the properties alleged to be issuing smoke from their chimney(s). No financial penalties were issued during 2023.

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<sup>59</sup> Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

**Oldham:** Oldham MBC continues to request, reviews and comments on Construction Environmental Management Plans (CEMP) for planning applications received. We request the CEMP considers mitigation measures to minimise dust emissions from construction and demolition sites.

In 2023 the council investigated over 98 complaints from the public in relation to burning, mainly from domestic bonfires. In the majority of these cases residents were written to and advised on alternative methods of disposing of their waste. In addition, we received 14 complaints about dust, mainly from construction sites. In these instances, developers were contacted and reminded, where necessary, of the agreed CEMP and requested to take further actions, where appropriate, to reduce dust further. It was only necessary to serve 1 formal notice for dust emissions from a construction site in 2023.

As mentioned, throughout 2023, social media was used to try and improve the air quality in Oldham by raising awareness. The Burn Better campaign was regularly promoted encouraging residents who use solid fuels to use the right fuels correctly to reduce air pollution

**Salford:** The City Council investigated 73 complaints related to smoke nuisance in 2023 and had contact with both the complainant and the alleged source. The majority of complaints were related to domestic burning (e.g. garden bonfires) and smoke from commercial premises, and therefore this will have a beneficial effect on raising awareness of air pollution issues. Further awareness raising in relation to smoke control issues as part of the GM domestic smoke campaign will be taking place later this year. No financial penalties were issued for chimney smoke complaints during 2023.

The City Council is reviewing its smoke control areas, with a view to declaring a new local authority wide smoke control area. This will remove redundant provisions in current smoke control orders, provide a consistent approach to dealing with smoke emissions across the city and provide consistent information for members of the public.

In addition, the City Council investigated 15 complaints related to dust from commercial/ industrial premises, including 11 complaints about dust from construction activities. On major developments, a planning condition would normally be placed on the application to

include a Construction Environmental Management Plan (CEMP), which would include measures to prevent the deposition of dirt on the public highway and measures to control the emission of dust and dirt during demolition/construction.

**Stockport:** The Public Protection service review planning applications in relation to a wide range of construction projects and apply planning conditions to minimise dust and particulate emissions during construction. The Council is currently in the process of reviewing the current extent of the Smoke Control Orders which cover the Stockport area. Where areas are not covered by a smoke control order these will be mapped and reviewed. The Council has investigated complaints in relation to smoke from domestic/commercial and industrial chimneys and also from bonfires. The Council applies Clean Air and nuisance legislation to reduce smoke emissions and irresponsible burning.

**Trafford:** In 2023 the Council investigated 70 complaints regarding bonfires on domestic premises, 8 complaints of smoke emissions from industrial premises, 15 complaints of smoke from domestic chimneys and 14 complaints of dust emissions. The Council is reviewing the Smoke Control Orders covering the borough to ensure that the borough is suitably covered. If there are any areas not covered by an order consideration will be given to declaring new smoke control areas.

### 2.3.1 Domestic burning awareness

#### Background

On behalf of the 10 GM local authorities and Greater Manchester Combined Authority, Transport for Greater Manchester (TfGM) secured a £570,000 Defra Air Quality Grant to fund a multi-year scientific research and behaviour change project in relation to the risks of fine particulate air pollution (PM10 and PM2.5) from domestic solid fuel burning, including indoor woodburning stoves, open fires and garden bonfires.

Over winter 2023/24, Greater Manchester's ten local authorities helped deliver a TfGM-coordinated behaviour change campaign about the risks of air pollution (PM10 and PM2.5) from domestic solid fuel burning.

TfGM was originally committed to delivering two behaviour change / communication campaigns. However, due to a new national campaign launching in autumn 2023, with a

request for councils to share this material, it was agreed to extend the programme. This means at least three campaigns will be delivered:

Winter 22/23: The first campaign ran in winter 2022/23 (December - February) targeting areas with known users of domestic burning equipment to increase awareness of the health/environment issues and encourage use of cleaner fuels. This directed people to Defra's 'Burn Better' campaign website. Through a mix of organic and paid activity, this generated 12 million opportunities for people to see or hear campaign messaging, driving 10,000+ visits to the Defra site, and 15,000 video views through communications and marketing activity.

Winter 23/24: In addition to supporting the new Defra Burn Better, Breathe Better campaign up to December 2023, GM has run a second campaign this year. In winter 2023/24 (January – March), Burn Better GM was an organically-led campaign targeting areas with known users of domestic burning appliances and directed people to a new local Information Hub on the GM Green City website to educate residents about the health impacts and regulations surrounding domestic burning. Burn Better GM: Reduce the harm and pollution from burning solid fuels - GM Green City

Winter 24/25: A subsequent campaign will run in winter 2024/25. This will be informed by responses to a survey and focus groups sessions into solid fuel use in Greater Manchester, which has been run by the University of Manchester. Early results from a new network of over 40 air quality monitors, which have been strategically placed across the region to better understand the link between domestic burning and PM2.5 air pollution, will also inform the work.

The winter 2023/24 TfGM's campaign focused on creating bespoke content that could be shared via partner channels and directing people to an Information Hub on the GM Green City website. This was achieved by partnering with The University of Manchester to promote their research which aims to understand the link between household burning practices (indoor and outdoor) and local air quality. A bespoke video for the campaign also provided insight into how people can use domestic burning equipment more safely by following Burn Better advice, which includes the use of cleaner fuels. Building on the learnings from the first campaign in winter 2022/23, a local health advocate was recruited

to help raise awareness of the health impacts of domestic burning and urge people to follow advice that can reduce air pollution.

A series of digital communication toolkits were shared with partners across Greater Manchester, with content including video, non-branded static images, and newsletter copy.

The primary call to action of the second campaign was for people to visit the Burn Better GM Information Hub - Burn Better GM: Reduce the harm and pollution from burning solid fuels - GM Green City<sup>60</sup> - to find out how to burn safely in Greater Manchester.

The organically-led domestic burning campaign for winter 2023/24 was successful in generating over 2.8 million opportunities for people to see or hear campaign messaging, driving more than 2,400 visits to the Burn Better GM Information Hub through partner communications activity. This included:

- 2.4 million impressions across social media channels
- Over 400,000 opportunities to see/hear the #BurnBetterGM messaging in traditional media
- More than 12,000 campaign video views
- At least 10,000 people reached via partner newsletters

From the past two campaigns (2022 – 24), this has achieved over 14.8 million opportunities for people to see or hear domestic burning messaging, over 12,400 web visits across two campaign hubs and over 27,500 video views of health advocates and how to burn safely.

### **Indicative Monitoring**

The contract for 43 MCERT indicative monitors was awarded to Ricardo, to install 40 units throughout the region and co-locate 3 with the real-time analyser in Piccadilly Gardens. Ricardo not only manage the monitors but also undertake quality assurance and quality control of the data received from them. The monitors were installed throughout January 2024, and the findings will be reported in next year's ASR.

### **Research**

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<sup>60</sup> [REDACTED]

The University of Manchester were awarded a contract to undertake research into the behaviours behind solid fuel burning. Defra are clear in their Air Quality Strategy that reduction on PM2.5 can be achieved if those using solid fuel burners do so using the correct fuel for their appliance and operate it in accordance with manufacturer's instructions.

In 2023 The University hosted a Civic Panel exercise with two groups of participants. The findings from these focus groups have demonstrated a low level of knowledge or understanding of the environmental and health impacts of domestic burning across different income groups. The outcomes are feeding into the next phase of more in-depth engagement.

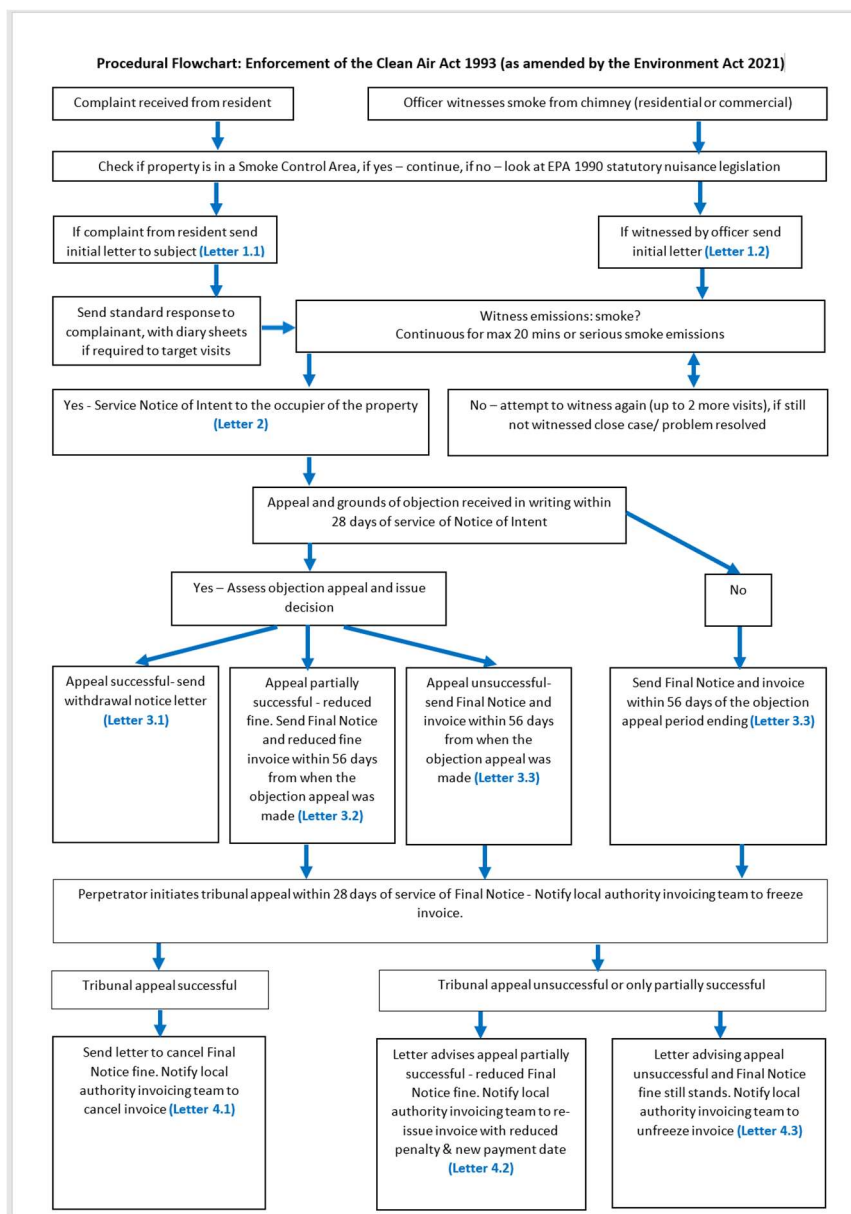
Informed by the Civic Panels and Literature Review, a detailed survey into domestic solid fuel burning behaviours in GM was designed and published by the University of Manchester in partnership with TfGM and local authorities. The survey was launched on

21 November 2023 and was live until 29 February 2024. The flyer for the survey is to the left.



## Greater Manchester Smoke Emissions Enforcement Toolkit

In 2023 Greater Manchester’s Air Quality Working Group produced the smoke emissions toolkit to ensure effective enforcement and consistency of enforcement measures across the regions. The toolkit has been shared with other local authorities through the Defra funded Air Quality Hub<sup>61</sup>, which is a free online information and knowledge sharing resource for local authority air quality professionals and consists of a briefing note, a policy protocol, procedural flowchart (see below) and letter templates.





## 2.4 CAP NO<sub>2</sub> Monitoring Results 2023

### 2.4.1 Legislative Context

Legislation	Description
The European Union Directive 2008/50/EC Ambient Air Quality and Cleaner Air for Europe.	<p>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.</p> <p>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<sub>2</sub>) and PM<sub>10</sub> (particulate matter with an aerodynamic diameter of less than 10 microns).</p>
Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019	<p>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.</p> <p>On the UK government's behalf, the Department for Transport and Defra have Public Service Agreements relating to the limit values.</p>
The Air Quality (England) (Amendment) 2000/2002 Regulations.	<p>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).</p> <p>AQOs exist for a variety of pollutants including NO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. These are established for both the protection of human health and the protection of vegetation and ecosystems.</p>
Environment Act 1995, Part IV	<p>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 against these objectives and make plans to meet the AQOs where they are exceeded.</p>

Legislation	Description
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<sub>2</sub>) 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<sub>2</sub> 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 which often leads to different types of monitoring 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<sup>62</sup> where the Air Quality Objectives apply, which can include roadside but only in exceptional circumstances. LAQM monitoring also includes measurements at background<sup>63</sup> 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<sup>3</sup> has been exceeded by any result over 39.9µg/m<sup>3</sup><sup>64</sup>, whereas for the CAP, JAQU (government's Joint Air Quality Unit,)

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<sup>62</sup> 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 \(defra.gov.uk\)](https://www.defra.gov.uk/air-quality/standards/laqm-tg16-april-21-v1.pdf)

<sup>63</sup> 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.

<sup>64</sup> 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 exceedance is a concentration greater than, or equal to, the upper band threshold. <https://uk-air.defra.gov.uk/air-pollution/glossary#E>

determine anything over  $40.4\mu\text{g}/\text{m}^3$  to be an exceedance<sup>65</sup>. 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  $\text{NO}_2$  which apply to both regimes:

- A short-term hourly limit of  $200\mu\text{g}/\text{m}^3$  (not to be exceeded more than 18 times a calendar year).
- The long-term annual average limit of  $40\mu\text{g}/\text{m}^3$ .

To determine compliance with the  $\text{NO}_2$  1-hour mean Air Quality Limit Values, research undertaken on behalf of Defra and outlined in Technical Guidance Note LAQM.TG (22) (Defra, 2021) identified that road traffic emission related exceedances are unlikely to occur where the annual mean concentration is below  $60\mu\text{g}/\text{m}^3$ .

For the Clean Air Plan (CAP), the government has directed GM (and other areas) under UK law to address  $\text{NO}_2$  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 ( $40\mu\text{g}/\text{m}^3$ ).<sup>66</sup>

#### **2.4.2.1 Clean Air Plan monitoring 2023**

For 2023, the CAP survey comprised of 295 monitoring locations including eight co-location sites with continuous analysers (the total number of sites fluctuated during the year as a small number of sites had to be moved or decommissioned). Results that can be compared with the annual average Limit Value standard are available at 248 locations beside roads operated by GM authorities (not the Strategic Road Network which is the responsibility of National Highways), following a review of data capture and siting criteria.

There was a reduction in the number of sites from 2022 as some were decommissioned or had to be re-located. These included sites where monitored concentrations had shown a

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<sup>65</sup> 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  $40.4\mu\text{g}/\text{m}^3$  is rounded down to  $40\mu\text{g}/\text{m}^3$  and is not exceeding.

<sup>66</sup> The short-term hourly limit was only exceeded in Greater Manchester in 2016 at one site, on Oxford Road.

low risk of exceeding the legal limit, or where vandalism meant annual mean concentrations could not be calculated.

CAP monitoring data showed 64 locations where exceedances of the nitrogen dioxide annual mean limit value in GM were indicated, with a further 78 locations considered to be at risk of exceeding the limit. The CAP monitoring data indicates that air pollution has generally decreased compared with 2022. Analysis of the factors influencing pollution emissions and air quality indicate that the concentrations have been affected by:

- An increase in car traffic compared with 2022, but also a cleaner vehicle fleet as a result of natural churn as older cars are replaced by newer cleaner models.
- The launch of locally controlled Bee Network bus services, and introduction of new electric buses.
- The operations of retrofit Euro V buses, which are known to exhibit variable emissions performance under real-world conditions.

Table 2.4 below summarises NO<sub>2</sub> concentrations and exceedances of the annual mean across sites set up for GM CAP purposes in 2023. Details of the CAP automatic sites can be found in Table A.1 Appendix A

**Table 2.4: CAP Monitoring Sites Data across Greater Manchester**

Authority	Non-automatic sites (with valid data capture 2023)[1]	Concentration range (all sites) (µg/m <sup>3</sup> )	No. Exceedances of NO <sub>2</sub> Annual Mean LVs (non-automatic sites)
Bolton MBC	19	42.5 - 26.7	2
Bury MBC	19	42.8 - 29.1	3
Manchester CC	109	58.6 - 26.1	39
Oldham MBC	13	41.5 - 30.7	1
Rochdale MBC	6	39.4 – 29.0	0
Salford CC	32	43.2 - 26.5	4

<b>Stockport MBC</b>	24	<b>49.9</b> - 26.5	7
<b>Tameside MBC</b>	19	<b>46.6</b> - 19.9	7
<b>Trafford MBC</b>	4	34.0 - 28.6	0
<b>Wigan MBC</b>	3	<b>47.2</b> - 30.4	1
<b>Total</b>	248	<b>58.6</b> – 19.9	64

**Table 2.5 Number of GM CAP Monitoring Sites**

Local Authority	Number of Monitoring Sites					
	2018	2019	2020	2021	2022	2023
Bolton	5	14	14	14	32	19
Bury	5	16	16	16	36	19
Manchester	20	91	91	91	160	109
Oldham	0	9	9	9	19	13
Rochdale	0	12	12	12	15	6
Salford	5	27	27	27	60	32
Stockport	10	19	19	19	47	24
Tameside	5	14	14	14	32	19
Trafford	5	14	14	14	18	4
Wigan	0	6	6	6	13	3
<b>Total</b>	<b>55</b>	<b>222</b>	<b>222</b>	<b>222</b>	<b>432</b>	<b>248</b>

**Table 2.6 Number of GM CAP Exceedances**

Local Authority	Number of Exceedances (>40.4µg/m <sup>3</sup> )					
	2018	2019	2020	2021	2022	2023
Bolton	1	4	1	2	4	2
Bury	2	10	0	2	6	3
Manchester	14	65	8	25	49	39
Oldham	0	5	0	1	5	1
Rochdale	0	4	1	1	1	0

Local Authority	Number of Exceedances (>40.4µg/m <sup>3</sup> )					
	2018	2019	2020	2021	2022	2023
Salford	1	16	0	7	13	4
Stockport	6	15	2	3	8	7
Tameside	4	6	4	4	8	7
Trafford	1	3	0	0	0	0
Wigan	0	1	0	0	1	1
<b>Total</b>	<b>29</b>	<b>129</b>	<b>16</b>	<b>45</b>	<b>95</b>	<b>64</b>

**Table 2.7 Number of CAP sites at Risk of Exceedance**

Local Authority	Number of sites at Risk of Exceedances (>35 < 40.4 µg/m <sup>3</sup> )					
	2018	2019	2020	2021	2022	2023
Bolton	3	2	3	3	4	3
Bury	3	2	3	4	10	6
Manchester	1	6	22	18	49	31
Oldham	0	1	4	4	5	4
Rochdale	0	3	0	2	4	3
Salford	0	0	6	7	15	17
Stockport	2	2	4	5	10	7
Tameside	1	3	1	1	8	7
Trafford	3	7	1	1	1	0
Wigan	0	1	0	0	2	0
<b>Total</b>	<b>13</b>	<b>27</b>	<b>44</b>	<b>45</b>	<b>108</b>	<b>78</b>

**Table 2.8 Max CAP NO<sub>2</sub> Concentrations**

Local Authority	Max NO <sub>2</sub> Concentration(µg/m <sup>3</sup> )					
	2018	2019	2020	2021	2022	2023
Bolton	54	64	46	48	44	43

Local Authority	Max NO2 Concentration( $\mu\text{g}/\text{m}^3$ )					
	2018	2019	2020	2021	2022	2023
Bury	48	62	38	44	45	43
Manchester	71	76	50	56	65	59
Oldham	0	54	39	45	45	42
Rochdale	0	61	49	45	41	39
Salford	47	67	40	45	45	43
Stockport	62	75	46	52	51	50
Tameside	56	56	43	48	48	47
Trafford	47	47	35	37	35	34
Wigan	0	45	31	33	45	47

### 3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2023 by GM and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2019 and 2023 to allow monitoring trends to be identified and discussed.

#### 3.1 Summary of Monitoring Undertaken

##### 3.1.1 Automatic Monitoring Sites

GM undertook automatic (continuous) monitoring at 24 sites during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The [Clean Air GM Data](#)

[Hub](#)<sup>67</sup> page presents automatic monitoring results for GM, with automatic monitoring results also available through the UK-Air website .

Maps showing the location of the LAQM monitoring sites are provided in Appendix D and in more detail on Clean Air GM website, where the locations of the CAP monitoring sites can also be found. Further details on how the monitors are calibrated and how the data have been adjusted are included in Appendix C.

### 3.1.2 Non-Automatic Monitoring Sites

GM undertook non-automatic (i.e. passive) monitoring of NO<sub>2</sub> at 356 sites during 2023. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D and in more detail on the Clean Air GM website.<sup>68</sup> 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<sub>2</sub>)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>. 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 are exclusive of any consideration to fall-off with distance adjustment).

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<sup>67</sup> <https://cleanairgm.com/data-hub/monitoring-stations>

<sup>68</sup> [REDACTED]



For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO<sub>2</sub> hourly mean concentrations for the past five years with the air quality objective of 200µg/m<sup>3</sup>, not to be exceeded more than 18 times per year.

### **3.2.1.1 Bolton Metropolitan Borough Council**

#### **Automatic**

Nitrogen dioxide levels are monitored at the automatic station on the A579, Derby Street near the University of Bolton, the site was commissioned in October 2020. The site is located within the Air Quality Management Area and is in a roadside location. The NO<sub>x</sub> analyser is a NO<sub>x</sub> model T200 chemiluminescence analyser supplied by Envirotechnology.

In 2023 the annual mean concentration measured at the site was 21 µg/m<sup>3</sup>. In 2022 and 2021 it was 23 µg/m<sup>3</sup>, there was therefore a slight reduction in 2023. There were no hourly mean concentrations above 200 µg/m<sup>3</sup> since the site has been operating. The 99.8<sup>th</sup> percentile NO<sub>2</sub> concentration was 91 µg/m<sup>3</sup>. The data capture at the site was 98.37%. There were no exceedances of the nitrogen dioxide air quality objectives at the site in 2023. It is not possible to identify any long-term trends as the site has only been operating since October 2020.

#### **Diffusion Tubes**

In 2023, Bolton Council collected data from 52 diffusion tubes (47 sites as there are some duplicate / triplicate tubes). A total of 38 of the sites (41 tubes) are located within 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 nitrogen dioxide 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 2.3.2.1.

During 2020 and 2021 traffic flows were reduced as a result of restrictions imposed during the Covid-19 pandemic, this meant that pollution levels associated with vehicle emissions

were lower than they would have been. In 2022 and 2023 there were no such restrictions and it is assumed that Covid-19 controls have had no impact on pollution levels.

During 2022 there were no exceedances of the NO<sub>2</sub> annual mean objective at the sites managed by Bolton Council. In 2023 there was one site with a concentration above 40 µg/m<sup>3</sup>. This was site BO71, with a concentration of 40.4 µg/m<sup>3</sup>. BO71 is located at Junction 4, M61 traffic lights, northbound exit, this is on the roundabout from the exit slip road from the M61 motorway, although there is a footpath, the nearest sensitive receptor where there would be long-term exposure is around 300 metres away. The concentration at this location has increased slightly from 39.7 µg/m<sup>3</sup> in 2022.

There were a total of four sites with concentrations greater than 35 µg/m<sup>3</sup> in 2023 operated by Bolton Council. All the sites were kerbside/roadside locations. These were:

BO03- Quintins, Derby Street, this is a kerbside site located on a busy A-Road not far from the town centre. The concentration was 37.4 µg/m<sup>3</sup> in 2023, up slightly from 36.6 µg/m<sup>3</sup> in 2022;

BO69 – A6, Salford Road near the Red Lion Public House, this is a roadside location near a busy crossroads, it is also located close to the M61 and may also be influenced by motorway emissions. The concentration was 35.9 µg/m<sup>3</sup> in 2023, a decrease from 39.2 µg/m<sup>3</sup> in 2022;

B073 – Turton Street, Bolton near the junction with St. Peters Way, this is located near to a busy cross roads and the A666, which is one of the main roads into /out of Bolton. The concentration was 35.7 µg/m<sup>3</sup> in 2023 a reduction from 37.4 µg/m<sup>3</sup> in 2022.

In 2022 there were two other sites with concentrations above 35 µg/m<sup>3</sup>. BO72 – Watergate Drive had a concentration of 37.0 µg/m<sup>3</sup>, but it was noted that the site had low data capture and since 2018t concentrations at the site had been consistently below 31 µg/m<sup>3</sup>. In 2023 the concentration was 22 µg/m<sup>3</sup> with 100% data capture, so it is thought that the measurement from 2022 was an anomaly.

BOA104 – All Saints, outside 1 Devon Street also had a concentration over 35 (35.6 µg/m<sup>3</sup>) in 2022, it was noted that there were wide variations in the monthly measurements at the site that were not experienced at other sites in the borough. In 2023 the

concentration was  $24.7 \mu\text{g}/\text{m}^3$  with no significant variation in monthly values, which is well below the air quality objective.

Between 2022 and 2023 there was a reduction in pollution concentrations at the majority of the sites (39 locations), with pollution increasing at eight locations. The largest increase ( $5.3 \mu\text{g}/\text{m}^3$ ) was at BO53 – Turton Yard, this is probably because there were access issues with the site so the diffusion tube moved to a location closer to the road. The concentration in 2023 was  $30.7 \mu\text{g}/\text{m}^3$ . Overall, between 2022 and 2023, there was an average decrease in concentrations of 16.3% taking into account all sites operating during this period. Over the longer term, there was a reduction in concentrations of 24.3 % between 2019 and 2023, based on the sites where measurements were available for both years.

### 3.2.1.2 Bury Metropolitan Borough Council

#### Automatic

Bury Council operate four automatic monitoring units at Whitefield (A56, Bury New Road), Radcliffe (A665 Water Street) Prestwich (A56 Bury New Road) and Bury Bridge (A58 Bolton Street), which is a CAP site. All Bury's automatic sites are located at the side of very busy roads to monitor compliance with Local Air Quality Management objectives and also with the government direction to meet  $\text{NO}_2$  limit values in the shortest time possible.



*New air monitoring unit at Bury Bridge, Bury*

All the nitrogen dioxide concentrations measured at the automatic sites are well below the nitrogen dioxide annual mean objective and all decrease in 2023. This decrease is showing movement in the right direction, but it will be interesting to see if this trend continues in 2024. It was noted that the value measured at Bury Bridge is lower than would be expected at this location but is similar to the diffusion tube measurements in the vicinity of Bury Bridge which range from 25 – 27.3ug/m<sup>3</sup>.

### **Diffusion Tubes**

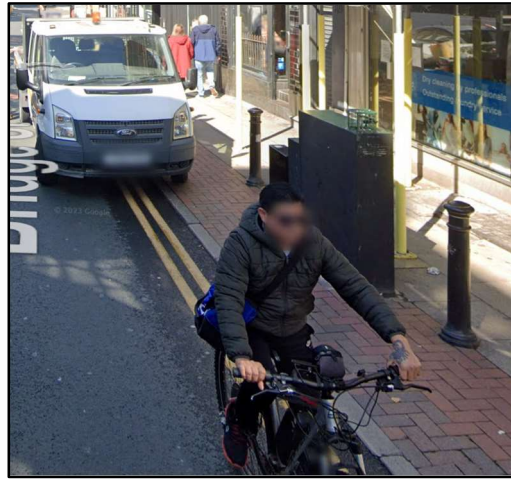
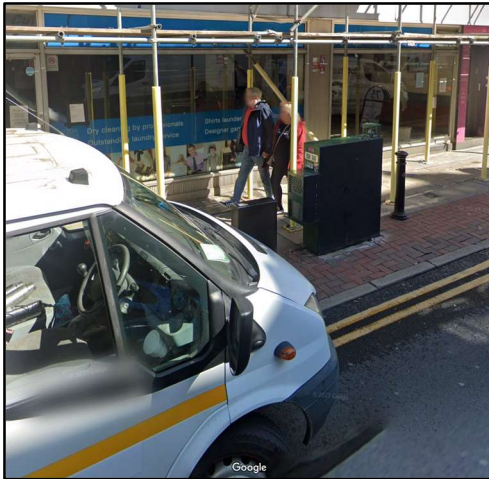
Bury Council has a network of 20 diffusion tube sites which are located to monitor exposure close to our busier roads in relation to Local Air Quality Management responsibilities and to monitor progress towards the government direction to meet NO<sub>2</sub> targets in the shortest time possible. Of our 20 sites, 17 are in the AQMA. This year none of our tubes exceeded the annual mean objective which is an improvement from last year when BU15 Bury New Road/Bury Old Road, Whitefield exceeded. This year BU15 recorded an annual mean of 36.8ug/m<sup>3</sup> which is a good level of reduction, from 2022, and it is interesting to note that the nearby tube at BU16 Bury New Road Whitefield (both close to Junction 17 of the M60) also showed a good reduction from 39.0 to 34.8ug/m<sup>3</sup>. However, we will need to see next year's results to see if this is a sustained trend. 18 of our diffusion tube sites showed a reduction in annual mean NO<sub>2</sub> measured which is encouraging. One site stayed the same (BU12 Rochdale Road) and one increased by 1ug/m<sup>3</sup> (BU14 Angouleme Way). BU 12 Rochdale Road was the highest measurement recorded at 38.7ug/m<sup>3</sup> and this suggests that Rochdale Rd is potentially our main route of concern currently. However as stated previously we will need to assess the results for 2024 to see if this trend continues.

#### **3.2.1.3 Manchester City Council**

##### **Automatic**

During 2023 data was gathered from four automatic monitoring stations within Manchester's district:

- Piccadilly Gardens (Urban Centre)
- Oxford Road (Kerbside)
- Manchester Sharston (Suburban Industrial)
- Bridge Street (Kerbside) (new city centre site added September 2022 to support the Clean Air Plan)



Long-term concentrations of NO<sub>2</sub> have fallen significantly at all Manchester automatic monitoring sites and, during 2023, the Piccadilly Gardens and Sharston sites met the annual average air quality objective of 40 µg/m<sup>3</sup> (micrograms of NO<sub>2</sub> per cubic metre of air) for this pollutant at 27 µg/m<sup>3</sup> and 15 µg/m<sup>3</sup> respectively. At 41 µg/m<sup>3</sup>, the Oxford Road site exceeded the limit, as did the newly installed Bridge Street (CAP) site at 54 µg/m<sup>3</sup>. All automatic sites with previous years' history saw a decrease or maintenance of 2022 levels, and there were no exceedances of the hourly average air quality objective for NO<sub>2</sub>. Despite the improvements in air quality across the city, parts of Manchester close to main arterial routes remain above the annual limit for NO<sub>2</sub>.

No significant technical issues were experienced at any of Manchester's automatic monitoring sites during 2023 with respect to NO<sub>2</sub> and all sites had high rates of data capture.

### **Diffusion Tubes**

Monitoring was carried out at 40 NO<sub>2</sub> diffusion tube sites in Manchester during 2023 (the same number as in 2022), including three sites co-located with reference analysers at the automatic monitoring stations for diffusion tube bias adjustment purposes. Of the 40 sites, 29 are located within the AQMA and 11 outside of it. During 2023 there were exceedances of the annual average limit for NO<sub>2</sub> at the following two sites, which are within the AQMA:

- Oxford Street (site ref: MA29ANO): 49.6 µg/m<sup>3</sup>
- Oxford Road triplicate site (MA82NO, MA83NO, MA84NO): average 41.4 µg/m<sup>3</sup>, the automatic site where the NO<sub>x</sub> tubes are co-located measured 40.8 µg/m<sup>3</sup>.

The highest NO<sub>2</sub> concentration in Manchester was at the Oxford Street site.

### 3.2.1.4 Oldham Metropolitan Borough Council

#### Automatic

There is one automatic nitrogen dioxide monitor for Oldham and it is situated roadside on Crompton Way in Shaw. In 2023 it measured nitrogen dioxide levels for over 93% of the year. The annual average measured was 21  $\mu\text{g}/\text{m}^3$ , i.e., well below the objective of 40  $\mu\text{g}/\text{m}^3$  and less than 2022s figure of 24  $\mu\text{g}/\text{m}^3$  and 2021s figure of 25  $\mu\text{g}/\text{m}^3$ . There were no recorded incidents of the hourly average exceeding the 200  $\mu\text{g}/\text{m}^3$  objective.

#### Diffusion Tubes

In 2023 there were 29 diffusion tubes measuring  $\text{NO}_2$  deployed by Oldham Council. This is the same as in 2022 and they were deployed in the same locations.

15 of the diffusion tubes were inside Air Quality Management Areas and 14 were outside of Air Quality Management Areas. In 2023 there were two sites that exceeded the annual air quality objective of 40 $\mu\text{g}/\text{m}^3$  when distance corrected for the nearest exposure (where necessary). They are both in Air Quality Management Areas. These were:

- Tube OL25 - Outside 21 Shaw Road in Royton recorded a distance corrected result of 43.4  $\mu\text{g}/\text{m}^3$ . The road the tube is situated next to is often used by Heavy Goods vehicles as they visit the industrial areas off Salmon Fields and Higginshaw Lane in Royton. There is also often standing traffic at lights in the area. The result is slightly up on last year's reading of 42.3  $\mu\text{g}/\text{m}^3$ . This diffusion tube also gave the Council's highest annual nitrogen dioxide level in 2023 of 45  $\mu\text{g}/\text{m}^3$  when uncorrected for distance to receptor.
- Tube OL28 - outside 12 Oldham Road, Royton recorded an annual average 43.6  $\mu\text{g}/\text{m}^3$  and 41.8  $\mu\text{g}/\text{m}^3$  when distance corrected. This road is the main road that links Rochdale to Oldham. It is extremely busy and there is often standing traffic due to the lights at the junction with Middleton Road. This year's level is much reduced on last year's result of 47  $\mu\text{g}/\text{m}^3$ .

### 3.2.1.5 Rochdale MBC

#### 1. Automatic monitoring station

Rochdale BC has one automatic monitoring station installed in August 2021. The station is located roadside on a grass verge adjacent to A664 Queensway, close to the A627 (M) leading to the M62 and A664 Edinburgh Way. The site is located close to residential buildings with the nearest receptor being 15m away from the monitoring station. The station monitors nitrogen dioxide, PM<sub>10</sub> and PM<sub>2.5</sub>.

2023 monitoring results have shown that levels have not exceeded level 2 on the Air Quality Index and the annual mean is 25.4 µg/m<sup>3</sup>. The results also show that levels of particulate matter across the year remain stable, decreasing throughout the year but with no monthly spikes in PM levels, with the exception of the week around bonfire night when there is a slight increase. This is shown with levels of both PM<sub>10</sub> and PM<sub>2.5</sub>.

There have not been any technical issues which have allowed a data capture rate of 99.7% and there are no areas for concern.

## **2. Diffusion tubes**

Rochdale BC has 30 tubes located at 28 locations, with three tubes co-located with the automatic monitoring station. There have been no additional tubes placed during 2023. Two sites have not been able to provide data for 2023 due to issues with access.

Five diffusion tubes showed exceedance in 2023, the highest reading was located at RO27 Halifax Road, Rochdale on A58, at 32.6 µg/m<sup>3</sup> which compares with a reading of 31.3 µg/m<sup>3</sup> in 2022, which shows an increase 1.3 µg/m<sup>3</sup> and may be due to ongoing roadworks in the area throughout 2023.

The greatest increase was at site RO20 Manchester Road Heywood, which is located at the site of a major road improvement scheme part of the South Heywood Masterplan, Junction 19 link road expansion. The increase has been 5.3 µg/m<sup>3</sup> to 29.6 µg/m<sup>3</sup> from 24.3 µg/m<sup>3</sup>. Although this is a significant increase the yearly average remains well below the limit of 40 µg/m<sup>3</sup>; the increase in this location may be a reason why a number of other sites have decreased over the year as traffic is diverted from other routes which was the original purpose of the scheme.

The third largest increase of 1.2 µg/m<sup>3</sup> at RO24 Ogden Street, located off A664 Manchester Road, Castleton which has been subject to major road improvement works as part of the Bee Network Project. The increase brings the annual mean to 25.2 µg/m<sup>3</sup> from 24 µg/m<sup>3</sup> in 2022.

Overall, there has been a significant improvement as 20 sites showed improved readings from the previous with the greatest decrease of 9.8 at RO9 Manchester Road, A58 which has decreased to 26.6  $\mu\text{g}/\text{m}^3$  from 36.4  $\mu\text{g}/\text{m}^3$ , which was the highest reading in 2022. Further along the A58 away from the town centre at RO8 reading have decreased by 4.8  $\mu\text{g}/\text{m}^3$  to 32.1  $\mu\text{g}/\text{m}^3$  from 36.3  $\mu\text{g}/\text{m}^3$ .

The second largest decrease of 7.5  $\mu\text{g}/\text{m}^3$  is located at the monitoring station (RO29-31). Followed by 6.6  $\mu\text{g}/\text{m}^3$  at RO26 Whitworth Road, Rochdale; 7.2  $\mu\text{g}/\text{m}^3$  at RO17 on A664 Kingsway (Rochdale Bypass); 5.8  $\mu\text{g}/\text{m}^3$  at RO6 Heywood Old Road, Middleton; 4.6  $\mu\text{g}/\text{m}^3$  at Penn Street and 2.2  $\mu\text{g}/\text{m}^3$  at RO5 at the rear of Mossway, Middleton.

Overall improved readings across the borough can be linked to a number of measures including electrification and improvement of the bus fleet, actions implemented by the AQAP and a generally improved fleet across the borough.

### 3.2.1.6 Salford City Council

#### Automatic

In 2023 there were four automatic air quality monitoring sites operating in Salford that measured  $\text{NO}_2$  concentrations:

- Eccles – an urban background site forming part of the UK AURN located close to Eccles town centre, operational since 1997.
- M60 – a roadside monitoring site located close to the M60 in Worsley, operational since 1999.
- Glazebury – a rural background site forming part of the UK AURN, operational since 2004.
- Regent Road – a roadside site located close to the A57 Regent Road and set up to monitor the success of the GM Clean Air Plan at a critical point of exceedance, operational since September 2023.

At the Eccles monitoring site, the 2022 annual mean  $\text{NO}_2$  concentration had decreased by 9% compared to 2022 (2023 = 20  $\mu\text{g}/\text{m}^3$ , 2022 = 22  $\mu\text{g}/\text{m}^3$ ).

At the M60 monitoring site, the 2022 annual mean  $\text{NO}_2$  concentration had decreased by 3% compared to 2022 (2023 = 33  $\mu\text{g}/\text{m}^3$ , 2022 = 34  $\mu\text{g}/\text{m}^3$ ).



At the Glazebury monitoring site, the 2022 annual mean NO<sub>2</sub> concentration had increased by 9% compared to 2021 (2023 = 12 ug/m<sup>3</sup>, 2022 = 11 ug/m<sup>3</sup>).

2023 is the first year of NO<sub>2</sub> monitoring at the Regent Road site, therefore there are no previous annual results for comparison. Data capture for 2023 at this site was less than 75%, therefore the annual mean concentration was estimated using the annualisation procedure given in Box 7-9 of the Defra Local Air Quality Management Technical Guidance (TG22). The annualised annual average NO<sub>2</sub> concentration of 32 ug/m<sup>3</sup> should be regarded as indicative due to the low data capture for this site.

The Eccles site showed the biggest percentage decrease in terms of NO<sub>2</sub> annual mean concentration in 2023 compared to 2022. The reason for the slight increase of 1 ug/m<sup>3</sup> in annual mean NO<sub>2</sub> concentration at the Glazebury site in 2023 compared to 2022 is unclear, however, annual mean concentrations have fluctuated between 11 ug/m<sup>3</sup> and 12 ug/m<sup>3</sup> since 2020.

The last five years of monitoring data has shown an overall downward trend in annual mean NO<sub>2</sub> concentrations at the Eccles, M60 and Glazebury automatic monitoring sites. This downward trend has been particularly noticeable at the M60 site (2019 annual mean NO<sub>2</sub> concentration = 44 ug/m<sup>3</sup>).

There were no exceedances of the annual mean or hourly national air quality objectives for NO<sub>2</sub> at any of the Salford automatic monitoring sites during 2023.

The Eccles, M60 and Glazebury automatic monitoring sites had very high rates of NO<sub>2</sub> data capture during 2023 (all achieved 96% or above) and there were no significant technical issues. The Regent Road site had low annual data capture (31%) due to the NO<sub>x</sub> analyser becoming operational on 07/09/2023.

### **Diffusion Tubes**

In 2023, there were 48 NO<sub>2</sub> 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. During 2023 no changes were made to the Salford City Council NO<sub>2</sub> diffusion tube monitoring network.

During 2023, 33 diffusion tube sites were within the AQMA, and 15 sites were outside the AQMA.

45 diffusion tube monitoring sites that were not co-located with an automatic monitoring site had annual mean results available for 2023. Almost all (44) of these sites had decreased annual mean concentrations in 2023 compared to 2022.

The only one site that had a slightly increased annual mean NO<sub>2</sub> concentration in 2023 compared to 2022 was Walkden High Street - diffusion tube ID SA68NO (2023 = 39.1 ug/m<sup>3</sup>, 2022 = 38.7 ug/m<sup>3</sup>).

Decreases in annual mean concentrations between 2022 to 2023 ranged between 0.1% and 26%. However, the 26% increase was associated with annualised result for the SA73NO Worsley Brow site, which had only a 50% annual data capture, and therefore could be considered indicative.

In 2023, 2 x Salford City Council diffusion tube sites measured annual mean NO<sub>2</sub> concentrations that exceeded the air quality objective of 40 ug/m<sup>3</sup>:

1. SA81NO Regent Road 2 (40.5 ug/m<sup>3</sup>). This is a roadside site located within the AQMA:

The 2022 annual mean NO<sub>2</sub> concentration for this monitoring site was 44 ug/m<sup>3</sup>, and so there was a decrease of approximately 4 ug/m<sup>3</sup> in 2023. Since 2019 when monitoring began at this site, there has been an overall downward trend in concentrations.

2. SA86NO Bury Old Road (43.2 ug/m<sup>3</sup>). This is a kerbside site located adjacent to the AQMA:

The 2022 annual mean NO<sub>2</sub> concentration for this monitoring site was 45.2 ug/m<sup>3</sup>, and so there was a decrease of approximately 2 ug/m<sup>3</sup> in 2023. After distance correction, the 2023 annual mean NO<sub>2</sub> concentration is predicted to be 32 ug/m<sup>3</sup> at the nearest relevant receptor and therefore not exceeding the annual mean NO<sub>2</sub> national air quality objective.

There were not any unusually high monthly NO<sub>2</sub> results from the analysing laboratory associated with these two diffusion tube sites during 2023.

The lowest diffusion tube annual mean NO<sub>2</sub> concentration measured in Salford during 2023 was 14 ug/m<sup>3</sup> at the SA01NO Irlam Locks site – an urban background location. This monitoring site has historically measured relatively low annual mean NO<sub>2</sub> concentrations.

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.

Annual means for three diffusion tube sites in Salford were estimated using the Annualisation function of the Defra Diffusion Tube Data Processing Tool:

1. SA02NO Irlam (Princes Park). The data capture for 2023 at this site was 67% due to a high frequency of missing tubes.
2. SA39NO Trinity Way /Chapel Street. The data capture for 2023 at this site was 33% due to prolonged maintenance works taking place on the façade of the building where the diffusion tube is located, making it inaccessible.
3. SA73NO Worsley Brow. The data capture for 2023 at this site was 50% due to a high frequency of missing tubes.

### **3.2.1.7 Stockport Metropolitan Borough Council**

#### **Automatic**

Stockport Council operate two continuous automatic stations which monitor concentrations of nitrogen dioxide within the district. The monitoring stations are operated to national AURN standards and are located at:

- A34 Cheadle, a roadside monitoring site at the junction with the A560
- A6 Hazel Grove, a roadside monitoring site.

Levels of nitrogen dioxide as measured at the Council's Cheadle air quality monitoring station in 2023 showed a decrease of  $3\mu\text{g}/\text{m}^3$  in roadside levels of nitrogen dioxide when compared against 2022 (2023 =  $26\mu\text{g}/\text{m}^3$ , 2022 =  $29\mu\text{g}/\text{m}^3$ ).

The air quality data from the Cheadle A34 station confirms that the average annual and hourly objective for levels of nitrogen dioxide were not exceeded in 2023.

Levels of nitrogen dioxide as measured at the Council's Hazel Grove air quality monitoring station in 2023 showed a decrease of  $1\mu\text{g}/\text{m}^3$  in roadside levels when compared against 2022 (2023 =  $17\mu\text{g}/\text{m}^3$ , 2022 =  $18\mu\text{g}/\text{m}^3$ ).

The air quality data from the Hazel Grove station confirms that the average annual and hourly objective for levels of nitrogen dioxide were not exceeded in 2023.

The previous five years of data from the Council's monitoring stations has shown an overall downward trend in annual mean nitrogen dioxide concentrations. This downward trend is demonstrated at the Cheadle A34 site (2019 annual mean NO<sub>2</sub> concentration =  $36\mu\text{g}/\text{m}^3$ ).

No significant technical issues were experienced at any of Stockport's monitoring sites during 2023 with respect to nitrogen dioxide and the sites had high rates of data capture. All the monitoring stations were subject to regular servicing, calibration and the data collected is subject to quality control and assurance.

### **Diffusion Tubes**

In 2023, Stockport Metropolitan Borough Council operated 35 diffusion tubes in 30 locations around the local authority, including those sites located at the automatic monitoring sites for bias adjustment purposes. No new Diffusion Tubes were installed in 2023.

During 2023, 19 diffusion tube sites were within the AQMA, and 11 sites were outside the AQMA.

The annual mean concentrations recorded at Stockport diffusion tubes ranged from a low of  $5.7\mu\text{g}/\text{m}^3$  to a high of  $34.3\mu\text{g}/\text{m}^3$ . Results show that there were no exceedances of the annual mean objective for nitrogen dioxide at the sites monitored by Stockport Council.

In 2023 only four diffusion tubes recorded higher concentrations than the previous year, with increases ranging from  $0.1\mu\text{g}/\text{m}^3$  to  $1.8\mu\text{g}/\text{m}^3$ , the highest increase being at Stockport 18, Princes Street in Stockport town centre. The site with the highest recorded increase has an overall annual average level of  $28.5\mu\text{g}/\text{m}^3$  which is well below the annual objective level.

The highest concentration recorded in Stockport Council was  $34.3\mu\text{g}/\text{m}^3$ , measured at a roadside site on A6 within town centre (Stockport 36). However, this monitoring location has shown a slight reduction on the annual average level in 2022 of  $35.4\mu\text{g}/\text{m}^3$ .

Overall diffusion tube monitoring within Stockport shows a downward trend in the recorded levels of nitrogen dioxide over the previous five years.

#### **3.2.1.8 Tameside Metropolitan Borough Council**

##### **Automatic**

Automatic monitoring for  $\text{NO}_2$  was undertaken at two roadside sites during 2023 at

- A57 Mottram Moor
- A635, Manchester Road, Ashton-under-Lyne.

Concentrations at the Mottram Moor site have in general been falling steadily over the past five years, from 40  $\mu\text{g}/\text{m}^3$  in 2019 to 33  $\mu\text{g}/\text{m}^3$  in 2023, down 1  $\mu\text{g}/\text{m}^3$  from the 2022 annual average of 32  $\mu\text{g}/\text{m}^3$ .

Concentrations at the A635 Manchester Road site have also been falling, from 34 $\mu\text{g}/\text{m}^3$  in 2021 (the first full year's data collected at the site) to 30 $\mu\text{g}/\text{m}^3$  in 2023, down 2  $\mu\text{g}/\text{m}^3$  from the 2022 annual average of 32  $\mu\text{g}/\text{m}^3$ .

Neither site exceeds the annual mean objective for  $\text{NO}_2$  and there were no recorded incidents of the hourly average exceeding the 200  $\mu\text{g}/\text{m}^3$  objective.

### **Diffusion Tubes**

The number of diffusion tube monitoring sites within the borough during 2023 was 53. Of these 53 sites, 30 are inside the AQMA boundary and 23 are outside. All but three of the 53 sites monitored had an annual average below the annual mean objective of 40 $\mu\text{g}/\text{m}^3$  for 2023.

The exceptions were TA55 (Manchester Rd, Ashton-under-Lyne) with an annual average of 45.2 $\mu\text{g}/\text{m}^3$ , TA47 (Mottram Moor, Hollingworth) with an annual average of 40.9  $\mu\text{g}/\text{m}^3$  and TA11 (Market Street, Hollingworth) with an annual average of 43.2 $\mu\text{g}/\text{m}^3$ .

Concentrations at the three sites were considerably higher in 2019, although concentrations appear to be rising again from 2021 onwards post lockdown.

Concentrations of  $\text{NO}_2$  inside the current AQMA have, in general, been showing downward trends over the past five years, with only the three sites mentioned above now having an annual average greater than 40 $\mu\text{g}/\text{m}^3$ , compared to 13 sites in 2019.

Outside the current AQMA none of the sites had an annual average of greater than 40 $\mu\text{g}/\text{m}^3$  and all sites are showing a general downward trend over the past five years.

### **3.2.1.9 Trafford Metropolitan Borough Council**

#### **Automatic**

Trafford Council operate three continuous automatic monitoring stations within the district. The monitoring stations are operated to national AURN standards and are located 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 9HR

#### Trafford A56: Annual Statistics for 2023

<b>Annual Hourly Mean (to date)</b>	21	$\mu\text{g}/\text{m}^3$	Ratified	92% Data capture
<b>Max Daily Mean</b>	55	$\mu\text{g}/\text{m}^3$	Ratified	92% Data capture
<b>Max Hourly Mean</b>	93	$\mu\text{g}/\text{m}^3$	Ratified	92% Data capture

#### Trafford Moss Park: Annual Statistics for 2023

<b>Annual Hourly Mean (to date)</b>	14	$\mu\text{g}/\text{m}^3$	Ratified	86% Data capture
<b>Max Daily Mean</b>	51	$\mu\text{g}/\text{m}^3$	Ratified	86% Data capture
<b>Max Hourly Mean</b>	80	$\mu\text{g}/\text{m}^3$	Ratified	86% Data capture

#### Trafford Wellacre Academy Annual Statistics for 2023

<b>Annual Hourly Mean (to date)</b>	11	$\mu\text{g}/\text{m}^3$	Ratified	99% Data capture
<b>Max Daily Mean</b>	40	$\mu\text{g}/\text{m}^3$	Ratified	99% Data capture
<b>Max Hourly Mean</b>	63	$\mu\text{g}/\text{m}^3$	Ratified	99% Data capture

The annual average level of nitrogen dioxide as measured at the A56 continuous monitor was  $21\mu\text{g}/\text{m}^3$  and this level is significantly below the national annual objective level of  $40\mu\text{g}/\text{m}^3$ .

Levels of nitrogen dioxide as measured at the council's A56 air quality monitoring station in 2023 show a decrease of  $3\mu\text{g}/\text{m}^3$  in roadside levels of nitrogen dioxide when compared against 2022 and a decrease of  $2\mu\text{g}/\text{m}^3$  when compared against 2021.

The air quality data from the A56 station confirms that the hourly annual objective for levels of nitrogen dioxide was not exceeded in 2023.

Background levels as measured at the Wellacre and Mossbank Stations remained significantly below the annual objective level.

All the monitoring stations were subject to regular servicing, calibration and the data collected is subject to quality control and assurance.

### **Diffusion Tubes**

In 2023, Trafford Council had a diffusion tube network comprising 23 diffusion tubes, located at 16 locations. At the site of the council's automatic monitoring stations, three diffusion tubes are located to assist with bias adjustment calculations. Nine diffusion tubes at six locations are positioned within the council's Air Quality Management Area. 14 diffusion tubes at 10 locations are positioned outside of the council's Air Quality Management Area.

In 2023 the number of diffusion tube monitoring sites was reduced from 18 to 16 compared to 2022, the reason for this was that tube 23A was located close by to tube 23 and it was felt that having two tubes in such close proximity was not required. The diffusion tube location 21 was not utilised in 2023 as this location has persistently been well below the target level of  $40.0\mu\text{g}/\text{m}^3$  and additional capacity is needed to investigate other locations within the borough, for example there is demand from schools for monitoring at school gates.

In 2023 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  $29\mu\text{g}/\text{m}^3$  at a monitoring location on the A56 in Timperley, grid reference: x:377061 y:390086.

#### **3.2.1.10 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<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and O<sub>3</sub>.

The annual mean concentration for NO<sub>2</sub> recorded at Wigan Centre in 2023 was 15 µg/m<sup>3</sup>, which was lower than the 17µg/m<sup>3</sup> that recorded in 2022. 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<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.

The annual mean concentration for NO<sub>2</sub> recorded at Wigan Leigh in 2023 was 21µg/m<sup>3</sup>, a decrease of 1µg/m<sup>3</sup> compared with 2022. This shows an improvement and remains well within the legal limits.

Neither station recorded an exceedance of the short-term limit.

### **Diffusion Tubes**

In January 2023 Wigan Council reduced the number of NO<sub>2</sub> passive diffusion tubes deployed from 126 to 50 tubes. These were either NO<sub>2</sub> tubes that had consistently recorded low levels of NO<sub>2</sub> and which were consequently considered no longer necessary for the purpose of LAQM or were tubes that had been put in place a number of years earlier to gather baseline NO<sub>2</sub> data along routes that were considered likely to be impacted by substantial changes to the road network, such as the building of the M58 link road, and it was considered that sufficient data had at that time been recorded.

Again in 2023, as in 2022, 2021 and 2020, the same NO<sub>2</sub> diffusion tube measured an exceedance, returning an annual mean result that was above the 40µg/m<sup>3</sup> legal limit value.

This was tube 180 at Winwick Lane which recorded an annual mean of 42.4µg/m<sup>3</sup> in 2023 compared with 45.3µg/m<sup>3</sup> in 2022, 44.6µg/m<sup>3</sup> in 2021 and 41.9µg/m<sup>3</sup> in 2020.

This shows a decrease in recorded pollution levels at this location in 2023.

Tube 180 is at a location of relevant exposure positioned on a road where traffic originates from beyond the Wigan 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). We have a Winwick Lane specific air quality action plan in place, which we have worked with and



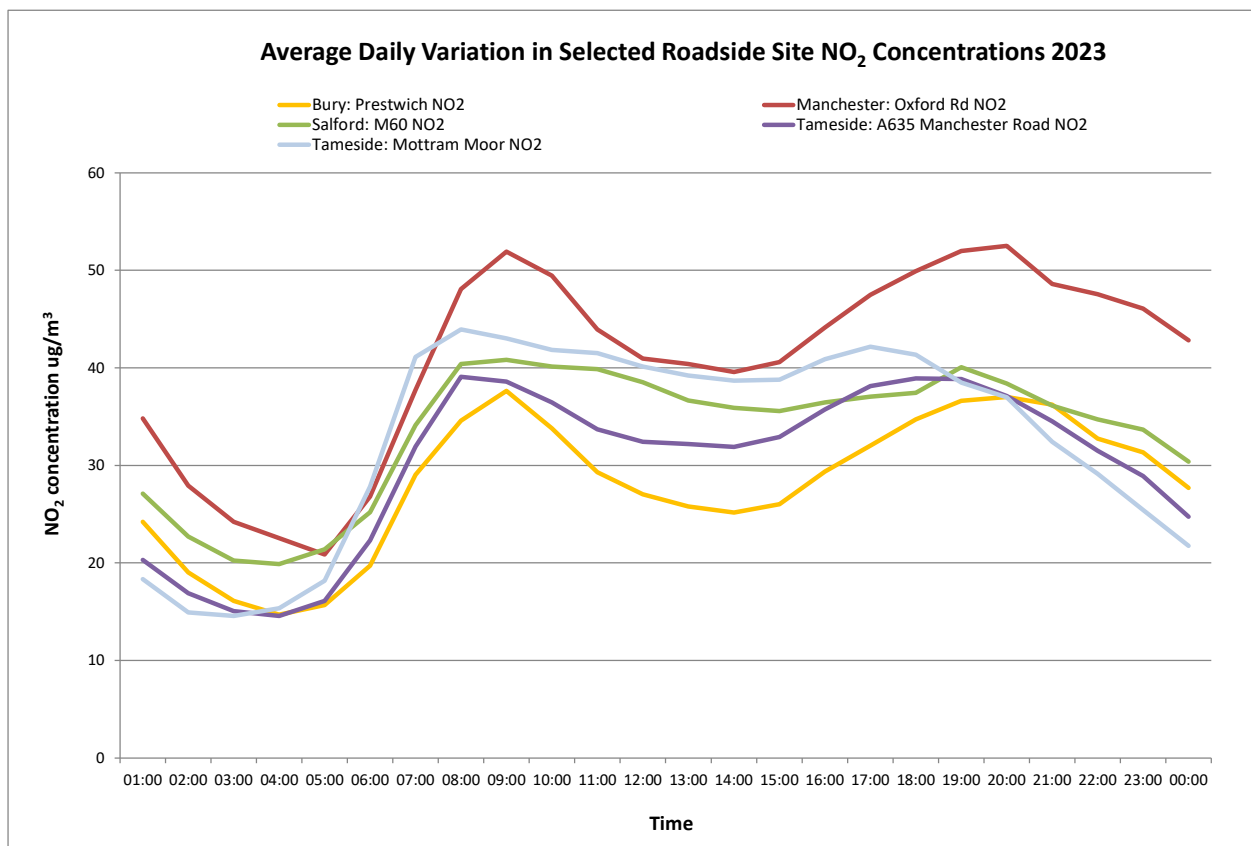
consulted local residents, giving them regular updates on progress, and we have also been working with the neighbouring local authority to try and reduce pollution levels here.

The actions to date include successfully applying for and being granted powers over local moving traffic offences which allow enforcement of the recently introduced weight limit on the South bound side of Winwick Lane. Negotiations are ongoing with Warrington Council with regards to the introduction of the weight limit on the North bound side and the introduction of a 40mph a speed restriction.

Additionally, a newly deployed tube on Wallgate (WI245NO) in Wigan town centre also recorded an exceedance in 2023 with a recorded value of 47.7µg/m<sup>3</sup>, which was corrected to 43.8µg/m<sup>3</sup> after annualisation. With distance correction for relevant exposure the concentration is 42.4 µg/m<sup>3</sup>.

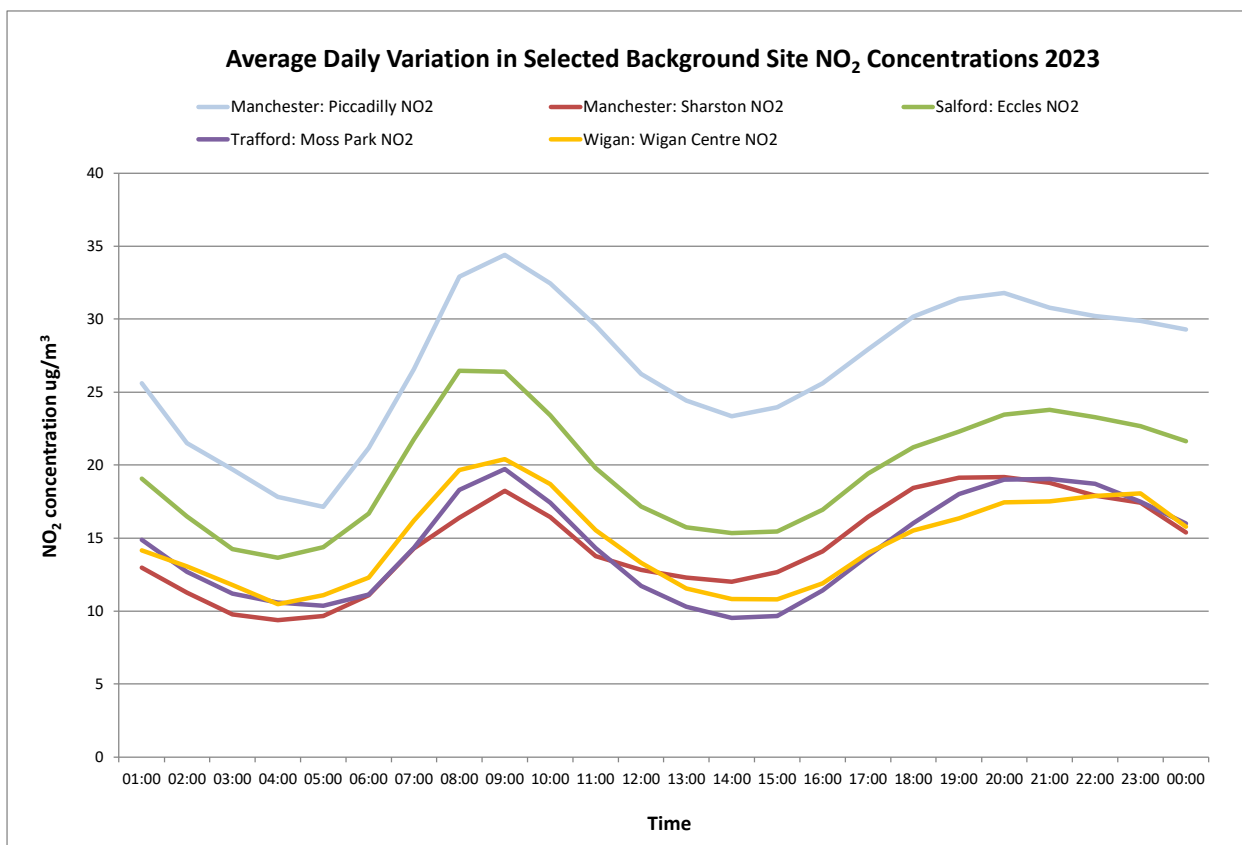
Both exceedances measured in 2023 were outside the 2016 AQMA.

### 3.2.1.11 Diurnal Analysis of NO<sub>2</sub> in Greater Manchester



The chart above displays the average daily variation in selected roadside site NO<sub>2</sub> concentrations for 2023. Most monitoring sites show a similar trend - a peak in NO<sub>2</sub>

concentrations occurs in the AM between 08:00 and 09:00. Another evening peak occurs from approximately 17:00 to 20:00. These peaks correspond to commuting traffic peak times. These trends are similar to 2022, however peaks generally occur at slightly lower concentration levels, e.g. diurnal analysis of 2022 automatic monitoring site data showed that the Tameside Mottram Moor site experienced a morning NO<sub>2</sub> concentration peak of ~ 47 ug/m<sup>3</sup>. In 2023, the morning peak had reduced to ~44 ug/m<sup>3</sup>.



The chart above displays the average daily variation in selected background site NO<sub>2</sub> concentrations for 2023. Most monitoring sites show a similar trend - a peak in NO<sub>2</sub> concentrations occurs in the AM at approximately 08:00 to 09:00. Another evening peak occurs from approximately 17:00 to 20:00. These peaks correspond to commuting traffic peak times. These trends are generally similar to 2022 except that peaks occur at lower concentration levels in 2023. For example, diurnal analysis of 2022 automatic monitoring site data showed that the Wigan Centre site experienced a morning PM<sub>10</sub> concentration peak of ~ 24 ug/m<sup>3</sup>. In 2023, the morning peak had reduced to ~20 ug/m<sup>3</sup>.

### 3.2.2 Particulate Matter (PM<sub>10</sub>)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM<sub>10</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>.

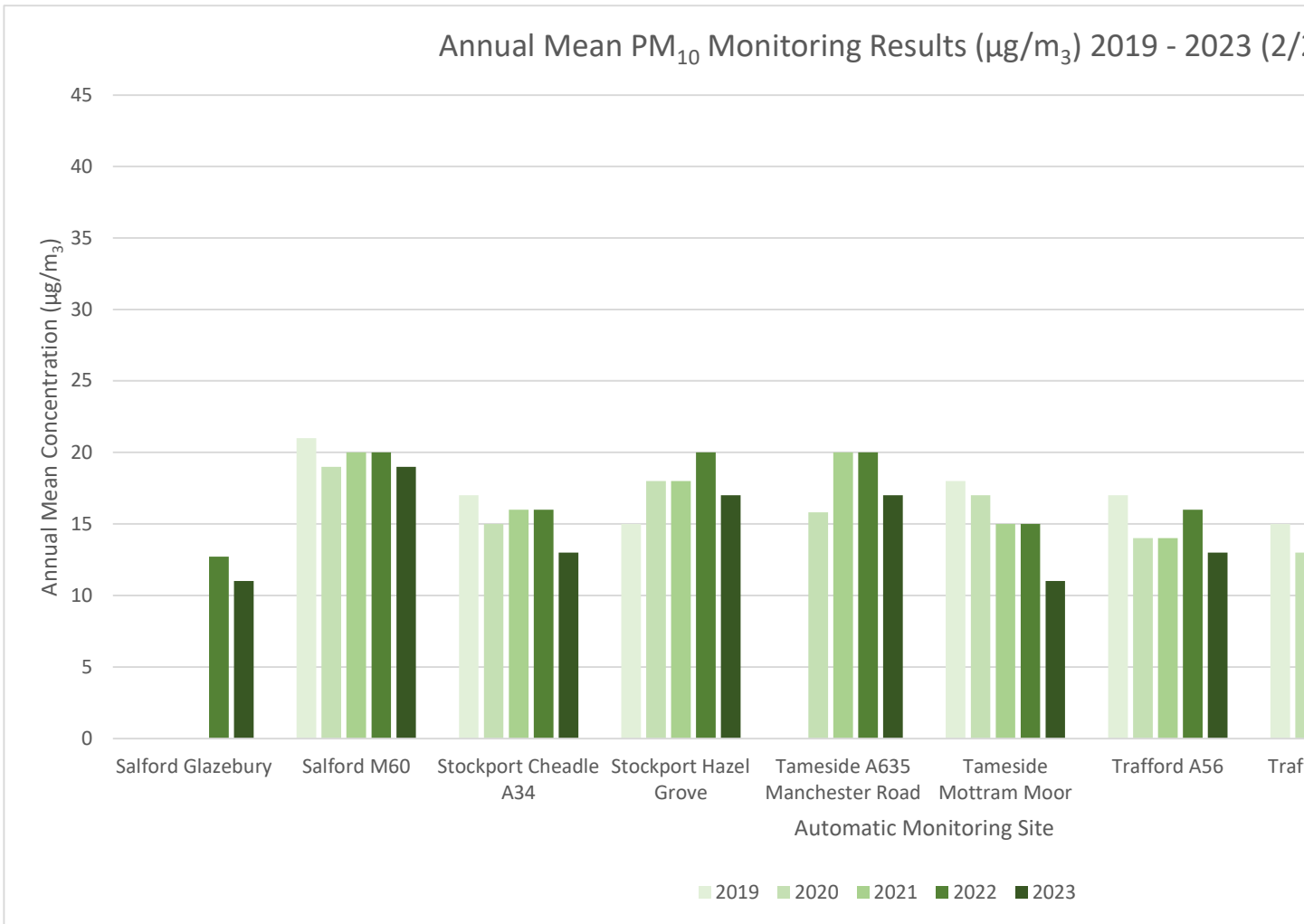


Table A.7 in Appendix A compares the ratified continuous monitored PM<sub>10</sub> daily mean concentrations for the past five years with the air quality objective of 50µg/m<sup>3</sup>, not to be exceeded more than 35 times per year.

### 3.2.2.1 Bolton Council

Monitoring of PM<sub>10</sub> is undertaken at the site on the A579, Derby Street near the University of Bolton, which was commissioned in October 2020. The site is in a roadside location. PM<sub>10</sub> 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 16 µg/m<sup>3</sup>, which is lower than the 19 µg/m<sup>3</sup> recorded in 2022. There was one day when the daily mean was above 50 µg/m<sup>3</sup>, a reduction from seven days in 2021 (the highest daily mean was 69 µg/m<sup>3</sup>). The data capture at the site was 92.39%. There were no exceedances of the PM<sub>10</sub> air quality objectives at the site in 2022. The site was commissioned in October 2020, so it is not possible to identify any long-term trends yet.

### 3.2.2.2 Bury Metropolitan Borough Council

Bury Council operate three automatic monitoring units monitoring PM<sub>10</sub> at Whitefield (A56 Bury New Road), Radcliffe (A665 Water Street) and Prestwich (A56 Bury New Road). In 2022, all units measured concentrations of PM<sub>10</sub> that were well below the annual mean objective and there were no exceedances of the 24-hour mean objective.

Below is a comparison of the monitoring results between 2022 & 2023:

- Prestwich 2022 19µg/m<sup>3</sup> / 2023 17µg/m<sup>3</sup>
- Radcliffe 2022 18µg/m<sup>3</sup> / 2023 16µg/m<sup>3</sup>
- Whitefield 2022 16µg/m<sup>3</sup> / 2023 14µg/m<sup>3</sup>

All three sites showed a reasonable level of reduction from 2022 but as with the nitrogen dioxide results, we will need to assess the 2024 results to see if this is a sustained trend.

### 3.2.2.3 Manchester City Council

During 2023 PM<sub>10</sub> was measured at three sites in Manchester: Oxford Road, Piccadilly Gardens and Sharston. Annual average concentrations of PM<sub>10</sub> were maintained at the Oxford Road site from 2022 levels, at 18 µg/m<sup>3</sup>. At Piccadilly the annual average decreased from 17 µg/m<sup>3</sup> in 2022 to 15 µg/m<sup>3</sup> in 2023, and Sharston also experienced a decrease, from 13 µg/m<sup>3</sup> to 11 µg/m<sup>3</sup>. No site has exceeded the legal limit for this pollutant

since the baseline year and there have been no exceedances of the 24-hour average legal limit.

PM<sub>10</sub> data capture during 2023 was >96% for Oxford Road and Sharston, however it was relatively low (83%) for Piccadilly Gardens.

#### **3.2.2.4 Oldham Metropolitan Borough Council**

The automatic PM<sub>10</sub> monitor for Oldham is in the same location as the nitrogen dioxide monitor. In 2023 it monitored PM<sub>10</sub> for 96% of the time. The annual mean measured was 15 µg/m<sup>3</sup>, i.e., well below the annual objective of 40 µg/m<sup>3</sup> and lower than the level in 2022 of 18 µg/m<sup>3</sup>. The 24-hour mean target of 50 µg/m<sup>3</sup> not to be exceeded more than 35 times a year was also not exceeded.

#### **3.2.2.5 Rochdale Borough Council**

##### **Particulate matter (PM<sub>10</sub>)**

Rochdale BC has one automatic monitoring station that was installed in August 2021 recording levels of PM<sub>10</sub> located on Queensway, A664. Readings of PM<sub>10</sub> show levels in 2023 at 16 µg/m<sup>3</sup> compared to 18.2 µg/m<sup>3</sup> in 2022.

2023 was the second year where a full year of data was available, so we are unable to draw any long-term trends from the data but a decrease in levels of PM<sub>10</sub> are encouraging and spikes due to weather and local events, such as bonfire night are shown. The results appear to show higher readings at peak times from increased traffic in the vicinity of the monitoring station.

#### **3.2.2.6 Salford City Council**

In 2023, there were three automatic air quality monitoring sites operating in Salford that measured PM<sub>10</sub> 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.
- Glazebury – a rural background site, operational since May 2022.

At the Eccles monitoring site, the 2023 annual mean PM<sub>10</sub> concentration decreased by 12% compared to 2022 (2023 = 15 ug/m<sup>3</sup>, 2022 = 17 ug/m<sup>3</sup>).

At the M60 monitoring site, the 2023 annual mean PM<sub>10</sub> concentration decreased by 5% compared to 2022 (2023 = 19 ug/m<sup>3</sup>, 2022 = 20 ug/m<sup>3</sup>).

At the Glazebury monitoring site, the 2023 annual mean PM<sub>10</sub> concentration decreased by 15% compared to 2022 (2023 = 11 ug/m<sup>3</sup>, 2022 = 13 ug/m<sup>3</sup>). However, the 2022 data was annualised due to low data capture and so this decrease should be considered as indicative.

The last five years of available monitoring data has shown that annual mean PM<sub>10</sub> concentrations at the Eccles and M60 sites have remained relatively stable. The exception is a reduction in concentrations during 2020, attributable to the Covid-19 pandemic and associated restrictions on travel and lower emissions.

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

All Salford automatic monitoring sites had very high rates of PM<sub>10</sub> data capture during 2023 (all achieved 97% or above) and there were no significant technical issues.

### **3.2.2.7 Stockport Metropolitan Borough Council**

Stockport Council operate two continuous automatic stations which monitor concentrations of particulate matter (PM<sub>10</sub>) within the district. The monitoring stations are operated to national AURN standards and are located at:

- A34 Cheadle, a roadside monitoring site at the junction with the A560
- A6 Hazel Grove, a roadside monitoring site.

Levels of PM<sub>10</sub> as measured at the council's Cheadle air quality monitoring station in 2023 showed a decrease of 3µg/m<sup>3</sup> in roadside levels when compared against 2022 (2023 = 13 µg/m<sup>3</sup>, 2022 = 16 µg/m<sup>3</sup>).

The air quality data from the Cheadle A34 station confirms that the annual average and daily objective levels for PM<sub>10</sub> were not exceeded in 2023.

Levels of PM<sub>10</sub> as measured at the council's Hazel Grove air quality monitoring station in 2023 showed a decrease of 3µg/m<sup>3</sup> in roadside levels when compared against 2022 (2023 = 17 µg/m<sup>3</sup>, 2022 = 20µg/m<sup>3</sup>).

The air quality data from the Hazel Grove station confirms that the annual average and daily objective levels for PM<sub>10</sub> were not exceeded in 2023.

The previous five years of data from the council's monitoring stations demonstrate slight fluctuations in levels of particulates PM<sub>10</sub>. However, the recorded levels are significantly below the respective objective levels.

No significant technical issues were experienced at any of Stockport's monitoring sites during 2023 with respect to PM<sub>10</sub> and the sites had high rates of data capture.

### **3.2.2.8 Tameside Metropolitan Borough Council**

Currently PM<sub>10</sub> concentrations are monitored at two locations in Tameside, at the automatic monitoring stations on Mottram Moor, Hollingworth, and 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<sub>10</sub> concentration has shown a downward trend over the last five years, falling each year from 18µg/m<sup>3</sup> in 2019 to 11µg/m<sup>3</sup> in 2023.

The annual average PM<sub>10</sub> concentrations at the A635 Manchester Road site have fallen from 20µg/m<sup>3</sup> in 2021, (the first full year of data after the site was installed) to 17µg/m<sup>3</sup>, in 2023, again well below the annual average objective set out in the legislation.

### **3.2.2.9 Trafford Metropolitan Borough Council**

Trafford Council operates two continuous automatic monitoring stations within the district which monitor Particulate Matter PM<sub>10</sub>. 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 Rd, Stretford, Manchester M32 9HR

### Trafford A56: Annual Statistics for 2023

<b>Annual Hourly Mean (to date)</b>	13	$\mu\text{g}/\text{m}^3$	Provisional	92% Data capture
<b>Max Daily Mean</b>	50	$\mu\text{g}/\text{m}^3$	Ratified	92% Data capture
<b>Max Hourly Mean</b>	191	$\mu\text{g}/\text{m}^3$	Ratified	92% Data capture

### Trafford Moss Park: Annual Statistics for 2023

<b>Annual Hourly Mean (to date)</b>	11	$\mu\text{g}/\text{m}^3$	Provisional	95% Data capture
<b>Max Daily Mean</b>	41	$\mu\text{g}/\text{m}^3$	Ratified	95% Data capture
<b>Max Hourly Mean</b>	83	$\mu\text{g}/\text{m}^3$	Provisional	95% Data capture

Levels of Particulates  $\text{PM}_{10}$  as measured at the council's roadside air quality monitoring station in 2023 shows a slight decrease in levels when compared against 2022. The measured annual hourly mean level in 2023 was  $13\mu\text{g}/\text{m}^3$  and was  $16\mu\text{g}/\text{m}^3$  in 2022.

Background monitoring at the Stretford Mossspark station showed a significant decrease in levels when compared against 2022. The measured annual hourly mean level in 2023 was  $11\mu\text{g}/\text{m}^3$  and was  $17\mu\text{g}/\text{m}^3$  in 2022.

Monitored levels of particulates at both stations were significantly below national objective levels.

#### 3.2.2.10 Wigan Metropolitan Borough Council

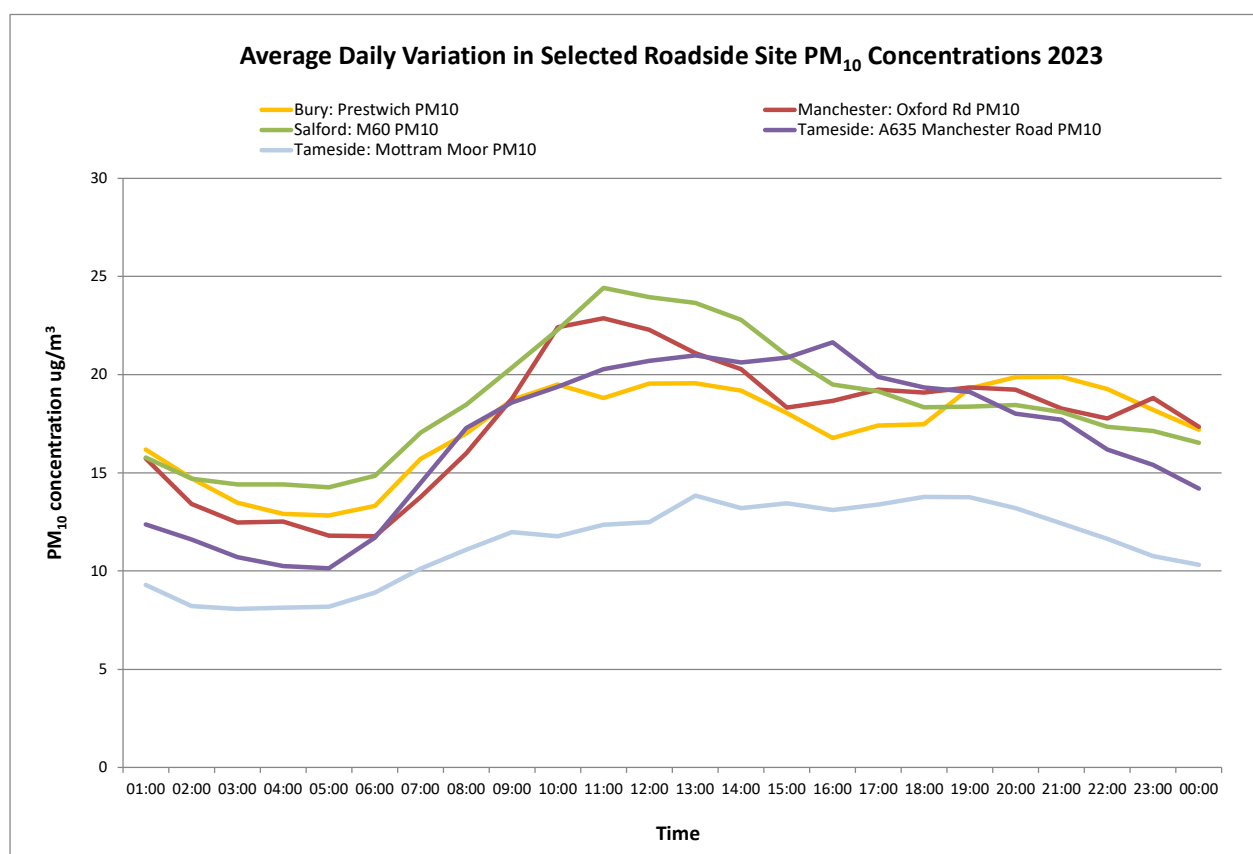
$\text{PM}_{10}$  is monitored at both Wigan Centre and Wigan Leigh Three.



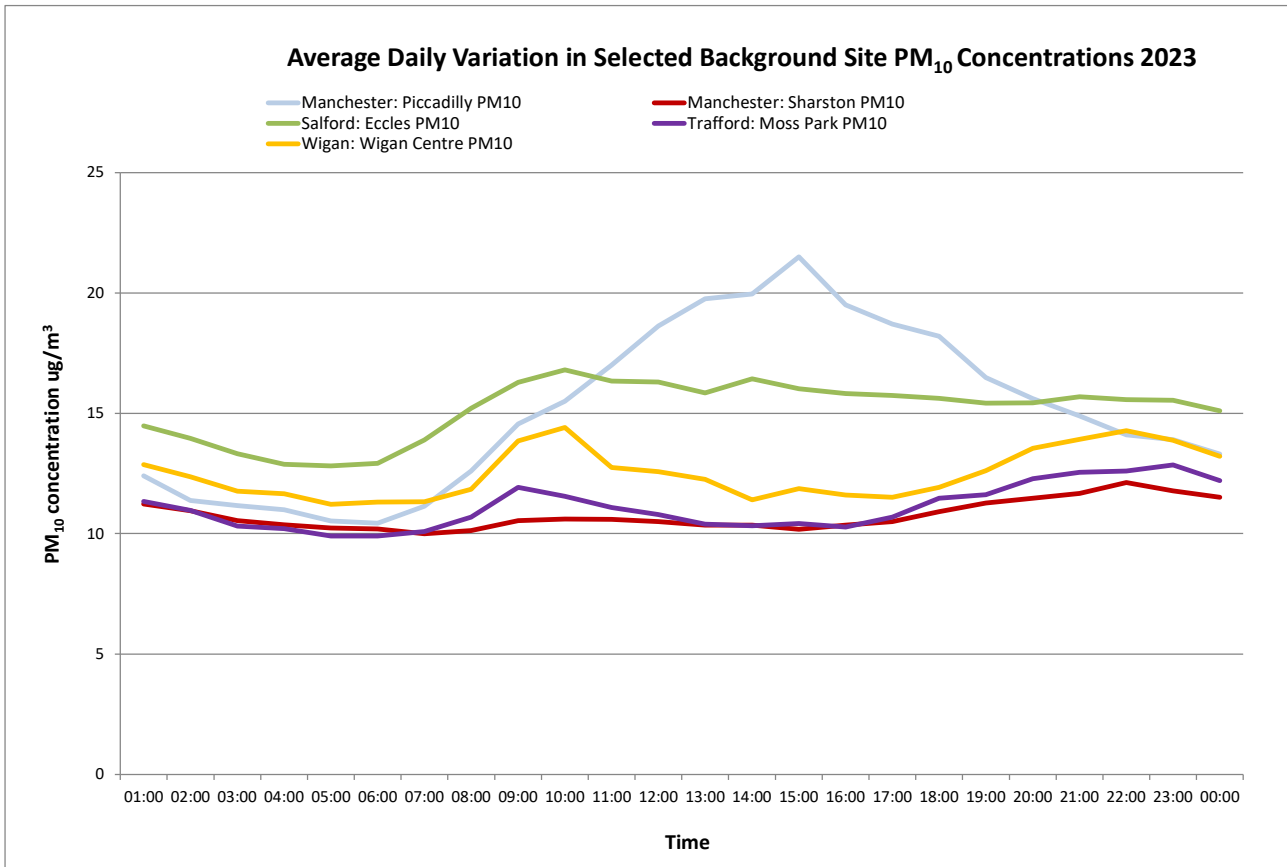
It can be seen from the results for Wigan Centre that there was a decrease in PM<sub>10</sub> levels in 2023 with a level of 12µg/m<sup>3</sup> recorded compared with 15µg/m<sup>3</sup> in 2022.

For Wigan Leigh Three there was a decrease in PM<sub>10</sub> levels from 19µg/m<sup>3</sup> in 2023 to 16µg/m<sup>3</sup> in 2023.

### 3.2.2.11 Diurnal Analysis of PM<sub>10</sub> in Greater Manchester



The above chart shows the average daily variation in selected roadside site PM<sub>10</sub> concentrations in 2023. Most monitoring sites show a similar trend - a peak in PM<sub>10</sub> concentrations occurs in the AM 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 Bury Prestwich site, there is a second peak at around 21:00. At the Tameside Mottram Moor site, the peak concentration occurs at around 13:00. These trends are generally similar to 2022, however peaks for most sites occur at lower concentration levels in 2023. For example, diurnal analysis of 2022 automatic monitoring site data showed that the Salford M60 site experienced a morning NO<sub>2</sub> concentration peak of ~ 28 ug/m<sup>3</sup>. In 2023, the morning peak had reduced to ~24 ug/m<sup>3</sup>.



The above chart shows the average daily variation in selected background site PM10 concentrations in 2023. Most monitoring sites show a similar trend for the early part of the day - a peak in PM10 concentrations occurs in the AM at approximately 09:00. At the Manchester Piccadilly site, the peak concentration occurs at approximately 15:00. At the Manchester Sharston, Trafford Moss Park and Wigan Centre sites, another peak in PM10 concentrations is observed from approximately 19:00 to 23:00.

These trends are similar to 2022, however peaks at most sites occur at slightly lower concentration levels in 2023. It should be noted that the Manchester Piccadilly site had relatively low data capture in 2023 for PM10 (83%) and so diurnal analysis results can be considered indicative.

### 3.2.3 Particulate Matter (PM2.5)

Table A.8 in Appendix A presents the ratified and adjusted monitored PM2.5 annual mean concentrations for the past five years.

### **3.2.3.1 Bolton MBC**

Monitoring of PM<sub>2.5</sub> is also undertaken at the site on the A579, Derby Street near the University of Bolton. The site is in a roadside location. PM<sub>2.5</sub> concentrations are measured using a BAM.

The annual mean concentration measured at the site was 8 µg/m<sup>3</sup>, which is 3 µg/m<sup>3</sup> lower than the 11 µg/m<sup>3</sup> measured in 2022 and 2 µg/m<sup>3</sup> lower than the 10 µg/m<sup>3</sup> measured in 2021. The concentration measured in 2023 is below the target of 10 µg/m<sup>3</sup> which is to be achieved by 2040, although it was above this level in 2022 and 2021. The data capture at the site was 95.91%. The site was commissioned in October 2020, so it is not possible to identify any long term trends yet.

### **3.2.3.2 Manchester City Council**

PM<sub>2.5</sub> is monitored at the Piccadilly Gardens and Sharston sites. Annual average PM<sub>2.5</sub> concentrations decreased during 2023 at both sites. At Piccadilly the level decreased from 10 µg/m<sup>3</sup> in 2022 to 9 µg/m<sup>3</sup> in 2023, and at Sharston the level decreased from 7 µg/m<sup>3</sup> to 6 µg/m<sup>3</sup>. Neither site has exceeded the legal limit for this pollutant since the baseline monitoring year.

PM<sub>2.5</sub> data capture during 2023 was 98% for Sharston, however it was relatively low (83%) for Piccadilly Gardens.

### **3.2.3.3 Rochdale Borough Council**

Rochdale BC has one automatic monitoring station that was installed in August 2021 recording levels of PM<sub>2.5</sub> located on Queensway, A664. Readings for PM<sub>2.5</sub> show levels at 8.9 in 2023, an improvement on levels of 10.3µg/m<sup>3</sup> in 2022.

2023 was the second year where a full year of data was available, so we are unable to draw any long-term trends from the data but a decrease in levels of PM<sub>2.5</sub> are encouraging and spikes due to weather and local events, such as bonfire night are shown. The results appear to show higher readings at peak times from increased traffic in the vicinity of the monitoring station.

### 3.2.3.4 Salford City Council

In 2023 there were three automatic air quality monitoring sites operating in Salford that measured PM<sub>2.5</sub> 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.
- Glazebury – a rural background site, operational since May 2022.

At the Eccles monitoring site, the 2023 annual mean PM<sub>2.5</sub> concentration decreased slightly compared to 2022 (2023 = 9 ug/m<sup>3</sup>, 2022 = 10 ug/m<sup>3</sup>).

At the M60 monitoring site, the 2023 annual mean PM<sub>2.5</sub> concentration decreased slightly compared to 2022 (2023 = 9 ug/m<sup>3</sup>, 2022 = 11 ug/m<sup>3</sup>).

At the Glazebury monitoring site, the 2023 annual mean PM<sub>2.5</sub> concentration also decreased compared to 2022 (2023 = 6 ug/m<sup>3</sup>, 2022 = 8 ug/m<sup>3</sup>). However, the 2022 data was annualised due to low data capture and so this decrease should be considered as indicative.

The last five years of available monitoring data has shown that annual mean PM<sub>2.5</sub> concentrations at the Eccles and M60 sites have remained relatively stable. The exception is a reduction in concentrations during 2020, attributable to the Covid-19 pandemic and associated restrictions on travel and lower emissions.

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

All Salford automatic monitoring sites had very high rates of PM<sub>2.5</sub> data capture during 2023 (all achieved 99% or above) and there were no significant technical issues.

### 3.2.3.5 Tameside Metropolitan Borough Council

PM<sub>2.5</sub> concentrations are monitored at the automatic station on the A635 Manchester Road, Ashton-under-Lyne. The annual average concentration for this site has fallen from 11µg/m<sup>3</sup> in 2021 (the first full year of data after the site was installed) to 8µg/m<sup>3</sup> in 2023.

### **3.2.3.6 Wigan Metropolitan Borough Council**

PM2.5 is monitored at both Wigan Centre and Wigan Leigh Three.

It can be seen from the results for Wigan Centre that there was a slight decrease in PM2.5 levels in 2023 with a level of 8µg/m<sup>3</sup> recorded compared with 9µg/m<sup>3</sup> in 2022.

For Wigan Leigh Three there was a decrease in PM2.5 levels from 11µg/m<sup>3</sup> in 2022 to 8µg/m<sup>3</sup> in 2023.

### **3.2.4 Sulphur Dioxide (SO<sub>2</sub>)**

Table A.9 in Appendix A compares the ratified continuous monitored SO<sub>2</sub> concentrations for 2023 with the air quality objectives for SO<sub>2</sub>.

## 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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Inlet Height (m)
BOL03	Bolton A579 Derby Street	Roadside	371280	408577	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Yes	NO <sub>x</sub> – chemiluminescence, PM10 and PM2.5 - BAM	30	2.5	2
BUR03	Bury Bridge (CAP)	Roadside	379840	410944	NO <sub>2</sub>	Yes	Chemiluminescent	N/A	4	1.5
BUR2	Bury Prestwich	Roadside	381650	403222	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & BAM	15	2.5	1.5
BUR1	Bury Radcliffe	Roadside	378190	407480	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & BAM	10	2.5	1.5
BURW	Bury Whitefield	Roadside	380636	406973	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & FDMS	24	7	3
MAN09	Manchester Bridge Street (CAP)	Roadside	383556	398292	NO <sub>2</sub>	Yes	Chemiluminescent	N/A	0.8	1.4
MAN1	Manchester Oxford Road	Kerbside	384233	397287	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & BAM	N/A	1	2
MAN3	Manchester Piccadilly	Urban Centre	384310	398337	NO <sub>2</sub> , O <sub>3</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub>	Yes	Chemiluminescent & UV absorption & BAM & UV fluorescence	2	30	4
MAHG	Manchester Sharston	Suburban	384179	386086	NO <sub>2</sub> , O <sub>3</sub> , SO <sub>2</sub>	No	Chemiluminescent & UV absorption & UV fluorescence & Partisol	35	6	2.7

CW	Oldham Crompton Way	Roadside	393887	409191	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & BAM	10	1	1.5
RDL001	Rochdale Queensway	Roadside	389325	411411	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Yes	Chemiluminescent & BAM	17	4	3
ECCL	Salford Eccles	Industrial	377926	398727	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> , O <sub>3</sub>	No	Chemiluminescent, Palas Fidas & UV absorption	7	6	3.5
GLAZ	Salford Glazebury	Rural	368759	396027	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> , O <sub>3</sub>	No	Chemiluminescent, Palas Fidas & UV absorption	130	1372	3
M60	Salford M60	Roadside	374811	400857	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> , O <sub>3</sub>	Yes	Chemiluminescent, BAM & UV absorption	85	22	3
SAL001	Salford Regent Road (CAP)	Roadside	382580	397717	NO <sub>2</sub>	Yes	Chemiluminescent	N/A	3	1.5
STK7	Stockport Cheadle A34	Roadside	385047	388339	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & BAM	18	2	2
STK5	Stockport Hazel Grove	Roadside	391481	387637	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & BAM	33	4	2
TS001	Tameside A635 Manchester Road	Roadside	392538	398419	NO <sub>2</sub> ; PM <sub>10</sub> ; PM <sub>2.5</sub>	YES	Chemiluminescent, BAM	10	1	2
TAM1	Tameside Mottram Moor	Roadside	399719	395804	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & TEOM	4	5	4
TRF2	Trafford A56	Urban Traffic	379413	394014	NO <sub>2</sub> , PM <sub>10</sub>	Yes	Chemiluminescent & BAM	40	2	2.5
TRAF	Trafford Moss Park	Urban Background	378783	394726	NO <sub>2</sub> , PM <sub>10</sub>	No	Chemiluminescent & BAM	60	98	2.5
TRF3	Trafford Wellacre Academy	Urban Background	373758	394473	NO <sub>2</sub>	No	Chemiluminescent	79	160	2.5
WIG5	Wigan Centre	Urban Background	357816	406024	NO <sub>2</sub> , O <sub>3</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	No	Chemiluminescent & Palas Fidas	0	175	2.5

WIG07	Wigan Leigh 3	Roadside	365686	400243	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	No	Chemiluminescent, BAM	23	3.6	2.6
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**Notes:**

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property) and N/A if the site is a CAP monitoring location,

(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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
<i>Bolton Metropolitan Borough Council</i>										
BO03NO	Quintins 3	Kerbside	370763	407929	NO2	2016 AQMA	2.0	0.5	No	2.4
BO04NO	Manley terr 4	Urban Background	371394	411718	NO2	2016 AQMA	0.0	2.5	No	2.4
BO08NO	Le Mans Crescent 8	Kerbside	371352	409094	NO2	No	5.0	0.5	No	2.4
BO11NO	Horwich Allotments 11	Urban Background	363712	412396	NO2	No	40.0	138.0	No	1.0
BO14NO	Farnworth Town Hall 14	Urban Background	373839	406130	NO2	No	3.0	2.5	No	2.4
BO15NO	Astley Bridge t/lights 15	Kerbside	371435	411690	NO2	2016 AQMA	15.0	0.5	No	2.4
BO16NO	Drummond St 16	Urban Background	371304	411748	NO2	No	6.0	2.0	No	2.4
BO41NO	Bolton Road 41	Urban Background	366286	406561	NO2	No	5.0	1.5	No	2.4
BO43NO	Bee Hive Pub kerb 43	Kerbside	365501	409887	NO2	2016 AQMA	20.0	1.0	No	2.4

BO44NO, BO45NO	1007 Chorley new 45	Urban Background	365599	409845	NO2	2016 AQMA	0.0	19.0	Yes	2.0
BO48NO	Ainsworth Rd L/L 48	Urban Background	375397	407457	NO2	2016 AQMA	3.0	1.5	No	2.2
BO53NO	3 Turton Road yard 53	Urban Background	373236	411968	NO2	2016 AQMA	0.0	4.0	No	2.2
BO54NO	20 Laburnham Park 54	Urban Background	372908	412120	NO2	No	0.0	4.0	No	2.2
BO60NO	134 Buckley Lane 60	Roadside	373287	405061	NO2	2016 AQMA	3.0	1.5	No	2.4
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
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	Pheonix Street 65	Urban Background	372059	409877	NO2	2016 AQMA	7.0	1.5	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 Lamp Post No2	Roadside	369030	405809	NO2	2016 AQMA	30.0	1.5	No	2.4

BO70NO	Cornwall Avenue Lamp Post No. 4 70	Roadside	368757	405701	NO2	2016 AQMA	8.0	1.5	No	2.4
BO71NO	Junct 4 traffic Lights - northbound exit 71	Roadside	370362	405400	NO2	2016 AQMA	300.0	1.5	No	2.4
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
B076NO, B077NO, B078NO	Westland Avenue 78	Roadside	373491	404836	NO2	No	1.0	3.0	Yes	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 - Outside 26	Roadside	374561	405364	NO2	2016 AQMA	0.5	0.5	No	2.4
BOA102	Grosvenor Street - Outside 44	Roadside	374584	405525	NO2	2016 AQMA	0.5	0.5	No	2.4
BOA103	Bridge Street - Opposite 22	Roadside	374526	405906	NO2	NO	7.0	1.0	No	2.4
BOA104	All Saints - Outside 1 Devon Street	Roadside	373795	406600	NO2	NO	3.0	0.5	No	2.4

BOA105	Starcliffe Street - Outside 37	Roadside	373604	406882	NO2	2016 AQMA	1.0	0.5	No	2.4
BOA107, BOA106	Sharman Street - Opposite Number 4	Roadside	372643	408070	NO2	NO	3.0	1.0	Yes	2.4
BOA109	Corner of Bury Rd/Oakenbottom Rd	Roadside	373818	409401	NO2	2016 AQMA	7.0	1.5	No	2.4
BOA110	Topp Way Next To Entrance To Davenport Street	Roadside	371501	409694	NO2	2016 AQMA	10.0	0.5	No	2.4
BOA111	Corner Ruth Street/ST. Georges Road	Roadside	371102	409575	NO2	2016 AQMA	0.5	0.5	No	2.4
BOA112	Derby Street Adjacent to Sweet Green Tavern/Crook Street	Roadside	371715	408681	NO2	2016 AQMA	5.0	0.5	No	2.4
BOA113	Grosvenor Street – outside 16	Roadside	374510	405522	NO2	2016 AQMA	0.5	0.5	No	2.4
BOA114	Church Bank, near parish church	Roadside	372122	409347	NO2	2016 AQMA	100.0	0.5	No	2.4
BOA115	93 Bradshawgate	Roadside	371903	409026	NO2	2016 AQMA	3.0	0.5	No	2.4
BOA116	Great Moor St, outside St Patrick's presbtery	Roadside	371803	408976	NO2	2016 AQMA	5.0	0.5	No	2.4
BOA118	St Georges Street, The	Roadside	371832	409625	NO2	2016 AQMA	0.5	1.0	No	2.4

	Rennaisance Flats									
BOA119	Marsden Road, outside Marsden House	Roadside	371328	409251	NO2	2016 AQMA	1.0	0.5	No	2.4
<i>Bury Metropolitan Borough Council</i>										
BU1NO	BU1	Roadside	384372	404917	NO2	2016 AQMA	7.0	1.2	No	2.6
BU2NO	BU2	Roadside	379101	417145	NO2	No	6.0	2.0	No	2.6
BU3ANO	BU3 a	Roadside	380636	406973	NO2	No	23.0	7.0	Yes	3.0
BU3BNO	BU3 b	Roadside	380636	406973	NO2	No	23.0	7.0	Yes	3.0
BU3CNO	BU3 c	Roadside	380636	406973	NO2	No	23.0	7.0	Yes	3.0
BU4NO	BU4	Roadside	380964	404831	NO2	2016 AQMA	8.2	22.0	No	2.3
BU5NO	BU5	Roadside	380497	405420	NO2	No	4.1	3.5	No	2.5
BU6NO	BU6	Roadside	379638	410880	NO2	2016 AQMA	1.0	2.3	No	2.0
BU7NO	BU7	Roadside	381984	411866	NO2	2016 AQMA	8.6	9.5	No	2.7
BU8NO	BU8	Kerbside	380754	412619	NO2	No	6.0	0.3	No	2.6
BU9NO	BU9	Roadside	379630	411031	NO2	2016 AQMA	NA	3.5	No	2.5

BU10NO	BU10	Roadside	379854	410978	NO2	2016 AQMA	NA	4.4	No	2.5
BU11NO	BU11	Roadside	380980	411193	NO2	2016 AQMA	NA	1.5	No	2.5
BU12NO	BU12	Kerbside	381344	410744	NO2	2016 AQMA	1.9	0.5	No	2.2
BU13NO	BU13	Kerbside	381728	410677	NO2	2016 AQMA	11.0	0.5	No	2.5
BU14NO	BU14	Roadside	380398	410455	NO2	2016 AQMA	NA	3.0	No	2.2
BU15NO	BU15	Kerbside	380852	405209	NO2	2016 AQMA	36.3	0.5	No	2.3
BU16NO	BU16	Roadside	380914	404898	NO2	2016 AQMA	5.0	2.2	No	2.6
BU17NO	BU17	Roadside	381105	404279	NO2	2016 AQMA	13.0	3.0	No	2.3
BU18NO	BU18	Roadside	382071	411362	NO2	2016 AQMA	3.0	2.0	No	2.3
BU19NO	BU19	Roadside	381321	405115	NO2	2016 AQMA	7.0	12.0	No	2.5
BU20NO	BU20	Urban Background	382974	405930	NO2	2016 AQMA	-11.2	26.2	No	2.5
<i>Manchester City Council</i>										
MA8ANO	8A	Urban Background	381398	387501	NO2	NO	10.0	1.5	NO	3.0
MA9ANO	9A	Kerbside	384601	398303	NO2	2016 AQMA	N/A	0.5	NO	3.0

MA24NO	24	Kerbside	383968	398070	NO2	2016 AQMA	N/A	0.5	NO	3.0
MA26ANO	26A	Urban Background	383973	398874	NO2	2016 AQMA	64.0	59.0	NO	3.0
MA28NO	28	Roadside	387951	397430	NO2	2016 AQMA	N/A	1.0	NO	3.0
MA29ANO	29A	Roadside	384119	397503	NO2	2016 AQMA	4.5	2.5	NO	3.0
MA36NO	36	Roadside	385203	399750	NO2	2016 AQMA	10.0	3.0	NO	3.0
MA37NO	37	Roadside	382829	391493	NO2	2016 AQMA	14.0	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	N/A	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	5.0	3.0	NO	3.0
MA74NO	74	Roadside	385400	390095	NO2	2016 AQMA	10.0	3.0	NO	3.0
MA75NO	75	Kerbside	387363	394617	NO2	2016 AQMA	3.5	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
MA80NO	80	Roadside	387358	393990	NO2	NO	5.0	2.0	NO	3.0
MA81NO	81	Urban Background	386589	394083	NO2	NO	10.0	2.0	NO	3.0
MA82NO, MA83NO, MA84NO	84	Roadside	384239	397276	NO2	2016 AQMA	N/A	3.0	YES	2.0
MA88NO	88	Kerbside	384469	398981	NO2	2016 AQMA	6.0	1.0	NO	3.0
MA86ANO	86A	Roadside	387150	396808	NO2	2016 AQMA	34.0	4.0	NO	3.0
MA87ANO	87A	Roadside	386992	396569	NO2	2016 AQMA	13.0	3.0	NO	3.0
MA88ANO	88A	Roadside	386536	396699	NO2	2016 AQMA	28.0	3.0	NO	3.0
MA89ANO	89A	Roadside	386710	396824	NO2	2016 AQMA	6.0	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	25.0	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	11.5	2.5	NO	3.0
MA96BNO	96	Roadside	385189	397167	NO2	2016 AQMA	4.0	3.0	NO	3.0



MA97BNO	97	Roadside	382886	397215	NO2	2016 AQMA	15.0	7.5	NO	3.0
MA98BNO	98	Kerbside	388460	403313	NO2	NO	10.0	0.5	NO	3.0
MA99BNO	99	Roadside	385400	399245	NO2	2016 AQMA	11.0	3.0	NO	3.0
MA100BNO	100	Roadside	383605	402293	NO2	2016 AQMA	13.0	2.0	NO	3.0
MA101BNO	101	Roadside	385999	402026	NO2	2016 AQMA	5.0	2.0	NO	3.0
MA102BNO	102	Roadside	385792	402952	NO2	2016 AQMA	5.0	2.0	NO	3.0
MA103BNO	103	Roadside	385431	400653	NO2	2016 AQMA	4.0	2.0	NO	3.0
MA104BNO	104	Roadside	383511	399906	NO2	2016 AQMA	8.0	2.0	NO	3.0
MA112BNO	112	Roadside	383987	396734	NO2	2016 AQMA	4.5	2.0	NO	3.0
MA113BNO	113	Roadside	385087	396891	NO2	2016 AQMA	4.5	2.0	NO	3.0
<i>Oldham Metropolitan Borough Council</i>										
OLMRNO	OL1	Roadside	390746	405397	NO2	No	3.5	2.0	No	2.0
OLSHSNO	OL2	Roadside	390394	405454	NO2	2016 AQMA	11.0	2.3	No	2.0
OL259BNO	OL3	Roadside	390089	404456	NO2	2016 AQMA	10.5	3.0	No	2.0

OL1RANO	OL4	Roadside	388698	404903	NO2	No	5.0	2.0	No	2.0
OL484BNO	OL5	Roadside	389367	403280	NO2	2016 AQMA	4.5	9.9	No	2.0
OLOBNO	OL6	Roadside	389715	403625	NO2	2016 AQMA	10.0	8.0	No	2.0
OLPSNO	OL7	Roadside	388747	400973	NO2	2016 AQMA	11.1	13.4	No	2.0
OLWARNO	OL8	Roadside	389237	401310	NO2	2016 AQMA	0.0	4.1	No	2.0
OLHRNO	OL9	Roadside	390756	402571	NO2	2016 AQMA	3.0	3.0	No	2.0
OLIRSNO	OL10	Urban Background	390675	402736	NO2	2016 AQMA	-14.1	23.7	No	2.0
OL368MRNO	OL11	Roadside	390976	403252	NO2	2016 AQMA	2.0	4.4	No	2.0
OLESNO	OL12	Roadside	391367	404318	NO2	2016 AQMA	6.6	1.2	No	2.0
OLARNO	OL13	Roadside	392771	402951	NO2	No	0.0	3.0	No	2.0
OLWOODNO	OL14	Urban Background	393056	404638	NO2	No	1.8	15.1	No	2.0
OLWSMSNO	OL15	Roadside	392947	404854	NO2	No	32.0	4.6	No	2.0
OL17SRNO	OL16	Kerbside	393643	405343	NO2	2016 AQMA	1.5	0.2	No	2.0
OLHS2NO	OL17	Roadside	393501	405186	NO2	No	-11.6	15.0	No	2.0

OLRRNO	OL18	Roadside	394210	405752	NO2	No	1.0	1.5	No	2.0
OLHURNO	OL19	Roadside	395561	405751	NO2	No	4.0	2.0	No	2.0
OLCVNO	OL20	Roadside	399533	404454	NO2	No	2.5	2.0	No	2.0
OLHSNO	OL21	Roadside	399589	405511	NO2	No	0.0	2.0	No	2.0
OLCW1NO, OLCW2NO, OLCW3NO	OL24	Roadside	393884	409183	NO2	No	1.0	2.0	Yes	1.5
OL21SRNO	OL25	Roadside	392217	407255	NO2	2016 AQMA	0.5	2.0	No	2.0
OLJSNO	OL26	Roadside	393097	406897	NO2	No	5.1	7.2	No	2.0
OLRDNO	OL27	Roadside	392111	406432	NO2	2016 AQMA	0.0	3.0	No	2.0
OL12ORNO	OL28	Roadside	392045	407608	NO2	2016 AQMA	0.5	1.5	No	2.0
OLFANO	OL29	Urban Background	391100	406218	NO2	No	6.8	1.9	No	2.0
<i>Rochdale Metropolitan Borough Council</i>										
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
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
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	17.0	5.0	Yes	2.0
RO32ANO	32	Roadside	385145	407701	NO2	No	2.0	2.5	No	2.0
<i>Salford City Council</i>										
SA01NO	Irlam Locks	Urban Background	372767	394104	NO2	No	-30.0	45.0	No	1.7
SA02NO	Irlam (Princes Park)	Urban Background	372140	394210	NO2	No	-57.0	67.0	No	3.0

SA04NO	Crompton	Urban Background	377453	401830	NO2	No	-5.0	21.5	No	2.5
SA09NO	St Marks School	Urban Background	374741	400937	NO2	No	-10.0	125.0	No	2.0
SA13NO	Buckland Road	Urban Background	379613	399784	NO2	No	12.0	2.5	No	3.0
SA16NO	Wharton School	Urban Background	371187	404453	NO2	No	7.0	2.0	No	2.5
SA20NO, SA21NO, SA22NO	M60 automatic site co-location	Roadside	374811	400857	NO2	2016 AQMA	83.0	20.0	Yes	3.0
SA23NO, SA24NO, SA29NO	Eccles AURN co-location	Urban Background	377926	398727	NO2	No	0.0	6.0	Yes	3.5
SA25NO	Wythop Gardens	Urban Background	381304	398014	NO2	2016 AQMA	-8.5	22.5	No	3.0
SA26NO	Halton Bank sub station	Roadside	380718	399597	NO2	2016 AQMA	8.0	6.0	No	2.0
SA27NO	Trinity Way	Roadside	383078	398741	NO2	2016 AQMA	2.0	1.5	No	3.0
SA31NO	Walkden Road	Roadside	374025	401905	NO2	2016 AQMA	8.0	3.5	No	3.0
SA34NO	Liverpool Road	Roadside	375367	397800	NO2	2016 AQMA	0.5	8.5	No	1.7
SA38NO	Clifton Primary School	Roadside	377796	403065	NO2	No	7.0	1.7	No	2.5
SA39NO	Trinity Way /Chapel Street	Roadside	383040	398563	NO2	2016 AQMA	0.0	8.5	No	3.0
SA51NO	Liverpool Road / Claybank	Roadside	375213	397661	NO2	2016 AQMA	1.5	2.5	No	2.0

SA53NO	Ryecroft Lane	Urban Background	374757	399891	NO2	No	5.0	3.5	No	3.0
SA55NO	Leigh Road / Ellenbrook Road	Roadside	372871	400734	NO2	2016 AQMA	7.0	3.0	No	2.5
SA56NO, SA57NO, SA58NO	Glazebury AURN co-location	Rural	368759	396027	NO2	No	N/A	N/A	Yes	3.0
SA59NO	West Crown Avenue	Roadside	381822	397895	NO2	2016 AQMA	11.0	2.0	No	3.0
SA60NO	Regent Road	Roadside	382445	397724	NO2	2016 AQMA	2.5	4.5	No	2.0
SA61NO	Campbell Road	Roadside	377269	400943	NO2	2016 AQMA	5.0	3.5	No	2.5
SA62NO	Maurice Drive/ Maurice St	Roadside	380768	399637	NO2	No	5.0	4.0	No	3.0
SA63NO	Greenacre Lane	Roadside	374673	399912	NO2	2016 AQMA	-11.5	21.5	No	3.0
SA64NO	Lancaster Road	Roadside	378805	399848	NO2	2016 AQMA	10.0	5.0	No	2.0
SA65NO	Eccles Old Road	Roadside	378584	399220	NO2	2016 AQMA	10.0	3.0	No	3.0
SA66NO	Stannard Road	Roadside	375118	398502	NO2	2016 AQMA	5.0	12.5	No	3.0
SA68NO	Walkden High Street	Roadside	373570	403096	NO2	2016 AQMA	3.5	2.5	No	3.0
SA69NO	Agecroft Road/ Pendlecroft Ave	Roadside	379397	401370	NO2	2016 AQMA	8.5	1.5	No	3.0
SA70NO	Belvedere Road	Roadside	381677	398832	NO2	2016 AQMA	4.0	12.8	No	3.0

SA72NO	Station Road, Swinton	Roadside	377536	401804	NO2	2016 AQMA	2.0	0.5	No	3.0
SA73NO	Worsley Brow	Roadside	374576	400611	NO2	2016 AQMA	0.0	N/A	No	3.0
SA74NO	Canal Bank	Roadside	376315	399249	NO2	2016 AQMA	-3.5	24.0	No	3.0
SA75NO	Weaste Road	Roadside	379608	398539	NO2	2016 AQMA	7.5	0.5	No	3.0
SA76NO	Langworthy Road	Roadside	380540	398422	NO2	2016 AQMA	5.0	2.9	No	3.0
SA77NO	Albion Way (Trenam Place)	Roadside	381686	398504	NO2	2016 AQMA	3.0	13.5	No	3.0
SA78NO	Broughton Road	Roadside	381220	399530	NO2	2016 AQMA	2.5	1.5	No	3.0
SA79NO	Chapel Street	Roadside	382602	398519	NO2	2016 AQMA	2.0	10.0	No	3.0
SA80NO	Hawthorne Drive	Roadside	375428	401417	NO2	2016 AQMA	-9.0	30.5	No	3.0
SA81NO	Regent Road 2	Roadside	382561	397722	NO2	2016 AQMA	0.0	N/A	No	3.0
SA82NO	Rooke Street	Roadside	375394	397816	NO2	2016 AQMA	10.0	2.2	No	3.0
SA83NO	Bury New Road	Roadside	382945	400732	NO2	2016 AQMA	7.7	3.0	No	2.5
SA84NO	Langley Road	Roadside	380776	400834	NO2	No	2.0	2.0	No	2.5
SA85NO	Bray Avenue	Roadside	375991	399237	NO2	2016 AQMA	-3.5	9.0	No	2.5



SA86NO	Bury Old Road	Kerbside	383819	401771	NO2	No	5.0	0.5	No	2.5
SA87NO	Merlin Road	Roadside	372225	395616	NO2	No	9.0	2.4	No	2.5
SA88NO	Russell Street	Roadside	377469	398745	NO2	No	5.0	2.0	No	2.5
SA89NO	Velveteen Crescent	Roadside	373892	404569	NO2	2016 AQMA	7.0	30.0	No	2.5
<i>Stockport Metropolitan Borough Council</i>										
ST3NO	ST 3	Urban Background	388547	391845	NO2	2016 AQMA	6.0	2.0	No	2.5
ST4NO	ST 4	Rural	396469	390800	NO2	No	-14.0	16.0	No	2.5
ST5NO	ST 5	Rural	396869	382699	NO2	No	8.0	1300.0	No	1.5
ST6NO	ST 6	Urban Background	385960	388552	NO2	No	-27.0	34.0	No	1.5
ST7NO	ST 7	Kerbside	392063	386972	NO2	2016 AQMA	3.0	1.0	No	2.0
ST8NO	ST 8	Urban Background	392016	387042	NO2	2016 AQMA	-26.0	28.0	No	1.5
ST9NO	ST 9	Urban Background	392742	385680	NO2	No	-9.0	20.0	No	1.5
ST10NO	ST 10	Urban Background	392781	387271	NO2	No	0.0	6.0	No	1.5
ST11NO	ST 11	Roadside	391083	387938	NO2	2016 AQMA	3.0	3.0	No	2.0

ST13NO	ST 13	Urban Background	384675	386295	NO2	No	4.0	1.0	No	2.0
ST2NO, ST12NO, ST14NO	ST 14	Roadside	385047	388339	NO2	2016 AQMA	14.0	5.0	Yes	2.0
ST15NO	ST 15	Roadside	389886	388961	NO2	2016 AQMA	4.0	2.0	No	2.0
ST16NO	ST 16	Roadside	391568	391225	NO2	2016 AQMA	20.0	2.0	No	2.5
ST17NO	ST 17	Urban Background	388442	390077	NO2	2016 AQMA	220.0	2.0	No	2.0
ST18NO	ST 18	Urban Background	389272	390440	NO2	2016 AQMA	20.0	3.0	No	2.0
ST19NO	ST 19	Roadside	389479	393463	NO2	2016 AQMA	0.0	2.2	No	2.5
ST20NO	ST 20	Urban Background	386921	389528	NO2	2016 AQMA	3.0	15.0	No	2.0
ST21NO	ST 21	Urban Background	388598	389415	NO2	No	3.0	1.0	No	2.5
ST22NO, ST23NO, ST24NO	ST 24	Roadside	391483	387635	NO2	2016 AQMA	10.0	5.0	Yes	2.0
ST25NO	ST 25	Roadside	395770	388655	NO2	No	5.0	2.0	No	2.5
ST26NO	ST 26	Urban Background	389412	387337	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	386219	NO2	2016 AQMA	2.0	3.0	No	2.5

ST29NO	ST 29	Urban Background	390087	388545	NO2	No	0.0	2.0	No	1.5
ST31NO	ST 31	Roadside	392442	391752	NO2	2016 AQMA	17.0	2.0	No	2.5
ST32NO	ST 32	Roadside	389480	390957	NO2	2016 AQMA	25.0	2.0	No	2.5
ST33NO	ST 33	Roadside	390416	390087	NO2	2016 AQMA	5.0	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	4.0	1.0	No	2.4
<i>Tameside Metropolitan Borough Council</i>										
TA1NO	T 1	Roadside	394051	397180	NO2	No	2.0	1.0	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	Yes	3.0	2.0	No	3.0
TASPNO	T SPEC	Roadside	394194	399267	NO2	Yes	-1.0	4.0	No	3.0
TA5NO	T 5	Urban Background	400488	396539	NO2	No	6.0	2.0	No	3.0
TA11NO	T 11	Roadside	400390	396025	NO2	Yes	2.0	1.0	No	3.0

TA13NO	T 13	Roadside	392586	398431	NO2	Yes	10.0	3.0	No	3.0
TA14NO	T 14	Roadside	393696	398794	NO2	Yes	30.0	4.0	No	3.0
TA16NO	T 16	Roadside	391413	397974	NO2	Yes	8.0	2.0	No	3.0
TA17NO	T 17	Roadside	389106	398242	NO2	Yes	4.0	4.0	No	3.0
TA18NO	T 18	Roadside	391970	395521	NO2	Yes	35.0	2.0	No	3.0
TA19NO	T 19	Roadside	392477	395505	NO2	Yes	1.0	1.0	No	3.0
TA20NO	T 20	Roadside	394610	395102	NO2	Yes	3.0	1.0	No	3.0
TA21NO	T 21	Roadside	400423	395965	NO2	Yes	1.0	1.0	No	3.0
TA23NO	T 23	Urban Background	393630	398598	NO2	No	1.0	6.0	No	3.0
TA24NO	T 24	Roadside	390475	395621	NO2	Yes	5.0	2.0	No	3.0
TA25NO	T 25	Roadside	396950	402329	NO2	Yes	5.0	2.0	No	3.0
TA27NO	T 27	Roadside	396177	398218	NO2	Yes	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	Yes	2.0	2.0	No	3.0
TA31NO	T 31	Suburban	396899	402449	NO2	No	5.0	2.0	No	3.0
TA32NO	T 32	Suburban	396982	402437	NO2	No	2.0	2.0	No	3.0
TA33NO	T 33	Roadside	397011	402591	NO2	No	5.0	1.0	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	8.0	4.0	No	3.0
TA39NO	T 39	Urban Background	394114	399366	NO2	No	21.0	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	Yes	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	394210	398923	NO2	Yes	13.0	3.0	No	3.0

TA44NO	T 44	Urban Background	397418	394398	NO2	No	N/A	2.0	No	3.0
TA45NO, TA46NO, TA47NO	T 47	Roadside	399719	395805	NO2	Yes	N/A	5.0	Yes	4.0
TA49NO	T 49	Roadside	393731	398770	NO2	Yes	N/A	3.0	No	3.0
TA50NO	T 50	Roadside	393498	398704	NO2	Yes	110.0	4.0	No	3.0
TA51NO	T 51	Kerbside	393314	398624	NO2	Yes	82.0	1.0	No	3.0
TA52NO	T 52	Roadside	393509	398737	NO2	Yes	103.0	5.0	No	3.0
TA53NO	T 53	Roadside	393133	398536	NO2	Yes	N/A	3.0	No	3.0
TA54NO	T 54	Roadside	392958	398474	NO2	Yes	24.0	3.0	No	3.0
TA55NO	T 55	Roadside	392741	398469	NO2	Yes	6.0	3.0	No	3.0
TA56NO	T 56	Roadside	392490	398368	NO2	Yes	25.0	5.0	No	3.0
TA57NO	T 57	Roadside	392838	398533	NO2	Yes	28.0	3.0	No	3.0
TA58NO	T 58	Roadside	393080	398620	NO2	Yes	40.0	4.0	No	3.0
TA59NO	T 59	Roadside	395652	399140	NO2	No	N/A	2.0	No	3.0
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	395589	399227	NO2	No	25.0	4.0	No	3.0
TA63NO	T 63	Kerbside	394917	400922	NO2	No	13.0	1.0	No	3.0
TA64NO	T 64	Kerbside	395787	398759	NO2	Yes	2.0	2.0	No	3.0
TA65NO	T 65	Kerbside	392532	396768	NO2	Yes	8.0	2.0	No	3.0
<i>Trafford Metropolitan Borough Council</i>										
TR5NO	5	Urban Background	379052	392043	NO2	No	35.0	2.0	No	4.0
TR9NO	9	Urban Background	380933	395889	NO2	2016 AQMA	5.0	2.0	No	3.0
TR15NO	15	Roadside	379089	393282	NO2	2016 AQMA	450.0	5.0	No	4.0
TR16NO, TR16ANO	16a	Roadside	377418	395689	NO2	2016 AQMA	30.0	2.0	Yes	3.0
TR19NO, TR19ANO, TR19BNO	19b	Urban Background	378783	394728	NO2	No	3.0	100.0	Yes	2.0
TR22NO	22	Kerbside	377087	390131	NO2	2016 AQMA	50.0	1.0	No	4.0
TR23NO	23	Roadside	376432	396355	NO2	2016 AQMA	8.0	40.0	No	3.0
TR24NO	24	Roadside	379263	385812	NO2	No	16.0	3.0	No	2.0

TR25NO, TR25ANO, TR25BNO	25b	Urban Background	373755	394477	NO2	No	10.0	160.0	Yes	2.0
TR27NO	27	Kerbside	371419	390760	NO2	No	20.0	1.0	No	2.0
TR28NO	28	Kerbside	376804	387740	NO2	No	0.0	2.0	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	376205	392690	NO2	No	120.0	0.5	No	2.0
TR32NO	32	Urban Background	381525	395325	NO2	2016 AQMA	0.0	14.0	No	2.0
<i>Wigan Metropolitan Borough Council</i>										
WI24NO	24	Roadside	358341	405539	NO2	2016 AQMA	20.0	4.0	No	2.0
WI33NO	33	Roadside	359723	405537	NO2	2016 AQMA	30.0	1.0	No	2.0
WI52NO	52	Roadside	362137	396948	NO2	2016 AQMA	35.0	3.0	No	2.0
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
WI148NO	148	Kerbside	361247	404576	NO2	No	5.0	1.0	No	2.0



WI156NO	156	Kerbside	366320	402136	NO2	No	8.0	1.0	No	2.0
WI161NO	161	Roadside	369635	402019	NO2	No	0.0	2.0	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
WI172NO	172	Kerbside	356881	401314	NO2	No	3.0	1.0	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
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
WI188NO	188	Roadside	362111	396526	NO2	No	18.0	2.0	No	2.0
WI205NO	205	Kerbside	362151	396604	NO2	No	6.5	1.0	No	2.0
WI208NO, WI209NO, WI210NO	210	Roadside	365687	400238	NO2	No	23.0	2.0	Yes	2.0

WI213NO	213	Roadside	362019	396512	NO2	No	19.0	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
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
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
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
WI243NO	243	Kerbside	362030	398210	NO2	No	14.0	2.0	No	2.0
WI244NO	244	Kerbside	357610	406859	NO2	No	14.0	1.0	No	2.0
WI245NO	245	Kerbside	358133	405492	NO2	2016 AQMA	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<sub>2</sub> Monitoring Results: Automatic Monitoring (µg/m<sup>3</sup>)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
Bolton A579 Derby Street	371280	408577	Roadside	N/A	98.38	-	-	23	23	21
Bury Bridge (CAP)	379840	410944	Roadside	N/A	97.90	-	-	-	22.6*	22
Bury Prestwich	381650	403222	Roadside	N/A	99.29	39	-	33.3	30	28
Bury Radcliffe	378190	407480	Roadside	N/A	99.36	26	20	21.7	20	19
Bury Whitefield	380636	406973	Roadside	N/A	99.61	27	19	20	21	20
Manchester Bridge Street (CAP)	383556	398292	Roadside	N/A	99.13	-	-	-	-	<b>54</b>
Manchester Oxford Rd	384233	397287	Kerbside	N/A	99.71	<b>59</b>	36	<b>44</b>	<b>43</b>	<b>41</b>
Manchester Piccadilly	384310	398337	Urban Centre	N/A	99.09	36	27	30	29	27
Manchester Sharston	384179	386086	Suburban	N/A	-	23	14	16	15	14.7
Oldham Crompton Way	393887	409191	Roadside	N/A	-	30	23	25	24	21
Rochdale Queensway	389325	411411	Roadside	N/A	99.68	-	-	28.5	27	26
Salford Eccles	377926	398727	Industrial	N/A	99.68	25	20	23	22	20

Salford Glazebury	368759	396027	Rural	N/A	95.84	15	11	12	11	12
Salford M60	374811	400857	Roadside	N/A	97.04	<b>44</b>	34	34	34	33
Salford Regent Road (CAP)	382580	397717	Roadside	N/A	31.35	-	-	-	-	32* <sup>69</sup>
Stockport Cheadle A34	385047	388339	Roadside	N/A	96.19	36	26	28	29	26
Stockport Hazel Grove	391481	387637	Roadside	N/A	99.51	23	16	19	18	17
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	95.61		29.2	34	32	30
Tameside Mottram Moor	399719	395804	Roadside	N/A	99.51	<b>40</b>	30	36	34	33
Trafford A56	379413	394014	Urban Traffic	N/A	91.70	30	21	23	24	21
Trafford Moss Park	378783	394726	Urban Background	N/A	85.68	19	14	15	15	14
Trafford Wellacre Academy	373758	394473	Urban Background	N/A	99.41	15	11	13	11	11
Wigan Centre	357816	406024	Urban Background	N/A	99.69	19	15	17	17	15
Wigan Leigh 3	365686	400243	Roadside	N/A	99.59	-	23.8	25	22	21

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<sup>69</sup> \* Regent Road only had 31.35% data capture and has been annualised

**Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

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

**Where exceedances of the NO<sub>2</sub> annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2023.**

**Notes:**

The annual mean concentrations are presented as µg/m<sup>3</sup>.

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

All means have been “annualised” as per LAQM.TG22 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<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>)**

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
<i>Bolton Metropolitan Borough Council</i>										
BO03NO	370763	407929	Kerbside	N/A	82.7	<b>41.2</b>	31.8	37.1	36.6	37.4
BO04NO	371394	411718	Urban Background	N/A	92.3	27.1	19.3	20.0	21.4	18.7
BO08NO	371352	409094	Kerbside	N/A	90.4	27.4	18.5	19.5	23.8	18.4
BO11NO	363712	412396	Urban Background	N/A	84.6	12.3	9.0	10.9	10.7	8.9
BO14NO	373839	406130	Urban Background	N/A	100.0	23.4	17.4	18.2	19.1	18.4
BO15NO	371435	411690	Kerbside	N/A	92.3	39.9	29.0	28.1	30.7	27.4
BO16NO	371304	411748	Urban Background	N/A	100.0	21.7	15.5	16.6	17.0	15.4
BO41NO	366286	406561	Urban Background	N/A	100.0	35.4	28.3	29.4	27.6	26.8
BO43NO	365501	409887	Kerbside	N/A	100.0	35.5	25.8	26.2	27.4	27.0
BO44NO, BO45NO	365599	409845	Urban Background	N/A	100.0	23.6	17.7	18.0	18.3	16.6



BO48NO	375397	407457	Urban Background	N/A	92.3	27.6	22.7	23.1	21.4	20.9
BO53NO	373236	411968	Urban Background	N/A	92.3	19.4	16.7	14.2	25.4	30.7
BO54NO	372908	412120	Urban Background	N/A	92.3	14.9	11.2	12.4	11.0	11.7
BO60NO	373287	405061	Roadside	N/A	100.0	32.0	23.8	25.6	26.6	23.1
BO61NO	374450	405207	Kerbside	N/A	100.0	37.2	27.8	31.7	30.4	29.2
BO62NO	374194	405460	Urban Background	N/A	100.0	<b>47.7</b>	28.4	29.9	30.7	29.1
BO63NO	374282	406257	Urban Background	N/A	100.0	25.0	17.9	18.5	17.3	17.7
BO64NO	371965	409907	Roadside	N/A	100.0	28.6	21.8	21.1	23.9	22.3
BO65NO	372059	409877	Urban Background	N/A	100.0	26.8	21.5	21.8	23.0	19.4
BO66NO	371442	411599	Roadside	N/A	90.4	36.7	29.0	32.5	31.2	28.2
BO67NO	365163	405640	Urban Background	N/A	100.0	21.2	18.3	17.1	16.6	15.1
BO68NO	367672	406910	Urban Background	N/A	100.0	31.1	22.6	23.7	24.1	22.3
BO69NO	369030	405809	Roadside	N/A	92.3	<b>47.7</b>	36.0	38.1	39.2	35.9
BO70NO	368757	405701	Roadside	N/A	100.0	23.9	16.1	18.2	18.9	17.0

BO71NO	370362	405400	Roadside	N/A	92.3	<b>53.1</b>	38.0	<b>41.5</b>	39.7	<b>40.4</b>
BO72NO	370115	405372	Roadside	N/A	100.0	30.9	25.4	25.8	37.0	22.0
BO73NO	371805	409820	Roadside	N/A	100.0	<b>44.7</b>	33.0	37.4	38.3	35.7
BO74NO	371805	409832	Roadside	N/A	100.0	<b>46.9</b>	31.8	33.8	34.5	33.2
BO75NO	371623	409235	Roadside	N/A	67.3	28.8	28.2	19.1	20.5	16.8
BO76NO, BO77NO, BO78NO	373491	404836	Roadside	N/A	100.0	-	22.1	24.7	26.0	24.4
BO79NO, BO80NO, BO81NO	371296	408600	Roadside	N/A	100.0	-	-	18.7	25.2	23.0
BOA101	374561	405364	Roadside	N/A	90.4	-	23.6	25.3	25.8	22.5
BOA102	374584	405525	Roadside	N/A	100.0	-	25.2	24.9	26.9	24.7
BOA103	374526	405906	Roadside	N/A	100.0	-	20.1	22.5	21.3	21.2
BOA104	373795	406600	Roadside	N/A	92.3	-	29.7	34.1	35.6	33.0
BOA105	373604	406882	Roadside	N/A	100.0	-	25.8	26.1	27.0	25.1
BOA107, BOA106	372643	408070	Roadside	N/A	100.0	-	19.1	24.1	23.8	23.7
BOA109	373818	409401	Roadside	N/A	100.0	-	17.9	18.6	19.0	18.3

BOA110	371501	409694	Roadside	N/A	100.0	-	30.1	33.4	32.3	29.9
BOA111	371102	409575	Roadside	N/A	100.0	-	26.7	28.8	28.7	25.2
BOA112	371715	408681	Roadside	N/A	100.0	-	29.2	29.8	28.8	25.3
BOA113	374510	405522	Roadside	N/A	100.0	-	23.3	25.9	26.9	25.2
BOA114	372122	409347	Roadside	N/A	100.0	-	25.6	26.1	26.2	24.7
BOA115	371903	409026	Roadside	N/A	92.3	-	35.7	32.3	32.3	35.1
BOA116	371803	408976	Roadside	N/A	75.0	-	29.4	31.0	28.7	30.9
BOA118	371832	409625	Roadside	N/A	100.0	-	23.0	24.5	24.8	23.7
BOA119	371328	409251	Roadside	N/A	67.3	-	25.3	27.1	31.4	31.7
<i>Bury Metropolitan Borough Council</i>										
BU1NO	384372	404917	Roadside	N/A	100.0	32.4	24.4	25.3	26.6	24.6
BU2NO	379101	417145	Roadside	N/A	100.0	38.8	25.1	27.4	28.7	26.8
BU3ANO	380636	406973	Roadside	N/A	100.0	26.1	25.2	19.1	20.9	18.8
BU3BNO	380636	406973	Roadside	N/A	100.0	26.1	25.2	19.1	20.9	19.7

BU3CNO	380636	406973	Roadside	N/A	100.0	26.1	25.2	19.1	20.9	19.0
BU4NO	380964	404831	Roadside	N/A	100.0	39.2	27.4	28.4	31.8	29.1
BU5NO	380497	405420	Roadside	N/A	100.0	27.0	21.1	20.9	21.0	19.6
BU6NO	379638	410880	Roadside	N/A	100.0	36.4	27.5	30.4	30.7	27.3
BU7NO	381984	411866	Roadside	N/A	100.0	30.6	23.4	24.8	25.9	24.1
BU8NO	380754	412619	Kerbside	N/A	57.7	34.3	23.7	25.6	25.9	23.2
BU9NO	379630	411031	Roadside	N/A	100.0	35.4	27.1	26.9	30.2	25.0
BU10NO	379854	410978	Roadside	N/A	90.4	37.1	27.3	27.9	30.7	26.9
BU11NO	380980	411193	Roadside	N/A	80.8	<b>41.3</b>	32.3	33.5	34.7	31.4
BU12NO	381344	410744	Kerbside	N/A	100.0	<b>53.6</b>	35.0	<b>40.9</b>	38.7	38.7
BU13NO	381728	410677	Kerbside	N/A	100.0	<b>49.7</b>	34.0	39.8	36.9	35.0
BU14NO	380398	410455	Roadside	N/A	100.0	37.5	26.9	26.8	30.7	29.6
BU15NO	380852	405209	Kerbside	N/A	100.0	<b>46.6</b>	34.4	37.4	<b>40.5</b>	36.8
BU16NO	380914	404898	Roadside	N/A	100.0	<b>46.8</b>	32.5	36.1	39.0	34.8

BU17NO	381105	404279	Roadside	N/A	92.3	35.4	25.7	28.2	28.6	26.8
BU18NO	382071	411362	Roadside	N/A	100.0	38.2	27.9	30.3	30.3	30.2
BU19NO	381321	405115	Roadside	N/A	100.0	<b>42.1</b>	32.7	33.1	37.7	33.5
BU20NO	382974	405930	Urban Background	N/A	100.0	-	26.1	28.4	28.8	27.6
<i>Manchester City Council</i>										
MA8ANO	381398	387501	Urban Background	N/A	100.0	28.0	18.2	20.6	23.9	21.8
MA9ANO	384601	398303	Kerbside	N/A	100.0	<b>44.9</b>	32.5	35.7	37.5	36.2
MA24NO	383968	398070	Kerbside	N/A	100.0	<b>40.8</b>	26.8	31.8	32.4	29.8
MA26ANO	383973	398874	Urban Background	N/A	100.0	33.0	22.9	25.9	27.5	24.5
MA28NO	387951	397430	Roadside	N/A	100.0	36.1	26.4	29.4	29.3	26.9
MA29ANO	384119	397503	Roadside	N/A	100.0	<b>55.4</b>	39.0	<b>44.8</b>	<b>49.8</b>	<b>49.6</b>
MA36NO	385203	399750	Roadside	N/A	92.3	31.7	24.3	26.7	27.4	28.0
MA37NO	382829	391493	Roadside	N/A	100.0	38.7	26.9	29.5	32.1	28.5
MA59NO, MA60NO, MA61NO	384310	398337	Urban Background	N/A	100.0	31.6	22.4	24.6	25.3	24.4

MA71NO	385161	398290	Roadside	N/A	100.0	<b>45.3</b>	31.4	34.2	34.4	30.7
MA72NO	384761	397384	Urban Background	N/A	100.0	32.8	24.5	27.5	26.3	24.3
MA73NO	388604	396042	Roadside	N/A	100.0	38.0	27.3	31.6	31.5	29.5
MA74NO	385400	390095	Roadside	N/A	100.0	33.6	23.3	25.6	25.4	25.0
MA75NO	387363	394617	Kerbside	N/A	100.0	<b>47.0</b>	33.7	39.0	38.8	39.6
MA77NO	383576	397489	Urban Background	N/A	100.0	<b>43.7</b>	26.9	30.8	33.1	31.6
MA78NO	386289	396828	Urban Background	N/A	100.0	33.0	23.2	27.5	27.2	26.3
MA79NO	386875	395861	Urban Background	N/A	100.0	29.3	22.3	25.6	25.4	23.9
MA80NO	387358	393990	Roadside	N/A	100.0	33.2	22.5	25.7	25.7	25.3
MA81NO	386589	394083	Urban Background	N/A	100.0	23.1	16.6	18.1	18.8	17.0
MA82NO, MA83NO, MA84NO	384239	397276	Roadside	N/A	100.0	<b>52.0</b>	34.1	<b>40.7</b>	<b>42.6</b>	<b>41.4</b>
MA88NO	384469	398981	Kerbside	N/A	100.0	<b>45.2</b>	30.1	36.8	35.7	32.7
MA86ANO	387150	396808	Roadside	N/A	82.7	33.6	25.5	27.5	27.5	28.3
MA87ANO	386992	396569	Roadside	N/A	100.0	34.0	22.9	26.4	28.0	25.3

MA88ANO	386536	396699	Roadside	N/A	100.0	<b>43.3</b>	32.5	35.3	39.2	36.1
MA89ANO	386710	396824	Roadside	N/A	100.0	30.3	23.7	25.2	25.6	24.6
MA90BNO, MA91BNO, MA92BNO	384202	386121	Suburban	N/A	100.0	18.9	13.8	14.1	15.2	14.2
MA93BNO	382419	390010	Roadside	N/A	100.0	<b>42.9</b>	29.4	33.8	34.0	31.0
MA94BNO	382072	388388	Roadside	N/A	100.0	32.1	25.2	26.0	28.0	27.5
MA95BNO	386668	397566	Roadside	N/A	100.0	<b>43.4</b>	31.5	34.1	33.7	31.5
MA96BNO	385189	397167	Roadside	N/A	100.0	<b>46.0</b>	36.4	<b>41.0</b>	<b>43.5</b>	39.7
MA97BNO	382886	397215	Roadside	N/A	100.0	32.3	23.4	28.4	27.8	27.4
MA98BNO	388460	403313	Kerbside	N/A	90.4	36.2	26.6	28.9	28.6	27.6
MA99BNO	385400	399245	Roadside	N/A	100.0	-	26.9	32.9	32.7	31.3
MA100BNO	383605	402293	Roadside	N/A	100.0	-	31.2	33.6	33.0	30.6
MA101BNO	385999	402026	Roadside	N/A	100.0	-	28.1	35.9	35.6	34.9
MA102BNO	385792	402952	Roadside	N/A	92.3	-	28.3	31.0	32.8	32.2
MA103BNO	385431	400653	Roadside	N/A	100.0	-	35.5	39.6	<b>40.1</b>	37.9

MA104BNO	383511	399906	Roadside	N/A	92.3	-	30.6	36.4	37.9	34.5
MA112BNO	383987	396734	Roadside	N/A	92.3	-	-	21.4	22.7	19.8
MA113BNO	385087	396891	Roadside	N/A	100.0	-	-	28.1	29.2	28.2
<i>Oldham Metropolitan Borough Council</i>										
OLMRNO	390746	405397	Roadside	N/A	100.0	31.5	37.7	28.6	35.0	28.4
OLSHSNO	390394	405454	Roadside	N/A	100.0	36.1	25.1	29.8	29.6	29.1
OL259BNO	390089	404456	Roadside	N/A	92.3	-	-	34.5	34.9	32.3
OL1RANO	388698	404903	Roadside	N/A	100.0	-	-	24.1	26.0	24.0
OL484BNO	389367	403280	Roadside	100	100.0	-	-	-	-	27.1
OLOBNO	389715	403625	Roadside	N/A	67.3	37.3	27.2	27.8	28.2	32.5
OLPSNO	388747	400973	Roadside	N/A	75.0	-	-	32.5	30.7	30.4
OLWARNO	389237	401310	Roadside	N/A	100.0	-	-	32.4	33.4	33.7
OLHRNO	390756	402571	Roadside	N/A	92.3	<b>40.6</b>	30.1	32.6	33.9	32.3
OLIRSNO	390675	402736	Urban Background	N/A	92.3	-	-	25.7	27.9	29.0



OL368MRNO	390976	403252	Roadside	N/A	100.0	-	-	38.2	38.9	37.1
OLESNO	391367	404318	Roadside	N/A	92.3	-	-	27.9	29.1	27.0
OLARNO	392771	402951	Roadside	N/A	100.0	30.6	23.7	25.5	26.4	25.6
OLWOODNO	393056	404638	Urban Background	N/A	100.0	-	-	31.1	31.4	28.3
OLWSMSNO	392947	404854	Roadside	N/A	100.0	-	-	38.2	37.1	26.7
OL17SRNO	393643	405343	Kerbside	N/A	100.0	-	-	39.9	<b>40.4</b>	38.3
OLHS2NO	393501	405186	Roadside	N/A	100.0	30.0	22.8	25.2	25.8	26.1
OLRRNO	394210	405752	Roadside	N/A	92.3	35.3	28.6	32.4	30.2	28.4
OLHURNO	395561	405751	Roadside	N/A	100.0	35.8	27.0	30.9	28.5	28.7
OLCVNO	399533	404454	Roadside	N/A	92.3	19.1	14.5	15.3	15.4	15.8
OLHSNO	399589	405511	Roadside	N/A	92.3	30.0	22.8	25.2	25.8	25.4
OLCW1NO, OLCW2NO, OLCW3NO	393884	409183	Roadside	N/A	100.0	32.0	24.2	28.9	26.6	25.5
OL21SRNO	392217	407255	Roadside	N/A	92.3	-	-	<b>46.3</b>	<b>43.8</b>	<b>45.0</b>
OLJSNO	393097	406897	Roadside	N/A	92.3	-	-	24.2	23.4	23.0

OLRDNO	392111	406432	Roadside	N/A	90.4	36.2	25.9	27.4	29.8	30.1
OL12ORNO	392045	407608	Roadside	N/A	100.0	-	-	<b>43.2</b>	<b>47.0</b>	<b>43.6</b>
OLFANO	391100	406218	Urban Background	N/A	100.0	-	-	18.4	20.7	17.8
<i>Rochdale Metropolitan Borough Council</i>										
RO2ANO	388537	409942	Urban Background	38.5	65.4	-	-	-	-	27.6
RO3ANO	388581	409797	Urban Background	N/A	100.0	22.1	16.0	16.4	17.0	16.4
RO4ANO	387080	406278	Urban Background	N/A	82.7	33.2	22.2	22.8	22.7	23.0
RO5ANO	386870	404044	Roadside	N/A	73.1	24.5	16.5	16.4	16.4	14.2
RO6ANO	385413	408320	Kerbside	N/A	92.3	<b>42.5</b>	31.8	32.3	34.7	28.9
RO7ANO	388603	411925	Urban Background	N/A	100.0	32.1	25.2	27.7	26.4	26.1
RO8ANO	388932	412091	Roadside	N/A	69.2	<b>44.7</b>	33.6	36.6	36.3	32.1
RO9ANO	389057	412217	Kerbside	N/A	65.4	39.6	30.3	34.9	36.4	26.6
RO10ANO	388800	413603	Urban Background	N/A	67.3	17.7	14.8	14.9	15.0	13.4
RO12ANO	392072	415687	Roadside	N/A	15.4	39.4	30.4	30.3	31.0	29.3

RO13ANO	392042	415707	Urban Background	N/A	84.6	17.2	14.1	15.1	19.9	-
RO14ANO	393665	417816	Rural	N/A	100.0	12.9	11.6	10.2	12.9	11.6
RO15ANO	392976	411906	Roadside	N/A	92.3	27.0	20.3	23.0	19.7	20.1
RO16ANO	392542	411709	Urban Background	N/A	92.3	19.9	18.8	18.3	19.5	16.8
RO17ANO	391214	412609	Urban Background	N/A	92.3	23.5	18.5	17.6	24.5	17.3
RO18ANO	389877	413590	Urban Background	N/A	92.3	26.8	20.9	18.7	22.7	18.1
RO19ANO	389971	413646	Roadside	N/A	0.0	-	-	-	-	-
RO20ANO	385748	408931	Roadside	N/A	100.0	31.3	23.9	24.9	24.3	29.6
RO21ANO	385820	410776	Roadside	N/A	100.0	37.4	28.3	28.2	27.7	26.1
RO22ANO	390464	411976	Roadside	N/A	100.0	<b>43.4</b>	31.5	32.7	32.2	30.2
RO23ANO	390377	412030	Roadside	N/A	100.0	37.8	27.6	31.4	31.7	29.8
RO24ANO	388089	410822	Urban Background	N/A	100.0	30.0	24.8	23.1	24.0	25.2
RO25ANO	387792	406013	Roadside	N/A	92.3	34.7	25.9	30.9	33.0	31.1
RO26ANO	389782	414241	Roadside	N/A	92.3	<b>41.6</b>	31.1	32.5	34.2	27.6

RO27ANO	390710	414563	Roadside	N/A	82.7	<b>46.1</b>	32.7	28.8	31.3	32.6
RO28ANO	392871	415127	Urban Background	N/A	92.3	29.5	21.3	22.8	23.3	22.6
RO29ANO, RO30ANO, RO31ANO	389325	411411	Roadside	N/A	59.6	-	-	31.1	30.6	23.1
RO32ANO	385145	407701	Roadside	N/A	59.6	-	-	26.6	30.3	27.9
<i>Salford City Council</i>										
SA01NO	372767	394104	Urban Background	N/A	100.0	19.9	14.7	15.5	15.8	13.8
SA02NO	372140	394210	Urban Background	N/A	67.3	20.2	13.3	15.5	15.4	14.0
SA04NO	377453	401830	Urban Background	N/A	100.0	25.9	18.8	20.2	20.2	18.9
SA09NO	374741	400937	Urban Background	N/A	100.0	24.5	18.1	18.5	19.3	18.1
SA13NO	379613	399784	Urban Background	N/A	100.0	22.2	17.0	16.7	17.6	15.5
SA16NO	371187	404453	Urban Background	N/A	100.0	19.8	14.2	17.6	18.4	17.7
SA20NO, SA21NO, SA22NO	374811	400857	Roadside	N/A	100.0	<b>41.3</b>	31.6	33.0	34.8	33.1
SA23NO, SA24NO, SA29NO	377926	398727	Urban Background	N/A	90.4	25.3	18.5	20.5	20.2	18.8

SA25NO	381304	398014	Urban Background	N/A	100.0	30.2	21.2	24.7	22.7	21.9
SA26NO	380718	399597	Roadside	N/A	100.0	32.3	23.9	25.8	25.4	24.5
SA27NO	383078	398741	Roadside	N/A	100.0	37.2	26.7	28.8	27.2	24.6
SA31NO	374025	401905	Roadside	N/A	100.0	29.3	21.3	23.5	22.9	21.8
SA34NO	375367	397800	Roadside	N/A	100.0	39.9	30.4	34.1	33.8	31.2
SA38NO	377796	403065	Roadside	N/A	100.0	26.6	19.6	21.6	21.7	18.9
SA39NO	383040	398563	Roadside	N/A	32.7	<b>41.7</b>	30.4	33.0	35.1	27.8
SA51NO	375213	397661	Roadside	N/A	82.7	34.7	25.0	26.5	26.0	24.8
SA53NO	374757	399891	Urban Background	N/A	100.0	31.6	23.7	25.5	25.6	22.9
SA55NO	372871	400734	Roadside	N/A	100.0	32.2	24.1	24.6	24.4	21.8
SA56NO, SA57NO, SA58NO	368759	396027	Rural	N/A	100.0	14.2	11.2	11.5	11.9	10.8
SA59NO	381822	397895	Roadside	N/A	100.0	32.4	23.0	27.5	26.2	24.5
SA60NO	382445	397724	Roadside	N/A	100.0	36.7	27.0	32.6	32.1	30.4
SA61NO	377269	400943	Roadside	N/A	100.0	38.8	28.8	34.0	33.3	31.3

SA62NO	380768	399637	Roadside	N/A	100.0	32.2	23.8	24.6	25.0	23.5
SA63NO	374673	399912	Roadside	N/A	100.0	<b>42.7</b>	29.7	35.3	38.0	33.1
SA64NO	378805	399848	Roadside	N/A	100.0	27.9	20.5	21.5	23.4	20.2
SA65NO	378584	399220	Roadside	N/A	100.0	<b>43.1</b>	36.6	37.9	37.7	36.1
SA66NO	375118	398502	Roadside	N/A	84.6	32.1	23.9	25.7	25.3	24.5
SA68NO	373570	403096	Roadside	N/A	100.0	<b>50.6</b>	34.4	<b>44.3</b>	38.7	39.1
SA69NO	379397	401370	Roadside	N/A	100.0	<b>47.9</b>	36.0	36.8	39.9	37.3
SA70NO	381677	398832	Roadside	N/A	82.7	29.7	24.3	23.4	22.8	21.2
SA72NO	377536	401804	Roadside	N/A	100.0	<b>49.6</b>	36.6	38.8	37.4	36.7
SA73NO	374576	400611	Roadside	N/A	50.0	<b>45.6</b>	34.8	38.5	39.7	29.4
SA74NO	376315	399249	Roadside	N/A	100.0	39.9	29.3	30.5	31.9	31.9
SA75NO	379608	398539	Roadside	N/A	100.0	33.4	24.0	25.2	27.2	25.6
SA76NO	380540	398422	Roadside	N/A	100.0	37.3	28.5	31.3	29.0	27.2
SA77NO	381686	398504	Roadside	N/A	100.0	33.6	23.2	25.8	26.5	25.1

SA78NO	381220	399530	Roadside	N/A	100.0	<b>46.7</b>	36.2	39.6	<b>40.5</b>	38.8
SA79NO	382602	398519	Roadside	N/A	100.0	<b>41.1</b>	27.3	30.0	30.8	29.5
SA80NO	375428	401417	Roadside	N/A	100.0	30.1	23.6	25.5	25.6	23.8
SA81NO	382561	397722	Roadside	N/A	82.7	<b>46.4</b>	34.8	<b>42.3</b>	<b>44.2</b>	<b>40.5</b>
SA82NO	375394	397816	Roadside	N/A	100.0	-	36.9	39.6	<b>40.1</b>	37.8
SA83NO	382945	400732	Roadside	N/A	92.3	-	-	25.2	25.5	23.2
SA84NO	380776	400834	Roadside	N/A	100.0	-	-	25.1	24.6	23.9
SA85NO	375991	399237	Roadside	N/A	100.0	-	-	22.3	21.6	20.7
SA86NO	383819	401771	Kerbside	N/A	100.0	-	-	<b>44.0</b>	<b>45.2</b>	<b>43.2</b>
SA87NO	372225	395616	Roadside	N/A	100.0	-	-	23.7	23.0	21.8
SA88NO	377469	398745	Roadside	N/A	100.0	-	-	-	24.9	23.0
SA89NO	373892	404569	Roadside	N/A	100.0	-	-	-	27.7	25.4
<i>Stockport Metropolitan Borough Council</i>										
ST3NO	388547	391845	Urban Background	N/A	75.0	25.7	19.0	19.5	19.4	19.6

ST4NO	396469	390800	Rural	N/A	84.6	13.4	9.6	10.9	11.1	11.2
ST5NO	396869	382699	Rural	N/A	100.0	8.9	6.3	9.7	6.8	5.7
ST6NO	385960	388552	Urban Background	N/A	100.0	16.7	11.9	9.7	12.9	12.0
ST7NO	392063	386972	Kerbside	N/A	100.0	39.5	26.3	25.9	26.4	25.0
ST8NO	392016	387042	Urban Background	N/A	100.0	21.8	14.0	17.2	16.1	15.7
ST9NO	392742	385680	Urban Background	N/A	100.0	13.6	9.7	10.9	10.5	9.3
ST10NO	392781	387271	Urban Background	N/A	51.9	14.5	10.8	11.6	11.3	11.2
ST11NO	391083	387938	Roadside	N/A	100.0	36.2	21.9	24.4	23.9	23.4
ST13NO	384675	386295	Urban Background	N/A	100.0	18.8	11.6	13.6	13.3	12.5
ST2NO, ST12NO, ST14NO	385047	388339	Roadside	N/A	100.0	36.2	26.1	28.4	29.6	27.1
ST15NO	389886	388961	Roadside	N/A	92.3	22.3	21.0	23.7	22.0	21.4
ST16NO	391568	391225	Roadside	N/A	67.3	26.2	18.3	19.6	20.1	20.2
ST17NO	388442	390077	Urban Background	N/A	75.0	26.6	18.4	20.2	19.0	19.4
ST18NO	389272	390440	Urban Background	N/A	75.0	37.6	26.5	29.3	26.7	28.5



ST19NO	389479	393463	Roadside	N/A	75.0	<b>40.7</b>	30.5	32.2	31.6	30.7
ST20NO	386921	389528	Urban Background	N/A	100.0	37.7	29.6	32.2	30.2	30.7
ST21NO	388598	389415	Urban Background	N/A	92.3	21.6	15.2	18.4	16.7	16.8
ST22NO, ST23NO, ST24NO	391483	387635	Roadside	N/A	100.0	24.6	16.4	18.5	17.7	17.0
ST25NO	395770	388655	Roadside	N/A	84.6	28.1	19.5	21.5	24.8	20.0
ST26NO	389412	387337	Urban Background	N/A	100.0	15.3	11.0	12.1	11.5	10.8
ST27NO	387091	391384	Urban Background	N/A	100.0	17.5	12.6	13.1	13.1	12.2
ST28NO	385700	386219	Roadside	N/A	92.3	38.6	25.7	30.3	30.3	27.6
ST29NO	390087	388545	Urban Background	N/A	100.0	18.2	13.1	14.3	13.3	12.5
ST31NO	392442	391752	Roadside	N/A	40.4	38.2	30.1	31.0	30.9	23.5
ST32NO	389480	390957	Roadside	N/A	92.3	34.7	24.8	24.6	27.7	25.5
ST33NO	390416	390087	Roadside	N/A	100.0	37.6	25.8	29.8	28.8	26.2
ST34NO	388304	390351	Roadside	N/A	75.0	<b>41.3</b>	29.0	35.8	36.0	32.9
ST35NO	395020	385360	Roadside	N/A	92.3	24.0	18.6	23.5	20.6	19.1

ST36NO	389386	390142	Roadside	N/A	100.0	-	-	34.7	35.8	34.3
<i>Tameside Metropolitan Borough Council</i>										
TA1NO	394051	397180	Roadside	N/A	92.3	25.5	21.4	21.1	22.4	21.4
TA2NO	394788	394933	Roadside	N/A	100.0	25.7	18.3	21.2	20.7	19.2
TA3NO	390961	395417	Urban Background	N/A	100.0	28.5	19.6	21.9	21.8	21.2
TASPNO	394194	399267	Roadside	N/A	100.0	-	-	-	-	27.5
TA5NO	400488	396539	Urban Background	N/A	90.4	13.4	10.0	9.8	9.8	9.6
TA11NO	400390	396025	Roadside	N/A	100.0	<b>55.1</b>	39.9	<b>41.1</b>	<b>43.9</b>	<b>43.2</b>
TA13NO	392586	398431	Roadside	N/A	100.0	<b>41.2</b>	30.5	33.6	33.9	32.3
TA14NO	393696	398794	Roadside	N/A	92.3	37.4	28.9	31.3	32.1	28.9
TA16NO	391413	397974	Roadside	N/A	100.0	<b>42.4</b>	30.9	33.2	34.5	33.8
TA17NO	389106	398242	Roadside	N/A	100.0	34.1	26.6	28.7	29.0	27.5
TA18NO	391970	395521	Roadside	N/A	90.4	<b>43.5</b>	32.1	36.5	38.3	34.7
TA19NO	392477	395505	Roadside	N/A	100.0	37.9	27.1	29.5	26.9	27.6

TA20NO	394610	395102	Roadside	N/A	100.0	37.1	28.3	29.9	30.2	29.6
TA21NO	400423	395965	Roadside	N/A	84.6	<b>46.8</b>	36.7	37.9	39.0	36.4
TA23NO	393630	398598	Urban Background	N/A	100.0	22.8	17.4	18.7	19.3	17.3
TA24NO	390475	395621	Roadside	N/A	84.6	35.7	24.7	31.6	26.6	31.0
TA25NO	396950	402329	Roadside	N/A	100.0	28.6	21.9	19.8	21.1	20.7
TA27NO	396177	398218	Roadside	N/A	100.0	28.7	20.7	22.5	22.1	21.0
TA28NO	393050	401038	Roadside	N/A	100.0	35.1	27.8	31.4	31.4	31.1
TA29NO	393370	399494	Suburban	N/A	100.0	24.6	18.4	19.0	20.6	19.8
TA30NO	393419	399691	Roadside	N/A	100.0	36.4	27.3	31.1	31.4	31.4
TA31NO	396899	402449	Suburban	N/A	100.0	27.2	15.9	16.1	16.7	15.9
TA32NO	396982	402437	Suburban	N/A	100.0	25.1	18.5	20.1	19.9	19.6
TA33NO	397011	402591	Roadside	N/A	100.0	24.2	18.2	19.2	19.9	18.8
TA34NO	397060	402581	Roadside	N/A	100.0	23.0	18.7	17.9	19.5	19.5
TA35NO	397080	402540	Roadside	N/A	100.0	36.9	27.7	29.1	30.4	31.3

TA36NO	397060	402387	Suburban	N/A	100.0	22.0	16.1	17.0	16.5	15.9
TA37NO	396728	402073	Roadside	N/A	100.0	31.7	26.6	27.7	28.1	26.8
TA38NO	394006	399392	Urban Background	N/A	100.0	31.1	22.0	23.4	23.0	23.3
TA39NO	394114	399366	Urban Background	N/A	100.0	33.7	24.5	25.9	25.8	25.0
TA40NO	394066	399314	Urban Background	N/A	100.0	31.0	22.3	23.5	24.3	22.9
TA41NO	394118	399259	Urban Background	N/A	100.0	31.7	25.3	25.9	28.1	25.2
TA42NO	394494	399010	Urban Background	N/A	100.0	30.1	21.3	24.5	23.5	23.0
TA43NO	394204	398933	Roadside	N/A	100.0	<b>40.3</b>	31.2	33.2	35.3	33.0
TA44NO	397418	394398	Urban Background	N/A	100.0	15.5	12.1	12.2	12.1	11.4
TA45NO, TA46NO, TA47NO	399719	395805	Roadside	N/A	100.0	<b>55.6</b>	38.1	39.7	39.1	<b>40.9</b>
TA49NO	393731	398770	Roadside	N/A	100.0	37.2	27.3	30.8	28.8	27.1
TA50NO	393498	398704	Roadside	N/A	92.3	<b>43.5</b>	33.6	35.4	32.0	33.3
TA51NO	393314	398624	Kerbside	N/A	92.3	37.2	29.7	33.1	32.2	31.0
TA52NO	393509	398737	Roadside	N/A	100.0	<b>43.7</b>	32.9	35.3	36.9	35.3

TA53NO	393133	398536	Roadside	N/A	100.0	36.4	28.3	31.8	30.2	30.3
TA54NO	392958	398474	Roadside	N/A	100.0	<b>49.2</b>	36.6	39.9	<b>41.5</b>	36.9
TA55NO	392741	398469	Roadside	N/A	100.0	<b>55.4</b>	<b>40.8</b>	<b>42.5</b>	<b>45.9</b>	<b>45.2</b>
TA56NO	392490	398368	Roadside	N/A	100.0	<b>43.7</b>	32.8	35.6	35.5	34.8
TA57NO	392838	398533	Roadside	N/A	65.4	<b>45.2</b>	36.8	35.2	32.9	30.0
TA58NO	393080	398620	Roadside	N/A	100.0	37.6	26.9	29.7	29.6	28.6
TA59NO	395652	399140	Roadside	N/A	92.3	19.8	15.0	15.9	15.1	14.1
TA60NO	395747	399112	Roadside	N/A	100.0	27.8	20.2	21.5	20.2	19.3
TA61NO	395682	399171	Roadside	N/A	100.0	24.0	18.2	20.3	19.0	18.4
TA62NO	395589	399227	Roadside	N/A	100.0	23.0	17.1	17.2	18.4	17.7
TA63NO	394917	400922	Kerbside	N/A	100.0	-	-	23.8	24.4	24.1
TA64NO	395787	398769	Kerbside	N/A	100.0	-	-	37.4	36.7	36.7
TA65NO	392532	396768	Kerbside	N/A	100.0	-	-	-	28.0	27.1
<i>Trafford Metropolitan Borough Council</i>										

TR5NO	379052	392043	Urban Background	N/A	100.0	24.3	16.3	21.5	22.2	21.3
TR9NO	380933	395889	Urban Background	N/A	100.0	24.1	16.5	20.1	18.4	19.8
TR15NO	379089	393282	Roadside	N/A	100.0	29.9	20.7	22.9	22.3	22.2
TR16NO, TR16ANO	377418	395689	Roadside	N/A	100.0	32.8	21.5	22.5	20.9	20.5
TR19NO, TR19ANO, TR19BNO	378783	394728	Urban Background	N/A	100.0	20.8	14.3	15.0	15.6	13.2
TR22NO	377087	390131	Kerbside	N/A	82.7	35.3	22.7	22.9	31.7	29.8
TR23NO	376432	396355	Roadside	N/A	100.0	36.6	25.1	26.0	24.8	24.3
TR24NO	379263	385812	Roadside	N/A	100.0	23.5	15.6	19.8	19.1	18.5
TR25NO, TR25ANO, TR25BNO	373755	394477	Urban Background	N/A	84.6	13.0	12.9	11.5	11.3	11.3
TR27NO	371419	390760	Kerbside	N/A	100.0	21.7	18.6	16.1	15.4	17.5
TR28NO	376804	387740	Kerbside	N/A	73.1	29.8	24.9	26.4	23.5	23.4
TR29NO	373906	392820	Roadside	N/A	100.0	-	-	18.2	17.6	17.9
TR30NO	376789	392806	Urban Background	N/A	73.1	-	-	13.8	14.9	17.7
TR31NO	376205	392690	Kerbside	N/A	100.0	-	-	31.3	29.0	27.7

TR32NO	381525	395325	Urban Background	83	82.7	-	-	-	-	16.3
<i>Wigan Metropolitan Borough Council</i>										
WI24NO	358341	405539	Roadside	100	92.3	-	-	-	-	22.2
WI33NO	359723	405537	Roadside	N/A	100.0	<b>42.1</b>	28.7	30.4	31.0	30.8
WI52NO	362137	396948	Roadside	N/A	100.0	39.4	27.1	30.5	29.7	26.8
WI81NO	355979	410362	Roadside	N/A	92.3	28.1	19.3	20.0	19.8	17.6
WI114NO	365115	400259	Roadside	N/A	100.0	39.9	30.2	32.1	32.8	29.4
WI148NO	361247	404576	Kerbside	N/A	100.0	29.1	21.1	24.2	22.8	22.7
WI156NO	366320	402136	Kerbside	N/A	100.0	25.5	19.5	20.1	19.8	18.9
WI161NO	369635	402019	Roadside	N/A	100.0	28.2	21.3	22.5	22.9	21.9
WI167NO	363544	397933	Roadside	N/A	100.0	26.3	18.7	20.6	19.2	19.2
WI168NO	362463	397005	Kerbside	N/A	100.0	35.7	24.8	25.4	25.0	24.3
WI169NO	362557	396906	Roadside	N/A	100.0	32.7	23.9	26.1	24.1	22.8
WI170NO	362236	396675	Roadside	N/A	100.0	28.5	21.4	22.7	21.4	19.3

WI172NO	356881	401314	Kerbside	N/A	92.3	32.2	22.0	25.1	23.9	21.9
WI177NO	356230	410105	Kerbside	N/A	100.0	35.1	20.5	23.5	22.1	20.5
WI178NO	356021	410128	Kerbside	N/A	100.0	<b>46.1</b>	30.3	35.2	33.3	32.5
WI180NO	362105	396491	Kerbside	N/A	92.3	<b>57.9</b>	<b>41.9</b>	<b>44.6</b>	<b>45.3</b>	<b>42.4</b>
WI181NO	354819	406235	Kerbside	N/A	84.6	30.8	22.1	28.2	28.6	25.8
WI188NO	362111	396526	Roadside	N/A	92.3	38.3	27.9	30.6	30.7	28.5
WI205NO	362151	396604	Kerbside	N/A	100.0	-	22.4	23.0	22.9	21.1
WI208NO, WI209NO, WI210NO	365687	400238	Roadside	N/A	100.0	-	21.8	24.0	23.7	22.3
WI213NO	362019	396512	Roadside	N/A	100.0	-	-	17.1	16.0	14.9
WI216NO	358464	405342	Kerbside	N/A	92.3	-	-	31.0	31.7	31.9
WI217NO	357780	405306	Kerbside	N/A	100.0	-	-	24.3	22.0	22.2
WI219NO	357484	405407	Roadside	N/A	100.0	-	-	19.3	17.9	18.9
WI220NO	357420	405407	Roadside	N/A	100.0	-	-	18.5	18.3	17.4
WI221NO	360499	397867	Roadside	N/A	84.6	-	-	20.9	21.8	19.6



WI222NO	360491	397842	Roadside	N/A	100.0	-	-	22.1	24.9	23.0
WI223NO	360430	397779	Roadside	N/A	84.6	-	-	20.7	22.4	20.9
WI224NO	360418	397775	Roadside	N/A	100.0	-	-	29.6	30.3	27.3
WI225NO	360459	397995	Roadside	N/A	100.0	-	-	19.9	20.5	19.7
WI226NO	360462	398006	Roadside	N/A	100.0	-	-	20.8	20.3	19.0
WI227NO	360576	398144	Roadside	N/A	100.0	-	-	25.1	23.9	21.4
WI228NO	360578	398126	Roadside	N/A	82.7	-	-	21.6	22.4	20.8
WI230NO	360380	397912	Roadside	N/A	100.0	-	-	27.1	29.1	27.0
WI231NO	357473	398990	Roadside	N/A	92.3	-	-	27.9	26.2	26.8
WI232NO	357635	399502	Roadside	N/A	92.3	-	-	19.0	19.3	16.9
WI233NO	357445	406461	Kerbside	N/A	76.9	-	-	19.7	22.1	18.7
WI234NO	363136	403467	Roadside	N/A	92.3	-	-	26.8	26.6	24.0
WI235NO	365419	399116	Roadside	N/A	100.0	-	-	21.3	19.7	17.8
WI236NO	365386	400353	Kerbside	N/A	90.4	-	-	16.4	16.4	14.4

WI237NO	367352	403200	Kerbside	N/A	100.0	-	-	20.4	21.0	20.2
WI238NO	369056	402146	Roadside	N/A	100.0	-	-	20.7	22.1	20.9
WI239NO	357092	404213	Roadside	N/A	75.0	-	-	-	15.3	13.9
WI240NO	360220	407146	Kerbside	N/A	84.6	-	-	20.4	19.2	19.0
WI241NO	358025	406658	Kerbside	N/A	92.3	-	-	24.3	23.3	23.1
WI243NO	362030	398210	Kerbside	N/A	92.3	-	-	-	17.9	16.8
WI244NO	357610	406859	Kerbside	N/A	75.0	-	-	-	18.5	19.3
WI245NO	358133	405492	Kerbside	42	42.3	-	-	-	-	<b>43.8</b>

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

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  $\mu\text{g}/\text{m}^3$ .

Exceedances of the NO<sub>2</sub> annual mean objective of  $40\mu\text{g}/\text{m}^3$  are shown in **bold**.

NO<sub>2</sub> annual means exceeding  $60\mu\text{g}/\text{m}^3$ , indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

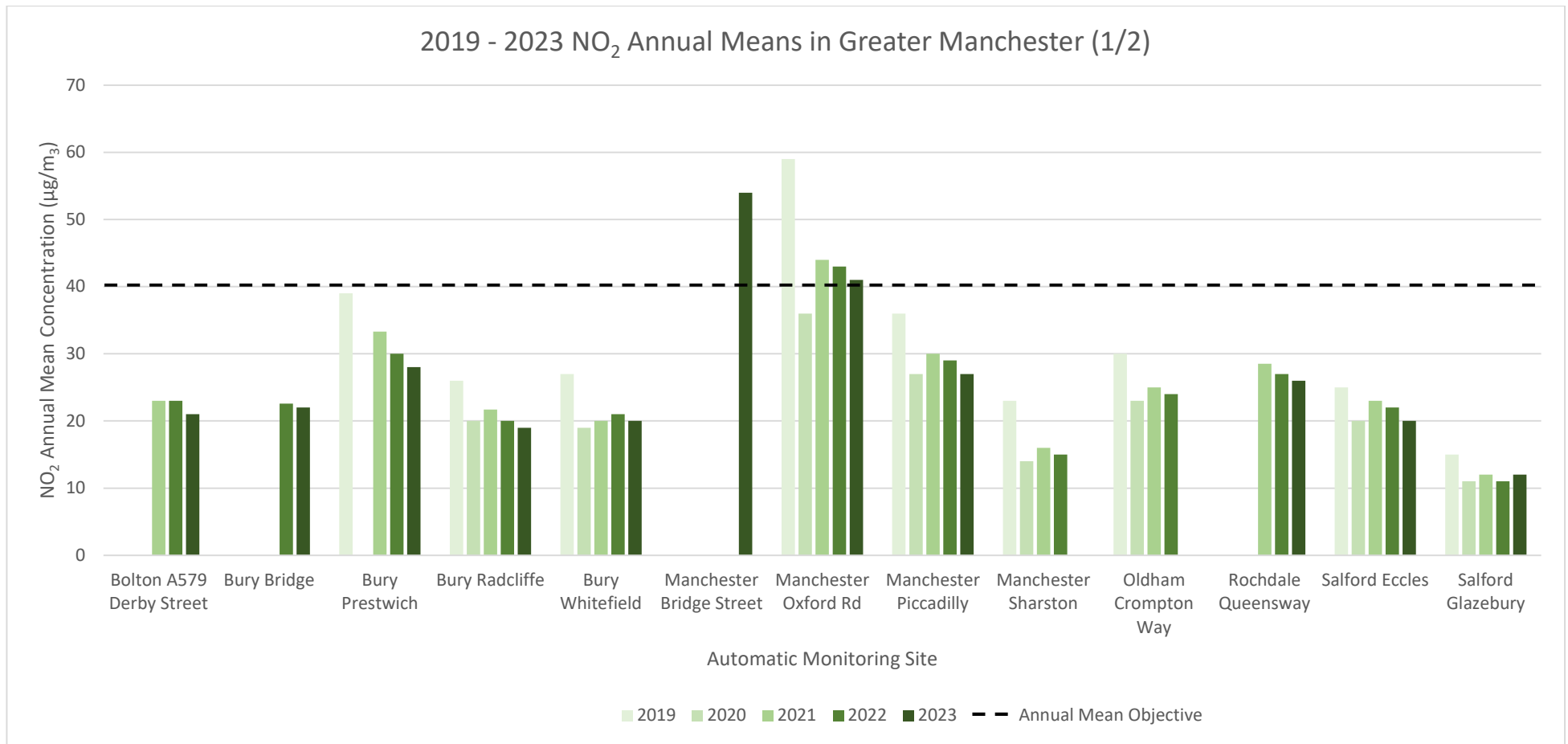
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

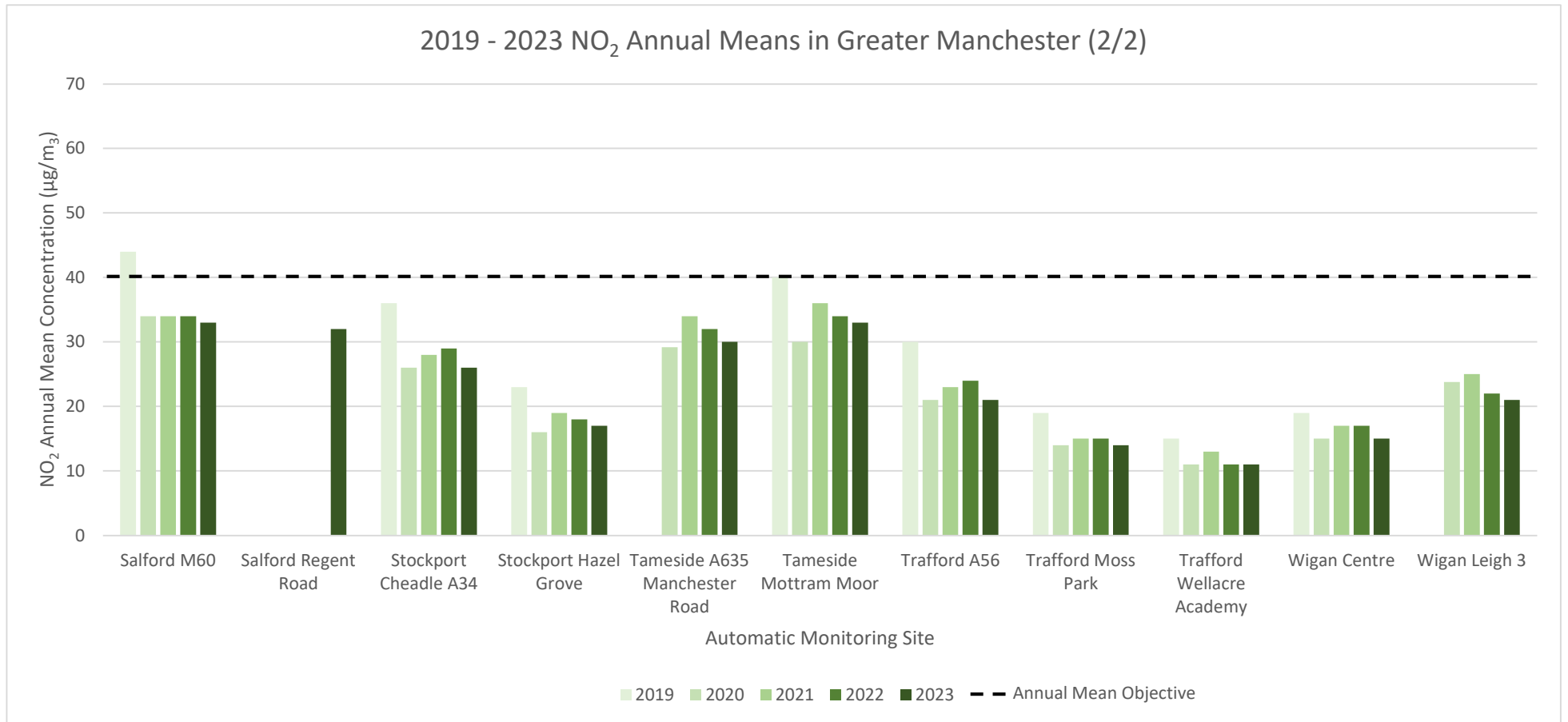
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(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%).

**Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations**



2019 - 2023 NO<sub>2</sub> Annual Means in Greater Manchester (2/2)



**Table A.5 – 1-Hour Mean NO<sub>2</sub> Monitoring Results, Number of 1-Hour Means > 200µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
Bolton A579 Derby Street	371280	408577	Roadside	N/A	98.38	-	<b>0(92)</b>	0	0	0
Bury Bridge (CAP)	379840	410944	Roadside	N/A	97.90	-	-	-	<b>0(82)</b>	0
Bury Prestwich	381650	403222	Roadside	N/A	99.29	0	<b>0(91)</b>	<b>0(96)</b>	0	0
Bury Radcliffe	378190	407480	Roadside	N/A	99.36	0	0	<b>0(79)</b>	0	0
Bury Whitefield	380636	406973	Roadside	N/A	99.61	2	0	0	0	0
Manchester Bridge Street (CAP)	383556	398292	Roadside	N/A	99.13	-	-	-	-	10
Manchester Oxford Rd	384233	397287	Kerbside	N/A	99.71	1	0	0	3	0
Manchester Piccadilly	384310	398337	Urban Centre	N/A	99.09	0	0	0	0	0
Manchester Sharston	384179	386086	Suburban	N/A	-	0	0	0	0	0
Oldham Crompton Way	393887	409191	Roadside	N/A	-	0	0	0	0	0
Rochdale Queensway	389325	411411	Roadside	N/A	99.68	-	-	0	0	0
Salford Eccles	377926	398727	Industrial	N/A	99.68	0	0	0	0	0
Salford Glazebury	368759	396027	Rural	N/A	95.84	0	0	0	0	0
Salford M60	374811	400857	Roadside	N/A	97.04	0	0	0	0	0

Salford Regent Road (CAP)	382580	397717	Roadside	N/A	31.35	-	-	-	-	0
Stockport Cheadle A34	385047	388339	Roadside	N/A	96.19	0	0	0	0	0
Stockport Hazel Grove	391481	387637	Roadside	N/A	99.51	0	0	0	0	0
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	99.75	-	<b>0</b>	0	0	0
Tameside Mottram Moor	399719	395804	Roadside	N/A	99.51	0	0	0	0	0
Trafford A56	379413	394014	Urban Traffic	N/A	91.70	0	0	0	<b>0(98)</b>	0
Trafford Moss Park	378783	394726	Urban Background	N/A	85.68	0	0	0	0	0
Trafford Wellacre Academy	373758	394473	Urban Background	N/A	99.41	0	0	0	0	0
Wigan Centre	357816	406024	Urban Background	N/A	99.69	0	0	0	0	0
Wigan Leigh 3	365686	400243	Roadside	N/A	99.59	-	<b>0(87)</b>	0	0	0

#### Notes:

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

Exceedances of the NO<sub>2</sub> 1-hour mean objective (200µg/m<sup>3</sup> 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.

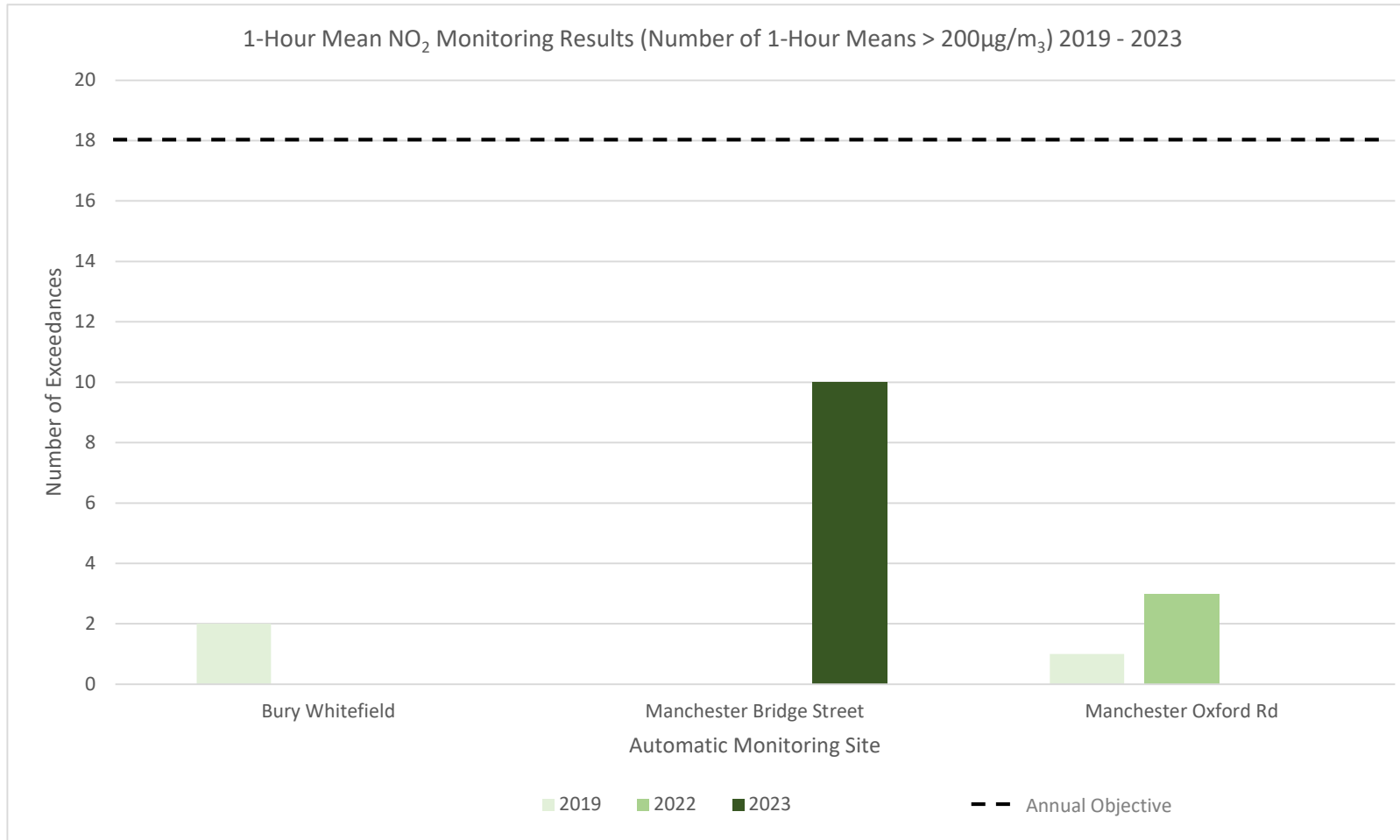
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(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<sub>2</sub> 1-Hour Means > 200µg/m<sup>3</sup>**



*Only sites where an exceedance has been recorded between 2019 and 2023 have been included in this graph. No exceedances were recorded for any site for years 2020 & 2021.*

**Table A.6 – Annual Mean PM<sub>10</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
Bolton A579 Derby Street	371280	408577	Roadside	N/A	92.39	-	-	17	19	16
Bury Prestwich	381650	403222	Roadside	N/A	96.93	19	-	17.5	19	17
Bury Radcliffe	378190	407480	Roadside	N/A	98.86	17	18	17	18	16
Bury Whitefield	380636	406973	Roadside	N/A	95.01	18	16	15	16	14
Manchester Oxford Rd	384233	397287	Kerbside	N/A	96.42	26	18	18	18	18
Manchester Piccadilly	384310	398337	Urban Centre	N/A	82.60	20	15	15	17	15
Manchester Sharston	384179	386086	Suburban	N/A	98.44	14.2	11.9	12	13	11
Oldham Crompton Way	393887	409191	Roadside	N/A	95.58	19	15	17	18	15
Rochdale Queensway	389325	411411	Roadside	N/A	98.42	-	-	15.5	18	16
Salford Eccles	377926	398727	Industrial	N/A	99.86	15	14	15	17	15
Salford Glazebury	368759	396027	Rural	N/A	99.26	-	-	-	12.7*	11
Salford M60	374811	400857	Roadside	N/A	96.97	21	19	20	20	19
Stockport Cheadle A34	385047	388339	Roadside	N/A	97.56	17	15	16	16	13

Stockport Hazel Grove	391481	387637	Roadside	N/A	98.81	15	18	18	20	17
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	91.72	-	15.8	20	20	17
Tameside Mottram Moor	399719	395804	Roadside	N/A	96.64	18	17	15	15	11
Trafford A56	379413	394014	Urban Traffic	N/A	91.84	17	14	14	16	13
Trafford Moss Park	378783	394726	Urban Background	N/A	94.89	15	13	13	17	11
Wigan Centre	357816	406024	Urban Background	N/A	99.86	15.7	13	13	15	12
Wigan Leigh 3	365686	400243	Roadside	N/A	99.54	-	16.3	18	19	16

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

#### Notes:

The annual mean concentrations are presented as  $\mu\text{g}/\text{m}^3$ .

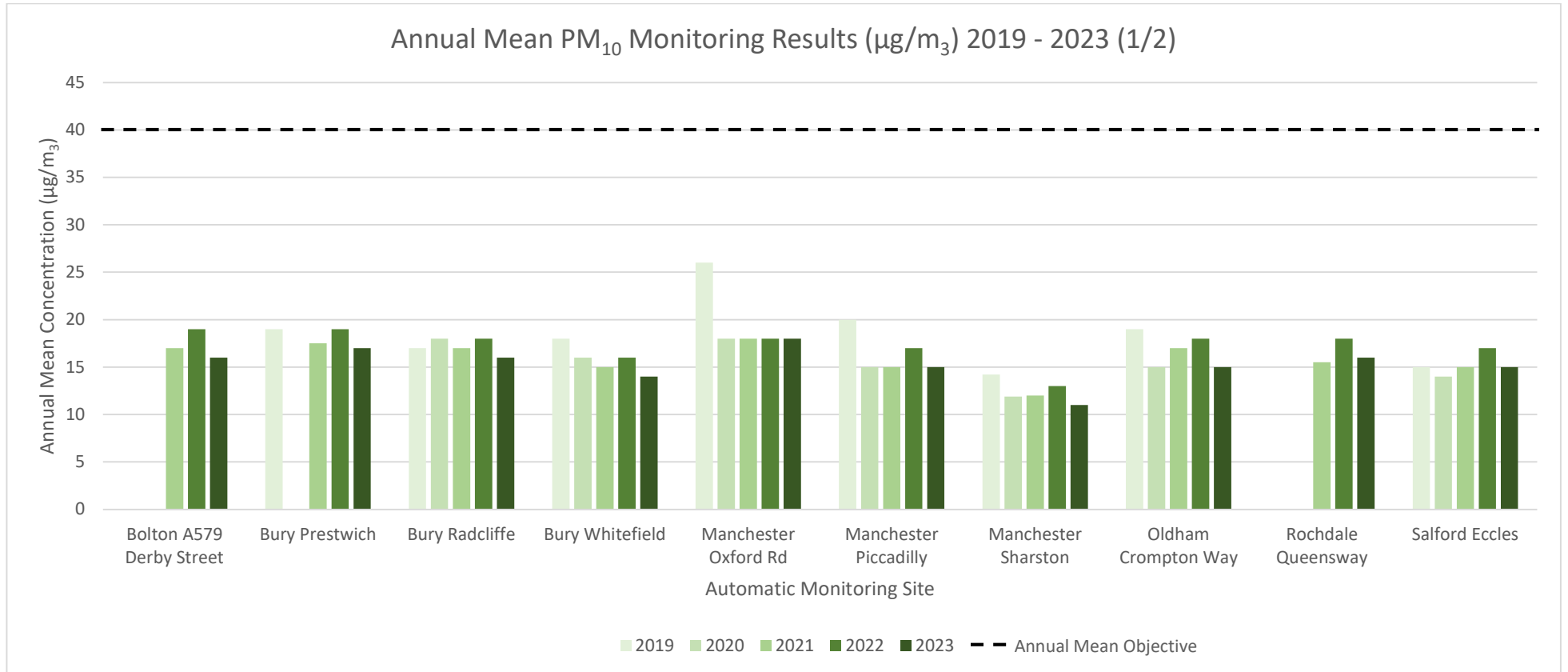
Exceedances of the  $\text{PM}_{10}$  annual mean objective of  $40\mu\text{g}/\text{m}^3$  are shown in **bold**.

All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

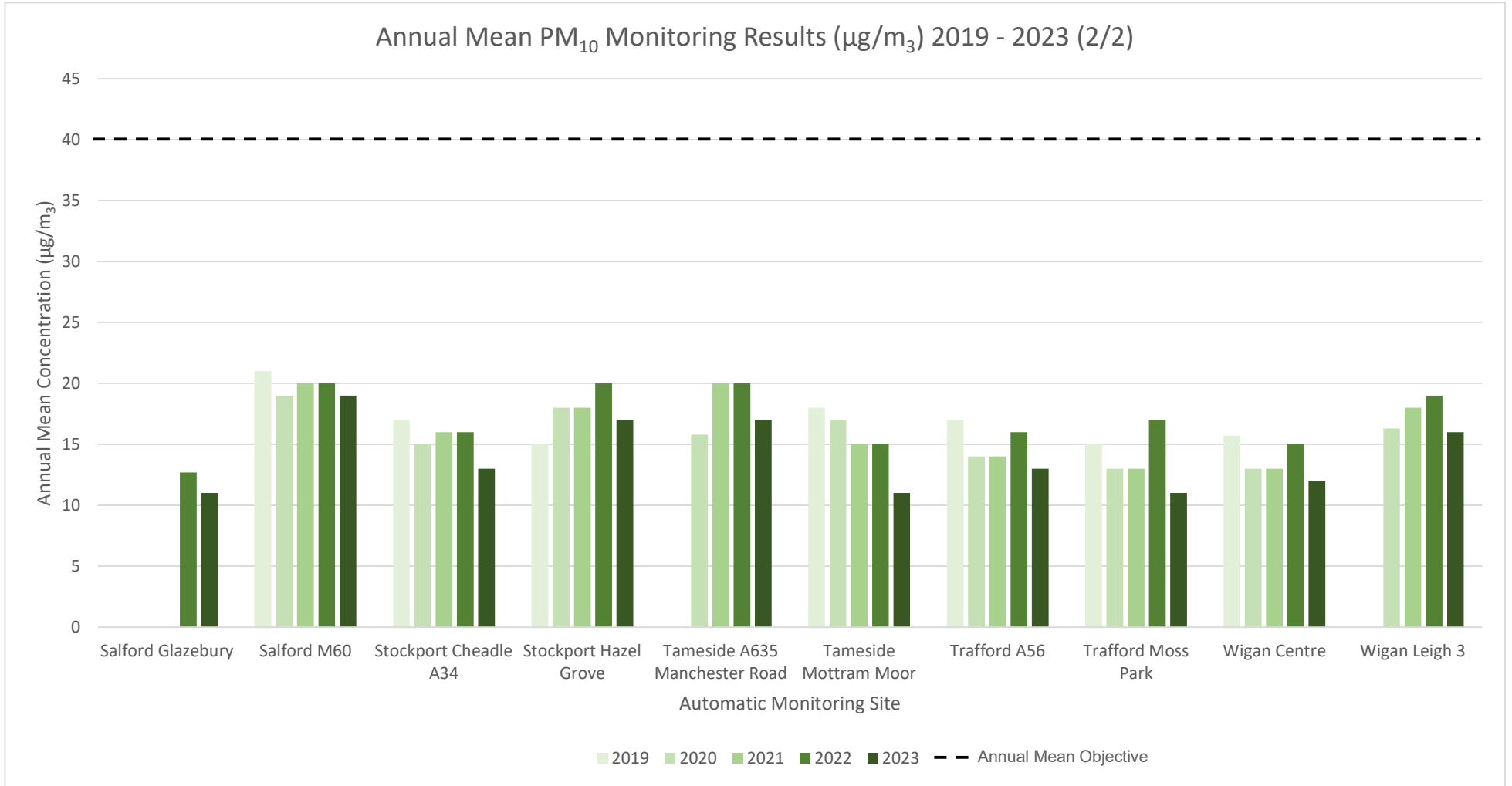
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(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.3 – Trends in Annual Mean PM<sub>10</sub> Concentrations**



Annual Mean PM<sub>10</sub> Monitoring Results (µg/m<sub>3</sub>) 2019 - 2023 (2/2)



**Table A.7 – 24-Hour Mean PM<sub>10</sub> Monitoring Results, Number of PM<sub>10</sub> 24-Hour Means > 50µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
Bolton A579 Derby Street	371280	408577	Roadside	N/A	92.39	-	<b>1(22)</b>	2	7	1
Bury Prestwich	381650	403222	Roadside	N/A	96.93	9	0(25)	1(27)	6	2
Bury Radcliffe	378190	407480	Roadside	N/A	98.86	10	3	1(23)	7	1
Bury Whitefield	380636	406973	Roadside	N/A	95.01	9	0	0	5	1
Manchester Oxford Rd	384233	397287	Kerbside	N/A	96.42	18	5	2	8	4
Manchester Piccadilly	384310	398337	Urban Centre	N/A	82.60	7	1	2	4	1
Manchester Sharston	384179	386086	Suburban	N/A	98.44	-	-	-	1	0
Oldham Crompton Way	393887	409191	Roadside	N/A	95.58	9	0	0	1	1
Rochdale Queensway	389325	411411	Roadside	N/A	98.42	-	-	0	6	1
Salford Eccles	377926	398727	Industrial	N/A	99.86	8	0	1	7	2
Salford Glazebury	368759	396027	Rural	N/A	99.26	-	-	-	0(18)	0
Salford M60	374811	400857	Roadside	N/A	96.97	11	0	2	8	5
Stockport Cheadle A34	385047	388339	Roadside	N/A	97.56	3	0	1	1	0

Stockport Hazel Grove	391481	387637	Roadside	N/A	98.81	3(26)	0	1	7	2
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	91.72	-	1(25)	2	7	2
Tameside Mottram Moor	399719	395804	Roadside	N/A	96.64	7	0	1	1	0
Trafford A56	379413	394014	Urban Traffic	N/A	91.84	5	1	0	4	0
Trafford Moss Park	378783	394726	Urban Background	N/A	94.89	3	0	0	4	0
Wigan Centre	357816	406024	Urban Background	N/A	99.86	3	1	1	6	0
Wigan Leigh 3	365686	400243	Roadside	N/A	99.54	-	2(24)	1	7	0

**Notes:**

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

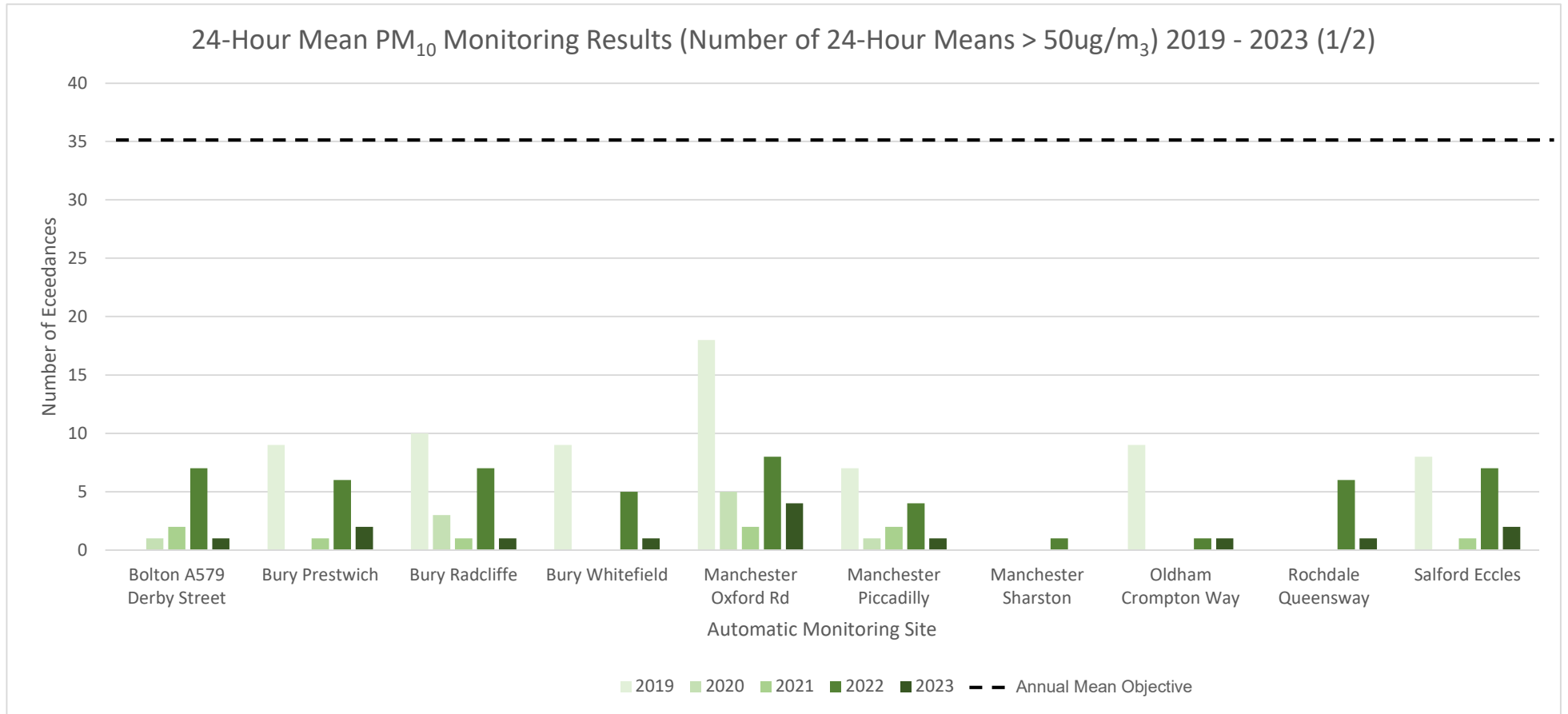
Exceedances of the PM<sub>10</sub> 24-hour mean objective (50µg/m<sup>3</sup> not to be exceeded more than 35 times/year) are shown in **bold**.

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.

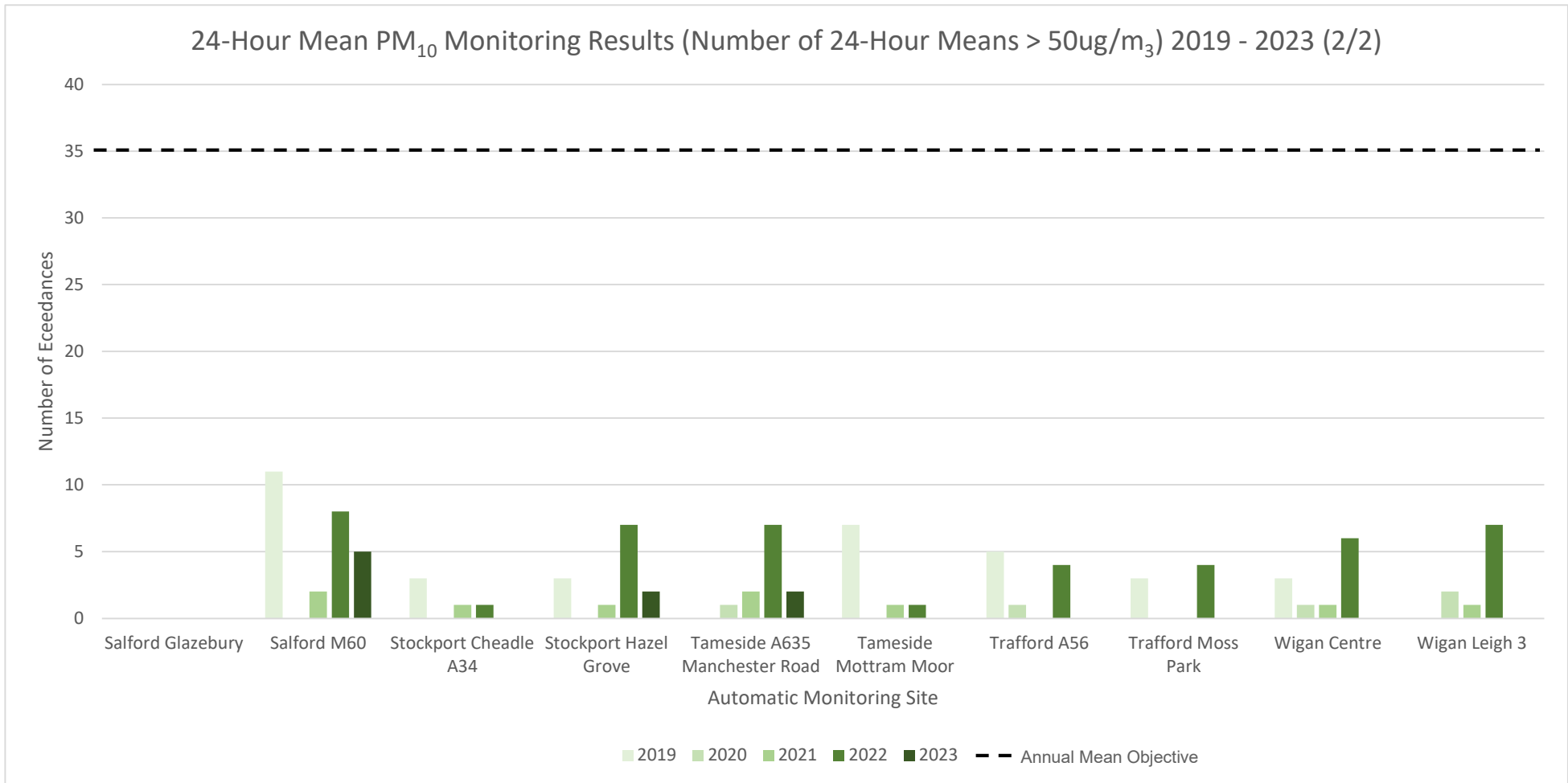
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Figure A.4 – Trends in Number of 24-Hour Mean PM<sub>10</sub> Results > 50µg/m<sup>3</sup>**





24-Hour Mean PM<sub>10</sub> Monitoring Results (Number of 24-Hour Means > 50ug/m<sub>3</sub>) 2019 - 2023 (2/2)



**Table A.8 – Annual Mean PM<sub>2.5</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
Bolton A579 Derby Street	371280	408577	Roadside	N/A	95.91	-	-	10	11	8
Manchester Piccadilly	384310	398337	Urban Centre	N/A	82.60	12	8	9	10	9
Manchester Sharston	384179	386086	Suburban	N/A	98.44	-	-	6.3	7	6
Rochdale Queensway	389325	411411	Roadside	N/A	97.56	-	-	9.2	10	9
Salford Eccles	377926	398727	Industrial	N/A	99.86	9	8	9	10	9
Salford Glazebury	368759	396027	Rural	N/A	99.26	-	-	-	7.6	6
Salford M60	374811	400857	Roadside	N/A	98.82	10	10	10	11	9
Tameside A635 Manchester Road	392538	398419	Roadside	N/A	91.71	-	8.4	11	11	8
Wigan Centre	357816	406024	Urban Background	N/A	99.86	10	8	8	9	8
Wigan Leigh 3	365686	400243	Roadside	N/A	99.18	-	7.8	9	11	8

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

**Notes:**

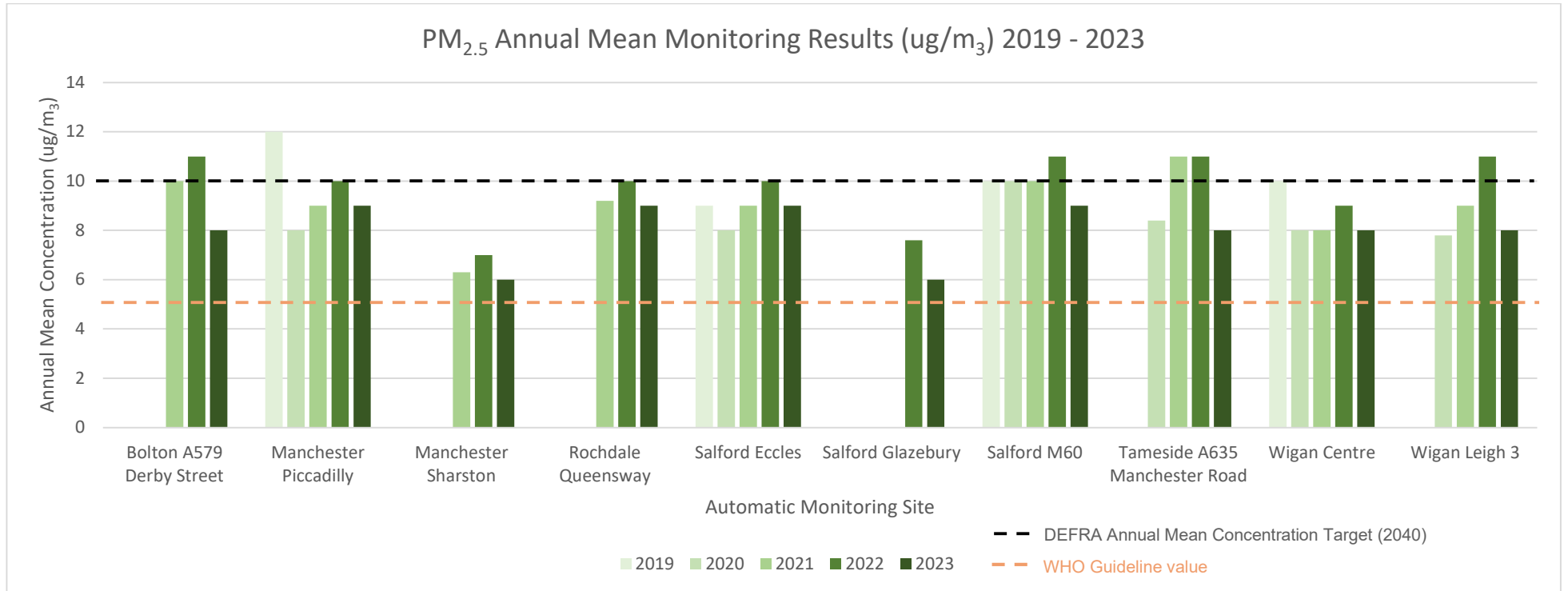
The annual mean concentrations are presented as µg/m<sup>3</sup>.

All means have been “annualised” as per LAQM.TG22 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<sub>2.5</sub> Concentrations**



**Table A.9 – SO<sub>2</sub> 2023 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 (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	Number of 15-minute Means > 266µg/m <sup>3</sup>	Number of 1-hour Means > 350µg/m <sup>3</sup>	Number of 24-hour Means > 125µg/m <sup>3</sup>
Manchester Piccadilly	384310	398337	Urban Centre	N/A	98.25	0	0	0
Manchester Sharston	384179	386086	Suburban	N/A	97.92	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<sub>2</sub> 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 2023

**Table B.1 – NO<sub>2</sub> 2023 Diffusion Tube Results (µg/m<sup>3</sup>)**

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	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
<i>Bolton Metropolitan Borough Council</i>																		
BO03 NO	370763	407929	43.0	46.8	44.0	42.0	34.1	38.1	I/S	I/S	46.9	44.5	49.8	45.8	43.5	37.4	31.1	
BO04 NO	371394	411718	29.6	29.8	21.9	I/S	13.6	16.2	14.8	16.2	22.4	25.4	26.2	22.6	21.7	18.7	-	
BO08 NO	371352	409094	30.0	29.0	20.1	19.3	14.4	20.7	8.5	17.4	27.2	22.8	I/S	26.3	21.4	18.4	-	
BO11 NO	363712	412396	19.1	I/S	12.4	8.7	7.2	9.0	6.1	6.4	10.0	11.5	13.0	I/S	10.3	8.9	-	
BO14 NO	373839	406130	27.1	29.0	21.4	19.5	14.6	13.3	14.6	17.0	21.8	25.3	30.3	22.5	21.4	18.4	-	
BO15 NO	371435	411690	I/S	67.9	28.9	31.0	17.7	25.4	23.0	24.1	33.6	35.7	33.6	29.5	31.9	27.4	-	
BO16 NO	371304	411748	21.2	26.0	18.6	17.1	11.4	14.8	11.2	12.6	18.5	20.6	23.2	20.1	17.9	15.4	-	
BO41 NO	366286	406561	32.5	39.1	37.0	29.1	29.7	28.3	25.6	25.7	32.3	29.1	38.9	26.9	31.2	26.8	-	
BO43 NO	365501	409887	38.1	36.2	31.4	28.5	25.1	29.8	22.4	26.2	34.3	36.1	36.7	31.5	31.4	27.0	-	
BO44 NO	365599	409845	23.6	26.2	17.1	16.7	14.5	15.1	14.0	14.9	19.8	19.9	24.3	25.1	-	-	-	Duplicate Site with BO44NO and BO45NO - Annual data provided for BO45NO only
BO45 NO	365599	409845	27.4	26.6	19.0	15.5	12.9	13.6	14.6	15.8	19.5	19.3	26.5	22.5	19.4	16.6	-	Duplicate Site with BO44NO and BO45NO - Annual data provided for BO45NO only
BO48 NO	375397	407457	29.4	29.8	21.3	20.1	I/S	21.8	18.2	18.4	21.9	28.0	31.8	26.1	24.3	20.9	-	
BO53 NO	373236	411968	36.1	39.8	36.4	32.3	I/S	31.8	32.0	33.2	40.0	36.5	40.9	33.6	35.7	30.7	-	
BO54 NO	372908	412120	17.5	19.3	13.1	10.0	I/S	9.5	8.9	9.7	14.3	14.6	17.6	15.0	13.6	11.7	-	
BO60 NO	373287	405061	31.7	32.1	25.2	22.0	20.6	21.8	20.9	23.4	27.7	33.9	35.8	27.4	26.9	23.1	-	

BO61 NO	374450	405207	32.0	38.3	38.3	32.5	32.0	33.6	26.6	30.0	34.0	43.6	36.3	29.7	33.9	29.2	-	
BO62 NO	374194	405460	37.9	38.6	35.4	30.6	26.3	27.0	28.5	30.2	36.1	38.5	40.5	35.9	33.8	29.1	-	
BO63 NO	374282	406257	26.5	25.1	20.0	18.1	14.7	14.8	14.2	17.2	21.1	23.5	30.0	21.6	20.6	17.7	-	
BO64 NO	371965	409907	30.2	32.6	24.7	20.4	16.1	18.5	19.4	30.4	27.5	28.4	34.1	28.9	25.9	22.3	-	
BO65 NO	372059	409877	30.9	30.6	23.4	21.0	17.2	18.9	18.7	19.1	22.0	12.3	31.7	24.4	22.5	19.4	-	
BO66 NO	371442	411599	34.0	37.5	34.7	31.2	27.6	I/S	26.0	27.1	32.4	35.9	38.3	35.8	32.8	28.2	-	
BO67 NO	365163	405640	23.9	26.0	16.5	14.6	12.5	12.7	11.4	13.2	16.7	21.3	21.9	20.2	17.6	15.1	-	
BO68 NO	367672	406910	30.1	32.8	23.9	22.1	15.9	19.1	27.0	23.7	26.1	29.4	29.2	31.4	25.9	22.3	-	
BO69 NO	369030	405809	40.9	49.6	35.5	38.4	39.0	41.2	37.0	39.6	38.5	50.8	48.7	I/S	41.7	35.9	-	
BO70 NO	368757	405701	21.5	27.0	16.4	18.9	13.7	16.9	12.5	15.7	18.6	28.7	28.6	18.7	19.8	17.0	-	
BO71 NO	370362	405400	I/S	54.1	45.7	44.9	42.6	45.6	38.4	43.7	50.1	56.2	55.5	40.1	47.0	<b>40.4</b>	-	
BO72 NO	370115	405372	29.5	35.6	24.3	24.8	19.6	21.3	15.9	21.0	27.5	30.8	33.0	23.9	25.6	22.0	-	
BO73 NO	371805	409820	47.5	50.4	42.4	42.0	33.9	34.0	40.1	37.4	45.8	44.1	45.0	35.8	41.5	35.7	-	
BO74 NO	371805	409832	39.5	43.4	35.8	38.5	33.7	37.1	27.1	20.2	40.6	43.2	46.6	56.9	38.6	33.2	-	
BO75 NO	371623	409235	29.1	I/S	16.9	16.7	I/S	17.3	8.9	I/S	I/S	21.5	30.4	24.4	20.7	16.8	-	
BO76 NO	373491	404836	34.7	34.9	27.7	27.9	22.8	20.4	22.2	24.5	27.5	28.7	35.0	31.2	-	-	-	Triplicate Site with B076NO, B077NO and B078NO - Annual data provided for B078NO only
BO77 NO	373491	404836	35.3	34.8	31.1	28.6	I/S	I/S	22.6	21.9	31.5	33.6	35.6	I/S	-	-	-	Triplicate Site with B076NO, B077NO and B078NO - Annual data provided for B078NO only
BO78 NO	373491	404836	33.0	36.6	28.9	26.8	21.9	21.0	23.5	23.8	30.1	32.3	18.6	36.3	28.4	24.4	-	Triplicate Site with B076NO, B077NO and B078NO - Annual data provided for B078NO only
BO79 NO	371296	408600	27.8	31.5	29.0	23.4	15.7	I/S	< 1.2	2.3	28.4	32.5	36.2	50.6	-	-	-	Triplicate Site with B079NO, B080NO and B081NO - Annual data provided for B081NO only
BO80 NO	371296	408600	30.9	31.2	25.4	23.7	17.9	21.0	18.8	18.6	27.8	31.0	42.8	24.0	-	-	-	Triplicate Site with B079NO, B080NO and B081NO - Annual data provided for B081NO only

BO81 NO	371296	408600	29.1	30.9	26.4	20.2	36.0	I/S	25.0	20.9	27.4	34.0	35.1	25.2	26.8	23.0	-	Triplicate Site with BO79NO, BO80NO and BO81NO - Annual data provided for BO81NO only
BOA1 01	374561	405364	32.2	34.8	24.0	23.9	20.8	21.9	22.4	21.8	28.7	29.1	I/S	28.1	26.2	22.5	-	
BOA1 02	374584	405525	36.0	33.1	33.6	26.3	20.2	21.0	19.9	22.1	32.0	32.0	37.9	30.6	28.7	24.7	-	
BOA1 03	374526	405906	30.7	28.6	23.0	23.1	17.2	18.4	19.9	20.3	27.5	28.9	31.0	27.6	24.7	21.2	-	
BOA1 04	373795	406600	63.3	I/S	43.1	21.6	57.9	19.9	46.8	18.2	58.4	48.2	20.5	24.0	38.4	33.0	-	
BOA1 05	373604	406882	33.8	35.2	28.1	23.8	19.7	22.9	30.8	25.7	33.5	29.4	33.8	34.1	29.2	25.1	-	
BOA1 07	372643	408070	31.2	I/S	21.7	20.6	14.7	18.6	20.3	19.3	21.6	24.9	29.3	25.4	-	-	-	Duplicate Site with BOA107 and BOA106 - Annual data provided for BOA106 only
BOA1 06	372643	408070	35.2	38.7	28.8	27.8	22.8	21.2	27.8	28.0	32.9	32.7	41.8	38.7	27.6	23.7	-	Duplicate Site with BOA107 and BOA106 - Annual data provided for BOA106 only
BOA1 09	373818	409401	28.7	30.8	21.5	20.0	16.4	18.2	12.8	16.7	19.0	20.8	27.6	22.9	21.3	18.3	-	
BOA1 10	371501	409694	42.2	37.5	33.8	33.7	25.3	36.5	27.7	28.9	37.0	39.4	41.1	33.6	34.7	29.9	-	
BOA1 11	371102	409575	37.5	34.9	28.3	28.0	27.9	25.4	1.9	26.2	32.6	36.1	38.9	34.3	29.3	25.2	-	
BOA1 12	371715	408681	41.4	42.6	32.7	33.1	25.3	40.8	15.8	27.4	27.7	24.4	2.8	39.4	29.5	25.3	-	
BOA1 13	374510	405522	33.9	37.6	28.6	24.4	24.1	20.7	26.4	26.4	28.8	34.0	33.4	33.1	29.3	25.2	-	
BOA1 14	372122	409347	35.0	34.4	30.5	29.2	20.6	24.2	25.6	20.3	33.6	26.2	32.4	33.3	28.8	24.7	-	
BOA1 15	371903	409026	28.5	56.5	31.9	38.8	36.3	53.6	I/S	32.0	44.7	45.5	43.7	37.3	40.8	35.1	-	
BOA1 16	371803	408976	37.0	38.3	I/S	30.2	27.9	33.8	37.7	37.5	40.8	I/S	40.4	I/S	36.0	30.9	-	
BOA1 18	371832	409625	33.0	36.5	26.7	24.8	18.0	21.2	23.0	23.1	27.5	30.8	35.7	29.9	27.5	23.7	-	
BOA1 19	371328	409251	34.8	36.5	34.2	33.7	I/S	32.3	22.6	25.6	52.3	I/S	I/S	I/S	34.0	31.7	-	
<i>Bury Metropolitan Borough Council</i>																		
BU1N O	384372	404917	36.2	36.2	23.9	26.0	22.4	23.4	25.6	24.9	32.1	31.9	32.8	27.5	28.6	24.6	-	
BU2N O	379101	417145	36.8	37.3	31.3	27.5	25.7	27.7	28.7	26.2	34.2	31.5	35.4	31.6	31.2	26.8	-	
BU3A NO	380636	406973	26.5	32.1	21.1	17.4	15.2	15.4	17.6	18.7	24.3	23.9	28.3	22.2	21.9	18.8	-	



BU3B NO	380636	406973	28.6	32.1	21.9	18.3	15.7	14.9	17.6	16.9	24.2	23.6	30.6	30.4	22.9	19.7	-	
BU3C NO	380636	406973	30.4	30.5	20.6	18.1	15.5	14.3	17.7	18.0	24.1	24.0	29.2	22.3	22.1	19.0	-	
BU4N O	380964	404831	42.9	43.4	31.4	28.8	26.7	27.8	30.0	28.6	39.5	36.1	39.7	31.4	33.9	29.1	-	
BU5N O	380497	405420	32.0	28.1	21.3	19.8	17.4	16.0	17.4	18.5	24.1	24.0	29.4	24.8	22.7	19.6	-	
BU6N O	379638	410880	38.7	39.9	28.9	28.8	30.2	31.4	25.9	28.7	34.6	33.2	30.2	30.2	31.7	27.3	-	
BU7N O	381984	411866	38.4	35.9	25.6	22.3	21.4	21.6	25.4	25.3	33.9	27.2	32.7	25.9	28.0	24.1	-	
BU8N O	380754	412619	34.3	38.7	I/S	I/S	I/S	I/S	I/S	22.5	30.3	31.0	36.0	26.9	31.4	23.2	-	
BU9N O	379630	411031	35.0	36.9	29.8	25.1	20.7	21.2	26.0	24.7	32.1	30.3	39.7	27.8	29.1	25.0	-	
BU10 NO	379854	410978	39.1	38.9	30.7	27.6	21.5	I/S	28.9	27.0	34.3	30.3	37.2	28.3	31.3	26.9	-	
BU11 NO	380980	411193	39.2	42.2	I/S	34.6	27.7	37.6	32.2	31.5	42.1	42.1	I/S	35.7	36.5	31.4	-	
BU12 NO	381344	410744	54.0	54.6	39.1	41.3	41.2	40.7	40.6	42.5	47.0	44.4	53.0	42.0	45.0	38.7	32.0	
BU13 NO	381728	410677	46.1	46.1	32.7	40.3	37.0	39.9	34.0	34.5	45.8	44.4	47.5	40.5	40.7	35.0	-	
BU14 NO	380398	410455	41.7	44.8	30.8	29.8	30.2	29.1	24.0	26.7	33.7	41.5	46.9	34.1	34.4	29.6	-	
BU15 NO	380852	405209	56.2	53.1	38.4	38.3	37.1	33.2	38.1	39.2	46.6	43.3	49.7	40.6	42.8	36.8	21.3	
BU16 NO	380914	404898	48.9	48.6	39.4	40.2	33.9	32.8	34.6	36.9	46.3	41.2	43.8	38.9	40.5	34.8	-	
BU17 NO	381105	404279	42.5	41.1	29.7	26.9	I/S	21.5	22.7	26.1	32.1	32.7	37.7	30.1	31.2	26.8	-	
BU18 NO	382071	411362	38.9	43.5	34.9	34.5	31.2	32.5	27.0	29.5	37.9	38.1	39.6	33.8	35.1	30.2	-	
BU19 NO	381321	405115	42.9	44.4	38.8	41.2	30.0	38.4	37.3	34.7	45.5	42.0	40.4	32.0	39.0	33.5	-	
BU20 NO	382974	405930	44.7	43.7	31.0	27.6	27.1	23.3	28.5	29.6	31.7	30.0	37.4	30.0	32.1	27.6	-	
<i>Manchester City Council</i>																		
MA8A NO	381398	387501	33.0	32.1	22.2	21.7	19.1	18.5	20.0	22.0	30.2	29.0	31.8	24.7	25.4	21.8	-	
MA9A NO	384601	398303	48.0	50.5	40.1	34.4	34.8	38.1	39.4	36.3	52.4	42.4	43.8	45.4	42.1	36.2	-	
MA24 NO	383968	398070	39.0	38.8	28.8	30.5	31.6	29.7	29.0	32.2	37.8	40.2	41.4	37.4	34.7	29.8	-	

MA26 ANO	383973	398874	33.2	37.2	28.8	28.1	23.7	21.1	19.8	21.4	27.8	32.9	33.4	34.7	28.5	24.5	-	
MA28 NO	387951	397430	35.5	43.4	26.3	31.6	30.3	29.5	23.0	29.7	35.8	36.5	42.1	11.7	31.3	26.9	-	
MA29 ANO	384119	397503	56.7	62.9	51.4	57.4	51.7	58.7	49.0	49.8	70.0	66.8	55.9	62.4	57.7	49.6	43.1	
MA36 NO	385203	399750	37.9	36.1	27.9	27.5	27.3	25.0	I/S	29.0	35.1	37.9	41.0	33.0	32.5	28.0	-	
MA37 NO	382829	391493	41.2	40.7	30.1	30.3	29.7	24.1	28.4	31.3	36.0	32.0	37.5	36.3	33.1	28.5	-	
MA59 NO	384310	398337	32.8	34.2	26.5	24.9	21.7	22.7	20.1	22.3	30.2	34.2	40.9	30.0	-	-	-	Triplicate Site with MA59NO, MA60NO and MA61NO - Annual data provided for MA61NO only
MA60 NO	384310	398337	32.9	34.4	26.1	27.2	22.2	21.8	20.8	22.3	30.3	35.7	34.6	30.8	-	-	-	Triplicate Site with MA59NO, MA60NO and MA61NO - Annual data provided for MA61NO only
MA61 NO	384310	398337	32.9	32.7	26.4	27.0	22.5	22.3	22.4	22.6	29.6	35.3	39.7	29.0	28.4	24.4	-	Triplicate Site with MA59NO, MA60NO and MA61NO - Annual data provided for MA61NO only
MA71 NO	385161	398290	39.4	39.8	29.3	29.2	31.0	26.9	34.7	33.8	44.1	39.6	40.6	39.9	35.7	30.7	-	
MA72 NO	384761	397384	33.1	38.2	25.5	26.1	23.2	22.0	21.3	24.6	29.9	35.2	28.0	31.5	28.2	24.3	-	
MA73 NO	388604	396042	37.7	43.2	28.6	37.5	35.2	35.3	20.8	29.7	36.0	40.3	37.3	30.7	34.4	29.5	-	
MA74 NO	385400	390095	35.7	38.0	24.7	23.6	25.1	22.7	25.5	25.8	31.7	30.5	36.0	30.2	29.1	25.0	-	
MA75 NO	387363	394617	45.4	44.8	43.6	45.6	43.1	48.6	36.6	41.2	55.4	50.1	53.9	44.0	46.0	39.6	30.9	
MA77 NO	383576	397489	38.1	41.2	35.9	36.2	30.4	33.1	31.2	33.3	40.5	41.6	42.3	37.7	36.8	31.6	-	
MA78 NO	386289	396828	37.6	38.9	25.8	30.4	25.2	20.6	25.7	28.2	31.5	30.4	38.6	33.8	30.6	26.3	-	
MA79 NO	386875	395861	33.4	35.7	26.9	24.1	25.5	19.6	22.5	25.0	29.6	29.6	33.0	28.6	27.8	23.9	-	
MA80 NO	387358	393990	34.0	36.2	26.2	27.5	27.6	24.6	24.2	27.6	32.4	29.5	35.0	28.3	29.4	25.3	-	
MA81 NO	386589	394083	26.1	25.1	17.7	17.0	16.2	13.2	15.1	17.1	21.5	22.8	25.3	20.3	19.8	17.0	-	
MA82 NO	384239	397276	48.3	56.2	45.6	42.8	45.9	39.7	40.3	43.7	57.6	54.6	59.7	50.5	-	-	-	Triplicate Site with MA82NO, MA83NO and MA84NO - Annual data provided for MA84NO only
MA83 NO	384239	397276	47.9	56.5	44.3	44.1	42.9	38.0	40.9	42.6	58.9	54.2	48.1	47.9	-	-	-	Triplicate Site with MA82NO, MA83NO and MA84NO - Annual data provided for MA84NO only

MA84 NO	384239	397276	51.7	58.5	44.0	40.9	42.7	38.7	41.2	43.4	57.8	57.7	56.5	49.3	48.2	<b>41.4</b>	-	Triplicate Site with MA82NO, MA83NO and MA84NO - Annual data provided for MA84NO only
MA88 NO	384469	398981	38.8	35.2	30.7	40.4	39.0	38.3	29.3	35.3	43.8	45.2	46.1	33.7	38.0	32.7	-	
MA86 ANO	387150	396808	37.7	38.7	28.1	29.0	25.7	I/S	I/S	26.8	35.8	35.6	37.6	33.5	32.9	28.3	-	
MA87 ANO	386992	396569	39.6	35.4	26.8	24.6	25.7	24.6	24.1	26.4	32.4	31.9	31.1	30.9	29.5	25.3	-	
MA88 ANO	386536	396699	50.1	50.6	36.6	39.6	36.9	34.3	38.4	38.7	43.1	44.2	47.4	43.5	42.0	36.1	29.7	
MA89 ANO	386710	396824	38.4	40.3	26.9	24.5	20.1	19.8	23.5	25.6	28.7	30.2	33.9	30.7	28.6	24.6	-	
MA90 BNO	384202	386121	24.7	22.0	14.3	13.4	13.7	10.6	12.2	13.8	17.4	16.7	18.6	18.6	-	-	-	Triplicate Site with MA90BNO, MA91BNO and MA92BNO - Annual data provided for MA92BNO only
MA91 BNO	384202	386121	22.5	22.8	13.2	13.5	13.7	10.7	12.0	13.9	17.5	16.2	20.5	18.9	-	-	-	Triplicate Site with MA90BNO, MA91BNO and MA92BNO - Annual data provided for MA92BNO only
MA92 BNO	384202	386121	23.2	22.5	14.5	13.2	13.9	10.8	12.5	14.6	17.4	19.0	23.4	18.4	16.5	14.2	-	Triplicate Site with MA90BNO, MA91BNO and MA92BNO - Annual data provided for MA92BNO only
MA93 BNO	382419	390010	34.9	45.5	33.9	32.4	23.7	31.1	33.6	33.8	42.5	39.7	43.7	37.5	36.0	31.0	-	
MA94 BNO	382072	388388	36.7	39.3	28.8	28.2	29.7	24.2	28.8	32.2	35.2	33.0	35.1	32.7	32.0	27.5	-	
MA95 BNO	386668	397566	45.8	43.1	33.3	32.4	30.7	30.9	30.0	32.2	41.5	38.6	42.4	39.2	36.7	31.5	-	
MA96 BNO	385189	397167	46.3	45.4	40.6	48.1	48.4	49.4	40.6	50.6	53.7	135.4	46.8	37.5	53.6	39.7	35.6	
MA97 BNO	382886	397215	33.5	37.6	30.9	41.4	29.5	25.9	21.9	28.0	31.2	37.1	37.1	28.3	31.9	27.4	-	
MA98 BNO	388460	403313	39.8	37.6	32.3	28.6	26.3	I/S	25.0	23.1	34.4	35.6	40.3	30.5	32.1	27.6	-	
MA99 BNO	385400	399245	34.1	41.4	32.9	34.0	32.7	31.6	29.1	29.9	43.2	40.8	46.7	40.1	36.4	31.3	-	
MA10 0BNO	383605	402293	31.5	44.9	33.9	38.3	33.2	30.5	28.9	31.7	41.1	35.8	39.7	37.0	35.5	30.6	-	
MA10 1BNO	385999	402026	37.1	41.1	38.0	40.6	36.4	37.7	32.5	37.4	47.4	48.1	50.3	40.3	40.6	34.9	-	
MA10 2BNO	385792	402952	40.7	I/S	36.6	31.3	34.0	33.8	36.7	34.1	47.3	38.9	39.9	38.0	37.4	32.2	-	
MA10 3BNO	385431	400653	44.5	50.1	43.5	43.9	45.7	43.6	40.2	42.1	52.0	46.7	34.9	41.5	44.1	37.9	32.4	

MA10 4BNO	383511	399906	46.2	43.0	39.4	I/S	32.8	33.9	33.9	36.5	47.2	44.0	45.8	38.4	40.1	34.5	-	
MA11 2BNO	383987	396734	33.1	I/S	21.2	19.8	18.0	16.8	15.7	20.0	24.3	30.0	31.1	23.2	23.0	19.8	-	
MA11 3BNO	385087	396891	39.9	39.9	26.0	32.8	27.0	26.1	22.4	27.4	35.1	40.3	43.0	34.0	32.8	28.2	-	
<i>Oldham Metropolitan Borough Council</i>																		
OLMR NO	390746	405397	42.4	39.7	26.2	27.1	27.7	27.6	27.5	28.7	34.6	35.3	43.9	35.9	33.1	28.4	-	
OLSH SNO	390394	405454	38.1	37.8	32.7	33.4	29.7	32.8	25.1	28.8	37.6	37.8	44.0	28.8	33.9	29.1	-	
OL25 9BNO	390089	404456	46.2	45.0	33.8	I/S	35.1	36.5	31.8	30.4	38.5	37.9	40.7	37.2	37.6	32.3	-	
OL1R ANO	388698	404903	34.4	34.0	25.6	26.3	22.3	22.5	21.0	23.4	28.5	32.2	36.2	28.4	27.9	24.0	-	
OL48 4BNO	389367	403280	35.8	37.5	29.2	28.8	27.1	27.5	24.8	23.9	34.2	37.6	41.9	30.3	31.6	27.1	-	
OLOB NO	389715	403625	44.4	39.1	28.4	23.2	26.7	24.3	58.8	26.2	I/S	I/S	I/S	I/S	33.9	32.5	-	
OLPS NO	388747	400973	48.2	44.1	30.2	28.6	31.7	26.2	30.8	I/S	I/S	I/S	45.7	32.7	35.4	30.4	-	
OLW ARNO	389237	401310	46.3	42.4	30.3	36.1	31.6	34.9	29.4	32.5	40.3	48.8	60.0	38.0	39.2	33.7	-	
OLHR NO	390756	402571	50.5	43.9	31.2	30.6	28.8	28.6	32.4	34.9	44.6	I/S	46.4	41.1	37.5	32.3	-	
OLIR SNO	390675	402736	43.2	38.2	27.5	< 1.2	44.1	20.5	28.3	28.2	33.7	31.2	40.2	35.2	33.7	29.0	35.5	
OL36 8MRN O	390976	403252	49.8	51.6	38.6	41.7	40.0	37.7	32.7	39.8	44.7	50.0	52.2	39.2	43.2	37.1	34.9	
OLES NO	391367	404318	38.8	36.9	28.6	30.4	25.2	26.9	24.8	29.6	35.6	I/S	40.6	28.2	31.4	27.0	-	
OLAR NO	392771	402951	37.1	34.9	27.8	28.4	26.6	22.7	25.1	26.7	29.7	33.2	39.5	26.1	29.8	25.6	-	
OLW OOD NO	393056	404638	47.6	47.5	30.0	25.6	27.9	23.1	25.3	25.8	38.1	28.2	49.5	26.0	32.9	28.3	-	
OLW SMSN O	392947	404854	46.6	41.9	26.3	28.6	24.6	27.4	26.1	27.0	35.5	18.9	39.9	30.1	31.1	26.7	-	
OL17 SRNO	393643	405343	49.2	48.2	42.1	46.5	41.4	40.6	36.2	40.8	46.1	50.6	54.2	39.0	44.6	38.3	30.5	
OLHS 2NO	393501	405186	36.2	38.7	28.3	25.4	23.5	23.5	22.8	25.8	31.0	33.4	42.5	32.7	30.3	26.1	33.9	
OLRR NO	394210	405752	41.6	37.9	29.0	< 1.2	31.4	27.2	27.9	29.2	35.2	34.3	39.7	29.4	33.0	28.4	-	

OLHU RNO	395561	405751	40.9	38.8	30.6	33.6	34.3	30.7	23.8	28.6	36.9	37.2	38.7	26.6	33.4	28.7	-	
OLCV NO	399533	404454	24.7	22.3	14.6	15.0	16.4	14.0	13.5	15.8	16.8	I/S	23.2	26.0	18.4	15.8	-	
OLHS NO	399589	405511	37.1	34.0	27.4	27.5	26.3	25.1	22.9	24.6	31.0	I/S	33.1	36.3	29.6	25.4	-	
OLC W1N O	393884	409183	34.9	35.8	26.7	24.1	26.1	24.7	I/S	25.2	29.9	I/S	33.4	27.0	-	-	-	Triplicate Site with OLCW1NO, OLCW2NO and OLCW3NO - Annual data provided for OLCW3NO only
OLC W2N O	393884	409183	35.6	35.3	25.6	23.8	27.1	24.5	25.0	26.7	31.1	31.1	34.3	27.3	-	-	-	Triplicate Site with OLCW1NO, OLCW2NO and OLCW3NO - Annual data provided for OLCW3NO only
OLC W3N O	393884	409183	39.0	37.6	25.0	22.5	52.7	25.0	25.3	25.4	29.4	I/S	36.3	26.4	29.6	25.5	-	Triplicate Site with OLCW1NO, OLCW2NO and OLCW3NO - Annual data provided for OLCW3NO only
OL21 SRNO	392217	407255	57.6	55.1	46.2	46.6	53.5	47.1	47.3	48.1	55.7	I/S	71.1	46.9	52.3	<b>45.0</b>	<b>43.4</b>	
OLJS NO	393097	406897	33.5	33.6	27.7	24.0	19.4	19.3	18.7	21.7	27.8	I/S	39.7	28.4	26.7	23.0	-	
OLRD NO	392111	406432	42.7	40.0	33.7	30.6	27.8	27.5	27.8	I/S	42.2	37.3	41.5	34.2	35.0	30.1	-	
OL12 ORN O	392045	407608	62.8	59.0	45.0	43.9	49.9	41.1	49.5	50.7	57.4	50.8	47.9	50.9	50.7	<b>43.6</b>	<b>41.8</b>	
OLFA NO	391100	406218	31.2	27.9	18.0	15.8	14.0	14.2	15.5	16.8	20.9	26.2	26.1	22.0	20.7	17.8	-	
<i>Rochdale Metropolitan Borough Council</i>																		
RO2A NO	388537	409942	26.1	I/S	I/S	I/S	I/S	I/S	28.7	I/S	36.0	30.8	I/S	63.2	37.0	31.0	-	
RO3A NO	388581	409797	22.7	27.5	19.0	17.0	17.5	14.6	13.6	17.3	18.4	19.5	23.5	18.6	19.1	16.4	-	
RO4A NO	387080	406278	35.1	31.2	25.4	23.1	20.5	20.2	23.6	I/S	I/S	31.2	30.0	27.1	26.7	23.0	-	
RO5A NO	386870	404044	I/S	25.7	< 1.2	14.6	12.9	10.8	13.5	13.7	17.9	17.4	I/S	22.6	16.6	14.2	-	
RO6A NO	385413	408320	46.2	42.5	37.2	35.5	34.9	20.6	24.4	25.8	I/S	34.8	37.6	30.6	33.6	28.9	-	
RO7A NO	388603	411925	36.5	34.8	31.5	29.6	24.9	26.4	24.2	20.9	32.1	35.6	33.3	34.1	30.3	26.1	-	
RO8A NO	388932	412091	I/S	45.6	41.9	34.0	39.0	41.0	38.5	37.6	< 1.2	< 1.2	1.4	< 0.9	34.9	32.1	-	
RO9A NO	389057	412217	I/S	44.6	38.4	33.2	32.5	< 1.2	< 1.2	I/S	41.0	40.0	41.7	1.7	34.1	26.6	-	
RO10 ANO	388800	413603	I/S	20.8	14.8	13.7	11.4	< 1.2	I/S	12.4	16.1	20.0	21.3	< 0.9	16.3	13.4	-	

RO12 ANO	392072	415687	42.2	34.2	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	-	-	-	
RO13 ANO	392042	415707	I/S	I/S	33.9	32.2	30.6	33.1	29.4	29.6	40.5	38.5	35.5	37.0	34.0	29.3	-	
RO14 ANO	393665	417816	16.6	14.8	11.2	7.8	7.3	7.4	8.2	9.1	13.5	36.0	16.2	14.0	13.5	11.6	-	
RO15 ANO	392976	411906	31.2	28.7	23.1	23.1	19.2	19.1	18.9	19.3	23.3	25.2	25.8	< 0.9	23.4	20.1	-	
RO16 ANO	392542	411709	I/S	25.5	22.6	19.6	16.6	17.4	14.6	15.2	18.9	21.6	23.2	20.0	19.6	16.8	-	
RO17 ANO	391214	412609	30.0	28.8	20.1	15.1	13.9	12.5	I/S	16.6	20.8	14.8	27.0	22.2	20.2	17.3	-	
RO18 ANO	389877	413590	I/S	26.7	21.5	15.9	14.2	13.9	30.4	16.2	21.7	22.8	27.2	21.3	21.1	18.1	-	
RO19 ANO	389971	413646	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		-	-	
RO20 ANO	385748	408931	37.8	I/S	25.9	25.2	23.3	36.3	35.0	36.4	36.2	39.1	42.7	40.1	46.5	29.6	-	
RO21 ANO	385820	410776	43.3	38.3	32.1	28.0	23.2	24.0	28.2	24.9	33.8	14.6	37.6	35.5	30.3	26.1	-	
RO22 ANO	390464	411976	44.8	46.6	37.9	33.0	32.1	23.6	30.5	25.4	38.2	36.7	39.2	33.7	35.1	30.2	-	
RO23 ANO	390377	412030	41.9	1.4	61.9	35.5	33.8	30.3	26.1	29.9	37.8	41.6	41.2	34.0	34.6	29.8	-	
RO24 ANO	388089	410822	38.5	38.1	26.0	25.6	21.5	17.8	43.2	21.8	27.6	29.6	32.6	28.9	29.3	25.2	-	
RO25 ANO	387792	406013	48.2	47.0	12.2	33.6	35.1	31.9	30.1	33.1	42.1	41.2	43.3	I/S	36.2	31.1	-	
RO26 ANO	389782	414241	I/S	32.3	32.3	33.2	33.6	27.7	36.3	33.1	38.2	35.5	48.5	2.0	32.1	27.6	-	
RO27 ANO	390710	414563	49.3	45.0	40.1	35.4	38.5	35.6	14.8	I/S	I/S	42.6	43.3	34.9	38.0	32.6	-	
RO28 ANO	392871	415127	I/S	34.1	23.6	20.6	25.1	20.8	21.0	24.5	27.9	31.1	33.4	26.5	26.2	22.6	-	
RO29 ANO	389325	411411	N/A	N/A	N/A	N/A	N/A	< 1.2	28.6	22.8	29.4	28.5	31.9	< 0.9	-	-	-	Triplicate Site with RO29ANO, RO30ANO and RO31ANO - Annual data provided for RO31ANO only
RO30 ANO	389325	411411	N/A	N/A	N/A	N/A	N/A	17.2	29.2	25.1	28.1	29.9	29.9	34.0	-	-	-	Triplicate Site with RO29ANO, RO30ANO and RO31ANO - Annual data provided for RO31ANO only
RO31 ANO	389325	411411	N/A	N/A	N/A	N/A	N/A	19.9	30.4	22.9	29.6	28.0	31.8	1.5	25.5	23.1	-	Triplicate Site with RO29ANO, RO30ANO and RO31ANO - Annual data provided for RO31ANO only
RO32 ANO	385145	407701	41.3	I/S	29.1	25.1	26.1	24.0	22.6	23.7	< 1.2	< 1.2	< 1.2	< 0.9	27.4	27.9	-	

Salford City Council																		
SA01 NO	372767	394104	22.3	20.0	14.3	12.7	12.1	11.2	11.7	13.4	16.9	20.3	23.0	14.7	16.1	13.8	14.0	
SA02 NO	372140	394210	23.8	22.2	I/S	13.3	I/S	11.6	I/S	5.8	17.1	21.1	25.0	I/S	17.5	14.0	-	
SA04 NO	377453	401830	28.9	26.0	19.2	18.7	17.9	17.4	13.6	17.3	22.2	28.4	30.9	23.9	22.0	18.9	19.3	
SA09 NO	374741	400937	27.9	23.9	20.3	18.8	16.3	16.5	16.3	17.2	21.6	24.9	26.5	22.6	21.1	18.1	-	
SA13 NO	379613	399784	24.7	23.5	15.7	13.8	11.6	12.1	12.2	13.6	18.3	23.7	26.6	20.5	18.0	15.5	-	
SA16 NO	371187	404453	27.8	24.1	18.4	14.7	14.5	15.2	16.0	16.6	23.3	26.2	28.9	21.5	20.6	17.7	-	
SA20 NO	374811	400857	41.0	38.4	38.6	38.8	35.4	40.8	34.6	32.1	44.4	41.9	37.9	39.0	-	-	-	Triplicate Site with SA20NO, SA21NO and SA22NO - Annual data provided for SA22NO only
SA21 NO	374811	400857	39.5	40.5	38.2	37.2	33.2	43.3	35.6	29.8	43.1	41.6	37.8	43.1	-	-	-	Triplicate Site with SA20NO, SA21NO and SA22NO - Annual data provided for SA22NO only
SA22 NO	374811	400857	38.9	38.3	36.4	38.4	32.5	40.1	37.5	30.9	46.1	41.6	39.1	41.3	38.5	33.1	-	Triplicate Site with SA20NO, SA21NO and SA22NO - Annual data provided for SA22NO only
SA23 NO	377926	398727	30.2	25.3	19.6	18.8	18.0	I/S	13.7	17.1	22.1	26.2	30.2	20.8	-	-	-	Triplicate Site with SA23NO, SA24NO and SA29NO - Annual data provided for SA29NO only
SA24 NO	377926	398727	29.8	25.0	20.4	18.2	17.2	I/S	13.8	16.7	22.4	25.4	30.0	21.2	-	-	-	Triplicate Site with SA23NO, SA24NO and SA29NO - Annual data provided for SA29NO only
SA29 NO	377926	398727	30.2	26.7	20.8	18.2	17.7	I/S	13.1	14.8	21.9	26.5	29.4	20.9	21.9	18.8	-	Triplicate Site with SA23NO, SA24NO and SA29NO - Annual data provided for SA29NO only
SA25 NO	381304	398014	29.3	32.2	24.0	22.7	20.9	21.0	16.9	19.6	26.9	31.7	35.0	25.1	25.4	21.9	22.6	
SA26 NO	380718	399597	35.6	34.3	28.4	25.6	23.5	25.2	19.6	23.5	30.2	33.3	36.3	26.0	28.5	24.5	-	
SA27 NO	383078	398741	39.7	33.8	29.7	25.9	24.0	23.8	24.2	24.8	33.0	24.7	27.3	32.4	28.6	24.6	-	
SA31 NO	374025	401905	30.6	29.4	22.7	23.8	21.0	21.3	19.1	20.3	26.3	30.9	32.3	26.0	25.3	21.8	-	
SA34 NO	375367	397800	46.3	41.7	33.9	31.6	33.1	31.2	31.4	31.9	38.1	37.3	42.8	35.5	36.2	31.2	-	
SA38 NO	377796	403065	29.7	27.7	20.6	21.4	20.2	17.6	15.4	18.4	22.2	28.4	20.5	22.3	22.0	18.9	-	

SA39 NO	383040	398563	39.4	41.3	36.4	34.1	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	37.8	27.8	-	
SA51 NO	375213	397661	35.7	31.3	29.5	I/S	23.5	26.7	22.6	23.4	31.4	35.2	I/S	29.3	28.9	24.8	-	
SA53 NO	374757	399891	37.3	28.4	25.5	22.5	21.8	19.4	24.9	23.2	26.9	27.1	32.9	29.9	26.7	22.9	-	
SA55 NO	372871	400734	29.6	32.0	23.4	21.6	19.2	21.4	18.4	19.8	25.2	30.7	35.0	28.1	25.4	21.8	-	
SA56 NO	368759	396027	19.2	16.5	10.7	9.7	8.1	7.8	7.9	8.8	11.1	15.2	20.1	15.1	-	-	-	Triplicate Site with SA56NO, SA57NO and SA58NO - Annual data provided for SA58NO only
SA57 NO	368759	396027	19.8	17.5	10.8	9.1	8.4	12.9	8.4	I/S	11.1	14.8	18.8	14.6	-	-	-	Triplicate Site with SA56NO, SA57NO and SA58NO - Annual data provided for SA58NO only
SA58 NO	368759	396027	16.4	17.5	9.7	9.3	8.8	8.6	8.5	8.6	11.2	15.4	18.6	14.6	12.6	10.8	-	Triplicate Site with SA56NO, SA57NO and SA58NO - Annual data provided for SA58NO only
SA59 NO	381822	397895	35.3	34.0	26.3	25.7	27.4	27.3	18.8	23.0	28.6	33.8	37.7	24.4	28.5	24.5	-	
SA60 NO	382445	397724	49.9	39.3	29.4	34.7	39.2	35.5	19.8	28.6	37.0	38.5	42.3	29.5	35.3	30.4	-	
SA61 NO	377269	400943	39.0	41.1	33.8	33.3	34.4	34.7	26.6	30.7	37.3	38.8	45.9	41.3	36.4	31.3	-	
SA62 NO	380768	399637	36.5	32.2	23.6	21.0	21.0	19.2	21.9	23.4	29.3	32.7	36.3	31.1	27.4	23.5	-	
SA63 NO	374673	399912	44.1	42.9	32.8	33.4	32.7	30.9	41.6	35.4	41.1	39.3	45.2	42.9	38.5	33.1	39.2	
SA64 NO	378805	399848	30.8	28.4	22.1	18.5	16.8	15.8	16.8	18.8	24.2	29.2	33.9	27.1	23.5	20.2	-	
SA65 NO	378584	399220	47.1	49.5	37.9	32.6	34.0	33.1	45.1	39.8	44.5	44.5	52.7	43.4	42.0	36.1	29.0	
SA66 NO	375118	398502	29.6	33.6	30.4	I/S	25.8	27.1	I/S	22.0	29.3	31.9	29.3	25.5	28.5	24.5	-	
SA68 NO	373570	403096	48.1	46.1	37.2	43.4	34.7	36.9	36.6	33.3	47.1	72.4	77.2	32.2	45.4	39.1	33.8	
SA69 NO	379397	401370	51.3	52.5	36.2	39.1	39.5	37.9	41.7	36.7	51.0	48.7	44.3	42.0	43.4	37.3	27.9	
SA70 NO	381677	398832	I/S	31.5	I/S	20.0	19.3	19.9	18.0	20.6	27.3	29.6	33.9	26.6	24.7	21.2	-	
SA72 NO	377536	401804	45.1	47.5	35.7	35.9	38.8	36.3	35.6	34.9	46.5	60.9	45.0	49.5	42.6	36.7	31.3	
SA73 NO	374576	400611	46.4	41.8	I/S	I/S	I/S	I/S	I/S	32.4	40.0	I/S	41.5	36.0	39.7	29.4	-	
SA74 NO	376315	399249	44.6	43.0	30.0	29.7	26.4	25.4	36.3	28.7	36.5	43.1	63.1	38.5	37.1	31.9	33.2	



SA75 NO	379608	398539	36.0	31.8	25.9	27.1	24.2	22.7	24.2	26.9	31.2	35.0	40.3	31.4	29.7	25.6	-	
SA76 NO	380540	398422	33.4	39.7	27.3	27.8	26.8	23.2	25.9	26.6	32.2	40.0	41.5	34.7	31.6	27.2	-	
SA77 NO	381686	398504	34.2	35.3	26.3	25.5	22.4	23.4	22.5	22.9	33.3	36.0	37.1	31.4	29.2	25.1	-	
SA78 NO	381220	399530	52.1	54.3	41.7	40.5	40.7	40.3	40.8	37.0	52.6	52.0	46.2	43.4	45.1	38.8	34.5	
SA79 NO	382602	398519	41.5	42.4	29.5	28.6	27.4	23.1	32.3	29.4	38.5	39.3	42.6	37.3	34.3	29.5	-	
SA80 NO	375428	401417	35.8	33.9	23.9	21.9	25.8	21.1	24.7	27.0	26.6	28.8	34.0	29.1	27.7	23.8	24.5	
SA81 NO	382561	397722	37.6	54.0	I/S	42.1	47.0	43.3	45.7	45.1	52.7	50.8	52.6	I/S	47.1	40.5	-	
SA82 NO	375394	397816	49.5	51.6	40.9	39.7	45.5	44.3	39.9	40.1	45.5	46.6	44.1	40.3	44.0	37.8	30.0	
SA83 NO	382945	400732	35.1	30.4	22.9	22.2	22.8	20.3	I/S	22.1	29.2	32.4	32.0	27.7	27.0	23.2	-	
SA84 NO	380776	400834	34.6	31.5	23.3	21.1	24.0	23.7	22.0	21.0	28.1	31.8	45.4	26.7	27.8	23.9	-	
SA85 NO	375991	399237	30.8	28.2	23.2	20.8	19.9	19.5	16.2	20.4	23.4	29.1	33.0	24.7	24.1	20.7	21.1	
SA86 NO	383819	401771	53.1	49.0	41.6	46.1	50.1	45.6	44.3	43.4	55.9	56.6	57.5	59.4	50.2	43.2	31.5	
SA87 NO	372225	395616	32.1	32.6	22.8	20.2	23.3	19.7	21.7	25.9	23.0	27.3	30.5	24.9	25.3	21.8	-	
SA88 NO	377469	398745	36.1	33.4	27.1	23.1	22.9	20.0	18.6	21.6	27.8	30.3	34.2	25.7	26.7	23.0	-	
SA89 NO	373892	404569	30.8	34.3	30.5	28.2	25.9	27.8	20.3	24.0	33.0	34.7	37.2	27.4	29.5	25.4	-	
<i>Stockport Metropolitan Borough Council</i>																		
ST2N O	385047	388339	39.2	23.3	52.0	30.0	28.3	23.9	27.0	28.8	31.8	28.5	34.9	31.0	-	-	-	Triplicate Site with ST2NO, ST12NO and ST14NO - Annual data provided for ST14NO only
ST3N O	388547	391845	32.4	27.7	< 1.2	< 1.2	I/S	14.2	17.3	17.9	21.7	22.9	29.3	21.8	22.8	19.6	-	
ST4N O	396469	390800	18.6	16.6	10.7	I/S	I/S	9.4	8.1	10.6	11.1	14.2	18.6	12.2	13.0	11.2	12.7	
ST5N O	396869	382699	9.3	8.0	6.3	5.9	6.1	5.0	3.7	5.2	5.6	7.4	10.9	6.4	6.7	5.7	-	
ST6N O	385960	388552	21.6	17.8	11.5	10.6	11.9	9.4	9.5	11.3	13.0	15.2	20.7	14.8	13.9	12.0	-	
ST7N O	392063	386972	36.5	29.4	28.8	25.1	28.9	26.0	25.8	27.4	33.1	33.9	30.1	23.6	29.1	25.0	-	

ST8N O	392016	387042	25.4	21.8	14.8	14.4	16.2	13.3	15.1	15.5	17.0	19.6	27.1	19.4	18.3	15.7	22.4	
ST9N O	392742	385680	18.0	14.3	9.3	8.7	7.3	7.7	7.0	9.3	9.8	12.3	16.3	9.9	10.8	9.3	-	
ST10 NO	392781	387271	20.5	16.5	9.1	< 1.2	I/S	8.0	8.4	9.1	I/S	I/S	I/S	I/S	11.9	11.2	-	
ST11 NO	391083	387938	36.9	31.4	27.3	23.4	25.1	20.8	21.8	23.1	27.2	28.5	34.9	25.6	27.2	23.4	-	
ST12 NO	385047	388339	42.9	26.4	59.7	27.3	27.5	22.3	26.3	26.9	29.9	26.7	38.3	28.4	-	-	-	Triplicate Site with ST2NO, ST12NO and ST14NO - Annual data provided for ST14NO only
ST13 NO	384675	386295	24.1	20.9	12.6	10.7	11.1	9.9	10.9	12.4	7.8	15.0	23.7	15.0	14.5	12.5	-	
ST14 NO	385047	388339	38.5	26.6	56.7	27.0	27.3	24.0	27.6	27.4	28.5	26.8	34.0	29.8	31.5	27.1	-	Triplicate Site with ST2NO, ST12NO and ST14NO - Annual data provided for ST14NO only
ST15 NO	389886	388961	35.0	31.9	23.5	20.9	21.0	18.7	18.0	19.8	24.4	26.5	34.2	I/S	24.9	21.4	-	
ST16 NO	391568	391225	31.5	31.2	< 1.2	< 1.2	I/S	16.0	16.4	20.5	22.9	23.1	31.0	I/S	24.1	20.2	-	
ST17 NO	388442	390077	30.8	29.8	< 1.2	< 1.2	I/S	16.2	9.7	18.8	19.9	25.0	32.1	21.1	22.6	19.4	-	
ST18 NO	389272	390440	39.3	36.2	< 1.2	< 1.2	I/S	23.1	29.0	31.0	34.2	31.8	41.1	33.0	33.2	28.5	-	
ST19 NO	389479	393463	41.4	40.5	< 1.2	< 1.2	I/S	26.9	31.0	33.8	38.0	34.0	41.2	34.4	35.7	30.7	-	
ST20 NO	386921	389528	42.6	46.9	36.3	35.2	40.9	30.5	28.7	34.9	31.0	27.6	43.5	29.9	35.7	30.7	-	
ST21 NO	388598	389415	30.9	25.1	16.9	15.0	14.7	12.7	12.5	16.1	18.3	21.9	30.9	I/S	19.5	16.8	-	
ST22 NO	391483	387635	27.0	23.1	18.7	18.0	18.2	18.0	12.1	16.3	18.8	23.1	23.3	16.4	-	-	-	Triplicate Site with ST22NO, ST23NO and ST24NO - Annual data provided for ST24NO only
ST23 NO	391483	387635	27.0	23.9	18.2	19.6	18.7	18.7	12.0	16.0	17.8	24.0	27.6	17.1	-	-	-	Triplicate Site with ST22NO, ST23NO and ST24NO - Annual data provided for ST24NO only
ST24 NO	391483	387635	25.3	24.4	19.4	19.2	18.0	18.4	12.6	15.4	18.6	23.0	28.3	16.3	19.8	17.0	-	Triplicate Site with ST22NO, ST23NO and ST24NO - Annual data provided for ST24NO only
ST25 NO	395770	388655	I/S	27.6	23.0	21.6	21.5	21.0	19.7	20.3	23.7	24.4	30.2	I/S	23.3	20.0	-	
ST26 NO	389412	387337	20.4	15.9	10.6	10.6	9.6	7.3	7.7	9.7	10.9	14.4	20.2	12.8	12.5	10.8	-	
ST27 NO	387091	391384	21.4	18.5	12.3	12.0	10.8	9.6	8.9	10.3	13.9	18.0	22.4	12.8	14.2	12.2	-	

ST28 NO	385700	386219	40.0	37.9	30.4	29.9	36.2	4.5	25.8	32.5	36.1	37.8	42.1	I/S	32.1	27.6	-	
ST29 NO	390087	388545	20.5	19.1	12.3	11.0	11.9	9.7	9.8	11.5	13.1	16.6	24.2	15.0	14.6	12.5	-	
ST31 NO	392442	391752	42.9	1.5	I/S	29.2	33.3	28.3	I/S	I/S	I/S	I/S	I/S	I/S	27.0	23.5	-	
ST32 NO	389480	390957	35.5	35.1	30.9	25.8	I/S	23.8	25.0	26.4	32.1	30.2	35.4	25.9	29.6	25.5	-	
ST33 NO	390416	390087	34.1	39.7	29.3	27.7	30.0	25.4	24.6	23.5	29.9	32.3	38.6	30.0	30.4	26.2	-	
ST34 NO	388304	390351	41.3	49.3	< 1.2	< 1.2	I/S	37.3	27.3	34.0	37.6	41.0	44.2	32.3	38.3	32.9	-	
ST35 NO	395020	385360	27.1	23.8	20.7	19.1	22.1	23.1	16.3	19.7	19.3	25.3	27.2	I/S	22.2	19.1	-	
ST36 NO	389386	390142	50.1	35.0	39.0	32.7	34.4	31.9	36.8	37.4	44.3	44.3	51.0	42.3	39.9	34.3	-	
<i>Tameside Metropolitan Borough Council</i>																		
TA1N O	394051	397180	34.6	30.2	26.0	22.5	19.3	19.6	19.5	20.1	25.6	I/S	32.7	23.1	24.8	21.4		
TA2N O	394788	394933	30.7	26.0	20.4	20.9	19.4	17.9	17.2	19.9	22.7	23.4	29.7	20.3	22.4	19.2		
TA3N O	390961	395417	29.9	30.9	23.0	25.3	20.9	19.9	20.6	19.7	25.5	28.6	29.5	22.4	24.7	21.2		
TASP NO	394194	399267	36.9	37.7	30.5	30.4	28.7	27.7	26.1	25.0	35.4	34.2	38.1	32.9	32.0	27.5	29.0	
TA5N O	400488	396539	15.4	13.5	10.4	9.7	7.9	8.2	10.4	I/S	10.1	11.0	14.7	11.6	11.2	9.6		
TA10 NO			I/S	I/S	I/S	I/S	I/S	N/A	N/A	N/A	N/A	N/A	N/A	N/A		-		
TA11 NO	400390	396025	49.0	47.2	48.8	52.4	47.7	53.4	53.4	45.2	57.8	51.0	49.5	46.8	50.2	<b>43.2</b>	35.6	
TA13 NO	392586	398431	44.7	42.9	33.6	33.2	30.1	32.1	35.7	34.7	38.8	41.2	47.0	37.0	37.6	32.3		
TA14 NO	393696	398794	43.0	39.8	33.6	31.8	27.2	27.7	28.6	31.1	38.9	I/S	34.5	33.5	33.6	28.9		
TA16 NO	391413	397974	50.1	44.9	37.4	35.7	34.8	33.4	33.9	34.6	42.1	41.8	45.0	37.7	39.3	33.8		
TA17 NO	389106	398242	41.6	36.3	28.5	30.1	23.3	24.7	25.9	29.4	34.4	35.9	42.4	31.4	32.0	27.5		
TA18 NO	391970	395521	43.6	46.6	I/S	37.5	34.8	40.5	33.6	36.6	42.9	43.7	46.5	37.3	40.3	34.7		
TA19 NO	392477	395505	31.5	37.1	30.7	31.2	31.7	34.3	23.8	26.9	34.0	39.2	39.1	25.7	32.1	27.6		
TA20 NO	394610	395102	40.2	40.6	30.9	30.8	31.3	30.6	30.4	30.2	36.0	36.1	41.1	34.3	34.4	29.6		

TA21 NO	400423	395965	I/S	47.7	41.3	I/S	39.3	39.9	40.9	40.0	45.0	44.8	44.5	39.7	42.3	36.4	32.7	
TA23 NO	393630	398598		26.3	25.3	18.3	18.4	14.9	14.8	13.8	16.7	20.7	23.9	27.9	20.0	20.1	17.3	
TA24 NO	390475	395621	I/S	I/S	29.9	30.9	28.6	29.7	20.1	25.0	33.0	88.0	49.2	26.0	36.0	31.0		
TA25 NO	396950	402329		28.2	27.4	22.9	22.3	18.3	20.3	20.6	20.4	25.8	25.0	33.5	24.3	24.1	20.7	
TA27 NO	396177	398218		30.8	31.2	24.1	20.9	21.1	21.7	18.2	20.4	23.9	25.4	31.4	23.9	24.4	21.0	
TA28 NO	393050	401038		45.6	40.3	36.3	34.5	32.5	29.2	32.6	30.8	39.4	35.9	40.8	35.6	36.1	31.1	
TA29 NO	393370	399494		33.0	29.3	20.4	18.1	15.6	15.9	18.0	19.0	24.8	28.7	29.8	23.9	23.0	19.8	
TA30 NO	393419	399691		44.6	42.3	34.9	34.2	31.0	30.0	29.9	32.0	41.0	40.6	45.0	33.3	36.6	31.4	
TA31 NO	396899	402449		22.3	19.2	17.9	16.2	13.4	14.8	15.3	14.6	18.6	21.5	23.5	23.9	18.4	15.9	
TA32 NO	396982	402437		27.7	25.4	22.5	23.0	16.2	19.9	18.4	17.7	24.8	27.5	27.6	22.5	22.8	19.6	
TA33 NO	397011	402591		27.3	26.9	20.8	19.6	18.4	17.4	19.3	17.3	21.2	24.2	27.7	22.8	21.9	18.8	
TA34 NO	397060	402581		27.9	29.2	19.5	18.1	18.3	17.7	21.2	17.7	23.4	25.7	30.3	22.5	22.6	19.5	
TA35 NO	397080	402540		37.4	36.4	35.0	33.8	29.5	37.5	31.2	25.9	42.4	40.9	45.0	42.4	36.5	31.3	
TA36 NO	397060	402387		26.6	22.1	15.9	13.9	13.1	12.9	16.5	16.7	18.8	20.0	23.9	20.9	18.4	15.9	
TA37 NO	396728	402073		35.2	35.0	29.7	28.1	27.7	25.5	28.5	30.4	35.8	34.2	38.5	25.8	31.2	26.8	
TA38 NO	394006	399392		36.5	35.7	24.3	23.1	21.5	19.0	22.0	23.6	29.2	30.4	34.3	26.0	27.1	23.3	
TA39 NO	394114	399366		40.9	38.5	23.7	22.5	19.7	20.0	26.1	25.9	33.4	31.7	33.5	32.8	29.1	25.0	
TA40 NO	394066	399314		37.7	34.0	21.9	22.8	19.4	19.8	20.3	22.7	27.3	31.0	34.8	28.0	26.6	22.9	
TA41 NO	394118	399259		39.4	36.6	19.3	24.6	23.9	23.0	25.3	26.7	32.2	31.0	38.3	30.9	29.3	25.2	
TA42 NO	394494	399010		34.4	35.3	23.7	22.1	20.7	19.5	20.3	21.3	28.5	31.3	35.8	27.5	26.7	23.0	
TA43 NO	394210	398923		45.5	39.6	40.5	37.1	31.0	34.0	36.0	35.7	42.9	37.5	45.5	35.1	38.4	33.0	
TA44 NO	397418	394398		20.5	16.8	11.1	11.5	9.6	8.8	9.8	10.7	11.9	14.5	21.0	12.5	13.2	11.4	
TA45 NO	399719	395805		44.7	51.6	42.9	49.5	48.9	52.4	44.2	45.2	48.2	50.6	46.7	41.2	-	-	Triplicate Site with TA45NO, TA46NO and TA47NO -

																		Annual data provided for TA47NO only
TA46 NO	399719	395805	46.4	50.8	41.6	51.5	49.5	56.4	43.1	46.5	48.7	50.7	50.8	39.4	-	-		Triplicate Site with TA45NO, TA46NO and TA47NO - Annual data provided for TA47NO only
TA47 NO	399719	395805	46.9	48.2	I/S	I/S	47.0	54.8	43.5	45.5	50.0	54.8	48.6	37.2	47.5	<b>40.9</b>		Triplicate Site with TA45NO, TA46NO and TA47NO - Annual data provided for TA47NO only
TA48 NO			I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S		-		
TA49 NO	393731	398770	39.5	40.6	31.3	24.9	27.3	28.8	25.0	29.2	31.3	31.2	39.5	29.4	31.5	27.1		
TA50 NO	393498	398704	47.5	44.7	38.8	36.2	I/S	32.8	32.5	30.5	42.9	40.9	43.2	35.8	38.7	33.3		
TA51 NO	393314	398624	48.1	45.4	33.1	33.6	31.0	27.0	I/S	33.2	33.2	34.5	42.6	34.4	36.0	31.0		
TA52 NO	393509	398737	51.7	44.3	36.9	34.7	33.6	37.1	34.8	36.9	48.5	45.3	48.6	40.5	41.1	35.3		
TA53 NO	393133	398536	42.0	42.2	34.7	34.2	31.8	31.7	26.0	28.7	39.4	36.0	41.6	33.8	35.2	30.3		
TA54 NO	392958	398474	44.4	45.1	39.7	44.1	43.2	45.8	41.4	43.3	48.3	35.0	51.1	33.8	42.9	36.9	27.9	
TA55 NO	392741	398469	64.1	58.8	51.8	49.7	43.1	47.9	48.8	48.0	59.2	48.4	55.6	55.0	52.5	<b>45.2</b>	36.9	
TA56 NO	392490	398368	47.5	48.1	37.9	33.4	37.5	39.3	34.6	39.2	41.8	41.7	49.1	35.1	40.4	34.8		
TA57 NO	392838	398533	42.4	43.0	40.4	40.4	31.1	I/S	I/S	I/S	I/S	47.9	44.7	35.1	40.6	30.0		
TA58 NO	393080	398620	40.3	38.5	29.6	30.9	28.0	30.0	34.0	21.7	35.8	42.9	38.9	27.9	33.2	28.6		
TA59 NO	395652	399140	26.0	23.3	15.7	13.6	11.6	11.5	11.8	12.3	15.8	16.7	21.5	I/S	16.3	14.1		
TA60 NO	395747	399112	31.2	29.7	22.6	20.1	15.8	19.6	18.1	16.8	24.3	26.5	20.3	24.0	22.4	19.3		
TA61 NO	395682	399171	29.5	23.7	19.4	17.2	16.6	18.0	18.0	16.9	24.4	22.1	26.7	24.3	21.4	18.4		
TA62 NO	395589	399227	29.1	24.6	16.5	15.0	14.7	14.9	16.4	15.9	22.9	21.8	28.3	26.6	20.6	17.7		
TA63 NO	394917	400922	36.9	33.3	28.8	26.1	21.6	21.7	22.0	22.9	30.2	29.8	36.7	26.7	28.1	24.1		
TA64 NO	395787	398759	50.2	44.0	42.3	41.2	38.3	38.3	37.5	40.2	47.7	44.3	49.0	39.0	42.7	36.7		
TA65 NO	392532	396768	44.5	44.5	26.3	26.1	24.3	19.5	25.7	25.7	33.6	31.9	40.5	35.8	31.5	27.1		

Trafford Metropolitan Borough Council																		
TR5N O	379052	392043	36.5	28.4	19.8	22.9	21.7	22.0	16.7	21.9	25.2	23.3	35.3	23.2	24.7	21.3	-	
TR9N O	380933	395889	39.1	29.0	17.9	17.5	14.2	16.4	18.4	19.1	21.0	24.9	34.1	24.0	23.0	19.8	-	
TR15 NO	379089	393282	32.0	29.3	24.5	29.1	25.8	23.9	14.8	17.8	27.0	30.3	34.0	21.9	25.9	22.2	-	
TR16 NO	377418	395689	33.0	29.0	20.7	23.7	18.8	18.5	14.0	20.1	24.9	28.8	34.0	21.3	-	-	-	Duplicate Site with TR16NO and TR16ANO - Annual data provided for TR16ANO only
TR16 ANO	377418	395689	23.8	29.9	23.5	22.3	20.0	20.2	15.1	18.8	23.8	25.5	40.2	21.7	23.8	20.5	-	Duplicate Site with TR16NO and TR16ANO - Annual data provided for TR16ANO only
TR19 NO	378783	394728	21.4	18.3	12.1	13.7	8.9	9.4	9.7	13.7	14.5	17.1	26.5	15.3	-	-	-	Triplicate Site with TR19NO, TR19ANO and TR19BNO - Annual data provided for TR19BNO only
TR19 ANO	378783	394728	26.1	14.7	12.8	13.4	8.8	9.4	9.7	14.2	14.8	19.4	25.4	14.9	-	-	-	Triplicate Site with TR19NO, TR19ANO and TR19BNO - Annual data provided for TR19BNO only
TR19 BNO	378783	394728	25.3	17.3	13.1	12.7	8.8	9.2	10.0	12.8	17.1	18.5	26.0	15.5	15.3	13.2	-	Triplicate Site with TR19NO, TR19ANO and TR19BNO - Annual data provided for TR19BNO only
TR20 NO	379411	394014	40.3	31.0	25.6	23.9	19.9	21.7	2.1	23.1	27.9	22.9	40.0	28.3	-	-	-	Triplicate Site with TR20NO, TR20ANO and TR20ANO - Annual data provided for TR20ANO only
TR20 ANO	379411	394014	31.2	29.0	24.4	23.1	22.2	22.5	20.0	22.8	28.0	23.8	38.1	27.0	-	-	-	Triplicate Site with TR20NO, TR20ANO and TR20ANO - Annual data provided for TR20ANO only
TR20 ANO	379411	394014	31.2	29.0	24.4	23.1	22.2	22.5	20.0	22.8	28.0	23.8	38.1	27.0	-	-	-	Triplicate Site with TR20NO, TR20ANO and TR20ANO - Annual data provided for TR20ANO only
TR22 NO	377087	390131	I/S	59.6	29.7	29.0	30.1	I/S	27.3	29.4	37.0	36.9	39.8	28.1	34.7	29.8	-	
TR23 NO	376432	396355	35.6	35.8	28.1	27.5	24.6	22.1	22.5	25.1	25.1	29.4	36.3	27.1	28.3	24.3	-	
TR24 NO	379263	385812	29.5	25.7	19.9	21.2	19.0	18.1	13.5	16.7	18.4	26.8	29.8	19.5	21.5	18.5	-	
TR25 NO	373755	394477	17.5	14.5	9.2	11.0	8.6	9.0	I/S	9.7	I/S	14.1	22.9	13.3	-	-	-	Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only
TR25 ANO	373755	394477	17.4	15.5	9.7	10.9	9.0	9.7	I/S	9.9	I/S	13.7	23.8	13.6	-	-	-	Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only
TR25 BNO	373755	394477	18.2	14.5	9.5	11.0	8.2	9.6	I/S	9.6	I/S	13.8	22.6	13.2	13.1	11.3	-	Triplicate Site with TR25NO, TR25ANO and TR25BNO - Annual data provided for TR25BNO only

TR27 NO	371419	390760	29.7	22.4	15.8	15.7	12.0	13.7	13.8	13.6	17.8	18.3	51.4	20.5	20.4	17.5	-	
TR28 NO	376804	387740	31.8	30.1	23.1	25.5	22.9	25.1	20.5	I/S	28.6	37.7	I/S	I/S	27.3	23.4	-	
TR29 NO	373906	392820	29.9	26.0	18.5	19.3	17.2	16.6	14.9	16.2	19.2	21.5	31.1	19.4	20.8	17.9	-	
TR30 NO	376789	392806	23.1	19.6	I/S	63.3	7.7	I/S	I/S	9.6	13.5	14.8	18.5	14.9	20.6	17.7	-	
TR31 NO	376205	392690	34.0	38.3	30.6	36.7	27.1	25.7	27.2	32.7	35.1	37.5	33.4	28.7	32.3	27.7	-	
TR32 NO	381525	395325	27.1	20.2	15.1	15.5	10.8	I/S	I/S	12.0	17.9	21.7	29.8	19.7	19.0	16.3	-	
<i>Wigan Metropolitan Borough Council</i>																		
WI24 NO	358341	405539	32.0	29.3	23.3	I/S	19.0	19.2	19.5	20.2	27.9	29.6	33.2	30.4	25.8	22.2	-	
WI33 NO	359723	405537	39.7	39.5	35.6	36.9	30.4	30.9	31.8	29.5	41.7	37.9	41.0	35.2	35.8	30.8	-	
WI52 NO	362137	396948	39.6	37.7	32.4	28.9	3.0	29.6	30.0	26.7	37.2	36.3	40.4	32.7	31.2	26.8	-	
WI81 NO	355979	410362	26.1	25.0	20.1	18.2	18.7	15.1	17.8	19.5	21.1	I/S	24.1	19.1	20.4	17.6	-	
WI11 4NO	365115	400259	39.5	36.3	34.5	29.0	32.5	27.2	33.0	27.3	36.1	36.8	43.0	35.5	34.2	29.4	-	
WI14 8NO	361247	404576	28.3	29.0	28.1	24.2	20.2	24.5	22.8	21.5	30.2	32.9	27.5	27.6	26.4	22.7	-	
WI15 6NO	366320	402136	26.6	26.3	21.7	21.0	15.3	17.8	15.1	16.6	23.4	26.9	30.2	22.3	21.9	18.9	-	
WI16 1NO	369635	402019	33.5	33.8	22.7	21.4	21.1	22.2	16.1	19.7	23.5	31.7	35.1	25.3	25.5	21.9	-	
WI16 7NO	363544	397933	30.2	28.1	22.7	17.8	18.6	17.3	16.4	17.8	22.6	24.2	29.3	23.1	22.3	19.2	-	
WI16 8NO	362463	397005	36.2	34.4	27.3	22.9	20.1	21.8	24.4	22.9	30.5	31.0	37.8	29.3	28.2	24.3	-	
WI16 9NO	362557	396906	34.1	31.6	23.9	24.3	27.6	23.5	20.7	22.2	24.8	30.3	30.0	24.8	26.5	22.8	-	
WI17 0NO	362236	396675	26.3	28.9	20.9	17.4	21.5	20.4	18.7	20.4	23.7	25.0	27.8	18.7	22.5	19.3	-	
WI17 2NO	356881	401314	29.3	29.0	26.6	25.1	21.5	20.3	20.1	20.3	I/S	30.7	31.4	26.1	25.5	21.9	-	
WI17 7NO	356230	410105	31.7	30.5	21.8	20.1	19.3	21.0	18.3	18.9	25.2	27.1	30.3	21.9	23.8	20.5	-	
WI17 8NO	356021	410128	44.3	43.9	41.0	34.5	36.7	37.9	30.6	30.7	40.9	41.7	41.0	30.9	37.8	32.5	-	
WI18 0NO	362105	396491	57.4	51.6	48.7	I/S	51.3	45.5	51.4	43.7	50.6	47.3	49.8	45.3	49.3	<b>42.4</b>	-	

WI18 1NO	354819	406235	35.1	33.4	29.8	< 1.2	I/S	25.1	23.1	23.9	32.7	33.3	36.5	26.7	30.0	25.8	-	
WI18 8NO	362111	396526	39.3	35.6	31.3	I/S	32.7	29.3	32.5	30.0	35.6	31.7	34.6	31.3	33.1	28.5	-	
WI20 5NO	362151	396604	30.5	29.0	25.0	22.6	16.4	22.9	20.1	20.3	27.6	29.2	25.2	25.4	24.5	21.1	-	
WI20 8NO	365687	400238	36.1	32.5	24.7	20.9	20.7	17.7	21.4	21.5	28.1	27.3	37.2	27.5	-	-	-	Triplicate Site with WI208NO, WI209NO and WI210NO - Annual data provided for WI210NO only
WI20 9NO	365687	400238	34.9	31.4	25.3	22.0	20.5	18.1	22.3	21.7	27.3	28.4	35.6	28.3	-	-	-	Triplicate Site with WI208NO, WI209NO and WI210NO - Annual data provided for WI210NO only
WI21 0NO	365687	400238	34.6	31.1	21.8	22.5	20.8	18.7	21.5	21.5	26.7	27.9	29.0	26.1	25.9	22.3	-	Triplicate Site with WI208NO, WI209NO and WI210NO - Annual data provided for WI210NO only
WI21 3NO	362019	396512	23.4	20.6	16.3	14.6	12.6	14.6	10.9	13.1	17.7	22.0	24.0	17.7	17.3	14.9	-	
WI21 6NO	358464	405342	37.9	39.9	33.9	34.9	37.1	33.3	31.8	31.9	41.2	41.7	44.3	I/S	37.1	31.9	-	
WI21 7NO	357780	405306	34.4	28.0	23.6	22.8	19.7	20.8	17.3	19.2	28.8	33.6	33.1	28.2	25.8	22.2	-	
WI21 9NO	357484	405407	29.0	28.1	22.4	18.5	14.8	15.8	14.6	17.1	23.7	28.1	26.8	24.3	21.9	18.9	-	
WI22 0NO	357420	405407	29.4	26.8	20.0	16.9	16.9	15.7	14.3	15.8	21.2	24.7	20.5	21.2	20.3	17.4	-	
WI22 1NO	360499	397867	I/S	29.3	24.9	19.7	I/S	16.2	17.3	18.3	23.3	25.2	30.9	22.9	22.8	19.6	-	
WI22 2NO	360491	397842	35.3	32.4	28.1	21.6	21.4	20.6	22.4	21.5	28.2	30.2	31.6	27.3	26.7	23.0	-	
WI22 3NO	360430	397779	32.6	28.4	23.4	I/S	I/S	16.6	17.2	17.9	26.6	25.6	28.9	25.9	24.3	20.9	-	
WI22 4NO	360418	397775	35.6	35.9	29.2	26.4	27.9	25.8	26.2	27.0	38.2	37.4	39.8	31.2	31.7	27.3	-	
WI22 5NO	360459	397995	28.7	29.5	22.2	19.2	16.9	17.9	16.3	16.3	24.0	26.9	31.6	25.0	22.9	19.7	-	
WI22 6NO	360462	398006	27.9	27.6	23.6	19.8	16.5	18.3	13.8	16.4	24.1	26.2	30.7	20.5	22.1	19.0	-	
WI22 7NO	360576	398144	30.4	29.4	24.7	21.3	20.8	21.6	19.5	20.2	29.9	29.2	27.1	25.0	24.9	21.4	-	
WI22 8NO	360578	398126	28.9	29.0	23.3	19.7	21.5	I/S	19.6	20.6	27.0	I/S	29.6	23.0	24.2	20.8	-	
WI23 0NO	360380	397912	39.5	35.1	30.2	25.7	26.1	26.6	26.9	27.5	32.8	34.7	39.3	33.0	31.5	27.0	-	
WI23 1NO	357473	398990	33.8	33.4	28.0	I/S	46.5	31.7	20.1	22.7	32.0	32.6	36.5	25.5	31.2	26.8	-	



WI23 2NO	357635	399502	27.6	25.6	20.5	18.6	14.9	13.2	13.2	13.1	I/S	21.2	26.8	22.0	19.7	16.9	-	
WI23 3NO	357445	406461	31.9	I/S	23.0	I/S	I/S	15.4	14.5	15.8	24.7	24.1	28.8	17.4	21.7	18.7	-	
WI23 4NO	363136	403467	36.9	33.3	31.3	28.5	23.7	21.6	23.7	22.5	29.2	I/S	29.3	27.4	27.9	24.0	-	
WI23 5NO	365419	399116	25.2	25.5	19.1	15.8	16.7	15.0	17.4	17.5	22.4	23.5	28.2	21.7	20.7	17.8	-	
WI23 6NO	365386	400353	26.2	22.7	17.0	13.8	12.2	10.1	11.4	12.5	17.6	22.5	I/S	18.5	16.8	14.4	-	
WI23 7NO	367352	403200	30.6	28.6	25.0	22.1	19.1	20.1	15.7	17.3	21.8	27.4	30.2	24.3	23.5	20.2	-	
WI23 8NO	369056	402146	32.2	30.1	21.4	22.4	17.9	20.4	19.6	19.8	27.1	25.9	29.3	24.9	24.3	20.9	-	
WI23 9NO	357092	404213	I/S	I/S	I/S	14.8	11.6	11.4	11.2	12.2	16.2	21.0	27.4	19.2	16.1	13.9	-	
WI24 0NO	360220	407146	27.9	27.3	20.5	< 1.2	I/S	19.0	14.7	17.4	23.2	24.4	27.6	19.4	22.1	19.0	-	
WI24 1NO	358025	406658	29.0	32.5	27.1	I/S	22.7	24.3	22.4	23.6	29.2	26.0	33.0	26.2	26.9	23.1	-	
WI24 3NO	362030	398210	25.6	27.1	19.3	I/S	14.3	13.9	13.7	14.0	18.9	21.9	26.7	20.1	19.6	16.8	-	
WI24 4NO	357610	406859	26.4	28.3	I/S	I/S	I/S	16.8	15.0	15.2	24.2	27.4	25.7	23.2	22.5	19.3	-	
WI24 5NO	358133	405492	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	51.5	59.2	54.4	60.9	51.6	55.5	<b>43.8</b>	42.4

All erroneous data has been removed from the NO<sub>2</sub> diffusion tube dataset presented in Table B.1.

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

Local bias adjustment factor used.

National bias adjustment factor used.

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

Transport for Greater Manchester confirms that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 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 2023

#### 3.2.4.1 Bolton MBC

Air quality assessments have been received and considered for the following planning applications. The air quality impact was determined as negligible / not significant for all the developments, although some required mitigation measures during the construction phase of the development in the form of a construction environmental management plan (CEMP).

14760/22 | Change of use to a food production and manufacturing facility together with demolition of existing extension and erection of a two storey extension, associated alterations to external elevations of existing building, erection of 4 no. Silos and reconfiguration of the existing car parking area to provide an area for hgv goods loading and unloading. | catalent pharma solutions wingates industrial estate great bank road Westhoughton Bolton BL5 3XX.

4930/22 | Outline planning permission for the erection of a 3-storey purpose built multi-faith primary school with all matters reserved (except for means of access and scale) | Jubilee Day Centre Darley Street Bolton BL1 3DX

15098/22 | Discharge of conditions 2 (construction method statement & air quality management plan), 3 (scheme for protection of water main), 4 (surface water drainage), 5 (scheme for protection of brook), 6 (ground levels), 7 (contamination), 10 (storage of refuse & waste materials), 11 (boundary materials), 12 (landscaping), 13 (highways), 14 (cycle storage) and 16 (materials) on application 13461/22 | Logistics North Plot C1-Phase 2 Bridgewater Avenue Bolton

15612/23 | Variation of conditions 5 (fencing details) 11 (drainage) 15 (materials) 18 (approved plans) on application 05471/19 | Land South West Of Salford Road Salford Road Bolton BL5 1BZ. This was an application to amend the approved plans in relation to a STOR (Short Term Operating Reserve) site, which uses gas to generate electricity at times of high demand. The air quality impact was assessed as not significant.

15775/23 | VARIATION OF CONDITIONS 2 (STACK CHARACTERISTICS) 4 (SURFACE WATER DRAINAGE) 9 (CAR PARKING SPACES) 19 (APPROVED PLANS) ON APPLICATION 04963/18 | Land South West Of Moss Lane Moss Lane Blackrod Bolton. This was an application to amend the approved plans in relation to a STOR (Short Term Operating Reserve) site, which uses gas to generate electricity at times of high demand. The air quality impact was assessed as not significant.

16079/23 | Erection of 27 no. dwellings comprising 19 no. semi detached and terraced dwellinghouses and 8 no. apartments together with associated car parking and landscaping works. | Former Eden Boys School Site Cotton Street Bolton BL1 3JN

16626/23 | Discharge of conditions 3 (programme of archaeological works), 4 (breeding birds survey), 5 (ground water monitoring), 6 (impermeable barrier), 7 (noise impact assessment), 9 (dust management), and 10 (screening bund and fencing detail) on application 11067/21 | Montcliffe Georges Lane Horwich Bolton BL6 6RS. This was an application in relation to a quarry. A dust management plan was submitted and accepted to control dust emissions from the quarry.

16770/23 | Application for a new access, road realignment, altered landform, planting and associated infrastructure | Land At Chorley Road Wingates Westhoughton Bolton BL5 3LZ. This was an application for the realignment of a road adjacent to Wingates Industrial estate, the realignment takes the road further from sensitive receptors and was therefore predicted to have a negligible / moderate beneficial impact.

In addition to the above applications where air quality assessments were approved an additional 18 construction environmental management plans (CEMP) were submitted to address emissions associated with the construction phase of developments.

Planning applications are available to view through the following link:

<https://paplanning.bolton.gov.uk/online-applications/search.do?action=simple&searchType=Application>

#### 3.2.4.2 Bury Council

During 2023, six air quality assessments were received in relation to planning applications. All concluded that the impacts on air quality would be insignificant.

There were no applications or surrenders under PPC.

#### **3.2.4.2 Manchester City Council**

Planning applications requiring an Air Quality Assessment during 2023:

- 53no. planning applications in Manchester required an AQ Assessment, and 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.
- There were no applications and surrenders under the PPC regime during 2023.
- No biomass, CHP, or district heating applications were received during 2023.

#### **3.2.4.3 Oldham Metropolitan Borough Council**

An 8.8MWe natural gas-powered set of 4 STOR (Short Term Operational Reserve) electricity generators began operating at Pandora Business Park, Greengate, Middleton Junction, Oldham, M24 1RU in January 2023. Although this generated some concerns amongst local residents regarding air quality, the air quality assessment submitted with the planning application for the development stated that it would have an insignificant impact on local air quality. Subsequent monitoring by the council following concerns from local residents has not shown any significant rise in Nitrogen Dioxide levels in the local area.

#### **3.2.4.4 Salford City Council**

A planning application search was conducted using the Salford City Council planning public access website pages for all types of major development that were approved during 2023 and with an associated air quality assessment. 17 results were generated. Of these, none 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 and Building Regulations requirements.

There have been no planning applications related to large biomass installations, combined heat and power (CHP) or district heating schemes in Salford during 2023.

A search of the Environment Agency public register was undertaken for new part A industrial installations where a permit was granted in Salford during 2023 under The Environmental Permitting (England and Wales) Regulations 2016. In 2023, 3 x part A industrial process permit variations were granted as follows:

EPR/KP3331QA - Salford Royal NHS Foundation Trust: Permit variation to add permitting requirements and Emission Limit Values for existing Medium Combustion Plant.

EPR/DP3100LY - Allied Mills Limited: Permit variation to consolidate the existing permit following a review of the sector and to issue it in a modern format.

EPR/BS1538IQ - Cleansing Service Group Limited: Permit variation to add storage facilities and waste codes, update site plan and update the permit to modern conditions.

The air quality impact of these permit variations is not considered to be significant assuming the use of best available techniques to minimise pollution.

There have been no new part A2 or B industrial installations that were permitted by Salford City Council during 2023 under The Environmental Permitting (England and Wales) Regulations 2016.

#### **3.2.4.5 Stockport Metropolitan Borough Council**

In 2023, 98 planning applications were assessed in relation to impacts on local air quality, sensitive receptors and future site users. The type of applications requiring formal air quality assessment included small, medium and large residential sites, commercial and industrial installations.

Planning applications are reviewed and checked utilising guidance contained within the Institute of Air Quality Management guidance note: Planning for Air Quality. Construction and demolition works can cause short and long term impact on particulate levels in areas close to development. For significant demolition and construction projects assessments

are required for the impact of dust on sensitive receptors. The Pollution team impose suitable planning conditions in relation to construction management plans, which are utilised to control impacts from construction and demolition on local air quality.

#### **3.2.4.6 Tameside Metropolitan Borough Council**

During 2023 four air quality assessments were received, all of which concluded there would be a negligible effect on air quality as a result of the development.

#### **3.2.4.7 Trafford Metropolitan Borough Council**

During 2023 Trafford Council reviewed over 90 planning applications reviewed in relation to potential air quality impacts from new construction and also demolition works.

Applications which required detailed air quality assessments in relation to potentially significant air quality impacts included new residential development within or adjacent to the AQMA, significant new warehousing/distribution space and energy generating facilities. No significant impacts were identified through the air quality assessments but mitigation measures have been included within planning permissions wherever possible. Mitigation measures included installation of sustainable vehicle charging points and travel plans.

#### **3.2.4.8 Wigan Metropolitan Borough Council**

During 2023 Wigan Council's Environmental Protection team reviewed over 400 planning applications in relation to potential air quality impacts from new developments.

Applications which required detailed air quality assessments in relation to potentially significant air quality impacts included major residential developments within the AQMA or major residential development with more than 50 homes if outside the AQMA, significant new warehousing/distribution space and energy generating facilities, as well as a range of other uses as specified in Wigan Council's Development and Air Quality Supplementary Planning Document (SPD).

Mitigation measures have been included within planning permissions where appropriate, including almost all developments being required to install electric vehicle smart charging points in accordance with Wigan Council's Development and Air Quality SPD.

## **Additional Air Quality Works Undertaken by Greater Manchester During 2023**

### **3.2.4.9 Salford City Council**

Salford City Council continues to implement energy efficiency measures across its portfolio to reduce its carbon emissions, which will also result in reduced air quality pollutant emissions. Recent work includes:

- Unlocking Clean Energy in Greater Manchester (UCEGM) – An ERDF funded programme to install a 2 Megawatt (MW) Solar farm on council land in Little Hulton. This is supplemented by solar car ports at Swinton Hall Road and Turnpike Council depots providing another 0.65 MW of renewable power.
- Salford's Local Plan now includes a target that all new development should be zero net carbon by 2028.
- The Public Sector Decarbonisation Scheme:
  - £8m grant secured.
  - 21 Roof mounted PV installations, generating 778,130 kWh per year.
  - 14 Air Source Heat Pump Sites, resulting in over 295 Tonnes CO<sub>2</sub> savings.
  - Battery Storage at 4 rooftop Solar PV sites.
- The Greener Salford Campaign and website has been launched. This encourages residents to take action on Climate Change, highlighting best practice and providing hints, tips and guidance.

## QA/QC of Diffusion Tube Monitoring

Staffordshire County Council

Staffordshire Highways Laboratory

**NO<sub>2</sub> diffusion tube analysis QC results – April 2024 Summary**

**AIR PT Scheme (LGC)**

Results for each round are classified on z-scores for each tube as SATISFACTORY ( $\leq 2$ ), QUESTIONABLE (between 2 and  $< 3$ ) and UNSATISFACTORY ( $> 3$ ).

For each round 2 sets of tubes are analysed by different members of staff to aid with QC and training.

### **PT Rounds during 2023**

- Round 55 – Feb 2023. 100% satisfactory results.
- Round 56 – July 2023. 100% satisfactory results.
- Round 58 – Aug 2023. 100% satisfactory results.
- Round 59 – Oct 2023. 100% satisfactory results.

A summary of our z-score results can be found in the table below.

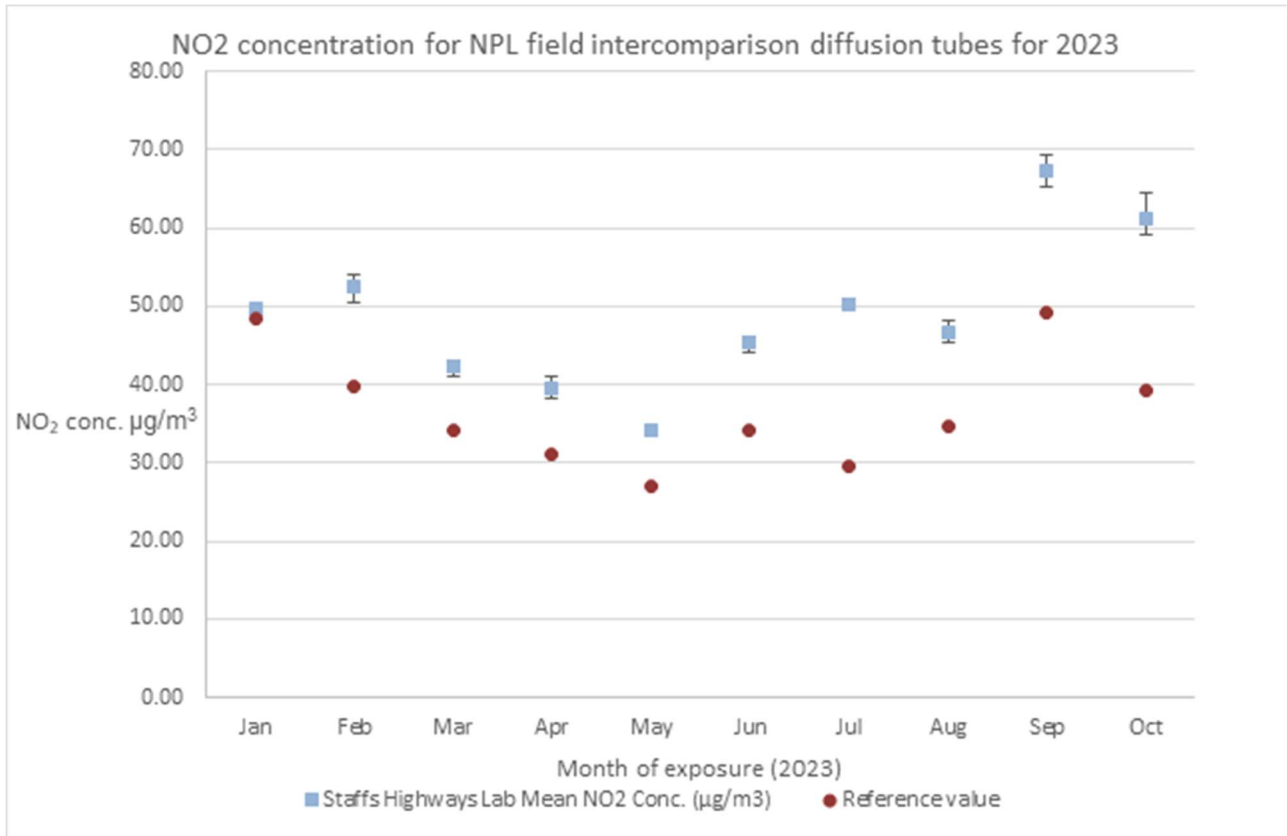
<b>PT Round</b>	<b>Technician</b>	<b>z-scores</b>	<b>Performance</b>
55 – Feb 2023	1	0.19, 0.00, -1.16, -1.45	100%
	2	-0.19, -1.31, -1.71, -1.73	SATISFACTORY
56 – July 2023	1	0.21, 0.11, 0.00, 0.30	100%
	2	-0.64, -0.16, -1.59, 0.15	SATISFACTORY
58 – Aug 2023	1	-0.12, -0.12, -0.19, -0.97	100%
	2	-0.37, -0.12, -0.86, -1.34	SATISFACTORY
59 – Oct 2023	1	0.42, 0.25, 0.34, 0.34	100%
	2	0.08, -0.59, -0.61, -0.14	SATISFACTORY

For more information on the AIR PT Scheme and older results see the Defra website: <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/qa-qc-framework/>

### **Field Intercomparison (NPL)**

Our performance for all results of 2023 received so far (Jan-Oct 2023) was classified as 'GOOD' (CoV  $< 20$ ). The chart below shows our results (blue squares), compared to the reference value (orange dots) for each month.





**Bias factor**

The bias adjustment factor spreadsheet on the Defra website was updated in March 2024. The overall bias factor for Staffordshire Highways Laboratory for 2023 (including the Field Intercomparison result and all the co-location results from participating local authorities, total of 11 studies) was 0.86.

For the most up to date information on bias factors see the Defra website:

<https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/>

## Diffusion Tube Annualisation

Annualisation is required for any site with data capture less than 75% but greater than 25%.

**Table C.1 – Annualisation Summary (concentrations presented in  $\mu\text{g}/\text{m}^3$ )**

Site ID	Annualisation Factor Piccadilly	Annualisation Factor Wigan Centre	Annualisation Factor Glazebury	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
<b>Diffusion Tubes</b>						
BO75NO	0.9606	0.9541	0.9184	0.9444	20.7	19.5
BOA119	1.0729	1.0511	1.1323	1.0854	34.0	36.9
BU8NO	0.8798	0.8517	0.8501	0.8605	31.4	27.0
OLOBNO	1.1020	1.0995	1.1452	1.1156	33.9	37.8
RO2ANO	0.9659	0.9496	1.0136	0.9764	37.0	36.1
RO5ANO	1.0973	1.1397	1.1923	1.1431	16.6	-
RO8ANO	1.0660	1.0839	1.0566	1.0688	34.9	37.3
RO9ANO	0.9140	0.9161	0.8850	0.9050	34.1	30.9
RO10ANO	0.9556	0.9611	0.9535	0.9567	16.3	15.6
RO29ANO	1.0384	1.0691	1.0575	1.0550	25.5	26.9
RO30ANO	1.0384	1.0691	1.0575	1.0550	25.5	26.9
RO31ANO	1.0384	1.0691	1.0575	1.0550	25.5	26.9
RO32ANO	1.1591	1.1762	1.2181	1.1845	27.4	32.5
SA02NO	0.9366	0.9203	0.9324	0.9298	17.5	16.3
SA39NO	0.8902	0.8285	0.8424	0.8537	37.8	32.3
SA73NO	0.8924	0.8509	0.8420	0.8618	39.7	34.2
ST10NO	1.0899	1.0587	1.1276	1.0920	11.9	13.0
ST16NO	0.9746	0.9607	0.9887	0.9747	24.1	23.5
ST31NO	1.0127	0.9997	1.0238	1.0121	27.0	27.4
TA57NO	0.8831	0.8659	0.8247	0.8579	40.6	34.9
TR28NO	1.0263	1.0276	1.0862	1.0467	27.3	-
TR30NO	0.9255	0.9152	0.9056	0.9155	20.6	-
WI245NO	0.9214	0.9304	0.9018	0.9179	55.5	51.0
<b>Automatic Monitoring Sites</b>						

## Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2023 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.TG22 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  $\text{NO}_x/\text{NO}_2$  continuous 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 2023 monitoring data. A summary of bias adjustment factors used by Greater Manchester over the past five years is presented in Table C.2.

The National Bias Adjustment Factor used (Staffordshire Scientific Services) was calculated using factors generated from nine sites across four Local Authorities in Greater Manchester, in addition to several studies from outside of GM; all with a range of site types. For these reasons, the National factor was felt to be more appropriate than a local factor, as well as more robust.

**Table C.2 – Bias Adjustment Factor**

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.86
2022	National	03/23	0.87
2021	National	03/22	0.86
2020	National	03/21	0.85
2019	National	03/20	0.93

### **NO<sub>2</sub> Fall-off with Distance from the Road**

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table B.1.

**Table C.3 – Non-Automatic NO<sub>2</sub> Fall off With Distance Calculations (concentrations presented in µg/m<sup>3</sup>)**

The table below only shows distance corrections for tubes that meet the parameters used in the distance correction tool, i.e. where it has not been possible to distance correct results due to receptor to kerb or monitor to kerb distances being outside the limitations of the tool, these results have been omitted from the table.

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
<i>Bolton Metropolitan Borough Council</i>						
BO03NO	0.5	2.5	37.4	15.1	31.1	
<i>Bury Metropolitan Borough Council</i>						
BU12NO	0.5	2.4	38.7	14.4	32.0	
BU15NO	0.5	36.8	36.8	16.4	21.3	<i>Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.</i>
BU20NO	26.2	14.9	27.6	20.5	29.9	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
<i>Manchester City Council</i>						
MA29ANO	2.5	7.0	49.6	24.0	<b>43.1</b>	<i>Predicted concentration at Receptor above AQS objective.</i>
MA75NO	0.5	4.0	39.6	16.0	30.9	

MA88ANO	3.0	31.0	36.1	25.5	29.7	<i>Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.</i>
MA96BNO	3.0	7.0	39.7	21.1	35.6	
MA103BNO	2.0	6.0	37.9	16.4	32.4	
<i>Oldham Metropolitan Borough Council</i>						
OLIRSNO	23.7	9.6	29.0	15.9	35.5	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
OL368MRNO	4.4	6.4	37.1	16.4	34.9	
OL17SRNO	0.2	1.7	38.3	14.2	30.5	
OLHS2NO	15.0	3.4	26.1	14.2	33.9	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
OL21SRNO	2.0	2.5	45.0	14.2	<b>43.4</b>	<i>Predicted concentration at Receptor above AQS objective.</i>

OL12ORNO	1.5	2.0	43.6	14.2	<b>41.8</b>	<i>Predicted concentration at Receptor above AQS objective.</i>
<i>Salford City Council</i>						
SA01NO	45.0	15.0	13.8	13.6	14.0	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
SA02NO	67.0	10.0	14.0	13.6		<i>Warning: Monitoring Site 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</i>
SA04NO	21.5	16.5	18.9	16.6	19.3	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
SA09NO	125.0	115.0	18.1	20.1		<i>Warning: Monitoring Site 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</i>

						<i>Kerb of Nearest Road</i>
SA25NO	22.5	14.0	21.9	18.9	22.6	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
SA63NO	21.5	10.0	33.1	18.0	39.2	<i>Predicted concentration at Receptor within 10% the AQS objective. Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
SA65NO	3.0	13.0	36.1	17.3	29.0	
SA68NO	2.5	6.0	39.1	14.9	33.8	
SA69NO	1.5	10.0	37.3	14.8	27.9	
SA72NO	0.5	2.5	36.7	17.7	31.3	
SA74NO	24.0	20.5	31.9	17.2	33.2	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution. Warning: your</i>

						<i>receptor is more than 20m further from the kerb than your monitor - treat result with caution.</i>
SA78NO	1.5	4.0	38.8	18.9	34.5	
SA80NO	30.5	21.5	23.8	20.8	24.5	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution. Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.</i>
SA82NO	2.2	12.2	37.8	18.8	30.0	
SA85NO	9.0	5.5	20.7	18.8	21.1	
SA86NO	0.5	5.5	43.2	15.7	31.5	
<i>Stockport Metropolitan Borough Council</i>						
ST4NO	16.0	2.0	11.2	9.6	12.7	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>



ST6NO	34.0	7.0	12.0	16.9		
ST8NO	28.0	2.0	15.7	11.6	22.4	<i>Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.</i>
ST9NO	20.0	11.0	9.3	10.6		
<i>Tameside Metropolitan Borough Council</i>						
TASPNO	4.0	3.0	27.5	9.0	29.0	
TA11NO	1.0	3.0	43.2	9.0	35.6	
TA21NO	1.0	2.0	36.4	10.0	32.7	
TA45NO, TA46NO, TA47NO	5.0		40.9	21.1		<i>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</i>

TA54NO	3.0	27.0	36.9	21.1	27.9	<i>Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.</i>
TA55NO	3.0	9.0	45.2	15.9	36.9	<i>Predicted concentration at Receptor within 10% the AQS objective.</i>
TA64NO	2.0	4.0	36.7	15.9	33.3	
<i>Wigan Metropolitan Borough Council</i>						
WI245NO	0.5	8.5	43.8	15.0	29.4	

### Monthly Outliers

Diffusion Tube data will occasionally report monthly concentrations that do not correlate with expected values at this site. Table C.4 outlines outlying monthly values, including the annual mean at the site before and after the monthly concentration has been removed. These monthly concentrations have been regarded by the Authority as erroneous given the type of location, and comparison with other measured concentrations from the same location. As a consequence, these have been removed from the annual results.

**Table C.4 Monthly Outliers**

Tube	Monthly Concentration Observed ( $\mu\text{g}/\text{m}^3$ )	Month	Reason	Annual Mean at site when including month ( $\mu\text{g}/\text{m}^3$ )	Annual Mean at site when excluding month ( $\mu\text{g}/\text{m}^3$ )
MA96BNO	135.4	October	High	46.1	39.7
RO2ANO	1.5	May	Low	27.6	31.0
RO2ANO	145.8	August	High	49.7	31.0
RO2ANO	97.2	November	High	35.5	31.0
RO20ANO	179.5	February	High	40.0	29.6

## 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 22) 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 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<sup>70</sup>](#) and [CleanAirGM<sup>71</sup>](#).

### PM<sub>10</sub> and PM<sub>2.5</sub> Monitoring Adjustment

The reference method for measuring both PM<sub>10</sub> and PM<sub>2.5</sub> is based upon using a gravimetric sampler. This samples ambient air through a size selective sampling head through a filter over a 24 hour period. The particulate concentration is measured by the mass difference of the filter before and after exposure and taking into account the volume of air sampled. However, this is labour intensive and cannot provide hourly measurements.

---

<sup>70</sup> [REDACTED]

<sup>71</sup> [REDACTED]

All automatic PM<sub>10</sub> and PM<sub>2.5</sub> monitoring carried out for LAQM purposes uses Thermo Fisher Filter Dynamics Measurement System (FDMS), Met One Beta Attenuation Monitors (BAMs) or Palas Fidas 200 particulate analysers. These are all suitable for ambient air quality reporting purposes in the UK. For some instruments, a correction factor is required to be applied to the raw data in order to be equivalent to the reference method as follows:

Met One Smart Heated BAM 1020 PM<sub>10</sub> data: Divide by 1.035

Met One Unheated BAM 1020 PM<sub>10</sub> data: Multiply by 0.833

Palas Fidas 200 PM<sub>2.5</sub> data: Divide by 1.06

Where this is necessary, the correction factor is automatically applied to the raw data by Ricardo-AEA. Further information about UK approval of particulate matter monitoring instruments can be found from the [UK AIR website](#)<sup>72</sup>.

### **Automatic Monitoring Annualisation**

One site required annualisation for 2023: Regent Road (CAP), Salford, a new site monitoring NO<sub>2</sub>, which went live on 7<sup>th</sup> September 2023, and as a result had a data capture rate of 31.35%. The annual mean for this site was 38 µg/m<sup>3</sup>.

### **NO<sub>2</sub> Fall-off with Distance from the Road**

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website.

There were 2 automatic monitoring stations that recorded an exceedance of the AQO, Bridge Street (CAP) and Oxford Road. Bridge Street does not have relevant exposure with 50m and is therefore not suitable for distance correction.

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<sup>72</sup> <https://uk-air.defra.gov.uk/networks/monitoring-methods?view=mcerts-scheme>

**Table C.3 – Automatic NO<sub>2</sub> Fall off With Distance Calculations (concentrations presented in µg/m<sup>3</sup>)**

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
<i>Manchester City Council</i>						
Manchester Oxford Road	3.0	8.0	41.4	24	35.6	

## Appendix D: Map(s) of Monitoring Locations and AQMAs

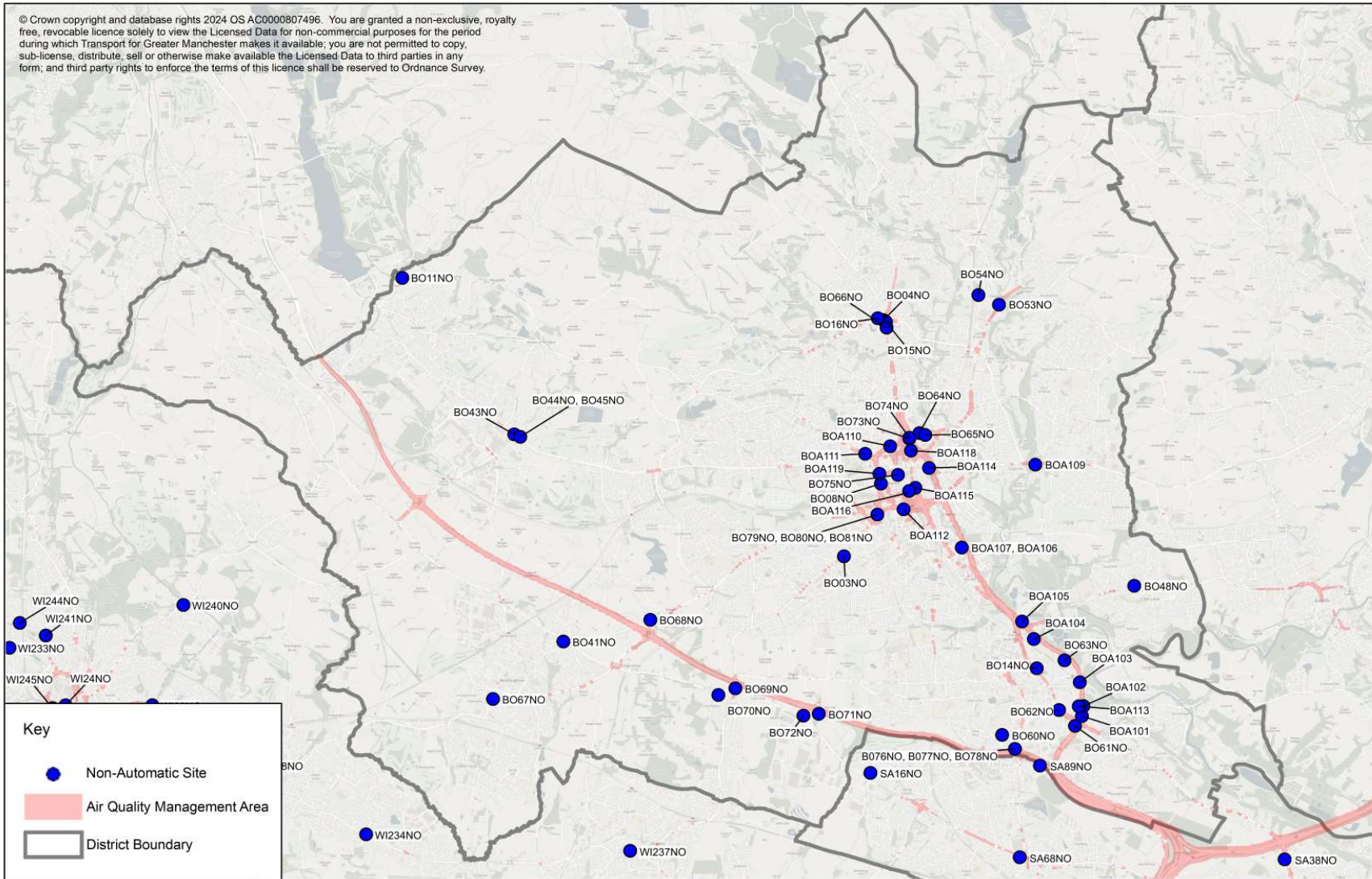
Further details of the monitoring site locations, including the Clean Air Plan Nox tube locations, can be found on the [Clean Air GM Website data hub](#)<sup>73</sup>

### Figure D.1 – Map of Automatic Monitoring Sites and non-automatic sites

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<sup>73</sup> [Data Hub | Clean Air Greater Manchester](#) ( [REDACTED] )

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**Key**

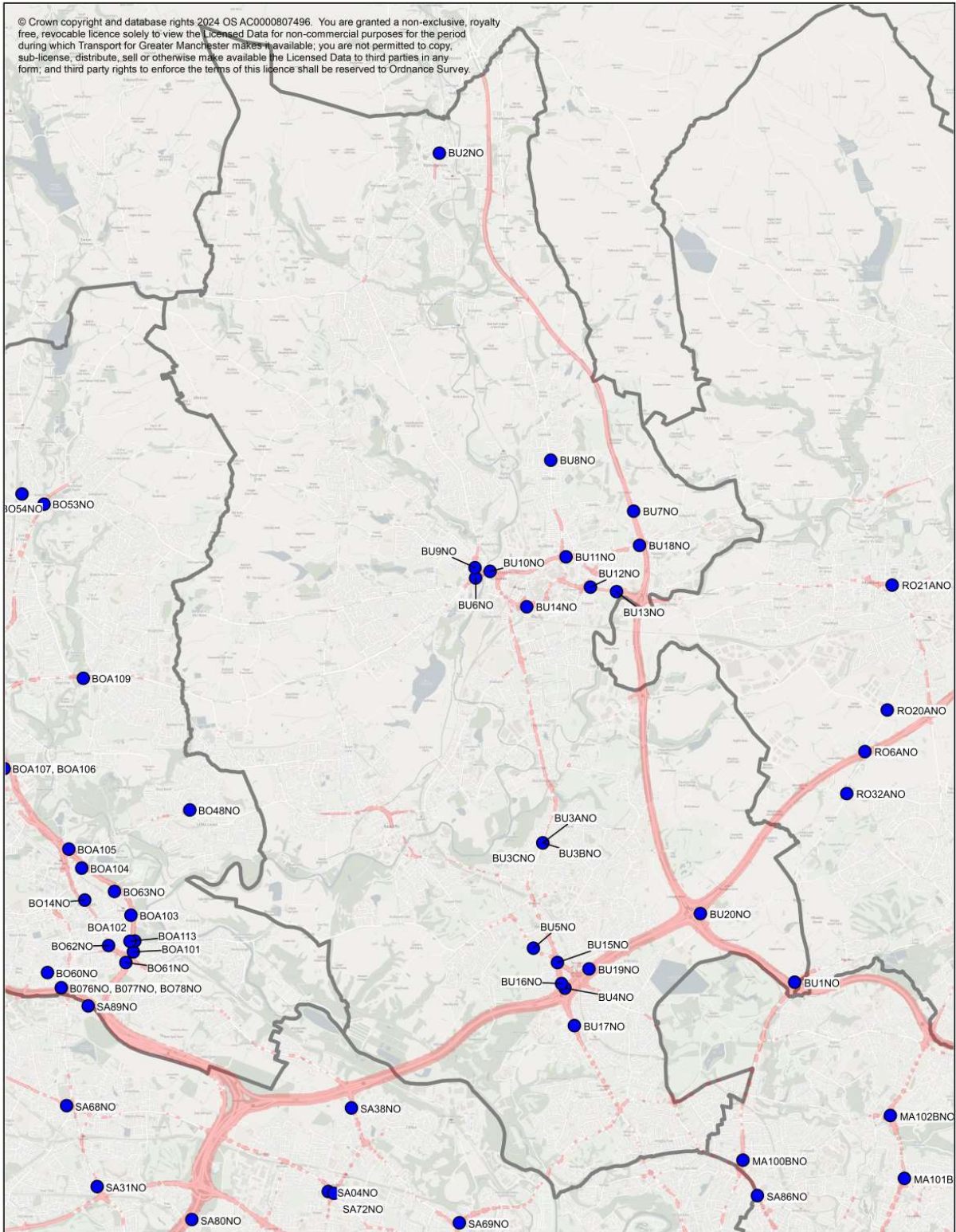
- Non-Automatic Site
- Air Quality Management Area
- District Boundary

**Transport for Greater Manchester**  
 2 Piccadilly Place,  
 Manchester,  
 M1 3BG

<b>Non-Automatic Monitoring Sites</b>			
Drawn By : Geospatial Team	Scale: 1:79100	Date : 21/05/2024	Figure : 2



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Non-Automatic Monitoring Sites

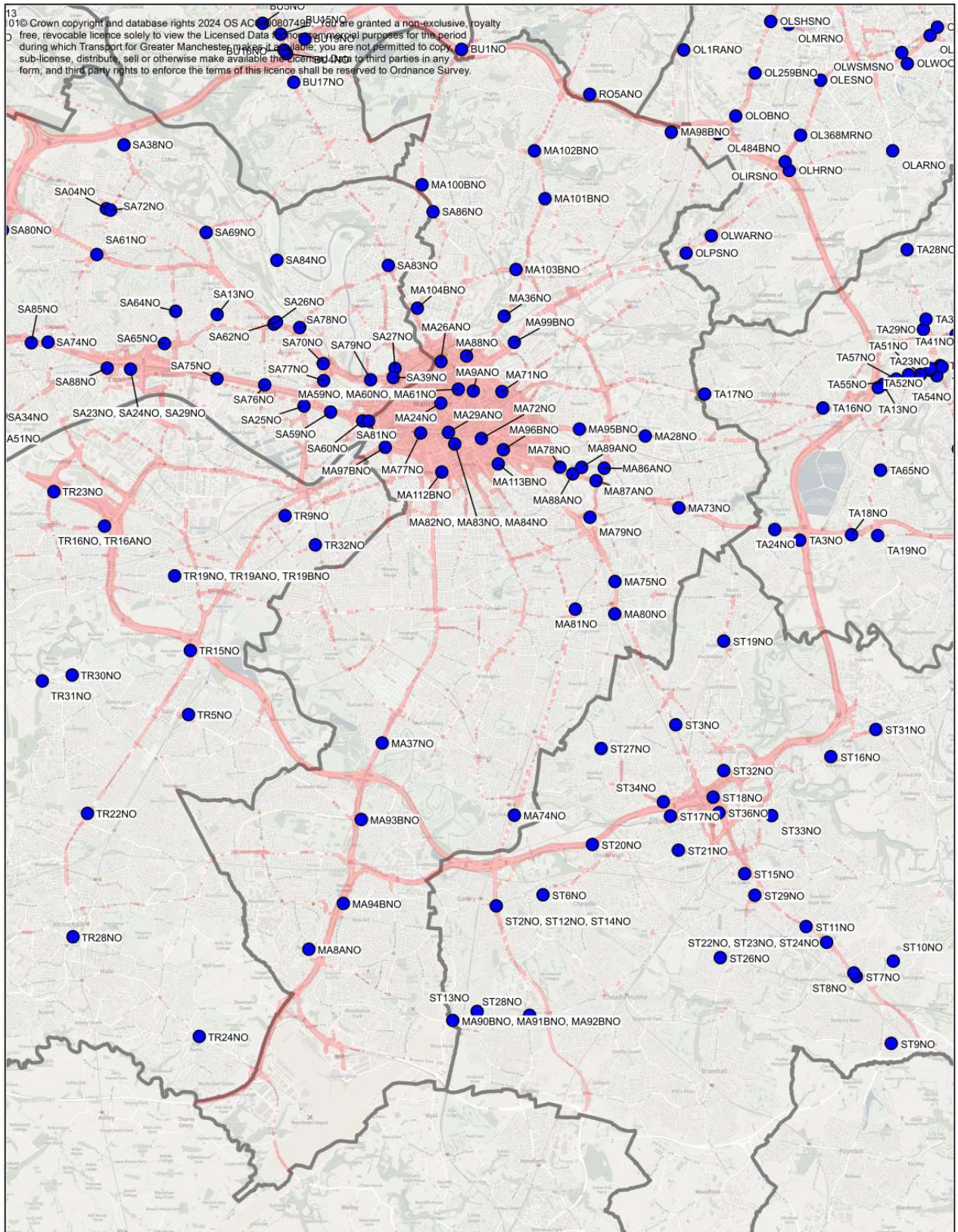
 Transport for Greater Manchester  
2 Piccadilly Place,  
Manchester,  
M1 3BG

Drawn By : Geospatial Team

Date : 21/05/2024

Scale : 1:71280

Figure : 3



Non-Automatic Monitoring Sites

 Transport for Greater Manchester  
2 Piccadilly Place,  
Manchester,  
M1 3BG

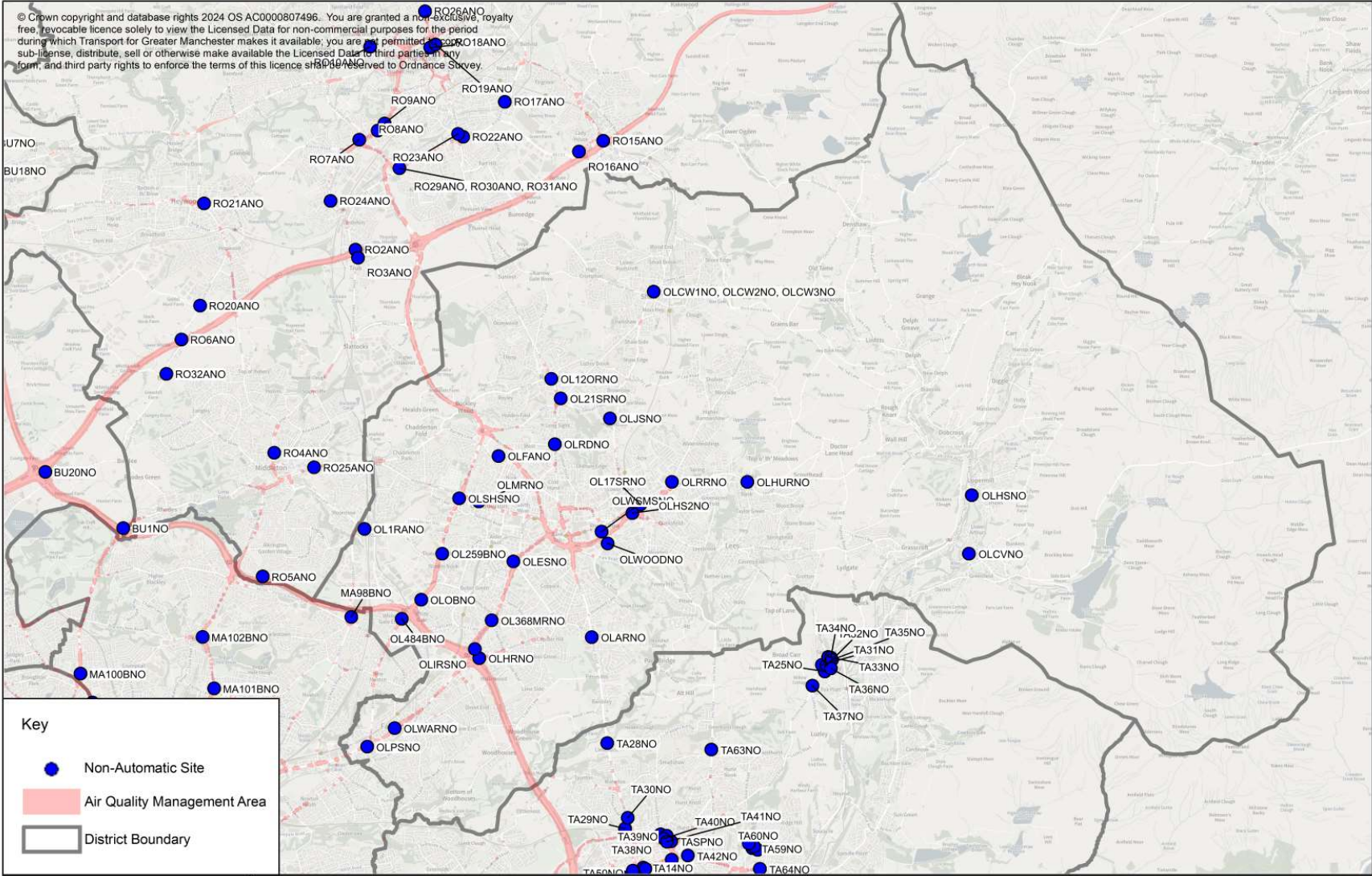
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Date : 21/05/2024

Scale : 1:93460

Figure : 4

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**Non-Automatic Monitoring Sites**

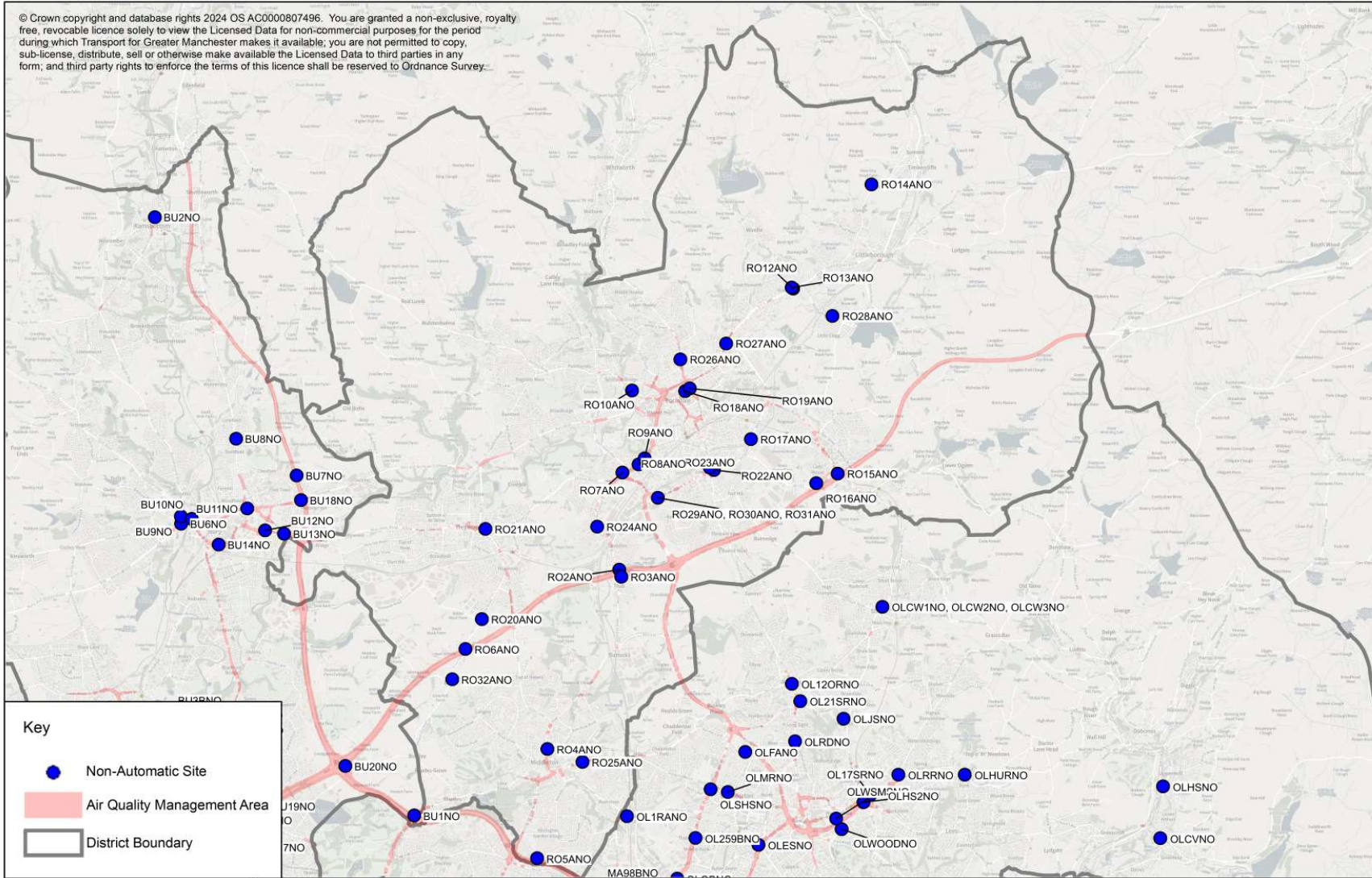
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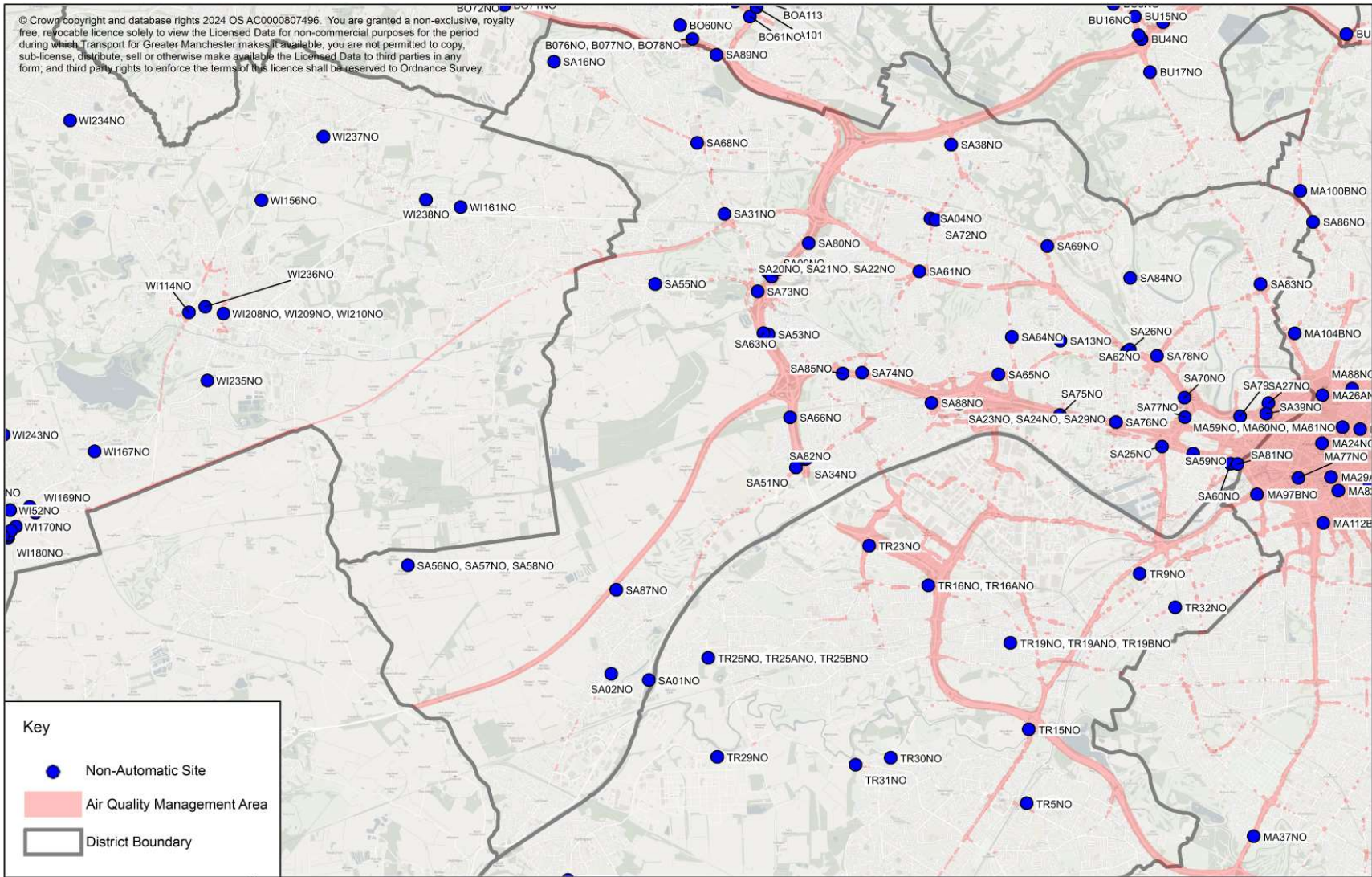
Date : 21/05/2024

Figure : 5

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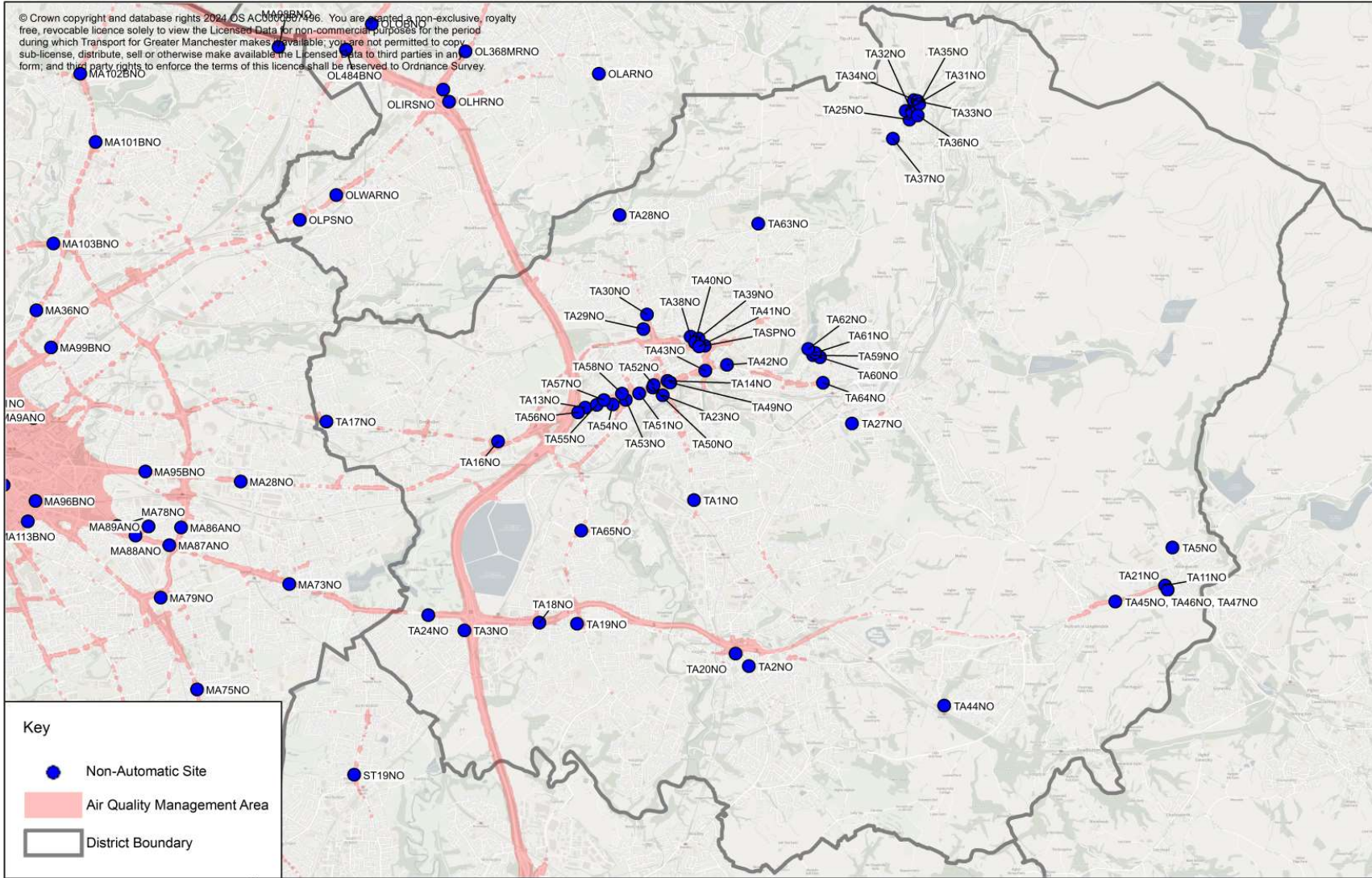
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**Key**

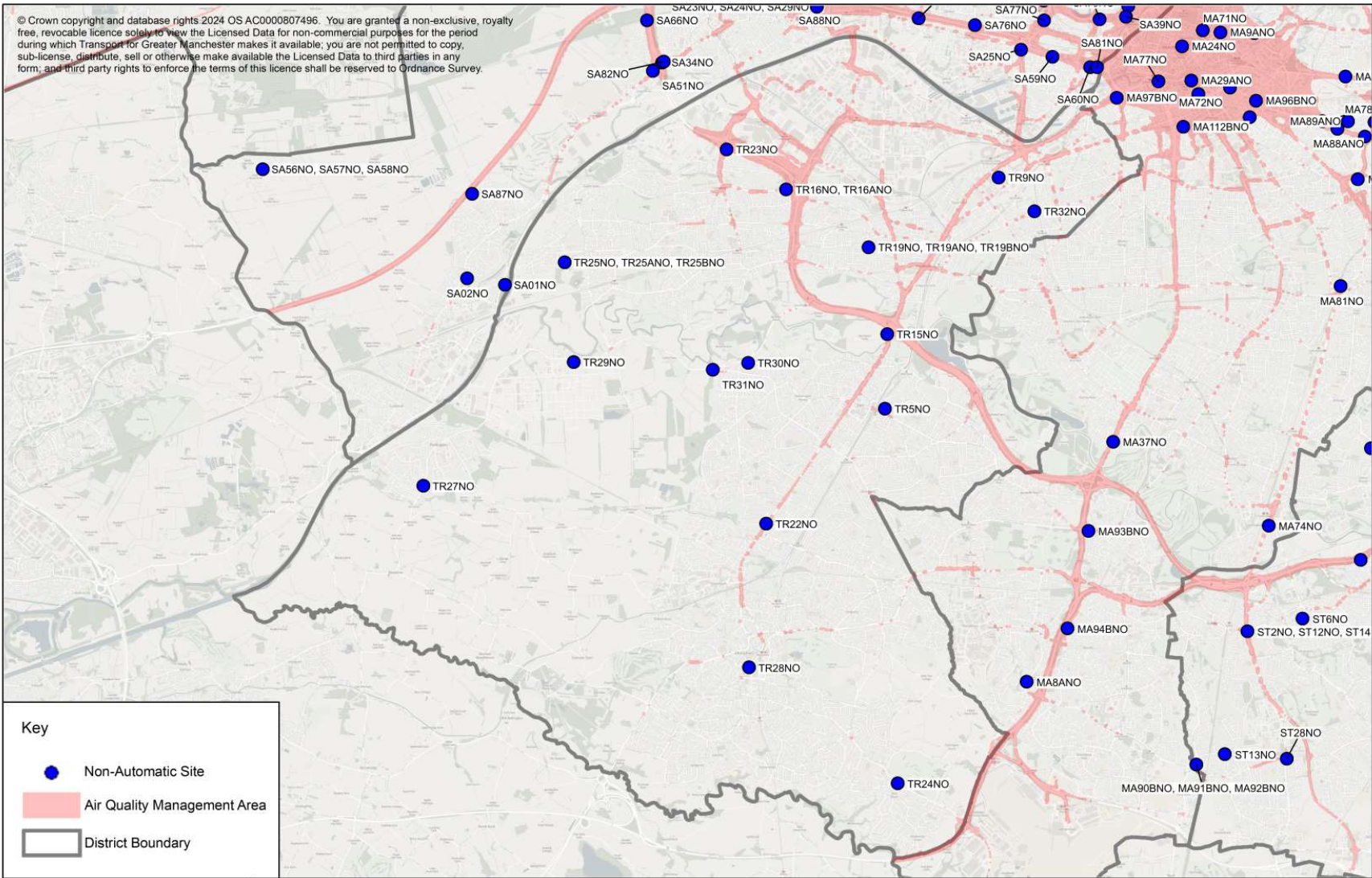
- Non-Automatic Site
- Air Quality Management Area
- District Boundary

 Transport for Greater Manchester 2 Piccadilly Place, Manchester, M1 3BG	Non-Automatic Monitoring Sites			
	Drawn By : Geospatial Team	Scale: 1:82160	Date : 21/05/2024	Figure : 7



 Transport for Greater Manchester 2 Piccadilly Place, Manchester, M1 3BG	Non-Automatic Monitoring Sites		
	Drawn By : Geospatial Team	Scale: 1:66720	Date : 21/05/2024

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**Key**

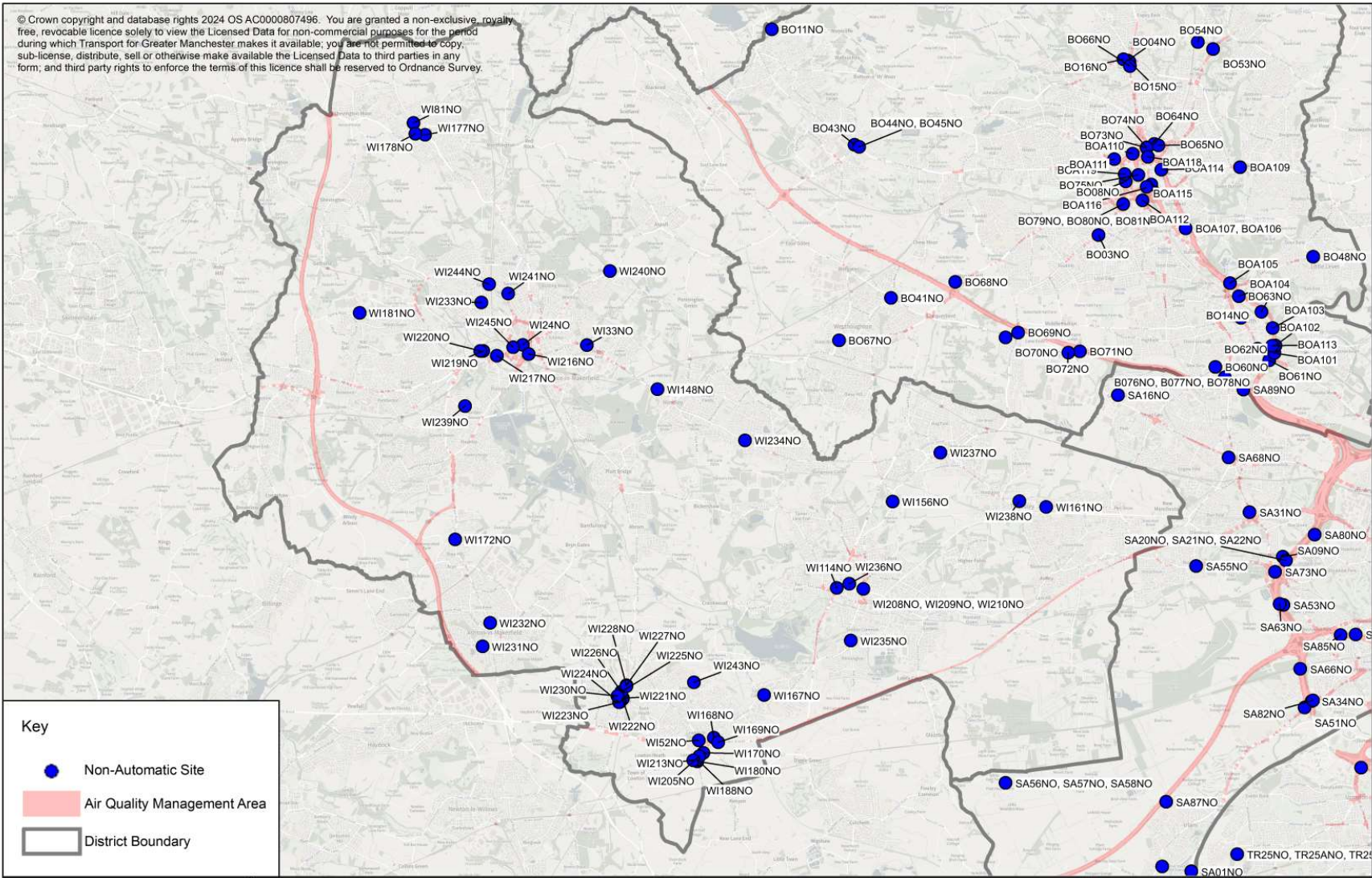
- Non-Automatic Site
- Air Quality Management Area
- District Boundary

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 Manchester,  
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**Non-Automatic Monitoring Sites**

Drawn By : Geospatial Team	Scale: 1:81770	Date : 21/05/2024	Figure : 10
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**Key**

- Non-Automatic Site
- Air Quality Management Area
- District Boundary


 <p>Transport for Greater Manchester 2 Piccadilly Place, Manchester, M1 3BG</p>	Non-Automatic Monitoring Sites		
	Drawn By : Geospatial Team	Scale: 1:106700	Date : 21/05/2024

Figure : 11



## Appendix E: Summary of Air Quality Objectives in England

**Table E.1 – Air Quality Objectives in England<sup>74</sup>**

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO <sub>2</sub> )	40µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM <sub>10</sub> )	40µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	125µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	266µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

<sup>74</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## 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
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 <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. 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.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.

**Additional references are added as foot notes throughout the text.**