



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 2023

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Report Reference Number	ASR2023
Date	June 2023

Executive Summary: Air Quality in Our Area

Air Quality in York

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

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

Through monitoring of air quality across the city, CYC has previously identified some areas of the city centre, around the inner ring road, where long term annual average nitrogen dioxide (NO₂) levels are above health based objective levels. These areas have been incorporated into an Air Quality Management Area (AQMA). Historically, AQMAs have also existed in Fulford (AQMA Order No.2) and on Salisbury Terrace (AQMA Order No.3). These AQMAs were revoked in 2020 and 2017 respectively due to improvements in air quality in these areas of the city. Current and historical AQMAs declared by City of York Council can be viewed at [List of York AQMAs](#) and are discussed in City of York Council's previous [Annual Status Reports](#).

CYC has a statutory duty to try to reduce NO₂ concentrations within the remaining city centre AQMA and additional obligations in relation to the protection of public health and reduction of greenhouse gas emissions. The main air pollutants of concern in York are NO₂ and particulate matter (PM). Typically, transport sources are responsible for around 50-70% of the total NO₂ at any particular location in the city, although the exact amount

¹ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

³ Defra. Air quality appraisal: damage cost guidance, January 2023

⁴ Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

varies according to proximity to roads and other emission sources. Road transport is also a source of PM emissions, although it's contribution is less than half that of domestic burning of solid fuels in closed stoves and open fires.

The latest air pollution monitoring data for 2022, summarised in this report, indicates that NO₂ concentrations in the AQMA remain broadly similar to those monitored in 2021, with further improvements seen in some areas. The highest concentration of NO₂ recorded at a location representative of long-term public exposure in 2022 was 47µg/m³ on Gillygate (diffusion tube reference 14). The same monitoring site also monitored the highest annual mean concentration of 47µg/m³ in 2021. This contrasts with levels of 40µg/m³ monitored in the same location in 2020 during the COVID-19 pandemic period.

Improvements in annual mean NO₂ monitored at roadside continuous monitoring stations were observed between 2021 and 2022 at Fishergate (3% improvement), Holgate Road (11% improvement), Nunnery Lane (3% improvement), Lawrence Street (6% improvement) and Fulford Road (3% improvement). Annual mean NO₂ monitored at Heworth Green in 2022 was comparable to that monitored in 2021 (<1% change). Annual mean NO₂ monitored at Gillygate increased between 2021 and 2022 (6% increase).

Annual mean background concentrations of NO₂ monitored at Bootham Park Hospital (City of York Council's urban background continuous monitoring site) varied by 1% between 2021 and 2022. This reflects the reduced impact of local traffic emissions on air quality in the vicinity of this background site.

Concentrations of NO₂ monitored at the majority of locations in York throughout 2022 continue the general downward trend in NO₂ concentrations monitored in the city since 2012. Ongoing air quality monitoring in all locations will be fundamental to understanding the longer-term environmental impacts of the pandemic and the magnitude of any changes due to increased levels of walking and cycling, changes in public transport use and ongoing air quality improvement initiatives.

With respect to the city centre AQMA, exceedances of the health based annual mean NO₂ objective of 40µg/m³ were monitored at some locations on Gillygate (Diffusion Tubes 7, 13, 14), Bootham / St Leonards Place (Diffusion Tubes A1, D59), Blossom Street (Diffusion Tube C27) and on Rougier Street (Diffusion Tubes 109, 115) in 2022.

Maximum annual mean concentrations of NO₂ monitored at relevant locations within the current AQMA 'technical breach' areas were 47µg/m³ (Gillygate), 44µg/m³ (George Hudson St / Rougier St), 41µg/m³ (Holgate / Blossom Street), 34µg/m³ (Lawrence St),

30 $\mu\text{g}/\text{m}^3$ (Fishergate / Paragon St), 31 $\mu\text{g}/\text{m}^3$ (Prices Lane/Nunnery Lane) and 36 $\mu\text{g}/\text{m}^3$ (Coppergate). Maximum concentrations of NO₂ recorded in these areas between 2021 and 2022 ranged from 8% lower on Fishergate (in 2022) to 13% higher on Coppergate (in 2022).

It is not considered appropriate to reduce the size of the city centre AQMA at this time. In line with DEFRA's LAQM guidance, before revoking an AQMA on the basis of measured pollutant concentrations, a local authority needs to be reasonably certain that any future exceedences of air quality objectives are unlikely. For this reason, it is expected that local authorities will need to consider measurements carried out over several years or more, national trends in emissions, as well as local factors that may affect the AQMA. The AQMA boundary will be reviewed again as part of City of York Council's next Annual Status Report (due June 2024).

Concentrations of NO₂ monitored in the former Fulford Road AQMA in 2022 continue to be well below the annual mean objective of 40 $\mu\text{g}/\text{m}^3$. The highest recorded levels of NO₂ in this area were monitored on Fulford Main Street (Diffusion Tube C58) and were 26.0 $\mu\text{g}/\text{m}^3$. This supports the decision to revoke the Fulford Road AQMA, as discussed in City of York Council's previous Annual Status Reports and implemented in February 2020.

Concentrations of NO₂ monitored in the former Salisbury Terrace / Leeman Road AQMA in 2022 were also all well below the annual mean objective of 40 $\mu\text{g}/\text{m}^3$. The highest recorded levels of NO₂ in this area were monitored on Salisbury Terrace (Diffusion Tube 103) and were 28.5 $\mu\text{g}/\text{m}^3$. This confirms that the decision to revoke this AQMA in December 2017 was appropriate.

In December 2018, the boundary of the city centre AQMA was extended to include the full length of Coppergate and the buildings either side of the road, due to monitored concentrations of NO₂ above the annual mean objective for this pollutant. The highest annual mean concentrations of NO₂ monitored along Coppergate in 2022 was 35.9 $\mu\text{g}/\text{m}^3$ at site D56 (Three Tuns Pub, 12 Coppergate) which is below the annual mean objective for this pollutant. Whilst annual mean concentrations of NO₂ were below the objective in this location in 2022 (and indeed were below concentrations monitored between 2017 – 2019), they are higher than concentrations monitored in 2021 and it is therefore considered appropriate to keep this area of the city under observation prior to making any amendments to the AQMA boundary.

Revisions to the AQMA Order in 2018 also removed the reference to breaches of the short-term hourly objective along George Hudson Street / Rougier Street / Bridge Street

based on monitoring results in this area. The latest 2022 monitoring results for this area of the city indicate that this short-term objective is still being met (all annual mean concentrations were less than $60\mu\text{g}/\text{m}^3$ which suggests that an exceedance of the 1-hour mean objective is unlikely).

City of York Council monitors particulate (PM_{10}) at four sites in the city (Bootham, Fishergate, Holgate Road and Plantation Drive) and ultra-fine particulate ($\text{PM}_{2.5}$) at three sites (Bootham, Fishergate and Gillygate). National health-based air quality objectives for PM_{10} and $\text{PM}_{2.5}$ are currently met in York. The highest annual mean levels of PM_{10} and $\text{PM}_{2.5}$ monitored in York during 2022 were $17.9\mu\text{g}/\text{m}^3$ and $8.8\mu\text{g}/\text{m}^3$ respectively. Along with many areas of the UK, these concentrations are above [World Health Organisation \(WHO\) guidelines](#) for these pollutants, which have recently been strengthened to $15\mu\text{g}/\text{m}^3$ (PM_{10}) and $5\mu\text{g}/\text{m}^3$ ($\text{PM}_{2.5}$). Concentrations monitored in 2022 are marginally above, but broadly comparable to, maximum levels of $17.2\mu\text{g}/\text{m}^3$ (PM_{10}) and $8.4\mu\text{g}/\text{m}^3$ ($\text{PM}_{2.5}$) monitored in 2021.

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 Plan⁵ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term $\text{PM}_{2.5}$ targets. The National Air Quality Strategy, due to be published in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce $\text{PM}_{2.5}$ in their areas. The Road to Zero⁶ details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

⁵ Defra. Environmental Improvement Plan 2023, January 2023

⁶ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

City of York Council previously produced two Air Quality Action Plans (AQAPs) in 2004 and 2006. These previous plans were primarily modal shift and congestion reduction based plans, with emphasis on reducing vehicle trips across the city.

Despite the introduction of two AQAPs, air quality in York continued to deteriorate between 2004 and 2010. In response, York adopted an overarching Low Emission Strategy (LES) in 2012 to tackle the issue. This document was the first of its kind in the UK and set out a new approach to local air quality management based on reducing emissions from all sources, including tailpipe emissions from individual vehicles and encouraging the uptake of alternative fuels and low emission vehicle technologies. The Low Emission Strategy has proved particularly effective at tackling emissions from essential service vehicles such as buses and taxis, which fall outside the scope of trip reduction based modal shift measures.

Modal shift and congestion reduction measures remain fundamental to the delivery of air quality improvement and emission reduction in York. The primary local delivery programmes for these measures are the Local Transport Plan and the iTravel York programme (see [iTravel York Website](#)). Existing programmes and those such as Government Active Travel Funding encourage the uptake of walking, cycling, and public transport in the city. They are supported by planning policies that ensure that sustainable travel solutions are embedded into all new developments in York.

In February 2023, CYC published a draft [Local Transport Strategy](#), that set out high level principles and priorities for York that will underpin future transport strategies for the city. The document examines the evidence, sets out implications and suggests the sort of interventions which could be used to overcome the challenges with York's existing transport system. 'Tackling transport emissions' is recognised as key policy strand within the draft strategy.

CYC's third [Air Quality Action Plan \(AQAP3\)](#) currently sets out how York intends to continue to deliver its ambitious and pioneering overarching Low Emission Strategy (LES) and to continue to work towards becoming an internationally recognised ultra-low emission city.

York's LES has already changed the way York delivers public transport and plans for future transport trips. Since publication of the LES and during 2022, York has:

- Introduced fully electric buses across Park & Ride sites. CYC was awarded £3.3m from DfT's Low Emission Bus Scheme in 2018 to support delivery of high capacity, fully electric buses and to support charging infrastructure at York's P&R sites. In March 2022, CYC was awarded £8.4m through DfT's Zero Emission Bus Regional Areas (ZEBRA) scheme fund to buy an additional 44 new electric buses. This was matched by a further £10 million investment by First. DfT has since awarded the council an additional £1.8m to increase the scope of the ZEBRA scheme to co-fund a further 9 electric buses. The funding will also be used to support the electrification of First's James Street depot, including the installation of charging equipment and removal of the diesel refuelling station. With these additional vehicles, the First York bus fleet will become fully electric by 2024, significantly reducing carbon, NO_x and particulate emissions across the city. In April 2022, CYC was awarded an additional £17m to support the development of key schemes and initiatives in line with York's [Bus Service Improvement Plan \(BSIP\)](#), including wider electrification of the urban bus fleet, bus priority measures, improvements to stops, shelters and passenger information. The York [Enhanced Partnership for Buses](#) came into effect in September 2022 and will act as the principal delivery body for the BSIP funding between 2022 – 2025.
- Launched a Clean Air Zone (CAZ) for buses (introduced 31st January 2020). Buses making 5 or more entrances to the city centre CAZ per day are now required to be Ultra Low Emission Buses (ULEB) (Euro VI diesel or electric). A total of £1.65m was allocated by CYC to 5 bus operators to help replace/retrofit 93 buses to CAZ compliant stand
- Promoted its local 'Kick the Habit' anti-idling campaign. The campaign sets out to encourage people to think about the importance of clean air and the impact that this has on them, their health and those around them. Throughout 2022 CYC worked with partners to reduce the



incidence of vehicle idling across the city. In 2022, we negotiated new licence agreements with some ice cream van traders to prevent idling or the use of generators in the city, and introduced a new requirement for 'Idling Management Plans' on new developments where there are opportunities for customers to sit in their vehicles with engines running such as drive-through food retail, supermarkets, click and collect facilities etc. CYC also welcomed the introduction of permanent anti-idling signage at an existing drive through fast food establishment at Monks Cross retail park (August 2022), complementing CYC's other signage around the city. Work in 2022 reinforces action in previous years, including the erection of permanent anti-idling signage in all CYC owned car parks, at most city centre bus stops, multiple taxi ranks and at other key locations across the city. Further information about the campaign can be found on [CYC's Kick the Habit Webpage](#)

- Continued the promotion and rollout of the DEFRA funded [Low Emission Taxi Grant scheme](#) throughout 2022 and welcomed further hybrid and electric taxis to the York fleet. The scheme offers financial support for eligible CYC registered taxi drivers to upgrade to low emission vehicles and will have the



direct effect of reducing emissions of NOx/NO2 and particulate matter across the city. The use of low emission taxis will also contribute to CYC's net carbon neutral target by 2030, following the declaration of a climate emergency in March 2019. At the end of 2022, approximately 33% of the York fleet were using electric or petrol hybrid vehicles. In October 2022, CYC's Licensing and Regulatory Committee agreed that further hackney carriage vehicle licences shall only be issued to wheelchair accessible, fully electric or plug in hybrid electric vehicles. Licensing and Regulatory Committee members also agreed to update CYC's Taxi Licensing Policy, in consultation with the trade and other relevant parties.

- Continued the upgrade of its fast, rapid, and ultra-rapid public electric vehicle recharging network. Once complete, CYC's new charging network will consist of 350 fast charging spaces, 19 rapid chargers, and 12 ultra-rapid chargers providing different charging options depending on an EV driver's requirements. York's second electric vehicle Hyper Hub, next to Poppleton Park and Ride, opened in Sept 2022. The new site joins the Monks Cross HyperHub, which opened earlier in 2022 and is one of the

largest charging hubs in Northern England. Both Hyper Hub sites contain 4 ultra-rapid (175kW) and 4 Rapid (50kW) vehicle chargers, helping to support the uptake of modern electric vehicles that have larger battery capacities and are capable of ultra-rapid charging. Poppleton's four 175kW ultra-rapid chargers can be upgraded to 350kW when vehicle charging rates make the upgrade worthwhile.

- Progressed significant groundworks and infrastructure upgrades at CYC's Hazel Court ECO Depot site throughout 2022 to facilitate the introduction of EV charging facilities for operational fleet vehicles. This work is supporting CYC's transition to an all-electric fleet for all vehicles under 3.5 tonnes as part of a four-year programme. At the end of 2022, 18.4% of CYC's operational fleet were electric or hybrid vehicles. Officers continue to explore options for larger vehicles over 3.5 tonnes to move away from fossil fuels such as diesel. In 2022, CYC also introduced a requirement for all depot staff to undertake mandatory Alternative Fuel Vehicle (AFV) training prior to delivery of the new electric vehicles; staff training included information on local air quality and health impacts to raise awareness of air quality issues across the CYC workforce.
- Throughout 2022, in line with CYC Low Emission Planning Guidance, we continued to ensure that emissions and air quality impacts from new developments were appropriately assessed and mitigated, exposure to poor air quality was reduced via good design practices and that new private trips were minimised via the provision of sustainable transport solutions. An overview of planning applications reviewed by Public Protection during 2022 is provided in this ASR. Our [Low Emission Planning Guidance note](#) was updated in June 2022 to reflect changes to Building Regulations as outlined in [Approved Document S: Infrastructure for the charging of electric vehicles](#). CYC continues to specify EV charging requirements through the planning process.
- In the last reporting year of 2021, CYC obtained DEFRA AQ Grant funding in to carry out a feasibility study and subsequent pilot scheme to reduce emissions relating to freight deliveries travelling in to and out of York. The initial feasibility work aimed to more precisely quantify the emission / air quality impact of freight deliveries in the city and identify suitable sustainable alternatives, utilising low emission modes including EVs and e-cargo bikes. As part of this work, CYC has previously engaged with businesses, including delivery companies, on the initial feasibility work and options for a pilot scheme. The pilot scheme concept was developed further throughout 2022 with one of CYC's own buildings, 107-109 Walmgate, identified as a base for the 9-month hub pilot, which is expected to progress in 2023, with evaluation and pilot review expected by December 2023. Updates on the pilot will be provided in future Annual

Status Reports. To accompany the work, the Council, in partnership with York Civic Trust, set up a Freight Forum. The purpose of the independently chaired Freight Forum is to engage with a wide base of operators, businesses and interested parties in the movement of freight. This covered large and small organisations and multiple sectors including road and rail. The business of the Freight Forum focused on creating networks to share ideas and solve problems and to inform the project work including the pilot design. In the later stages of the pilot discussion will be had with the operators around continuation and the ambition is that a sustainable model can be found and the operation will continue beyond the end of the pilot.

- Throughout 2022, CYC continued work on the development of the Air Quality Hub alongside Bradford Metropolitan District Council and Lancaster City Council (working together as the Low Emission Partnership (LEP), with management support provided by Bureau Veritas). Following a successful launch at the end of 2020, the AQ Hub membership base has grown significantly throughout 2021 / 2022, covering local authorities across the UK. The LEP are currently exploring opportunities with DEFRA for wider use and adoption the Air Quality Hub to support the Local Air Quality Management regime.
- In September 2022, Public Protection contacted all solid fuel suppliers within and around York to remind them of their legal responsibilities with respect to the sale and delivery of solid fuels within CYC's Smoke Control Area. Further social media promotion around the use of appropriate fuels and maintenance of appliances in line with the Government's national [Burn Better](#) campaign was undertaken in October 2022. Compliance checks across key solid fuel distribution outlets were progressed throughout 2022 to ensure that all solid fuels being sold were certified as 'Ready to Burn' in line with the Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020. Further Air Quality Grant funding was awarded to CYC in February 2023 to improve public awareness of domestic solid fuel burning practices, particulate emissions and associated health impacts.

In addition to the above, CYC continues to deliver on walking, cycling and public transport improvements. In February 2023, CYC published a draft Local Transport Strategy, that set out high level principles and priorities for York that will underpin future transport strategies for the city. '*Tackling transport emissions*' is recognised as key policy strand within the draft strategy. Measures in CYC's emerging Air Quality Action Plan update will support both this aim and York's wider transport vision, which encapsulates the clear

aspiration to reduce congestion, pollution and traffic levels and make active travel and new modes of travel more attractive. Throughout 2022:

- CYC's [Executive Member for Transport](#) approved the continuation of the rental trial of E-Scooters in partnership with leading European operator TIER (February 2022). The trial, which is providing important feedback to the creation of national guidelines, allows the approx. 6,000 current users (making 20,000 trips a month) to continue using this sustainable method of transport to get around the city.
- CYC participated in national 'Bike to School' and 'Walk to School' weeks. These annual awareness-raising events aim to encourage children and their families to walk, cycle or scoot to and from school, rather than travelling by car.
- CYC continued to work with York's bike shops throughout 2022 to enable residents to experience life with an e-cycle, free for one week. Once their trial was complete, participants were eligible for £300 discount should they decide to purchase the bike. The 'E-Cycle Switch' scheme won the national Modeshift award for excellence in active travel, which recognised the effectiveness of E-Cycle Switch in making cycling accessible to everyone living, studying or working in York, as part of the annual Modeshift National Sustainable Travel Awards.
- CYC continued work on the Active Travel programme. CYC were provisionally allocated around £3.3million to support active travel schemes to be implemented by 2023. The programme will develop and introduce new, permanent infrastructure that will enable more convenient and safer walking and cycling across the city. Updates are available on [CYC's website](#).
- In September 2022, CYC organised a week-long [walking festival](#), to promote active travel in and around the city. Residents were invited to discover new routes, explore the history of the city, learn more about nature and find new enjoyment in walking for leisure. This year's festival includes guided group walks, including suitable walks for young children and expectant mothers; family friendly walks to learn about York's history; walks suitable for people with visual and walking disabilities; and wildlife walks.
- CYC's Executive approved a climate change action plan in November 2022. The Climate Change Action Plan sets out City of York Council's commitment to tackling



climate change to meet its ambition for net zero and climate resilience by 2030. The plan contains an indicative list of 160 potential actions, 58 of which the Council is already progressing, and includes improvements in housing, transport and energy to make the Council and city more sustainable. The [Climate Change Strategy](#) and Action Plan were recently recognised by the internationally renowned Climate Disclosure Project, who highlighted the council as one of 122 cities worldwide leaders in climate change and climate action.

Complementary air quality initiatives delivered in 2022 through CYC's carbon reduction work programmes included:

- A collaborative event between Yorkshire business Pure Haus and CYC took place in January 2022. Hosted at Burnholme Explore Library, the event presented a series of talks on the previous successes and future opportunities of Passivhaus developments.
- Signing of contracts to build CYC's first ever zero carbon homes. Caddick Construction has been contracted to build 112 certified "Passivhaus" homes as part of the council's Housing Delivery Programme, which is building 600 homes across the city. The first zero carbon homes will be built on sites at Duncombe Barracks in Clifton and Burnholme in Heworth.
- CYC have been successful in securing £175,980 grant funding from the Government's Low Carbon Skills Fund. The funding has been used to create decarbonisation plans for 21 schools and 5 leisure centres in the City. These plans will identify opportunities to reduce energy consumption, providing both financial and carbon savings. This Government funding is in addition to £50,000 of council funding being used to produce decarbonisation plans for 7 council buildings.

York already has much to celebrate in relation to reducing emissions and protecting and improving the health of its residents. However, with an increasing population and further development, preventing emission growth and improving air quality remain significant challenges for the foreseeable future.

Measures in CYC's current [Air Quality Action Plan](#) support other emission reduction measures across other CYC strategies such as the Local Transport Plan and Climate Change Strategy. An update to CYC's current Air Quality Action Plan is anticipated in 2023. The revised Action Plan will fully update existing measures and targets to drive continual improvement in air quality across the city over the next 5-year period to meet health-based Air Quality Objectives and improve public health outcomes.

Conclusions and Priorities

Key findings and conclusions from this year's Annual Status Report:

- The annual average air quality objective for NO₂ (40µg/m³) was exceeded at some monitoring sites within the current Air Quality Management Area in York in 2022 (Diffusion Tubes 7, 13, 14, 109, 115, A1, C27 and D59). The highest concentration of NO₂ recorded at a 'relevant location' was 47µg/m³ on Gillygate (Diffusion Tube 14).
- Improvements in annual mean NO₂ monitored at roadside continuous monitoring stations were observed between 2021 and 2022 at Fishergate (3% improvement), Holgate Road (11% improvement), Nunnery Lane (3% improvement), Lawrence Street (6% improvement) and Fulford Road (3% improvement). Annual mean NO₂ monitored at Heworth Green in 2022 was similar to that monitored in 2021 (<1% change). Annual mean NO₂ monitored at Gillygate increased between 2021 and 2022 (6% increase).
- With respect to the city centre AQMA, exceedances of the health based annual mean NO₂ objective of 40µg/m³ were monitored at some locations on Gillygate (Diffusion Tubes 7, 13, 14), Bootham / St Leonards Place (Diffusion Tubes A1, D59), Blossom Street (Diffusion Tube C27) and on Rougier Street (Diffusion Tubes 109, 115) in 2022.
- Maximum annual mean concentrations of NO₂ monitored at relevant locations within the current AQMA 'technical breach' areas were 47µg/m³ (Gillygate), 44µg/m³ (George Hudson St / Rougier St), 41µg/m³ (Holgate / Blossom Street), 34µg/m³ (Lawrence St), 30µg/m³ (Fishergate / Paragon St), 31µg/m³ (Prices Lane/Nunnery Lane) and 36µg/m³ (Coppergate). Maximum concentrations of NO₂ recorded in these areas between 2021 and 2022 ranged from 8% lower on Fishergate (in 2022) to 13% higher on Coppergate (in 2022).
- Despite some localised increases in NO₂ in some areas, concentrations of NO₂ monitored at the majority of locations in York throughout 2021 and 2022 continue the general downward trend in NO₂ concentrations monitored in the city since 2012. However, due to the differences in air pollution observed across the city throughout the period 2019 – 2022 (especially the increases observed between 2020 and 2021/2022) and uncertainties around the longer-term impacts of the pandemic on traffic and emissions, it is not considered appropriate to reduce the size of the city centre AQMA at this time.
- Concentrations of NO₂ were generally lower in 2022 (and 2021) than pre-pandemic levels in in 2019.

- Maximum concentrations of NO₂ monitored in the former Fulford Road and Salisbury Terrace / Leeman Road AQMAs in 2022 continue to be well below the annual mean objective.
- The highest annual mean concentrations of NO₂ monitored along Coppergate in 2022 was 35.9µg/m³ at site D56 (Three Tuns Pub, 12 Coppergate) which is below the annual mean objective for this pollutant. Whilst annual mean concentrations of NO₂ were below the objective in this location in 2022 (and indeed were below concentrations monitored between 2017 – 2019), they are higher than concentrations monitored in 2021 and it is therefore considered appropriate to keep this area of the city under observation prior to making any amendments to the AQMA boundary.
- Monitoring of NO₂ in 2021 has not indicated any potential breaches of the short-term hourly NO₂ objective in the city.
- National health-based air quality objectives for PM₁₀ and PM_{2.5} are currently met in York. The highest annual mean levels of PM₁₀ and PM_{2.5} monitored in York during 2022 were 17.9µg/m³ and 8.8µg/m³ respectively. Along with many areas of the UK, these concentrations are above [World Health Organisation \(WHO\) guidelines](#) for these pollutants, which have recently been strengthened to 15µg/m³ (PM₁₀) and 5µg/m³ (PM_{2.5}). Concentrations monitored in 2022 are marginally above maximum levels of 17.2µg/m³ (PM₁₀) and 8.4µg/m³ (PM_{2.5}) monitored in 2021. Trends over the last 5 years indicate that PM_{2.5} has generally decreased across the city, whereas there does not appear to be any clear trend in PM₁₀ over the same period.

City of York Council's priorities for the coming year are outlined below and will be developed further with the new administration over the next 12 months:

- **Progress CYC's updated AQAP** - CYC's AQAP update will include measures to further reduce nitrogen oxides and particulates from all sources and will support and complement CYC's economic strategy, Local Plan, Local Transport Plan/Strategy and Climate Change Strategy. CYC will keep abreast of emerging national legislation, ensuring any new measures to reduce emissions are adequately resourced and implemented in York.
- **Progress upgrades to bus services (including further electrification of the urban fleet)** - the York Enhanced Partnership for Buses formally came into effect on 27th September 2022. This is a statutory Enhanced Partnership (EP) under the Transport Act 2000, between City of York Council and York's local bus operators. The EP sets

out a range of binding responsibilities for the partners and will act as the principal delivery body for the £17.36 million Bus Service Improvement Plan (BSIP) funding. This funding has been awarded to the council by the Department of Transport (DfT) for use during the financial years 2022 to 2025. The EP will also provide a platform for bus users and stakeholders to share their views on the local bus network.

- **Continue to address idling emissions** – CYC will resource a new Public Protection Support Officer (PPSO) service throughout 2023 to provide anti-idling patrols, investigate complaints of idling and raise awareness of the links between idling emissions and health in line with CYC’s existing ‘Kick the Habit’ anti-idling campaign.
- **Continue to reduce emissions from taxis** - We will undertake further consultation with the trade in relation to updates to our Taxi Licensing Policy. Anticipated changes to the policy will see a gradual change in the operational taxi fleet, as vehicle licenses are renewed and as vehicles become too old to operate in the city. We will continue to roll out our DEFRA funded Low Emission Taxi Grant Scheme to support CYC licensed taxi drivers with vehicle upgrades throughout 2023. We will explore further opportunities for minimising emissions from taxis in the city centre in line with the priorities of CYC’s new administration.
- **Reduce emissions from new development** – we will continue to work with developers to ensure development related emissions are appropriately assessed and mitigated, exposure to poor air quality is reduced via good design practices and that new private trips are minimised via provision of opportunities for sustainable transport. We will continue to encourage walking, cycling and low emission public transport use, which have co-benefits for health and wellbeing.
- **Progress development of York’s future transport policies** - CYC shall progress consultation with stakeholders and residents on a [draft Local Transport Policy](#) that reflects the priorities set out in CYC’s 10-Year Strategies and the Local Plan. The draft Strategy sets out high level principles and priorities for York and has been developed with the help of a cross-party working group, taking account of the results of the ‘Our Big Conversation’ consultation carried out in Summer 2022. CYC shall develop a local transport plan by April 2024 which will enable us to reduce congestion and help people get about the city better, as well as meeting our net zero targets.
- **Expansion of strategic EV charging network** - CYC will deliver additional charge points and actively monitor plug-in vehicle uptake in the city to ensure our charging network remains fit for purpose.

- **Raising awareness of PM emissions and health impacts** - we will progress a DEFRA funded project (2022/23 AQ Grant) to improve public awareness of the links between domestic solid fuel burning, particulate emission and health impacts.
- **Improving public awareness of air pollution** – we will progress a DEFRA funded project (2022/23 AQ Grant) to develop an air pollution forecasting and alert platform. The platform will ensure the most vulnerable residents have access to information that allows them to minimise exposure when pollution levels are high. Wider ongoing promotion of such services will improve awareness of the links between all air pollution and health impacts generally; this will support the particulate awareness campaign and CYC’s other ongoing LAQM work.
- **Further controls to address fine particulate emissions** – we will consider further opportunities to tackle fine particulate emissions, building on previous feasibility work. We will develop and seek member approval for a new Enforcement Protocol for civil penalties for smoke emissions within CYC’s Smoke Control Areas.
- **Reducing emissions associated with deliveries of light goods** – we will aim to fully evaluate the pilot micro-consolidation centre and work with partners to find a sustainable model that will allow the operation to continue beyond the end of the pilot. A delivery hub will aim to maximise the efficiency of city centre deliveries, using e-cargo cycles and EVs, thereby minimising the need for large vehicles to enter the city centre. We will explore further opportunities for minimising emissions from freight vehicles in the city centre in line with the priorities of CYC’s new administration.

Challenges faced by City of York Council

- The ability of current vehicle emission standards to deliver reductions in NO_x emissions, particularly the on-road performance of some Euro VI diesel vehicles.
- Development related emissions through the cumulative impact of increased development in the city. CYC will endeavour to manage this through the application of local planning guidance and best practice emission mitigation measures.
- Addressing air pollution from domestic solid fuel burning, especially during winter months, may present challenges as people turn to solid fuels to heat their homes in response to the energy and cost of living crisis. This may be further exacerbated in certain areas where fuel poverty may be a factor in the burning of non-certified wood products / waste wood or other materials.
- Uncertainties with respect to future travel behaviour and challenges in achieving required modal shift targets to sustainable modes

- Continued unnecessary vehicle idling in the city, particularly amongst heavy diesel vehicles. Increased staff resource to deal with idling complaints has been secured for 2023 and will be reviewed annually.

Despite longer term improvements seen in air quality across CYC's area in recent years, the above factors are anticipated to remain challenges for CYC in the future and are considered to be the main reasons for the current AQMA designation.

Local Engagement and How to get Involved

Further information about air quality and previous consultations can be obtained from the air quality pages of CYC's main website at [City of York Council's Air Quality Webpages](#).

Residents, businesses and other interested parties are encouraged to participate in future consultations relating to air quality. These are advertised online at: [City of York Council Consultations](#).

Local Responsibilities and Commitment

This ASR was prepared by the Public Protection Department of City of York Council. Updates on Air Quality Action Plan measures have been obtained from various teams across the council including Transport Planning, Highways, Parking Services, Carbon Reduction and Education.

This ASR has been approved by Cllr Jenny Kent and Cllr Kate Ravilious, Executive Members for Environment and Climate Change (job-share):

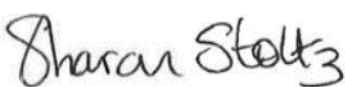
Cllr Jenny Kent and Cllr Kate Ravilious

<<Insert signatures following review >>

This ASR has been signed off by Sharon Stoltz, Director of Public Health and James Gilchrist, Director of Transport, Environment and Planning.

Sharon Stoltz

James Gilchrist



If you have any comments on this ASR please send them to Public Protection at:

Email: public.protection@york.gov.uk

Phone: 01904 551525

Write to: City of York Council, Public Protection (Air Quality), Hazel Court Eco Depot, James Street, York, YO10 3DS

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1 Local Air Quality Management

This report provides an overview of air quality in City of York Council's area during 2022. 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 in order 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 employed by City of York Council 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.

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 should 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 City of York Council can be found in Table 2.1. The table presents a description of the AQMA that is currently designated within York.

Appendix D: Map(s) of Monitoring Locations and AQMAs provides a map of the AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objectives pertinent to the current AQMA designation are as follows:

- NO₂ annual mean

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by 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
City Centre AQMA (AQMA Order No.5)	December 2018 (supercedes AQMA Order No. 4 declared Sept 2012)	NO2 Annual Mean	Inner ring road and properties included within multiple areas of technical breach	NO	62	47	1 (compliance demonstrated in 2020)	AQAP3 published September 2015	Link to AQAP3

- City of York Council confirm the information on UK-Air regarding their AQMA(s) is up to date.
- City of York Council confirm that all current AQAPs have been submitted to Defra.

2.2 Progress and Impact of Measures to address Air Quality in York

DEFRA's appraisal of last year's Annual Status Report supported the outlined measures to improve air quality across the city and accepted the conclusions reached for all sources and pollutants. Defra commented that the report was incredibly detailed and satisfied the criteria of relevant standards.

The only comment made by Defra with respect to how CYC could improve the Annual Status Report for 2023 was the observation that within the administrative boundary there are a large number of diffusion tubes and it would be helpful if rather than saying 'some locations', CYC could specify how many locations and their names, when discussing exceedances of the annual mean NO₂ objective. This has been addressed in the current 2023 report.

City of York Council has taken forward a number of direct measures during the current reporting year of 2022 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Twenty six measures are included within Table 2.2, with the type of measure and the progress City of York Council have made during the reporting year of 2022 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in their respective Action Plans.

Key completed measures and progress are:

- In March 2022, CYC was awarded £8.4m through DfT's Zero Emission Bus Regional Areas (ZEBRA) scheme fund to buy an additional 44 new electric buses. DfT has since awarded the council an additional £1.8m to increase the scope of the ZEBRA scheme to fund a further 9 electric buses. In April 2022, CYC was awarded an additional £17m to support the development of key schemes and initiatives in line with York's Bus Service Improvement Plan, including wider electrification of the urban bus fleet, bus priority measures, improvements to stops, shelters and passenger information. CYC has previously implemented a Clean Air Zone (CAZ) for buses and supported operators with bus upgrades.
- CYC continued to promote its local 'Kick the Habit' anti-idling campaign throughout 2022 and worked with partners to reduce the incidence of vehicle idling across the city.

In 2022, we negotiated new licence agreements with some ice cream van traders to prevent idling or the use of generators in some locations in the city, and introduced a new requirement for 'Idling Management Plans' on new developments. Work in 2022 reinforces action in previous years, including the erection of permanent anti-idling signage in all CYC owned car parks, at most city centre bus stops, at taxi ranks and at other key locations across the city.

- CYC continued the rollout of the DEFRA funded Low Emission Taxi Grant scheme throughout 2022 and welcomed several new electric taxis to the York fleet. By the end of December 2022, approximately 33% of the York fleet were using electric or petrol hybrid vehicles, an increase of approximately 10% from January 2021.
- CYC continued the upgrade of its fast, rapid and ultra-rapid public electric vehicle recharging network. Once complete, CYC's new charging network will consist of 350 fast charging spaces, 19 rapid chargers, and 12 ultra-rapid chargers providing different charging options depending on an EV driver's requirements. Two new electric vehicle HyperHub sites opened in 2022
- CYC progressed significant groundworks and infrastructure upgrades at CYC's Hazel Court ECO Depot site throughout Summer 2022 to facilitate the introduction of EV charging facilities for operational fleet vehicles. This work is supporting CYC's transition to an all-electric fleet for all vehicles under 3.5 tonnes. Mandatory Alternative Fuel Vehicle (AFV) training was also introduced for all staff.
- Throughout 2022, in line with CYC Low Emission Planning Guidance, we continued to ensure that emissions and air quality impacts from new developments were appropriately assessed and mitigated, exposure to poor air quality was reduced via good design practices and that new private trips were minimised via the provision of sustainable transport solutions. An overview of planning applications reviewed by Public Protection during 2022 is provided in this ASR.
- CYC continued work to reduce freight emissions (DEFRA grant funded project) and engaged further with partners about options for a pilot scheme. The pilot scheme concept was developed further throughout 2022 with one of CYC's own buildings identified as a base for the 9-month hub pilot, which is expected to progress in 2023, with evaluation and pilot review expected by December 2023.
- CYC continued work on the development of the [Air Quality Hub](#) alongside Bradford Metropolitan District Council and Lancaster City Council (the 'Low Emission Partnership'). The Low Emission Partnership continue to explore opportunities with

DEFRA for wider use and adoption the Air Quality Hub in line with revisions to the National Air Quality Strategy (AQS).

- Continued to raise awareness around the use of appropriate fuels and maintenance of appliances in line with the Government’s national Burn Better campaign. CYC also continued compliance checks across key solid fuel distribution outlets in 2022 to ensure that all solid fuels being sold were certified as ‘Ready to Burn’ in line with the [Air Quality \(Domestic Solid Fuels Standards\) \(England\) Regulations 2020](#).

In addition to the above, CYC continues to deliver on walking, cycling, micro-mobility modes and public transport improvements. Throughout 2022:

- It was agreed to continue CYC’s trial of E-scooters in partnership with European operator TIER. The trial, which is providing important feedback to the creation of national guidelines, allows the approx. 6,000 current users (making 20,000 trips a month) to continue using this sustainable method of transport to get around the city.
- CYC participated in national ‘Bike to School’ and ‘Walk to School’ weeks. These annual awareness-raising events aim to encourage children and their families to walk, cycle or scoot to and from school, rather than travelling by car.
- CYC continued to work with York’s bike shops throughout 2022 to enable residents to experience life with an e-cycle, free for one week. Once their trial was complete, participants were eligible for £300 discount should they decide to purchase the bike. The ‘E-Cycle Switch’ scheme won the national Modeshift award for excellence in active travel.
- CYC continued work on its [Active Travel programme](#).
- In September 2022, CYC organised a week-long [walking festival](#), to promote active travel in and around the city.

Complementary air quality initiatives delivered in 2022 through CYC’s carbon reduction work programmes included:

- A collaborative event between Yorkshire business Pure Haus and CYC, presented a series of talks on the previous successes and future opportunities of passivhaus developments.
- Signing of contracts to build CYC’s first ever zero carbon homes. Caddick Construction has been contracted to build 112 certified “Passivhaus” homes as part of the council’s Housing Delivery Programme, which is building 600 homes across the city. The first zero carbon homes will be built on sites at Duncombe Barracks in Clifton and Burnholme in Heworth.

- CYC have been successful in securing £175,980 grant funding from the Government's Low Carbon Skills Fund to create decarbonisation plans for 21 schools and 5 leisure centres in the City.

City of York Council expects the following measures to be completed over the course of the next reporting year:

- **Continued awareness raising and campaign work in relation to anti-idling.** CYC will continue to address complaints of idling as and when necessary throughout 2023 and will install further campaign signage as appropriate. CYC has now launched its Public Protection Support Officer (PPSO) service, a new 24/7 service which will provide many of Public Protection's frontline services including regular anti-idling patrols, targeted by complaints.
- **Continued roll-out of EV charging infrastructure** - we will continue upgrading our existing charging estate in accordance with our current programme (as outlined in our [EV Charging Strategy](#)) and will continue to specify EV charging infrastructure on new developments via the Planning process and in accordance with Building Regulations.
- **Standards for taxis** – the timetable approved in 2022 for the revision, consultation and implementation of a revised Taxi Licensing Policy shall be progressed. The revised policy will consider future standards for CYC licensed taxis in consultation with the taxi trade and other relevant parties. Changes proposed will ensure a more environmentally-friendly and modern Hackney carriage and private hire fleet in the city in response to the declared climate emergency and continuing desire to improve air quality. We will also continue to roll out funding under our DEFRA funded Low Emission Taxi Grant Scheme to support drivers in upgrading to low emission taxis.
- **Further modal shift and network improvement measures** - including delivering initiatives to promote walking, cycling and the use of public transport. CYC will progress the statutory [Enhanced Bus Partnership](#), which will set out a range of binding responsibilities for the partners and will act as the principal delivery body for the £17.36m Bus Service Improvement Plan (BSIP) funding.
- **Progress pilot micro-consolidation scheme (DEFRA AQ Grant funded project)** – the pilot scheme will aim to reduce emissions relating to freight deliveries travelling into and out of York. The pilot scheme concept was developed further throughout 2022 with one of CYC's own buildings, 107-109 Walmgate, identified as a base for the 9-month hub pilot, which is expected to progress in 2023, with evaluation and pilot review expected by December 2023. It is anticipated that a sustainable model can be found

and the operation will continue beyond the end of the pilot. Updates on the pilot will be provided in future Annual Status Reports.

- **Smoke Control Areas** - we will undertake further promotion of the rules around smoke control areas and continue compliance checks across key distribution outlets within CYC's area to ensure that all solid fuels being sold are certified as 'Ready to Burn' in line with the [Air Quality \(Domestic Solid Fuels Standards\) \(England\) Regulations 2020](#). We plan to develop a new Enforcement Protocol for civil penalties for smoke emissions within Smoke Control Areas (under the Clean Air Act 1993, as amended by the Environment Act 2021).
- **Domestic solid fuel use (DEFRA Air Quality Grant funded project)** – we will progress a DEFRA funded project (2022/23 AQ Grant) to improve public awareness of the links between particulate matter emissions and health. Emphasis will be on reducing emissions of particulate matter from domestic solid fuel burning and other sources and on the implications for indoor and outdoor air pollution.
- **Air Quality Forecasting and Alert Platform (DEFRA Air Quality Grant funded project)** – we will progress a DEFRA funded project (2022/23 AQ Grant) to develop a platform that can be used by residents and visitors (especially those with health conditions exacerbated by air pollution) to make informed decisions with respect to travel around the city to help reduce their own exposure to air pollution. The platform will provide a forecasting and alert service for different areas of York both 'on-demand' and via a free subscription service via various communication channels to suit specific audiences.

City of York Council's priorities for the coming year are outlined below and will be developed further with the new administration of the next 12 months:

- **Progress CYC's updated AQAP** - CYC's AQAP update will include measures to further reduce nitrogen oxides and particulates from all sources and will support and complement CYC's economic strategy, Local Plan, Local Transport Plan/Strategy and Climate Change Strategy. CYC will keep abreast of emerging national legislation, ensuring any new measures to reduce emissions are adequately resourced and implemented in York.
- **Progress upgrades to bus services (including further electrification of the urban fleet)** - the York Enhanced Partnership for Buses formally came into effect on 27th September 2022. This is a statutory Enhanced Partnership (EP) under the Transport Act 2000, between City of York Council and York's local bus operators. The EP sets

out a range of binding responsibilities for the partners and will act as the principal delivery body for the £17.36 million Bus Service Improvement Plan (BSIP) funding. This funding has been awarded to the council by the Department of Transport (DfT) for use during the financial years 2022 to 2025. The EP will also provide a platform for bus users and stakeholders to share their views on the local bus network.

- **Continue to address idling emissions** – CYC will resource a new Public Protection Support Officer (PPSO) service throughout 2023 to provide anti-idling patrols, investigate complaints of idling and raise awareness of the links between idling emissions and health in line with CYC’s existing ‘Kick the Habit’ anti-idling campaign.
- **Continue to reduce emissions from taxis** - We will undertake further consultation with the trade in relation to updates to our Taxi Licensing Policy. Anticipated changes to the policy will see a gradual change in the operational taxi fleet, as vehicle licenses are renewed and as vehicles become too old to operate in the city. We will continue to roll out our DEFRA funded Low Emission Taxi Grant Scheme to support CYC licensed taxi drivers with vehicle upgrades throughout 2023. We will explore further opportunities for minimising emissions from taxis in the city centre in line with the priorities of CYC’s new administration.
- **Reduce emissions from new development** – we will continue to work with developers to ensure development related emissions are appropriately assessed and mitigated, exposure to poor air quality is reduced via good design practices and that new private trips are minimised via provision of opportunities for sustainable transport. We will continue to encourage walking, cycling and low emission public transport use, which have co-benefits for health and wellbeing.
- **Progress development of York’s future transport policies** - CYC shall progress consultation with stakeholders and residents on a [draft Local Transport Policy](#) that reflects the priorities set out in CYC’s 10-Year Strategies and the Local Plan. The draft Strategy sets out high level principles and priorities for York and has been developed with the help of a cross-party working group, taking account of the results of the ‘Our Big Conversation’ consultation carried out in Summer 2022. CYC shall develop a local transport plan by April 2024 which will enable us to reduce congestion and help people get about the city better, as well as meeting our net zero targets.
- **Expansion of strategic EV charging network** - CYC will deliver additional charge points and actively monitor plug-in vehicle uptake in the city to ensure our charging network remains fit for purpose.

- **Raising awareness of PM emissions and health impacts** - we will progress a DEFRA funded project (2022/23 AQ Grant) to improve public awareness of the links between domestic solid fuel burning, particulate emission and health impacts.
- **Improving public awareness of air pollution** – we will progress a DEFRA funded project (2022/23 AQ Grant) to develop an air pollution forecasting and alert platform. The platform will ensure the most vulnerable residents have access to information that allows them to minimise exposure when pollution levels are high. Wider ongoing promotion of such services will improve awareness of the links between all air pollution and health impacts generally; this will support the particulate awareness campaign and CYC’s other ongoing LAQM work.
- **Further controls to address fine particulate emissions** – we will consider further opportunities to tackle fine particulate emissions, building on previous feasibility work. We will develop and seek member approval for a new Enforcement Protocol for civil penalties for smoke emissions within CYC’s Smoke Control Areas.
- **Reducing emissions associated with deliveries of light goods** – we will aim to fully evaluate the pilot micro-consolidation centre and work with partners to find a sustainable model that will allow the operation to continue beyond the end of the pilot. A delivery hub will aim to maximise the efficiency of city centre deliveries, using e-cargo cycles and EVs, thereby minimising the need for large vehicles to enter the city centre. We will explore further opportunities for minimising emissions from freight vehicles in the city centre in line with the priorities of CYC’s new administration.

City of York Council worked to implement these measures in partnership with the following stakeholders during 2022:

- Residents of York
- Various local Primary Schools
- York Railway Station
- York Bus companies
- York Taxi Associations (and vehicle dealerships for taxi grants)
- Public Transport / Freight operators and local retailers

The principal challenges and barriers to implementation that City of York Council anticipates facing are:

- The ability of current vehicle emission standards to deliver reductions in NO_x emissions, particularly the on-road performance of some Euro VI diesel vehicles.

- Development related emissions through the cumulative impact of increased development in the city. CYC will endeavour to manage this through the application of local planning guidance and best practice emission mitigation measures.
- Addressing air pollution from domestic solid fuel burning, especially during winter months, may present challenges as people turn to solid fuels to heat their homes in response to the energy and cost of living crisis. This may be further exacerbated in certain areas where fuel poverty may be a factor in the burning of non-certified wood products / waste wood or other materials.
- Uncertainties with respect to future travel behaviour and challenges in achieving required modal shift targets to sustainable modes
- Continued unnecessary vehicle idling in the city, particularly amongst heavy diesel vehicles. Increased staff resource to deal with idling complaints has been secured for 2023 and will be reviewed annually.

Progress on the following measures has been slower than expected:

- **Updates to Taxi Licensing Policy** - Following some earlier delays due to the impact of the pandemic on the taxi trade, an update to CYC's Taxi Licensing Policy is expected in 2023/24. The proposed timetable for the revision, consultation and implementation of the revised policy was considered at a meeting of the [Licensing and Regulatory Committee](#) on 4th October 2022 and will progress in 2023.
- **Pilot micro-consolidation centre** – following some delays due to planning and other operational issues, the pilot scheme concept was developed further throughout 2022 and premises have now been identified for the 9-month hub pilot, which is expected to progress in 2023, with evaluation and pilot review expected by December 2023.

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance, City of York Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of the city centre AQMA (Order No.5).

As reported in CYC's previous Annual Status Report, it was CYC's original intention to revise AQAP3 by the end of 2022. In line with this original timescale, further feasibility work was progressed in 2021/22 in relation to options for reducing freight emissions and survey working in relation to the prevalence of domestic solid fuel burning across the city. It was previously reported that CYC had extended the timescales for updating its AQAP to allow consideration of additional air quality monitoring results during the pandemic 'recovery' period. Such monitoring has allowed a further review of air quality trends and

will ensure that any new measures remain targeted and proportionate to the air quality issues in York. It is anticipated that a revised AQAP will be published later in 2023.

Table 2.2 – Progress on Measures to Improve Air Quality

The expected efficacy of measures in terms of ‘overall emission impact’ is colour coded from **red** (least impact) - **amber** - **green** (most impact)

Measure No.	Measure	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
AQAP3 (1)	Clean Air Zone (CAZ)	Promoting Low Emission Transport	Low Emission Zone	2015	2021	CYC	CYC and DEFRA Grant	YES	Funded	£1 million - £10 million	Completed	Every electric bus introduced into the CAZ will remove local emissions of NO2 and PM10 and reduce CO2 emissions by approx 35 tonnes.	Number of ultra low emission buses (Electric and Hybrid) operating within York At Dec 2022 this was 30%	On 31st Jan 2020 York became the first city in the country to roll out a voluntary CAZ for buses. Buses making 5 or more entrances to the CAZ per day are now required to be Ultra Low Emission Buses (ULEB) (Euro VI diesel or electric). Following a twelve month ‘sunset’ period, York’s CAZ for buses was fully operational from January 2021 and applied to all high frequency services. To facilitate the upgrade of local bus services, a total of £1,654,000 was allocated to 5 operators by CYC to help replace/retrofit 93 buses. In addition to grant supported vehicles, operators have either converted or replaced approximately 40 additional buses to ensure compliance with the CAZ requirements. CYC was awarded funding of £8.4m (DfT’s ZEBRA scheme - March 2022) and £17m (Bus Service Improvement Plan allocation from DfT - April 2022) for wider electrification of the urban bus fleet over the next few years. BSIP funding will be used to implement a range of improvements to the city’s bus network and associated infrastructure.	Measures to reduce emissions from buses were a critical part of AQAP3. CYC made funding available to support bus upgrades on essential services affected by CAZ implementation. CYC will continue to improve emissions from lower frequency services and strive to maximise the number of services operating fully electric buses to further reduce exhaust emissions. It remains CYC’s ambition to pursue an all-electric bus fleet within the city.
AQAP3 (2)	Anti-idling measures	Traffic Management	Anti-idling enforcement	2015	2022	CYC	CYC and DEFRA Grant	YES	Funded	£10k - 50k	Implementation	From feasibility report done by TTR Ltd - at 5 busiest service bus locations, estimated savings per annum of 1,526kg NOx, 36kg PM10, 46,555kg CO2, and 17,949 litres of fuel.	Estimate of idling time saved	CYC continued to promote its ‘Kick the Habit’ anti-idling campaign throughout 2022 and worked with partners to reduce the incidence of vehicle idling across the city. In 2022 we negotiated new licence agreements with some ice cream van traders to prevent idling (or the use of generators) and introduced a new requirement for ‘Idling Management Plans’ on new developments where there are opportunities for customers to sit in their vehicles with engines running. Further promotion of the campaign was undertaken for Clean Air Day 2022, where CYC’s Public Protection team worked alongside CYC’s sustainable transport team, CYC Public Health, York and Scarborough NHS trust, local primary schools and London North Eastern Railway (LNER) to promote the day. Work in 2022 reinforces action in previous years, including the erection of permanent signage in all council owned car parks across the city, at most city centre bus stops, multiple taxi ranks and at other key locations across the city. Information about the campaign can be found on CYC’s Kick the Habit Webpage at https://www.york.gov.uk/EnginesOff	To date CYC has not had to serve any Fixed Penalty Notices (FPNs) specifically for idling. A Fixed Penalty Notice will only be issued if a vehicle has been observed idling on the public highway for more than two minutes (without reasonable cause) and the driver refuses to switch their engine off when asked. The legislation only applies to the public highway and not to private land, such as car parks. It is also not applicable to vehicles waiting in a queue of traffic, unless there’s an obvious source of prolonged delay, such as a level crossing or an incident that’s blocking the highway. Driver’s are also allowed a reasonable period in which to defrost their vehicles to a safe level during periods of cold weather. With respect to buses, condition 2 of the CAZ Traffic Regulation Condition (see AQAP measure 1) prohibits buses from idling their engines anywhere within the affected CAZ area for more than 2 minutes. This condition applies to all local bus services operating within the affected streets irrespective of service frequency or engine type. Public Protection Support Officers (PPSOs) to assist with ongoing enforcement in 2023
AQAP3 (3)	Further development of ECO-Stars Fleet Recognition Scheme	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2015	2018	CYC	DEFRA Grant	YES	Funded	£10k - 50k	Completed	A typical van operator could see its annual output of carbon dioxide fall by six tonnes per year (see http://www.ecostars-uk.com/about-eco-stars/why-join/)	Number of operators signed up to the scheme	ECO-Stars scheme launched March 2013. There are currently 106 members of the scheme (as of end December 2022). CYC is not currently actively recruiting new members to the York scheme as funding expired in November 2018.	CYC will explore further opportunities for promoting operational best practice with operators / businesses as part of ongoing work to address emissions associated with freight movements and deliveries in York

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AQAP3 (4)	Planning and delivery of Compressed Natural Gas (CNG) refuelling infrastructure	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV charging, Gas fuel recharging	2015	2021	CYC and third party investment (to be identified)	Subject to third party investment	YES	Partially Funded	£10k - 50k	Aborted	Detailed emission savings were to be determined at planning application stage, but this measure is no longer being progressed	To be determined	CNG feasibility study completed in 2013. Potential site identified based on location of high pressure gas mains to the south west of the city. However, this location is designated greenbelt and line with local air quality and carbon reduction aspirations, promotion of hydrocarbon based fuels is no longer considered appropriate for subsequent AQAPs. This action will not be progressed. Recent research has shown that vehicles fuelled by CNG may emit especially large numbers of ultra-fine particles, with the highest particle number emissions measured during urban driving (i.e. low speeds, cold-starts) which has implications for York's city centre environment and fine particulate exposure reduction targets (Environment Act 2021).	Note that estimated cost of £10-£50k was for the feasibility study and not the implementation of a CNG refuelling facility
AQAP3 (5)	Freight delivery and service plan for key city centre retailers and streets.	Freight and delivery management	Delivery and service plans	2015	2023	CYC	CYC and DEFRA Grant	YES	Partially Funded	£100k - £500k	Planning	To be determined	To be determined	Freight improvement study undertaken in 2013. CYC was awarded additional DEFRA funding in March 2021 to carry out a feasibility study and subsequent pilot scheme to reduce emissions relating to freight deliveries travelling in to and out of York (see update for measure 5a).	Depends on external investment and planning process. Estimated cost includes feasibility and pilot study only.
AQAP3 (5a)	Freight consolidation Centre	Freight and delivery management	Freight consolidation centre	2015	2023	CYC and third party investment (to be identified)	CYC and DEFRA Grant	YES	Partially Funded	£1 million - £10 million	Planning	To be determined	Number of city centre businesses using consolidation centre.	CYC was awarded DEFRA funding in March 2021 to carry out a feasibility study and subsequent pilot scheme to reduce emissions relating to freight deliveries travelling in to and out of York. The initial feasibility work aimed to more precisely quantify the emission / air quality impact of freight deliveries in the city and identify suitable sustainable alternatives, which may include a delivery 'hub' allowing the last or first mile of the journey to be made by low emission modes, including e-cargo bikes. As part of this work, CYC has engaged with businesses, including delivery companies, on the initial feasibility work and future pilot scheme. The initial feasibility study was completed December 2021 and CYC is currently progressing a pilot. The pilot scheme concept was developed further throughout 2022 with one of CYC's own buildings, 107-109 Walmgate, identified as a base for the 9-month hub pilot, which is expected to progress in 2023, with evaluation expected by December 2023.	The delivery of a permanent freight consolidation centre is subject to third party investment / participation and a suitable site. CYC's ambition is that a sustainable model can be found and the operation will continue beyond the end of the pilot.
AQAP3 (6)	Development and implementation of LES based planning guidance	Policy guidance and development control	Air quality planning and policy guidance	2015	2023	CYC	CYC	NO	Funded	£10k - 50k	Implementation	Aims to minimise additional emission impact of development across the entire York area. Emission savings generally calculated and reported per development.	Number of publicly accessible EV parking bays available in York (some deliverable via the planning process)	Low Emission Planning Guidance has been developed to accompany policy ENV1 'Air Quality' of the Local Plan. The guidance is available at: https://www.york.gov.uk/downloads/file/8069/cyc-low-emission-planning-guidance-june-2022 . The guidance outlines CYC's design and mitigation expectations for all new developments in the city, including EV charging. The guidance aims to assist developers to improve air quality and lower transport emissions in line with the aims and objectives of the York Air Quality Action Plan (AQAP) and Low Emission Strategy (LES). The guidance note was updated in June 2022 to reflect changes to Building Regulations as outlined in 'Approved Document S: Infrastructure for the charging of electric vehicles'. CYC continues to specify EV charging requirements through the planning process.	In line with CYC guidance, developers are required to demonstrate how they are mitigating site emission 'damage costs' via the implementation of suitable mitigation measures. Idling Management Plans now required for some sites
AQAP3 (7a)	Reducing emissions from taxis (financial incentive for low	Promoting low emission transport	Taxi emission incentives	2015	2023	CYC	CYC and DEFRA Grant	YES	Funded	£100k - £500k	Implementation	A hybrid taxi produces approx 8t per annum of CO2 less than a diesel equivalent and has	Number of low emission taxis purchased through the local grant scheme	CYC's first incentive scheme was launched in 2015/16 and provided financial assistance to CYC licensed taxi drivers to purchase low emission taxis.	At the end of 2022, the current grant scheme had facilitated the introduction of an additional 8 electric vehicles into the York taxi fleet, alongside 16 low emission petrol hybrid vehicles (Euro 6, <100g/km CO2).

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	emissions taxi purchase)											considerably lower emissions of NOx and PM. Electric taxis eliminate tailpipe emissions of NOx and PM		CYC was awarded additional DEFRA AQ Grant funding in March 2020 to continue the incentive scheme in 2020/21. The new scheme was formally launched on 10th November 2020 and is currently still open for applications. At the end of 2022, CYC had supported 24 taxi drivers with vehicle upgrades and operational costs under the latest scheme. Details of the scheme can be viewed at https://www.york.gov.uk/LowEmissionTaxiGrantScheme .	
AQAP3 (7b)	Reducing emissions from taxis (taxi licensing emissions controls)	Promoting low emission transport	Taxi licensing conditions	2015	2023	CYC	CYC	NO	Funded	< £10k	Planning	Not yet quantified	% of ultra-low emission Licensed Taxis operating in York (Electric and Hybrid) At Dec 2022 this was 32.7%	In October 2022, CYC Licensing and Regulatory Committee approved the issuing of ten new hackney carriage vehicle licences bringing the total number to 190. Licences will be only be issued to wheelchair accessible vehicles, which are also fully electric or plug in electric hybrid. At the same meeting, Licensing and Regulatory Committee members also considered a report setting out a proposed timetable for the revision, consultation and implementation of a revised Taxi Licensing Policy. The proposed timetable of events was agreed and members approved the formation of a working party of Committee Members with input from the Executive Member for Housing and Safer Communities, to formally review the Taxi Licensing Policy, liaising with a representative of each registered Hackney Carriage, Private Hire Association and user groups.	Operators may experience some increased vehicle replacement costs as only modern vehicles meeting the required standards are proposed to be licensed as taxis in York. However, national / local government grants can be used to offset the purchase price of replacement vehicles. A DEFRA Air Quality grant allocation was awarded to CYC in 2020 to assist with further taxi upgrades (see update for AQAP3 Measure 7a)
AQAP3 (8)	Planning and delivery of strategic EV charging network	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV charging, Gas fuel recharging	2015	2023	CYC	CYC	NO	Funded	£1 million - £10 million	Implementation	-	The number of CYC electric vehicle recharging points in York (at Dec 2022 this was 110)	EV charging previously provided at 12 hotels in conjunction with Zero Carbon World. On 19th March 2020, CYC's Executive approved a Public EV Charging Strategy which set out the rationale for the number and location of EV charging points, the principles of tariff-setting, and the council's approach to providing charging for residents in streets without off-road parking. The Executive also endorsed a commitment to continue to explore options for on-street charging and facilities for charging electric taxis in the city centre. Implementation of an extensive 'pay as you go' fast charge public electric vehicle recharging network. Upgrades to charging facilities were progressed in 2022. The number of charging episodes reported in the city for 2022 was 24,109. York's second electric vehicle Hyper Hub, next to Poppleton Park and Ride, opened in Sept 2022. The new site joins the Monks Cross HyperHub, which opened earlier in 2022 and is one of the largest charging hubs in Northern England. Both Hyper Hub sites contain 4 ultra-rapid (175kW) and 4 Rapid (50kW) vehicle chargers, helping to support the uptake of modern electric vehicles that have larger battery capacities and are capable of ultra-rapid charging.	Lack of off-street parking is a significant barrier to the uptake of EVs, as the prevailing model for domestic charging involves parking off-street (on a driveway or in a garage) and charging vehicles overnight on a domestic trickle charge. This is a particular issue in York due to high proportions of terraced housing with no off-street parking. In addition, new flatted developments present additional challenges for EV charging due to power management issues and potentially costly supply upgrades. The ultra-rapid Hyper Hub facilities are aimed at improving recharging facilities for owners of electric vehicles, especially those without off-street parking. The CYC charging network is complemented by a number of commercial providers. Residents and visitors can use ZapMap to find the charging options available to them (https://www.zap-map.com/live/).
AQAP3 (9a)	Reducing CYC 'grey fleet' trips	Alternatives to private vehicle use	Car clubs	2015	2023	CYC	CYC	NO	Funded	£50k - £100k	Implementation	-	Reduction in annual business mileage	CYC, working in partnership with Enterprise Car Club, provide a range of pool vehicles at various locations near West Offices (Main CYC HQ), Hazel Court and across the city which can be booked online and accessed via a smart membership card. The vehicles available come in a range of sizes and transmission variations so there is something to suit every type of driver. A number of existing diesel pool cars have been replaced with low emission Yaris Petrol Hybrid vehicles as part of the car club initiative.	CYC membership of car club has significantly reduced the number of people using their own private vehicles on CYC business.

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AQAP3 (9b)	Introduction of low emission vehicles into CYC fleet	Promoting Low Emission Transport	Company vehicle procurement – prioritising uptake of low emission vehicles	2015	2024	CYC	CYC	NO	Partially Funded	£1 million - £10 million	Implementation	CYC aims to replace 153 vehicles from its current fleet, reducing CO2 emissions by a third. The entire fleet emits a total of 1,763 tonnes of CO2 each year.	% of ultra-low emission vehicles in CYC Fleet, operating in York (Electric and Hybrid) At Dec 2022 this was 18.4%	<p>On 19th March 2020, CYC's Executive agreed to commence the transition to an electric fleet for all vehicles under 3.5 tonnes as part of a four year programme. Major infrastructure upgrades were progressed at CYC's Hazel Court ECO Depot site throughout 2022 to facilitate the introduction of EV charging facilities for operational fleet vehicles. Officers are also exploring options for vehicles over 3.5 tonnes to move away from diesel as a fuel.</p> <p>In 2022, CYC introduced a requirement for all depot staff to undertake mandatory Alternative Fuel Vehicle (AFV) training prior to delivery of the new electric vehicles; staff training included information on local air quality and health impacts to raise awareness of air quality issues across the CYC workforce.</p> <p>With respect to waste collection, twelve new refuse trucks, including two fully electric vehicles, have been bought by CYC. The new vehicles will reduce fuel costs and pollution output by approximately 16%.</p> <p>CYC owned fleet vehicles are supplemented with low emission petrol hybrid pool vehicles, available for use by staff as part of the Enterprise Car Club initiative.</p>	The current fleet comprises of 535 vehicles and items of plant equipment with a current capital value of £15.3 million. This includes 180 vehicles that are under 3.5 tonnes of which 153 are currently due to be replaced.
AQAP3 (9c)	CYC Eco-driver training and vehicle emission controls	Vehicle Fleet Efficiency	Driver training and Eco aids	2015	2021	CYC	CYC	NO	Funded	£10k - 50k	Completed	-	Number of CYC staff obtaining ECO driver training	<p>Lightfoot trial completed, Fuel additive trial completed, Programme of mandatory HGV driver training completed (including eco-driving element)</p> <p>In mid-2021, CYC implemented a Masternaut telematics system for fleet vehicles to improve safety, reduce emissions and improve vehicle and driver efficiency.</p>	Ongoing programme of driver training including mandatory 'Alternatively Fuelled Vehicles' training for all staff.
AQAP3 (10)	Marketing and Communication Strategy	Public Information	Via the Internet	2015	Ongoing	CYC	CYC and DEFRA Grant	YES	Funded	£10k - 50k	Implementation	Difficult to quantify exact emission savings as measures aimed at preventing idling / air quality awareness / education	Number of visitors to website per annum / Idling time saved	<p>Ad-hoc public communication work ongoing, including ongoing updates to CYC's air quality web pages.</p> <p>'Kick the Habit' anti-idling awareness raising campaign was launched in mid-2019. Campaign posters have been put up in doctors' surgeries and petrol stations in York. Permanent signage has also been erected in all CYC owned car parks, at most city centre bus stops, multiple taxi ranks and at other key locations across the city where vehicles have been observed idling.</p> <p>For Clean Air Day in June 2022, CYC's Public Protection team worked alongside CYC's sustainable transport team, CYC Public Health, York and Scarborough NHS trust, local primary schools and London North Eastern Railway (LNER) to promote the day.</p> <p>In September 2022, CYC contacted all solid fuel suppliers within and around York to remind them of their legal responsibilities with respect to the sale and delivery of solid fuels within CYC's Smoke Control Area. Further social media promotion around the use of appropriate fuels and maintenance of appliances in line with the Government's national Burn Better campaign was undertaken in October 2022. Compliance checks across key solid fuel distribution outlets were progressed throughout 2022 to ensure that all solid fuels being sold were certified as 'Ready to Burn' in line with the Air Quality (Domestic</p>	<p>Further information about CYC's Kick the Habit campaign can be found at: https://www.york.gov.uk/engineoff</p> <p>Anti-idling enforcement patrols are undertaken by staff in Public Protection, with support from Civil Enforcement Officers, in response to persistent complaints of idling in specific areas.</p>

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														Solid Fuels Standards) (England) Regulations 2020.	
AQAP3 (11a)	Local incentives for low emission vehicles and alternative fuel use – EV chargers and business demonstrators	Promoting Low Emission Transport	Company Vehicle Procurement – Prioritising the uptake of low emission vehicles	2015	2019	CYC	CYC and DEFRA Grant	YES	Funded	£10k - 50k	Completed	-	Number of businesses that have installed EV charging	CYC has provided advice to other local authorities regarding the operation of electric vehicles and the installation of charging infrastructure within their areas, including Selby District Council and Oxfordshire County Council. CYC has previously facilitated the installation of EV charging infrastructure in a number of business premises. CYC is also supporting the uptake of low emission taxis through the local Low Emission Taxi Grant scheme (see measure AQAP3 7a)	CYC provides ongoing advice on EV charging to local businesses and other local authorities.
AQAP3 (11b)	Local incentives for low emission vehicles and alternative fuel use – Priority parking / reduced parking fees for low emission vehicles	Promoting Low Emission Transport	Priority parking for LEVs	2015	2023	CYC	CYC	NO	Funded	£10k - 50k	Implementation	-	Number of low emission permits issued	CYC continued to issue Low Emission Permits (including Household Low Emission Permits) throughout the 2022 calendar year. See https://www.york.gov.uk/LowEmissionParking for details.	CYC will periodically review the local definition of 'low emission vehicle' in the context of local parking discounts, to ensure that incentives remain appropriate and deliver continuous improvement in air quality
AQAP3 (12)	Attracting Low Emission industries, businesses and jobs to York	Policy guidance and development control	Other policy	2015	2023	CYC	CYC	NO	Funded	£10k - 50k	Implementation	Not quantifiable	Advice provided	Provided advice to business on low emission technologies/solutions as required. Currently progressing pilot scheme to reduce emissions relating to freight deliveries travelling in to and out of York.	Will support wider air quality improvement measures across the city
AQAP3 (13a)	Modal shift and network improvement measures (i-Travel York campaign)	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2015	Ongoing	CYC	DfT / Local Sustainable Transport Fund	NO	Funded	£1 million - £10 million	Implementation	Hard to precisely quantify but target to increase modal shift away from conventional car	% mode split or walking/cycling/ bus vs conventional car drivers and car passengers % trips into city centre	<p>Ongoing delivery of i-Travel York sustainable travel programme - see https://www.itravel.york.info/ for further details and current updates. Specific progress updates for 2022 include:</p> <p>In February 2022, CYC's Executive Member for Transport approved the continuation of the rental trial of E-Scooters in partnership with leading European operator TIER.</p> <p>CYC participated in national 'Bike to School' and 'Walk to School' weeks to encourage children and their families to walk, cycle or scoot to and from school, rather than travelling by car.</p> <p>CYC continued to work with York's bike shops throughout 2022 to enable residents to experience life with an e-cycle, free for one week. Once their trial was complete, participants were eligible for £300 discount should they decide to purchase the bike.</p> <p>CYC continued delivery of the Active Travel programme. CYC were provisionally allocated around £3.3million to support active travel schemes to be implemented by 2023. The programme will develop and introduce new, permanent infrastructure that will enable more convenient and safer walking and cycling across the city. Updates are available at https://www.york.gov.uk/ActiveTravelProgramme.</p>	The i-Travel York programme was established following a successful bid for funding from the Department for Transport's Local Sustainable Transport Fund. The programme has been delivering an integrated programme of personal, business and school travel planning, combined with targeted infrastructure enhancements to increase people's travel choices since 2012. I-Travel York aims to inspire people in York to help look after our city - to keep it moving and keep the air clean - by considering travel options before making a journey.
AQAP3 (13b)	Modal shift and network improvement measures (Bus)	Transport planning and infrastructure	Public transport improvements interchanges, stations and services	2015	2025	CYC	CYC/DfT	NO	Funded	> £10 million	Implementation	Aim to increase uptake of public transport	National Annual Passenger satisfaction survey	CYC and bus operators have worked together to improve York's bus network in previous years through the York Quality Bus Partnership. Innovations in York have included improvements to bus information, including new on-street	York Bus Service Improvement Plan (BSIP) available at: https://www.itravel.york.info/downloads/download/28/york-s-bus-service-improvement-plan

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	Improvements)													<p>timetables and more real time displays; two new park and ride sites at Askham Bar and Poppleton Bar; fare reductions and new tickets; improvements to well used bus stops in the city centre including Museum Street and Exhibition Square; new electric buses on park and ride services; introduction of refurbished electric open-top buses on the City Sightseeing tour service; new vehicles and higher frequencies on some existing services; introduction of a multi-operator "All York" ticket and a smartcard ticket; the introduction of two "Bus Wardens" and the bus enquiry desk at the Railway Station to help passengers.</p> <p>CYC published its Bus Service Improvement Plan (BSIP) in October 2021. The plan, a document required by the government's Department for Transport (DfT) National Bus Strategy published in March 2021, reflects the key priorities for improving bus services across the city. A statutory Enhanced Partnership between CYC and local bus operators was made by officers on 27th September 2022; this is a prerequisite to secure the confirmed £17.36 million in BSIP funding from DfT. This award is in addition to £8.4m ZEBRA (Zero Emission Bus Regional Area) funding allocated to the council. BSIP funding will be used to implement a range of improvements to the city's bus network and associated infrastructure between 2022 and 2025</p>	York Enhanced Partnership for Buses formally came into effect on 27th Sept 2022. This will act as the principal delivery body for the £17.36m BSIP funding.
AQAP3 (13c)	Modal shift and network improvement measures (Other LTP measures)	Transport planning and infrastructure	Other	2015	Ongoing	CYC	CYC / West Yorkshire Plus Transport Fund / DfT	NO	Funded	£500k - £1 million	Implementation	-	Concentration reduction target in LTP3 and AQAP3	<p>Measures in LTP3 (published 2011) can be viewed online at: https://www.york.gov.uk/downloads/download/124/local-transport-plan-2011---2031 (Also see updates against measure 13b). Funding obtained to deliver major schemes for York Central, increasing the capacity of the A1237 (between the A19N and Hoptrove junctions) and improve the area in front of York Station.</p> <p>LTP4 currently in development. At the heart of LTP4's development was a city-wide conversation ('Our Big Conversation') that ran during the summer of 2021 and considered experience of and priorities for transport, air quality and carbon reduction, journeys and the economy. CYC also worked with partners at York Civic Trust to contribute to policy research and emerging findings throughout the period of engagement. In February 2023, CYC developed a draft Local Transport Strategy, that set out high level principles and priorities for York that will underpin future transport strategies</p>	The York Outer Ring Road (YORR) project has been underway since 2017 when CYC were allocated approximately £38m for improvements to the A1237 using funds from the West Yorkshire Plus Transport Fund. This funding was for upgrades of 7 roundabouts from Wetherby Road to Monks Cross. In early 2019 the upgrade of the A1237/B1224 Wetherby Road roundabout was completed. In October 2019 the Department for Transport awarded CYC £26m from its Major Road Network fund to dual the Outer Ring Road from A19 Rawcliffe (Shipton Road) roundabout to A1036 Little Hoptrove (Malton Road) roundabout. Construction work is anticipated to commence in mid-2023 for 2 years, with completion in 2025.
AQAP3 (14)	Other air quality improvement measures (non-transport sources)	Environmental Permits	Introduction/Increase of Environment charges through permit systems and economic instruments	2015	Ongoing	CYC	CYC	NO	Funded	£10k - 50k	Implementation	-	Number of scheduled inspections completed per annum	Enforcement of relevant air quality legislation is currently undertaken by Public Protection (Regulatory Support and Advice team). Estimated cost of measure is staffing resource but this will be offset by permit costs.	Scheduled inspections undertaken by CYC Public Protection staff
AQAP3 (15)	Provide more green infrastructure	Policy Guidance and Development Control	Other policy	2015	Ongoing	CYC	CYC	NO	Partially Funded	£100k - £500k	Planning	-	To be determined	<p>Updates published here when available: https://www.york.gov.uk/GIStrategy</p> <p>The first trees have now been planted at the new York Community Woodland. This first planting is paving the way for over 100,000 trees and shrubs at the woodland to be planted over the next few years</p>	-

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16	Further conversion of diesel double decker tour buses to electric	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2014	2019	CYC	DfT Clean Bus Technology Fund	NO	Funded	£100k - £500k	Completed	The 4 electric buses used in York reduced tailpipe emissions in the city. Transdev have committed to continue to operate the buses in service, depending on their availability, until they are no longer viable for day to day operation.	Number of buses converted to electric	<p>CYC made a bid to DfT's Clean Bus Technology Fund (CBTF) in 2013 for funds to convert six open-top buses used on York's City Sightseeing tour service from diesel engines to fully electric. Four buses were converted and entered service under this programme. The remaining 2 buses were not converted due to the performance of the retro-fitted electric buses on the ground not meeting an acceptable threshold of reliability, causing operational issues for the service (particularly the need to maintain spare diesel buses to provide the service when reliability when poor).</p> <p>York's experience was not unique in this respect, with a project at another historic UK city suffering problems with the supply of retro-fitted electric buses, similar to those in York. Although the York trial was not successful in meeting its primary objective, it has been successful in delivering against other objectives. It allowed a five year trial of retro-fitted buses, which has yielded much useful data in the development of subsequent electric bus projects. Use of the electric buses in York has both led to investment in the P&R fully electric bus fleet and Transdev's electric bus fleet in Harrogate. York and Harrogate now have some of the most intensively used electric buses in the UK and use of the new, as opposed to retrofitted, electric buses has been entirely successful.</p>	York's Clean Air Zone means that it is not now possible to use the previous fleet of older diesel buses on the City Sightseeing Tour service. After 31/01/2021 this service needed to be Euro VI diesel or better to achieve compliance with the CAZ. It is understood that whilst the electric conversions have now largely been withdrawn as their level of reliability was incompatible with commercial service provision, the new diesel vehicles providing this service will all be Euro VI
17	Retrofitting of school buses	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2016	2022	CYC	DfT Clean Bus Technology Fund	NO	Funded	£100k - £500k	Completed	-	Number of retrofitted school buses	Following the withdrawal of the Clean Vehicle Retrofit Accreditation Scheme (CVRAS) certification for the primary vehicle retrofit manufacturer, no further vehicles were retrofitted, although York Pullman invested £1.2m in new vehicles in the previous reporting year of 2021. CYC will continue to drive improvements in emission standards through contractual arrangements for school buses (and taxis).	Clean Bus Technology Funding of £308K obtained to support this measure
18	Solar panels at electric P&R sites	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2017	2021	CYC	European Regional Development Fund (ERDF)	NO	Funded	£1 million - £10 million	Completed	-	Amount of energy generated by solar panels	CYC secured European funding (ERDF) to allow the delivery of a full solar canopy/battery storage solution in addition to the proposed charging points at Monks Cross and Poppleton Bar. Planning applications for the new ultra rapid charge units and solar canopies were approved in November 2019. The solar canopies have a proposed generation capacity of up to 400kW powering a mix of 160kW and 7kW charge points.	This project was funded through the European Regional Development Fund (ERDF)
19	Hyper Hubs	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2016	2023	CYC	CYC and OLEV	NO	Funded	£1 million - £10 million	Implementation	-	Number of charging episodes at hyper hubs	York's second electric vehicle Hyper Hub, next to Poppleton Park and Ride, opened in Sept 2022. The new site joins the Monks Cross HyperHub, which opened earlier in 2022 and is one of the largest charging hubs in Northern England. Both Hyper Hub sites contain 4 ultra-rapid (175kW) and 4 Rapid (50kW) vehicle chargers, helping to support the uptake of modern electric vehicles that have larger battery capacities and are capable of ultra-rapid charging. Poppleton's four 175kW ultra-rapid chargers can be upgraded to 350kW when vehicle charging rates make the upgrade worthwhile. CYC is currently working on a third city centre site.	Further information about the HyperHub project can be found at: https://www.york.gov.uk/hyperhubs The CYC network is complemented by a number of commercial providers; details of all charge points in the city can be viewed using ZapMap (https://www.zap-map.com/live/).

2.3 PM_{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Based on national estimates, pro rata, between 94 and 163 people die prematurely in York each year due to the impacts of poor air quality. This is more than the combined estimate of those who die prematurely from obesity and road accidents.

The Public Health Outcomes Framework includes an indicator relating to the fraction of mortality attributable to particulate pollution. This indicator enables Directors of Public Health to prioritise action on air quality in their local area to help reduce the health burden from air pollution. Indicator D01 'Fraction of mortality attributable to particulate air pollution' is defined as the fraction of annual all cause mortality attributable to particulate air pollution (measured as fine particulate matter, PM_{2.5}), expressed as the percentage of annual deaths from all causes in those aged 30+. The latest published figures for York are for 2021 and are 4.4%. This figure is slightly less than the figure reported for the wider Yorkshire and Humber region (5.0%) and less than the average figure reported for England in 2021 (5.5%).

It is widely accepted that fine particulate matter has a significant impact on both morbidity and mortality and diesel emissions have been classified as carcinogenic by the International Agency for Research on Cancer (part of the World Health Organisation). There is particular concern about the 'black carbon' fraction of particulate matter due to its health impacts, and its strong ability to absorb light energy and increase global warming. Black carbon emissions in urban environments arise predominantly from diesel transport, but are also a product of biomass combustion, used increasingly for energy production and space heating.

Emissions of oxides of nitrogen (NO_x) and man-made particulate must be reduced to meet the health based national air quality objectives in York and improve public health. A major source of NO_x and man-made particulate in York is traffic, particularly diesel vehicles.

To date CYC has produced two trip reduction / modal shift based Air Quality Action Plans (AQAPs) and in 2015 adopted a third Action Plan (AQAP3) focussing on reducing vehicle tailpipe emissions from the remaining vehicle fleet through the use of low emission technologies. AQAP3 is the main delivery document for York's overarching Low Emission Strategy (LES). York's LES was the first document of its kind in the UK. It aims to reduce all emissions to air in the city as far as practicable and recognises that there are no 'safe' limits for particulate emissions, particularly PM_{2.5}. Further air quality improvement measures are also included in the Local Transport Plan and CYC's Local Plan.

City of York Council is demonstrating a commitment to addressing PM_{2.5} through measures in its Air Quality Action Plan and wider associated strategies. Some specific items related directly to reducing fine particulate emissions (and indeed related to reducing exposure to such emissions) are described below:

- **Exposure Reduction through the Planning Process [Measure AQAP3(6)]** - Air quality staff routinely comment on planning applications to ensure that new developments are designed in a way which minimises exposure to air pollution and further emission growth. The most recent approach requires developers to calculate the damage costs of the additional emissions that their developments will cause and to mitigate this using a range of sustainable transport and low emission vehicle measures. Such measures must be considered reasonable and proportionate, relative to the damage costs associated with the development. Pre-planning advice is often provided on locations for key exposure sites (e.g. housing, schools, sports facilities, medical facilities etc.) and the use of biomass heating systems is generally discouraged in urban areas and near sensitive receptors.
- **Policy Led Exposure Reduction [Links to various AQAP3 measures]** – CYC's Public Protection team work alongside other council departments with joint inputs into key council policies that can impact on air quality and exposure reduction. Examples of previous joint policies include the Local Transport Plan, Local Plan, Climate Change Strategy, Air Quality Action Plan and Low Emission Strategy. Work continues to strengthen links between air quality and the Health and Wellbeing Strategy. In 2019, CYC announced a Climate Emergency and have since set an ambition for CYC to reduce its carbon emissions to net zero by 2030. CYC recognise the threat of climate change at both a global and local scale, and are committed to delivering bold, local climate action to deliver economic and social benefits, such as new green jobs, economic savings, market opportunities and much improved well-being for York

residents. Air quality improvement strategies in York complement the wider climate change/carbon reduction agenda and are well aligned to recognise synergies and prevent conflict.

- **Information Led Exposure Reduction [Measure AQAP3(10)]** - at the present time there is no single marketing and communications strategy at either a national or local level to deal with dissemination of public information on the links between health, air quality and transport. Acting as part of the Low Emission Partnership (alongside Bradford Metropolitan District Council and Lancaster City Council), CYC obtained DEFRA AQ Grant funding and has been working on the development of a new air quality hub. Focused on information exchange between local authority professionals, the Hub features a range of content areas related to air quality improvement measures that local authorities can adopt, as well as more specific practitioner advice notes that focus on various aspects of local air quality management, planning, monitoring and enforcement. The Hub also includes a growing library of relevant case studies and a forum to facilitate discussion and information exchange. CYC has also undertaken promotional work in relation to anti-idling as part of Clean Air Day 2022 and raised awareness of the links between idling emissions, air quality and health impacts. In early 2023, CYC was awarded funding under DEFRA's Air Quality Grant to progress two projects relating to public awareness and exposure reduction. The first will develop a platform that can be used by residents and visitors to make informed decisions with respect to travel around the city to help reduce their own exposure to air pollution. The platform will provide a forecasting and alert service for different areas of York both 'on-demand' and via a free subscription service via various communication channels to suit specific audiences. The second project will develop a campaign to improve public awareness of the links between particulate matter emissions and health. Emphasis will be on reducing emissions of particulate matter from domestic solid fuel burning and other sources and on the implications for indoor and outdoor air pollution. Updates on these projects will be provided in future Annual Status Reports.
- **Low Emission Vehicle Upgrades [AQAP3 Measures 16 & 17]** – CYC has introduced fully electric buses across Park & Ride sites. CYC was awarded £3.3m from DfT's Low Emission Bus Scheme in 2018 to support delivery of high capacity, fully electric buses and to support charging infrastructure at these sites. In March 2022, CYC was awarded £8.4m through DfT's Zero Emission Bus Regional Areas (ZEBRA) scheme fund to buy an additional 44 new electric buses. This was matched by a further £10 million investment by First. DfT has since awarded the council an additional £1.8m to

increase the scope of the ZEBRA scheme to fund a further 9 electric buses. With these additional vehicles, the First York bus fleet will become fully electric by 2024, significantly reducing carbon, NO_x and particulate emissions across the city. In April 2022, CYC was awarded an additional £17m to support the development of key schemes and initiatives in line with York's [Bus Service Improvement Plan \(BSIP\)](#), including wider electrification of the urban bus fleet.

- **Clean Air Zone [Measure AQAP3(1)]** – The Clean Air Zone (CAZ) for buses in the city centre was launched on 31st January 2020. Buses making 5 or more entrances to the CAZ per day are now required to be Ultra Low Emission Buses (ULEB) (Euro VI diesel or electric). A total of £1,654,000 was allocated by City of York Council to 5 bus operators to help replace/retrofit 93 buses that pass through the city centre Air Quality Management Area (AQMA). Ultra-Low / zero emission buses will reduce the amount of fine particulate (as well as NO_x) emitted in the city.
- **Low Emission Taxis [Measure AQAP3(7)]** – York has previously pioneered a taxi grant scheme aimed at encouraging taxi drivers to move away from diesel/petrol to petrol hybrid and electric taxis. Further funding was awarded to York under DEFRA's 2019/20 Air Quality Grant Scheme to accelerate the transition to electric and other ultra-low emission taxis. Through the taxi incentive scheme and changes to Taxi Licensing Policy, the number of ultra-low emission taxis in the York fleet has been increased to approximately 33% (figure correct as of end December 2022). Traditional petrol hybrid, plug-in hybrid and electric cars produce significantly lower tailpipe emissions than diesel equivalents.
- **Low Emission Vehicle Events** – In previous years, CYC has held various Low Emission Vehicle events for the public to showcase a variety of electric cars and bikes.
- **Clean Air Act / Smoke Control Areas** – Under the requirements of the Clean Air Act, certain areas of York have been designated [Smoke Control Areas \(SCAs\)](#), where emissions of smoke from chimneys of domestic properties are prohibited. CYC continue to enforce existing smoke control areas to reduce particulate emissions and nuisance. In 2023, we plan to develop a new Enforcement Protocol for civil penalties for smoke emissions within Smoke Control Areas (under the Clean Air Act 1993, as amended by the Environment Act 2021). CYC also undertakes seasonal promotion of the rules around SCAs and issued advice and guidance to residents on the use of appropriate fuels and maintenance of appliances in line with the Government's national [Burn Better](#) campaign. This promotional work accompanies compliance checks across retailers within CYC's area to ensure that all solid fuels being sold are certified as

'Ready to Burn' in line with the Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020. CYC will ensure any new measures to reduce PM_{2.5} emissions are proportional to the scale of local emissions and adequately resourced and implemented in York.

- **First/last mile delivery options** - City of York Council was awarded £297,237 by DEFRA in March 2021 to carry out a feasibility study and subsequent pilot scheme to reduce emissions relating to deliveries travelling in to and out of York. The project will focus on how to reduce the number of deliveries made to the city centre and around York by LGVs and HGVs. This will directly reduce particulate and other emissions. A base has now been identified for the 9-month hub pilot, which is expected to progress in 2023, with evaluation and pilot review expected by December 2023.

There are aspirations to provide a greater role for the Director of Public Health and colleagues in the Public Health team in the development and delivery of future air quality improvement measures. Public Protection has previously briefed CYC Public Health on air quality issues in York and supported them with the provision of anti-idling signage at vaccination centres. In early 2022 Public Protection also briefed CYC Public Health on air quality and the planning process. CYC maintain good contacts within the sustainability team at the York and Scarborough NHS trust and have delivered a number of joint Clean Air Day awareness raising events in partnership with them.

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2022 by City of York Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

City of York Council undertook automatic (continuous) monitoring at 9 sites during 2022. Table A.1 in Appendix A shows the details of the automatic monitoring sites. NB. Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. The [Air Quality England](#) page presents automatic monitoring results for City of York Council's area, with automatic monitoring results also available through the UK-Air website.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C. There have been no significant changes to City of York Council's overall automatic monitoring strategy in the last 12 months.

3.1.2 Non-Automatic Monitoring Sites

City of York Council undertook non-automatic (i.e. passive) monitoring of NO₂ at 233 sites during 2022. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided on [City of York Council's website](#) and in Appendix D. 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 (NO₂)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. 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).

For diffusion tubes, the full 2022 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 NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

The highest annual mean concentration of NO₂ recorded at a location representative of long-term public exposure in 2022 was 47µg/m³ on Gillygate (Diffusion tube reference 14). The same site also monitored the highest annual mean concentration of 47µg/m³ in 2021.

Improvements in annual mean NO₂ monitored at **roadside** continuous monitoring stations were observed between 2021 and 2022 at Fishergate (3% improvement), Holgate Road (11% improvement), Nunnery Lane (3% improvement), Lawrence Street (6% improvement) and Fulford Road (3% improvement). Annual mean NO₂ monitored at Heworth Green in 2022 was comparable to that monitored in 2021 (<1% change). Annual mean NO₂ monitored at Gillygate increased between 2021 and 2022 (6% increase).

Annual mean **background** concentrations of NO₂ monitored at Bootham Hospital (City of York Council's urban background continuous monitoring site) varied by 1% between 2021 and 2022. This reflects the reduced impact of local traffic emissions on air quality in the vicinity of this background site.

Despite some localised minor increases in NO₂ in some areas, concentrations of NO₂ monitored at the majority of locations in York throughout 2022 continue the general downward trend in NO₂ concentrations monitored in the city since 2012. Ongoing air quality monitoring in all locations will be fundamental to understanding the longer-term environmental impacts of the pandemic and the magnitude of any changes due to increased sustained levels of walking and cycling, changes in public transport use and ongoing air quality improvement initiatives.

With respect to the city centre AQMA, exceedances of the health based annual mean NO₂ objective of 40µg/m³ were monitored at some locations on Gillygate (Diffusion Tubes 7, 13, 14), Bootham / St Leonards Place (Diffusion Tubes A1, D59), Blossom Street (Diffusion Tube C27) and on Rougier Street (Diffusion Tubes 109, 115) in 2022.

Maximum annual mean concentrations of NO₂ monitored at relevant locations within the current AQMA 'technical breach' areas were 47µg/m³ (Gillygate), 44µg/m³ (George Hudson St / Rougier St), 41µg/m³ (Holgate / Blossom Street), 34µg/m³ (Lawrence St), 30µg/m³ (Fishergate / Paragon St), 31µg/m³ (Prices Lane/Nunnery Lane) and 36µg/m³ (Coppergate). Maximum concentrations of NO₂ recorded in these areas between 2021 and 2022 ranged from 8% lower on Fishergate (in 2022) to 13% higher on Coppergate (in 2022).

It is not considered appropriate to reduce the size of the city centre AQMA at this time. In line with DEFRA's LAQM guidance, before revoking an AQMA on the basis of measured pollutant concentrations, a local authority needs to be reasonably certain that any future exceedances of air quality objectives are unlikely. For this reason, it is expected that local authorities will need to consider measurements carried out over several years or more, national trends in emissions, as well as local factors that may affect the AQMA. The AQMA boundary will be reviewed again as part of City of York Council's next Annual Status Report (due June 2024).

Concentrations of NO₂ monitored in the former Fulford Road AQMA in 2022 continue to be well below the annual mean objective of 40µg/m³. The highest recorded levels of NO₂ in this area were monitored on Fulford Main Street (Diffusion Tube C58) and were 26.0µg/m³. This supports the decision to revoke the Fulford Road AQMA, as discussed in City of York Council's previous Annual Status Reports and implemented in February 2020.

Concentrations of NO₂ monitored in the former Salisbury Terrace / Leeman Road AQMA in 2022 were also all well below the annual mean objective of 40µg/m³. The highest recorded levels of NO₂ in this area were monitored on Salisbury Terrace (Diffusion Tube 103) and

were $28.5\mu\text{g}/\text{m}^3$. This confirms that the decision to revoke this AQMA in December 2017 was appropriate.

In December 2018, the boundary of the city centre AQMA was extended to include the full length of Coppergate and the buildings either side of the road, due to monitored concentrations of NO_2 above the annual mean objective for this pollutant. The highest annual mean concentrations of NO_2 monitored along Coppergate in 2022 was $35.9\mu\text{g}/\text{m}^3$ at site D56 (Three Tuns Pub, 12 Coppergate) which is below the annual mean objective for this pollutant. Whilst annual mean concentrations of NO_2 were below the objective in this location in 2022 (and indeed were below concentrations monitored between 2017 – 2019), they are higher than concentrations monitored in 2021 and it is therefore considered appropriate to keep this area of the city under observation prior to making any amendments to the AQMA boundary.

Revisions to the AQMA Order in 2018 also removed the reference to breaches of the short-term hourly objective along George Hudson Street / Rougier Street / Bridge Street based on monitoring results in this area. The latest 2022 monitoring results for this area of the city indicate that this short-term objective is still being met (all annual mean concentrations were less than $60\mu\text{g}/\text{m}^3$ which suggests that an exceedance of the 1-hour mean objective is unlikely).

3.2.2 Particulate Matter (PM_{10})

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

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

City of York Council monitors particulate (PM_{10}) at 4 sites in the city (Bootham, Fishergate, Holgate Road and Plantation Drive). National air quality objectives for PM_{10} are currently met in York; this has been the case since monitoring of PM_{10} was established in the city. The highest annual mean concentration of PM_{10} monitored in York during 2022 was $17.9\mu\text{g}/\text{m}^3$ at the Holgate Road continuous monitor. Along with many areas of the UK, this concentration is above the World Health Organisation (WHO) guideline for this pollutant, which has recently been strengthened to $15\mu\text{g}/\text{m}^3$. Concentrations of PM_{10} monitored in 2022 were above levels monitored in 2021 at all 4 CYC sites.

At roadside locations between 2021 and 2022, annual mean PM₁₀ increased at Plantation Drive, Holgate Road and Fishergate by 2%, 4% and 7% respectively. Annual mean concentrations of PM₁₀ monitored at the Bootham background site also increased by 13% between 2021 and 2022. Based on PM₁₀ monitoring data over the last 5 years, there does not appear to be any clear trend in PM₁₀ concentrations. The general downward trend in PM₁₀ concentrations previously observed at roadside monitoring sites up to 2017 has not continued between 2018 and 2022.

3.2.3 Particulate Matter (PM_{2.5})

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

Although not explicitly required under the Local Air Quality Management regime, where Local Authorities undertake PM_{2.5} monitoring they are encouraged to report it as part of the Annual Status Report. Micro-particulate, or PM_{2.5}, is the pollutant which has the biggest impact on public health and on which the Public Health Outcomes framework (PHOF) indicator is based. City of York Council monitors PM_{2.5} at three locations in the city, namely Bootham (urban background site), Fishergate (roadside site) and Gillygate (roadside site). Monitoring of PM_{2.5} at Fishergate and Bootham is carried out as part of DEFRA's Automatic and Rural Monitoring Network (AURN). Monitoring at Gillygate was established by City of York Council as a result of the growing concerns over the health impacts of PM_{2.5}.

National air quality objectives for PM_{2.5} are currently met in York. The highest annual mean level of PM_{2.5} monitored in York during 2022 was 8.8µg/m³ at the Fishergate monitor. This compares with a maximum level of 8.4µg/m³ monitored in 2021. All monitored concentrations in 2022 are within the current annual mean objective of 10µg/m³. As with most areas of the UK, monitored concentrations of PM_{2.5} in York are above the new WHO Guideline value of 5µg/m³.

Between 2021 and 2022, annual mean concentrations of PM_{2.5} increased at Fishergate and Gillygate by 0.9µg/m³ (12% increase on 2021) and 1.1µg/m³ (18% increase on 2021) respectively. Annual mean concentrations at the Bootham urban background monitor decreased by 0.1 µg/m³ (2% decrease on 2021). Despite the minor increases in PM_{2.5} observed in 2022 at roadside sites, longer term trends over the last 5 years reveal that concentrations of PM_{2.5} have generally decreased across the city and levels are currently within the updated objective for this pollutant.

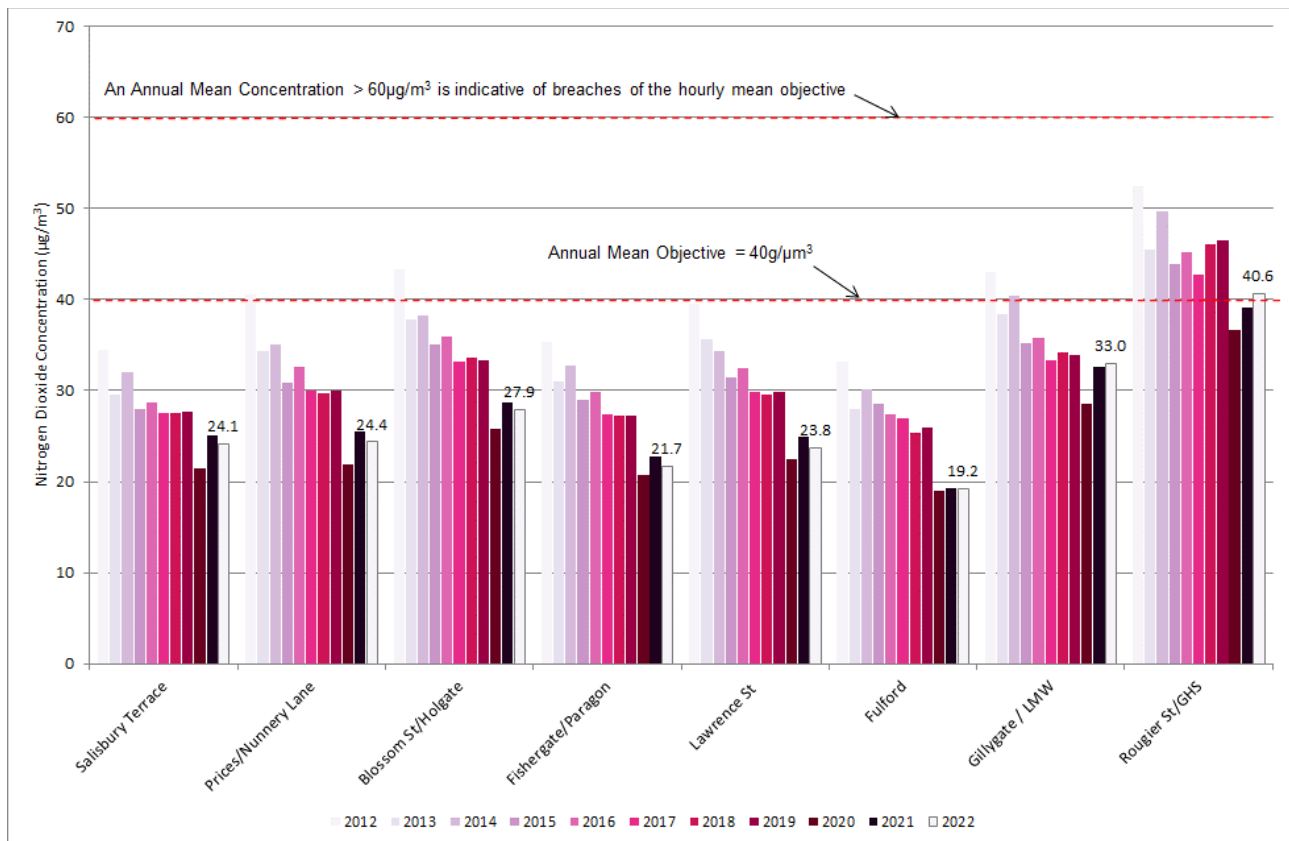
3.3 Air Quality Indicators

3.3.1 Council Plan Air Quality Indicators

Two air quality indicators have been developed for City of York Council’s ‘Council Plan’. These are used to look at trends in air quality across AQMAs/technical breach areas and are as follows:

Indicator CAN027 – Average Annual Mean Nitrogen Dioxide Concentration in each area of technical breach. This indicator provides an average nitrogen dioxide concentration based on all monitoring undertaken in each area of technical breach (historical areas of technical breach, such as Salisbury Terrace, are also shown for information). Monitoring results include bias corrected diffusion tube data and data from continuous monitors (if applicable). Trends between 2012 and 2022 are shown below.

Indicator CAN027 – Trends in average annual mean nitrogen dioxide concentration in each area of technical breach



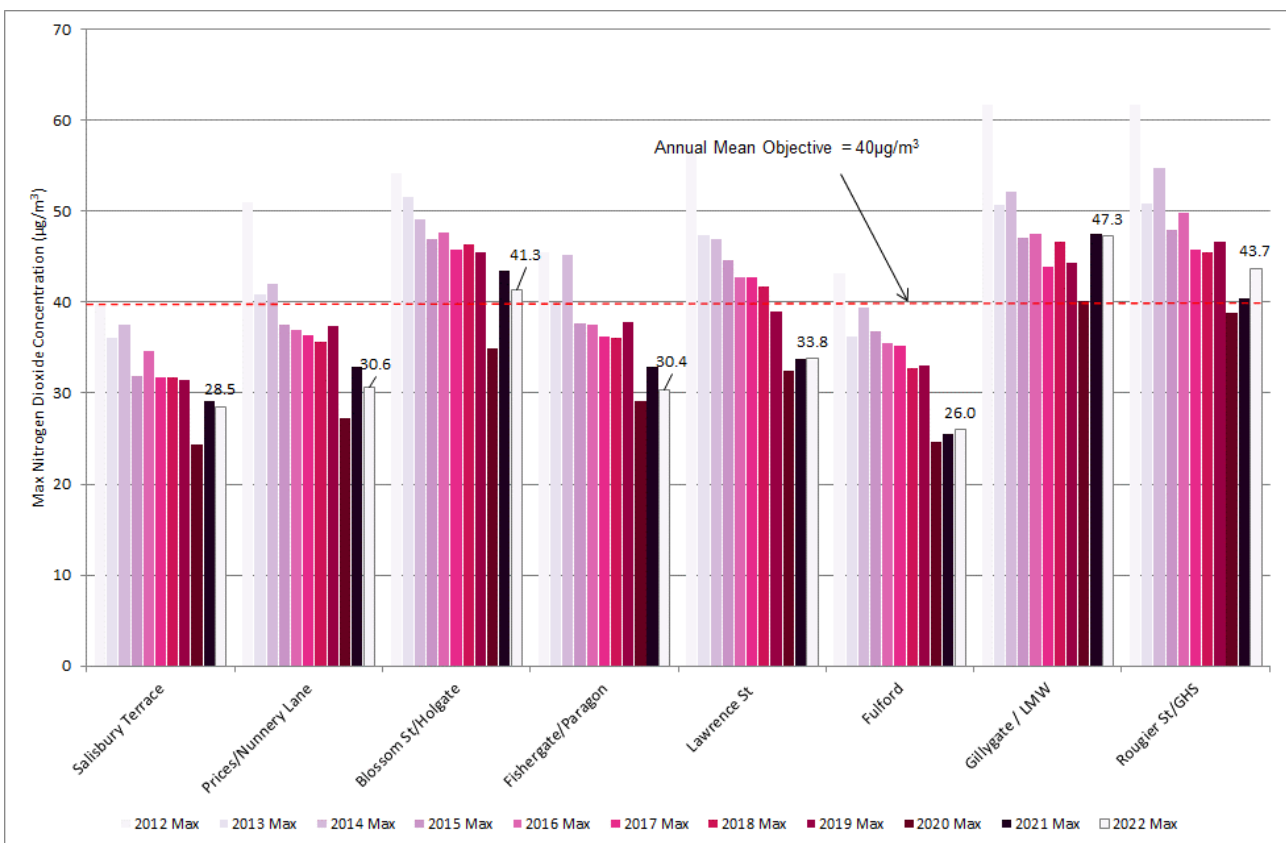
Average concentrations of NO₂ monitored in 2022 were equal to or lower than 2021 in all but two areas. Minor increases were observed between 2021 and 2022 in the Gillygate/Lord Mayors Walk and George Hudson Street / Rougier Street areas. Average concentrations were higher in 2022 than in 2020 across all areas. This is to be expected,

as NO₂ concentrations in 2020 were atypical / depressed due to the Covid-19 pandemic. It should be noted that average concentrations monitored in 2022 were lower than average concentrations previously recorded for this indicator in the 9 years between 2011 and 2019 (pre-pandemic). Indicator CAN027 continues to suggest a steady downward trend in nitrogen dioxide concentrations over the last 10+ years.

CAN028 - Maximum Nitrogen Dioxide Concentration (at relevant location) in each area of Technical Breach.

This indicator provides a maximum recorded annual mean nitrogen dioxide concentration in each area of technical breach (historical areas of technical breach, such as Salisbury Terrace, are also shown for information). This only considers monitoring at relevant locations and is therefore useful to look at the validity of existing AQMA boundaries year to year. Trends between 2012 and 2022 are shown below.

Indicator CAN028 – Maximum nitrogen dioxide concentration (at relevant location) in each area of technical breach



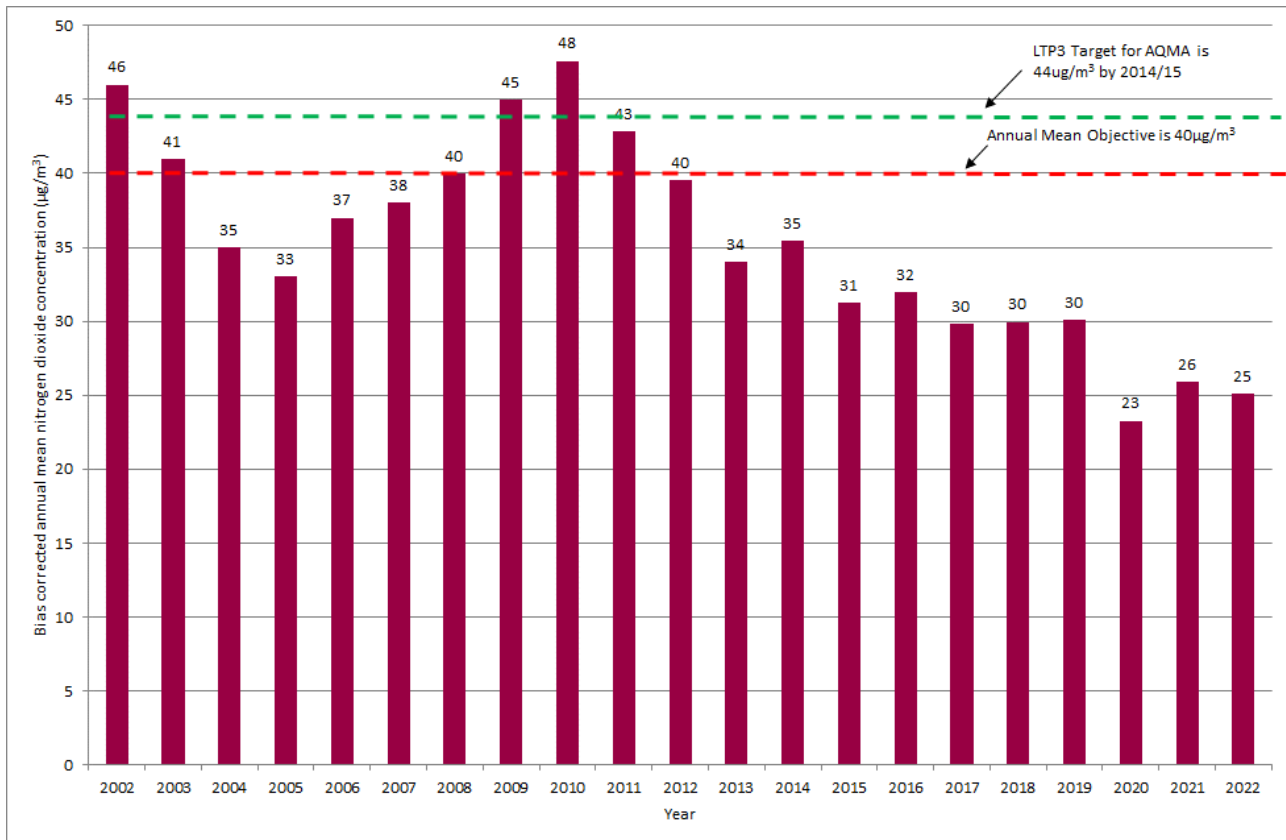
The maximum annual mean NO₂ concentration monitored at a relevant location in 2022 was 47.3µg/m³ on Gillygate. Maximum concentrations of NO₂ monitored in the Blossom Street / Holgate Road and Rougier Street / George Hudson Street areas were also above the annual mean objective of 40µg/m³ at 41.3 µg/m³ and 43.7 µg/m³ respectively.

Maximum concentrations of NO₂ in all other areas were below the annual mean NO₂ objective. Similar to the situation with Indicator CAN027, but with the notable exception of Gillygate, maximum concentrations of NO₂ monitored in all other areas were lower than those recorded in the 9 years between 2011 and 2019. This also suggests a steady downward trend in nitrogen dioxide concentrations over the last 10+ years for most areas of the Air Quality Management Area. There is less evidence of this downward trend for Gillygate, with maximum concentrations remaining broadly similar between 2021 and 2022. Such concentrations are similar to levels observed between 2015 – 2018 for this location. Whilst maximum annual mean concentrations of NO₂ recorded in the Rougier Street / George Hudson Street area increased by 8% between 2021 and 2022, they still remain below levels monitored before the pandemic in 2019.

3.3.2 Local Transport Plan Air Quality Indicator

For the purpose of monitoring the impact of York's Local Transport Plan (LTP3) a local air quality indicator has been established. This indicator measures the mean of annual average results obtained from 36 diffusion tubes located within York's city centre AQMA. Trends in this indicator between 2002 and 2022 are shown below.

LTP AQ Indicator – Average concentration of NO₂ monitored across 36 locations located within the city centre Air Quality Management Area



This indicator suggests that NO₂ concentrations across the city were in general decline between 2002 and 2005. This was followed by a steady increase in concentrations between 2006 and 2010. Between 2010 and 2019, concentrations of NO₂ within the city centre AQMA improved, with levels of nitrogen dioxide across all the sites used for the indicator falling to 30µg/m³ in 2019 (this indicator was also 30µg/m³ in 2017 and 2018 and had appeared to plateau). The figure of 23µg/m³ recorded in 2020 was the lowest recorded value since the indicator was established in 2002 and was likely to be a result of significantly lower traffic levels and associated emissions in the city as a result of the Covid-19 lockdowns in 2020. The latest 2022 figure of 25µg/m³, whilst higher than the 2020 figure, is lower than the figure for 2021 (26µg/m³) and reflects an ongoing downward trend in NO₂ concentrations across the city centre AQMA. This reinforces trends seen with other council air quality indicators.

4 Planning Application Review

The land-use planning system is recognised to play an integral part in improving air quality. This requires close co-operation between planners and environmental health practitioners.

City of York Council regularly reviews applications with respect to potential air quality and other environmental impacts. Table 4.1 below provides a list of those planning applications that have been considered in relation to air quality by City of York Council's Public Protection team during 2022. A formal air quality impact assessment has been requested for some of these applications. Where applications listed in City of York Council's last Annual Status Report were marked as 'awaiting decision', an update has been provided in this year's report.

The Annual Status Report provides an opportunity to keep a record of such applications to provide a picture of where changes in air quality may occur in the future. The information presented is also useful to identify where combined impacts of several developments may become important.

It should be noted that electric vehicle recharging was requested for a large number of residential applications in 2022 and as such these have been omitted from the table below. Comments on all applications processed by City of York Council are available by searching the planning reference number at [Search Planning Applications received by City of York Council](#).

Table 4. 1 Planning Applications considered during 2022

[N.B. Comments provided relating to application status reflect the position as of end March 2023]

Planning Reference	Description	Type	Comments	Status
15/00166/FULM / 15/00167/FULM	Proposed erection of 228 dwellings, café/retail unit with associated access, highways, landscaping, open space and engineering works. Land to the south of Hull Road, York	Full Application	<p>Predicted impacts on annual mean concentrations of NO₂, PM₁₀ and PM_{2.5} at sensitive receptor locations within the vicinity of the site considered 'negligible' when assessed in line with relevant guidance. Cumulative air quality impacts associated with operational traffic and proposed 2MW combustion plant at University of York also assessed and not of concern.</p> <p>A strategy for the provision of EV charging facilities across the site was requested. Construction Environmental Management Plan (CEMP) requested. Emission mitigation statement requested.</p>	<p>2023 Update</p> <p>Awaiting decision</p>
18/00017/OUTM	Outline planning application with full details of means of access for residential development of 970 dwellings with associated demolition, infrastructure works, open space, primary school, community facilities and convenience store on land West of Monks Cross Link Road	Outline Application	<p>Public Protection requested conditions regarding a Construction Environmental Management Plan (CEMP) and facilities for charging electric vehicles on the site.</p>	<p>2023 Update</p> <p>Application approved on appeal (14/12/2022)</p>

Planning Reference	Description	Type	Comments	Status
18/00680/OUTM	Outline planning application with all matters reserved except for means of access for the erection of 160no. dwellings with public open space, landscaping and drainage, OS Field Lying To The South Of And Adjacent to No 1 Tadcaster Road, Copmanthorpe, York	Outline Application	Public Protection requested conditions relating to electric vehicle recharge points and a Construction Environmental Management Plan (CEMP)	2023 Update Awaiting decision
19/00602/FULM	Erection of 97 dwellings, landscaping, public open space and associated infrastructure. Land To The South East Of 51 Moor Lane, Copmanthorpe, York	Full Application	Public Protection requested conditions relating to electric vehicle charge points and a Construction Environmental Management Plan	2023 Update Awaiting decision
19/01260/OUTM	Outline application for planning permission for a business park up to 25,084sq.m (Use Class B1) and an Innovation Centre up to 6,503 sq.m (Use Class B1/B2), with ancillary pavilion units up to 836 sq.m (Use Classes A1, A3, A4, D1 and D2), associated car parking, a park and ride facility, including park and ride amenity building up to 186 sq.m, hard and soft landscaping and highway alterations, all matters reserved apart from detailed access. Field Adjacent A19 And St Nicholas Avenue York	Outline Application	Public Protection requested a condition regarding the production of Construction Environmental Management Plan to minimise dust emissions during construction phases. Conditions were also requested regarding the assessment of any air quality impacts associated with any on-site combustion, and the provision of a strategy for the provision of electric vehicle charging facilities across the site.	2023 Update Awaiting decision

Planning Reference	Description	Type	Comments	Status
19/01969/FULM	Extension to existing York Designer Outlet Centre, relocation of existing Park & Ride facility, creation of new retail car parking and associated landscaping. York Designer Outlet, St Nicholas Avenue, York, YO19 4TA	Full Application	The development did not necessitate a detailed air quality assessment on the basis of the anticipated increase in traffic. Public Protection requested that a minimum of 32 parking spaces were provided with facilities for charging electric vehicles (with an additional 32 bays identified for the future installation of additional electric vehicle charge points). A Construction Environmental Management plan was also requested.	2023 Update Awaiting decision
20/01471/FULM	Royal Masonic Benevolent Institute, Connaught Court, St Oswalds Road, York, YO10 4QA	Full Application	Public Protection requested 2 active charge points for electric vehicles (this was already proposed as part of the application)	2023 Update Application approved (22/12/2022)
20/02421/FULM	Erection of 99no. room hotel, associated works and infrastructure. Land To The Rear Of Mill House, North Street, York	Full Application	12 EV charging points to the north and east of the development were proposed for use by staff and visitors	2023 Update Application approved (10/6/2022) with condition regarding EV charge point specification
20/02503/FUL	Extension to west elevation of existing unit. York Guns, Camsey House, Unit 1 Foxoak Business Park, Common Road, Dunnington, York YO19 5RZ	Full Application	EV charge point requested	2023 Update Application approved (7/7/2022) with condition for EV charge point

Planning Reference	Description	Type	Comments	Status
20/02517/FULM	Erection of extra care accommodation including no.73 apartments and decked car park with associated private amenity space, landscaping, substation and vehicular access alterations. Chocolate Works Residents Parking, Bishopthorpe Road, York	Full Application	Detailed air quality assessment not required, but 7 EV charge points requested based on parking provision	2023 Update Appeal decided (11/01/2023) dismissed at appeal
21/00305/OUTM	Outline planning permission with all matters reserved except access, for circa 300 residential dwellings, associated landscaping, public open space, and the formation of two new vehicle accesses from New Lane. Huntington South Moor, New Lane, Huntington York	Outline Application	Dust Management Plan / Construction Environmental Management Plan (CEMP) requested. Negligible air quality impacts demonstrated for operational phases. Strategy for EV charging facilities across the site requested	2023 Update Awaiting decision
21/01605/FULM	Demolition of existing buildings and redevelopment of the site to form 280no. room purpose built student accommodation with associated car parking, landscaping and facilities. Mecca Bingo, 68 Fishergate, York	Full Application	AQ assessment demonstrated that mitigation measures would not be required during operational phases of development to reduce exposure of future occupants to poor air quality. However, assessment showed that mitigation measures would be needed during construction phases to minimise dust impacts for nearby sensitive receptors. Construction Environmental Management Plan (CEMP) requested. EV charge point requested	2023 Update Application approved (25/4/2022) with condition for EV charging and CEMP
21/02108/FULM	NHS Property Services Limited, Bootham Park Hospital, Bootham, York, YO30 7BY	Full Application	Development predicted to generate less vehicular traffic than when the former Bootham Hospital was in operation, both in terms of daily traffic and trips in the highway peak hours. Vehicular and air quality impacts considered to be negligible. Based on local monitoring, baseline air quality on the site also well within health based air quality standards	2023 Update Awaiting decision

Planning Reference	Description	Type	Comments	Status
			Construction Environmental Management Plan (CEMP) requested. 9 EV charge points requested for the site based on 170 parking spaces.	
21/02573/FULM	Demolition of existing buildings, alterations to 'The Married Quarters Building', and erection of new buildings to provide no.85 residential dwellings (Use Class C3), 457sqm of commercial, business and service floorspace (Use Class E) and 152sqm of community floorspace (Use Class F1/F2) with associated ancillary development. Development Site, Hospital Fields Road And Ordnance Lane, York	Full Application	Public Protection requested a strategy for provision of EV charging facilities on the site. A Construction Environmental Management Plan (CEMP) was also requested for the site.	2023 Update Application approved (14/6/2022) with condition for EV charging and CEMP
21/02661/FULM	Erection of 21no. dwellings and associated works. Land To The East Of Middlewood Close, Rufforth, York	Full Application	Condition requested regarding specification of proposed in -curtilage and remote EV charge points	Application refused (15/8/2022)
21/02757/OUT	Pigotts Autoparts, Sheriff Hutton Road, Strensall, York, YO32 5XH	Outline Application	Condition requested regarding passive provision for EV charging points	Awaiting decision
22/00015/FULM	Erection of 1no. three storey office building (use class E) and 2no. two storey light industrial buildings (use classes E, B2 and B8) together with parking and new access arrangements following demolition of existing buildings (resubmission), J H Shouksmith And Sons Ltd, Murton Way, York, YO19 5GS	Full Application	Condition requested regarding EV charging strategy	Application approved (03/03/2023) with condition for EV charging strategy

Planning Reference	Description	Type	Comments	Status
21/02425/LBC	Internal and external alterations to include reinstating pots on chimney stacks and fire surrounds and inserts to five rooms. 116 Holgate Road, York, YO24 4BB	Listed Building Consent	Informative provided regarding installation of solid fuel burning appliances in a Smoke Control Area	Application approved (02/11/2022)
22/00098/FULM	Demolition of 1 - 9 Rougier Street and erection of mixed use development including 153 apartments (Use Class C3), offices (Use Class E), visitor attraction (Use Class F1), aparthotel with 88 rooms (Use Class C1) with associated landscaping and public realm improvements - (resubmission). Northern House, Rougier Street, York	Full Application	Condition requested regarding continuous mechanical supply and extract ventilation system (MVHR) serving apartments facing Rougier Street, up to and including second floor level, to minimise exposure to poor air quality within the AQMA. Conditions also requested regarding a Construction Environmental Management Plan and anti-idling signage at the taxi pick-up / drop-off facility.	Awaiting decision
22/00192/FUL	Installation of temporary theatre unit, storage cabin and additional car parking. Clifton Park Treatment Centre NHS North Yorkshire And York, Bluebeck Drive, York, YO30 5RA	Full Application	Condition requested regarding the provision of 2 EV charge points, with passive provision for a further 2 points.	Application approved (10/06/2022) with condition
22/00417/EIASP	Scoping opinion in respect of residential development of circa 1700 dwellings (to include a retirement village of circa 350 dwellings) with associated infrastructure works, open space, country park, primary school, community facilities and local retail uses. OS Fields 5085 And 8186 Road A1237 From Strensall Road Roundabout Up To And Including North Lane Roundabout, Huntington, York	EIA Scoping Opinion	Public Protection provided advice on screening thresholds and mitigation requirements	EIA Required (13/04/2022)

Planning Reference	Description	Type	Comments	Status
22/00552/FULM	Erection of extra care accommodation including no.70 apartments and decked car park with associated private amenity space, landscaping, substation and vehicular access alterations – resubmission. Chocolate Works, Residents Parking, Bishopthorpe Road, York	Full Application	Condition requested regarding EV charging strategy	Application refused (10/02/2023)
AOD/22/00087	Condition 6 (details of mechanical ventilation) of planning permission 17/00170/FUL. Rathmell Hall, George Hudson Street, York, YO1 6LP	Approval of Details	Referred to Building Control to review mechanical ventilation scheme and test results	Condition discharged (24/05/2022)
22/00685/FULM	Erection of new two storey pitched roof block and single storey flat roof extension, together with associated external works including car park areas, paved terrace, fenced play areas and the formation of a new pedestrian and cycle access after partial demolition of former Clifton Without Junior School buildings. Clifton Without County Junior School, Rawcliffe Drive, York, YO30 6NS	Full Application	Condition requested regarding EV charging strategy	Application approved (11/11/2022)
AOD/22/00097	Emission Mitigation Statement for York Central. Approval of details application - discharge of Condition 53 (Emission Mitigation) of 18/01884/OUTM	Approval of Details	Emission Mitigation Statement provides a framework by which future Reserved Matters Applications (RMAs) will be determined and sets out a number of measures for lowering emissions and exposure to air pollution, to deliver the principles of CYC's Low Emission Planning Guidance across the site and over a number of phases of development.	Condition discharged (28/04/2022)

Planning Reference	Description	Type	Comments	Status
AOD/22/00111	Condition 13 of 20/00148/FULM The Tile Company Unit 2 Kettlestring Lane, York, YO30 4XF	Approval of Details	Location and specification of charge points acceptable	Condition discharged (07/07/2022)
AOD/22/00113	Condition 9 (Electric Vehicle Recharging Point) of planning permission 20/01200/FULM. Aubrey House, Foss Islands Road, York, YO31 7UP	Approval of Details	Location and specification of charge points acceptable	Condition discharged (21/07/2022)
AOD/22/00119	Condition 10 of 21/00194/FUL. Proposed Residential Development Site, Shilton Garth Close, Earswick, York	Approval of Details	Details of passive provision for electric charge point acceptable	Condition discharged (13/03/2023)
22/00751/LBC	Temporary installation of air quality monitoring equipment, York Station, Station Road York	Listed Building Consent	Public Protection supportive of proposals to monitor air quality within the station to establish baseline conditions	Application approved (30/06/2022)
AOD/22/00134	Condition 12 of 18/01865/FUL. The Old Post Office Club, 26 Marygate, York, YO30 7BH	Approval of Details	Two communal charging points to be installed on the side wall of House 4 with additional charging points fitted in each private garage	Condition discharged (28/11/2022)
AOD/22/00148	Condition 13 of 20/00056/FULM. Site Of Former Unit C, Auster Road, York	Approval of Details	The location and specification of the twin charge point considered acceptable	Condition discharged 20/06/2022

Planning Reference	Description	Type	Comments	Status
22/00896/FUL	Variation of conditions 2 and 9 of permitted application 21/00796/FULM to alter the number and type of EV chargers. Land To The South Of Northminster Business Park, Harwood Road, Upper Poppleton, York	Full Application	<p>Condition 9 required 30 EV recharging points to be provided in a position and to a specification agreed by CYC (13 EV chargers for vans associated with the delivery of goods and 17 EV chargers for staff / visitors cars). The proposal was for this to be changed to 2 x 50kw rapid chargers for vans and 8 x twin 7kW chargers for cars (providing 16 charging spaces).</p> <p>With respect to car parking, the proposals exceeded CYC's requirement for numbers of active EV charging points (5%). With respect to van parking, the provision of a fewer number of 50kW rapid charge points was considered acceptable as this would benefit the operation as it will allow vans to be kept in service for more hours of the day as they can be charged at a faster rate.</p>	Application approved (23/06/2022)
22/00542/FUL	Variation of condition 2 of permitted application 16/01646/FULM to alter layout and elevations – revised EV charging point. The Clock Tower, Bishopthorpe Road, York	Ful Application	Proposal to provide 2 'rapid' charge (50 kW) EV charge points	Application approved (14/12/2022)
22/01139/FUL	Alterations to car park to provide Electric Vehicle charging posts together with electrical infrastructure to include sub-station, lighting, cabinet and associated works, Vangarde Retail Park Vangarde Way, Huntington, York, YO32 9AE	Full Application	Public Protection supported the installation of additional EV charging facilities within the retail park to promote the uptake of EVs.	Application approved (26/08/2022)

Planning Reference	Description	Type	Comments	Status
AOD/22/00201	Conditions 12 (EVCP) of 20/01626/FULM. OS Field 2800, Eastfield Lane, Dunnington, York	Approval of Details	Applicant required to identify proposed location for a future Electric Vehicle Recharge Point within the development curtilage and ensure suitable radial AC single phase connection.	Awaiting decision
22/01555/FULM	Extension to Pavers facility to provide office space with associated car parking and landscaping. Pavers Ltd, Catherine House, Northminster Business Park, Harwood Road, Upper Poppleton York YO26 6QU	Full Application	Condition requested regarding EV charging strategy	Application withdrawn (04/12/2022)
AOD/22/00278	Condition 4 (Details of Electric Vehicle Recharging Point) of planning permission 21/00150/FUL. Simpson (York) Ltd, Unit 10, Hassacarr Close, Dunnington, York, YO19 5SN	Approval of Details	Specification of the charge point considered acceptable	Application approved (31/08/2022)
AOD/22/00286	Condition 5 (EVCP maintenance plan) of 20/00921/FUL. Moorgate Court, George Cayley Drive, York	Approval of Details	Electric Vehicle Charging Point Maintenance Plan considered acceptable	Application approved (27/09/2022)
22/01891/FUL	Removal of condition 15 of permitted application 12/03155/FULM to enable windows facing Piccadilly and Coppergate to be opened and benefit from natural ventilation. Swan Court, Piccadilly, York	Full Application	Air quality monitoring survey submitted in support of the application demonstrated that levels of nitrogen dioxide were within health-based standards around the building. Public Protection were therefore satisfied that the previous condition regarding mechanical ventilation could be removed.	Application approved (08/11/2022)

Planning Reference	Description	Type	Comments	Status
22/01948/FUL	Change of use of ground floor from restaurant (Class E) to (holiday) letting rooms. Zills Mediterranean, 19 Gillygate, York, YO31 7EA	Full Application	No requirement for air quality mitigation whilst the building is used for short term holiday lets, but the proposed ground floor use included a living area / habitable room facing Gillygate at ground floor level and therefore does potentially include future opportunities for 'relevant exposure' to air pollution in an area within an existing AQMA, should the building become a permanent dwelling. This would be subject to a further planning application. Mitigation measures requested would depend upon monitoring results at the time of any future planning application	Application approved (07/11/2022)
22/02020/FULM	Improvements to the A1237 York Outer Ring Road including dualling of existing carriageway, improvements to roundabouts etc. STREET RECORD A1237 York Outer Ring Road A19 Roundabout Up To And Including Little Hopgrove Roundabout York	Full Application	The plans include significant improvements, with the aim to reduce congestion, move car journeys out of the city centre and improve active travel facilities for pedestrians and cyclists. The proposals feature upgrades along the York Outer Ring Road from the A19 Shipton Road to the A1036 Little Hopgrove and would see improvements to 6 sections of the northern York Outer Ring Road. No significant adverse impacts predicted at the sensitive receptors considered for the annual mean NO ₂ , PM ₁₀ or PM _{2.5} during operational phases. Based on the analysis of city centre locations considered, the scheme may bring about some improvement in air quality due to reductions in traffic flow observed in the AQMA. With respect to construction phases, with the application of best practice mitigation measures during construction it is considered that potential impacts from fugitive dust can be managed effectively and the residual impacts would not be significant. Public Protection requested a Construction Environmental Management Plan (CEMP), which should specifically include a Dust	Awaiting decision

Planning Reference	Description	Type	Comments	Status
			Management Plan (DMP) and Traffic Management Plan (TMP).	
AOD/22/00342	Condition 14 of 19/01339/FUL, Murton Grange, Bad Bargain Lane, York, YO19 5XB	Approval of Details	Condition required incorporate sufficient capacity within the electricity distribution board for one dedicated radial AC single phase connection for EV charging infrastructure. 3 fixed charging points were provided.	Application approved (27/01/2023)
22/02376/EIASN	Screening opinion in relation to new railway station, Land Adjacent Rail Line At Towthorpe Road, York	EIA Screening Opinion	Highlighted that construction phase air quality / dust impacts should be appropriately assessed and mitigated and that traffic movements associated with the scheme should be screened in line with CYC's Low Emission Planning Guidance to determine the level and nature of any air quality assessment required. There is a reasonable buffer distance (>100m) between the site and nearby residential neighbourhoods and it is not anticipated that emissions from idling locomotives would result in significant air quality / exposure impacts. Proposals include electric vehicle charging provision for 16% of parking spaces.	EIA not required (05/01/2023)
22/02433/FUL	Variation of condition 17 of permitted application 21/00737/FULM to reduce the number of Electric Vehicle Recharging Point(s) down from 9no. to 4no. Fulford School Fulfordgate York YO10 4FY	Full Application	On the basis of 40 new car parking spaces, CYC require a minimum of 2 charge points to an agreed specification. The proposal to install 4 charge points (10%) exceeded CYC's minimum requirements for active charge point provision and was considered acceptable.	Application approved (23/01/2023)

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
CM1	Bootham	Urban Background	460022	452777	NOx, PM10, PM2.5	No	C, BAM	60	49.6	3.0
CM2	Fishergate	Roadside	460746	451038	NOx, PM10, PM2.5	Yes - AQMA No.5	C, BAM	10	3.2	2.7
CM3	Holgate	Roadside	459512	451282	NOx, PM10	Yes - AQMA No.5	C, TEOM	12	2.5	1.7
CM4	Nunnery Lane	Roadside	460068	451199	NOx	Yes - AQMA No.5	C	4	1.7	1.7
CM5	Gillygate	Roadside	460147	452345	NOx, PM2.5	Yes - AQMA No.5	C, TEOM	3	2.1	2.5
CM6	Lawrence Street	Roadside	461256	451340	NOx	Yes - AQMA No.5	C	5	3.2	1.7
CM7	Heworth Green	Roadside	461126	452602	NOx	No	C	3	1.2	1.5
CM8	Plantation Drive	Roadside	457428	452620	PM10	No	TEOM	17	1	1.7
CM9	Fulford Road	Roadside	460937	449464	NOx	No	C	19	5	1.7

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA Order No.5?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
5	Lamp post 15 Forge Close, Jockey Lane	Roadside	462040	454883	NO ₂	NO	16.9	1.9	N	~2.75
6	Lamp post top of Nunnery Lane Car Park	Roadside	459777	451406	NO ₂	YES	7.7	2.8	N	~2.75
7	Gillygate opposite Portland Street	Roadside	460217	452421	NO ₂	YES	2.3	0.3	N	~2.75
8	Portland Street - triplicate	Urban Background	460163	452468	NO ₂	NO	3.7	1.8	N	~2.75
9	Portland Street - triplicate	Urban Background	460163	452468	NO ₂	NO	3.7	1.8	N	~2.75
11	Holly Bank	Urban Background	458846	450946	NO ₂	NO	7.7	0.7	N	~2.75
13	Papillion hotel, Gillygate	Roadside	460176	452377	NO ₂	YES	0.1	1.5	N	~2.75
14	Gillygate Surgery	Roadside	460167	452347	NO ₂	YES	0.2	2.3	N	~2.75
15	Foss Islands Rd	Roadside	461105	451458	NO ₂	YES	1.9	1.9	N	~2.75
16	Prices Lane	Roadside	460160	451152	NO ₂	YES	2.5	1.2	N	~2.75
17	Drainpipe of house 18 Queen St	Roadside	459646	451500	NO ₂	YES	0.2	1.3	N	~2.75
18	Lamp post 4 Haxby Road	Roadside	460457	452903	NO ₂	YES	3.3	1.9	N	~2.75
25	Heworth Road - Lamp post 6	Roadside	461721	452709	NO ₂	NO	7.2	1.4	N	~2.75
26	Haleys Terrace (previously Longwood Road)	Roadside	460829	453524	NO ₂	NO	8.5	0.4	N	~2.75
33	Haxby Road (nr Whitecross Rd)	Roadside	460598	453227	NO ₂	NO	14.5	1.7	N	~2.75
35	Carr Lane	Roadside	457603	451492	NO ₂	NO	6.2	2.9	N	~2.75
37	Jarvis Abbey Park	Roadside	459522	451187	NO ₂	YES	21.6	2.7	N	~2.75
44	Lamp post 8 Monkgate Cloisters	Roadside	460679	452326	NO ₂	YES	2	1.6	N	~2.75

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA Order No.5?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
45	Clarence St	Roadside	460319	452754	NO ₂	YES	3.6	2	N	~2.75
47	Strensall Road	Roadside	462009	456996	NO ₂	NO	19.2	0.8	N	~2.75
50	BLANK	N/A	N/A	N/A	NO ₂	N/A	N	N/A	N	N/A
60	First Lamp post on Navigation Road	Roadside	461017	451781	NO ₂	YES	13	0.2	N	~2.75
78	Gillygate Monitoring Station - triplicate	Roadside	460149	452342	NO ₂	YES	3.4	2.3	Y	~2.75
79	Gillygate Monitoring Station - triplicate	Roadside	460149	452342	NO ₂	YES	3.4	2.3	Y	~2.75
80	Gillygate Monitoring Station - triplicate	Roadside	460149	452342	NO ₂	YES	3.4	2.3	Y	~2.75
83	Drainpipe 6 Stockton Lane - nr Heworth Rd roundabout	Urban Background	461597	452830	NO ₂	NO	0.1	8.8	N	~2.75
88	Lamp post 1 Yew Tree Mews Osbaldwick Village	Urban Background	463354	451972	NO ₂	NO	4.9	0.6	N	~2.75
90	Lamp post Opposite Montaque Street on Cambleshon Road	Roadside	459997	450109	NO ₂	NO	19.8	1	N	~2.75
96	Heslington Lane	Roadside	460978	449452	NO ₂	NO	1.5	2.5	N	~2.75
100	House Near A59 Ringroad Roundabout	Roadside	456228	453312	NO ₂	NO	0.2	15	N	~2.75
101	Wiggington Road near the ring road roundabout	Roadside	459746	455897	NO ₂	NO	15	0.5	N	~2.75
102	Signpost between houses 252 & 254 on Salisbury Terrace - triplicate	Roadside	458703	452429	NO ₂	NO	0.2	1	N	~2.75
103	Signpost between houses 252 & 254	Roadside	458703	452429	NO ₂	NO	0.1	1.4	N	~2.75

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA Order No.5?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	on Salisbury Terrace - triplicate									
104	Signpost between houses 252 & 254 on Salisbury Terrace - triplicate	Roadside	458703	452429	NO ₂	NO	0.1	1.4	N	~2.75
107	Inbetween corner shop & betting office	Roadside	458779	452387	NO ₂	NO	3	3.8	N	~2.75
108	On signpost opposite side of road from 200 Salisbury Terrace	Roadside	458814	452373	NO ₂	NO	0.2	1.5	N	~2.75
109	Signpost outside 16 Rougier Street	Roadside	459924	451833	NO ₂	YES	0.2	2.5	N	~2.75
110	Signpost inbetween Club Salvation & 31 George Hudson Street	Roadside	459985	451727	NO ₂	YES	0.2	2.3	N	~2.75
111	Lamp post at side of Cedar Court opposite entrance to Multi-storey Car Park on Tanner Row	Roadside	459917	451728	NO ₂	NO	26	2.6	N	~2.75
112	Lamp post outside St Gregorys Mews, opposite Council HQ Toft Green	Roadside	459873	451684	NO ₂	NO	1	2.3	N	~2.75
114	Bus Stop outside Society bar/cafe Rougier Street	Roadside	459981	451778	NO ₂	YES	3.5	2.7	N	~2.75
116	111 Poppleton Road, drainpipe	Roadside	458212	452037	NO ₂	NO	0.1	5.3	N	~2.75

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA Order No.5?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
125	Osbalwick Derwenthorpe	Roadside	463194	451967	NO ₂	NO	20	1.6	N	~2.75
126	New Tube (Osbalwick Parish Council) nr Bridge	Roadside	463482	451896	NO ₂	NO	17.5	0.9	N	~2.75
127	Lamp post to left of 102 Layerthorpe (flats)	Roadside	461108	452313	NO ₂	NO	3.3	1.8	N	~2.75
128	Drainpipe between 7-9 Livingstone Street	Roadside	458686	452369	NO ₂	NO	0.1	1.6	N	~2.75
129	Drainpipe to front of 88 Station Road	Roadside	455968	453397	NO ₂	NO	0.1	14.5	N	~2.75
2a	Fishergate Monitoring station - triplicate	Roadside	460746	451034	NO ₂	YES	16.3	3.5	Y	~2.75
2b	Fishergate Monitoring station - triplicate	Roadside	460746	451034	NO ₂	YES	16.3	3.5	Y	~2.75
2c	Fishergate Monitoring station - triplicate	Roadside	460746	451034	NO ₂	YES	16.3	3.5	Y	~2.75
3a	Bootham Monitoring Station - triplicate	Urban Background	460024	452767	NO ₂	NO	39	49.6	Y	~2.75
3b	Bootham Monitoring Station - triplicate	Urban Background	460024	452767	NO ₂	NO	39	49.6	Y	~2.75
3c	Bootham Monitoring Station - triplicate	Urban Background	460024	452767	NO ₂	NO	39	49.6	Y	~2.75
95a	Fulford Monitoring Station - triplicate	Roadside	460938	449465	NO ₂	NO	19	6.5	Y	~2.75
95b	Fulford Monitoring Station - triplicate	Roadside	460938	449465	NO ₂	NO	19	6.5	Y	~2.75
95c	Fulford Monitoring Station - triplicate	Roadside	460938	449465	NO ₂	NO	19	6.5	Y	~2.75

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA Order No.5?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
9a	Portland Street - triplicate	Urban Background	460163	452468	NO ₂	NO	3.7	1.8	N	~2.75
A1	Bootham traffic light outside dance shop	Roadside	460088	452263	NO ₂	YES	0.2	2.3	N	~2.75
A11	Traffic lights end of Water Lane	Roadside	459341	453042	NO ₂	YES	13.6	0.4	N	~2.75
A12	Lamp post 7 Clifton Green	Roadside	459251	453008	NO ₂	YES	12.9	2.2	N	~2.75
A13	Lamp post 1 Clifton Dale - triplicate	Urban Background	459335	452931	NO ₂	NO	2.7	1.6	N	~2.75
A14	Lamp post 1 Clifton Dale - triplicate	Urban Background	459335	452931	NO ₂	NO	2.7	1.6	N	~2.75
A14a	Lamp post 1 Clifton Dale - triplicate	Urban Background	459335	452931	NO ₂	NO	2.7	1.6	N	~2.75
A17	Sailsbury Road	Roadside	458578	452472	NO ₂	NO	8.7	1.5	N	~2.75
A19	17 Sailsbury Terrace - triplicate	Roadside	458713	452414	NO ₂	NO	0.2	1.3	N	~2.75
A19a	17 Sailsbury Terrace - triplicate	Roadside	458713	452414	NO ₂	NO	0.2	1.3	N	~2.75
A19b	17 Sailsbury Terrace - triplicate	Roadside	458713	452414	NO ₂	NO	0.2	1.3	N	~2.75
A2	Drainpipe on front of registry office	Roadside	459917	452405	NO ₂	YES	0.2	3.4	N	~2.75
A20	224 Sailsbury Terrace - triplicate	Roadside	458760	452404	NO ₂	NO	0.2	1.1	N	~2.75
A20a	224 Sailsbury Terrace - triplicate	Roadside	458760	452404	NO ₂	NO	0.2	1.1	N	~2.75
A20b	224 Sailsbury Terrace - triplicate	Roadside	458760	452404	NO ₂	NO	0.2	1.1	N	~2.75
A21	Kingsland Terrace	Urban Background	458806	452326	NO ₂	NO	0.2	1.4	N	~2.75
A22	Kingsland Terrace	Urban Background	458792	452242	NO ₂	NO	0.2	23.8	N	~2.75
A25	Garfield Terrace	Roadside	458706	452225	NO ₂	NO	0.2	1.5	N	~2.75

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A29	Low Poppleton Lane	Urban Background	456939	453013	NO ₂	NO	23.6	1.1	N	~2.75
A3	WRVS building - Bootham	Roadside	459822	452492	NO ₂	YES	0.2	2.6	N	~2.75
A30	Boroughbridge Road	Urban Background	457060	452888	NO ₂	NO	8.3	6.2	N	~2.75
A36	Boroughbridge Road	Urban Background	457625	452446	NO ₂	NO	0.2	9.4	N	~2.75
A38	Boroughbridge Road	Urban Background	457857	452334	NO ₂	NO	0.2	10.3	N	~2.75
A4	St Olaves Road	Urban Background	459699	452638	NO ₂	YES	5.8	0.7	N	~2.75
A40	Poppleton Road School	Urban Background	458109	452196	NO ₂	NO	0.2	7.9	N	~2.75
A41	140 Poppleton Road	Roadside	458172	452108	NO ₂	NO	0.2	5.3	N	~2.75
A45	Grantham Drive	Urban Background	458384	451817	NO ₂	NO	0.2	10.5	N	~2.75
A98	8 Poppleton Road	Roadside	458666	451468	NO ₂	NO	0.2	4.9	N	~2.75
A50	Outside Fox pub - Holgate Rd	Roadside	458732	451393	NO ₂	YES	16.1	0.3	N	~2.75
A51	Thrall entrance	Urban Background	458827	451348	NO ₂	YES	18	2.2	N	~2.75
A52	Holgate Road (corner of Hamilton Dr East)	Roadside	458945	451254	NO ₂	YES	10.9	2	N	~2.75
A53	Holgate Road	Roadside	459066	451239	NO ₂	YES	7.9	2.7	N	~2.75
A54	Dalton Terrace	Roadside	459254	451223	NO ₂	YES	17.1	3.3	N	~2.75
A55	Holgate Road	Roadside	459351	451221	NO ₂	YES	5.5	0.2	N	~2.75
A56	Holgate Road	Urban Background	459470	451268	NO ₂	YES	0.2	10.2	N	~2.75
A57	Hairdressers Holgate Road	Roadside	459533	451280	NO ₂	YES	0.2	2.8	N	~2.75
A6	Clifton Bingo Hall	Roadside	459536	452811	NO ₂	YES	6.2	3	N	~2.75

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A60	Shipton Road	Urban Background	458906	453276	NO ₂	NO	0.2	21.5	N	~2.75
A62	42 Shipton Road	Urban Background	458806	453483	NO ₂	NO	0.2	15.7	N	~2.75
A64	Lamp post outside Charlie Browns	Roadside	460030	452327	NO ₂	YES	2.4	0.6	N	~2.75
A66	70 Shipton Road	Urban Background	458672	453685	NO ₂	NO	0.2	18.4	N	~2.75
A69	6 South Cottages	Urban Background	458375	453958	NO ₂	NO	0.2	10	N	~2.75
A7	51 Clifton	Roadside	459441	452892	NO ₂	YES	3.3	2.1	N	~2.75
A70	120 Shipton Road	Urban Background	458299	454070	NO ₂	NO	0.2	13	N	~2.75
A71	154 Shipton road	Urban Background	458121	454254	NO ₂	NO	0.2	9.6	N	~2.75
A74	176 Shipton Road	Urban Background	458041	454371	NO ₂	NO	0.2	7.1	N	~2.75
A77	Lamp post outside 206 Shipton Road	Urban Background	457929	454537	NO ₂	NO	6.1	1.7	N	~2.75
A81	Lamp post outside 276 Shipton Rd	Urban Background	457733	454805	NO ₂	NO	0.2	8.4	N	~2.75
A85	Drainpipe front of Greenside guest house	Urban Background	459364	453009	NO ₂	NO	0.2	11.5	N	~2.75
A88	111 Boroughbridge Road, Drainpipe nearest Garage at side of the door	Urban Background	457470	452550	NO ₂	NO	0.2	12.9	N	~2.75
A9	Lime Tree House	Roadside	459295	453067	NO ₂	YES	12.6	1.7	N	~2.75
A90	Lamp post 25 Shipton Rd	Roadside	459238	453157	NO ₂	YES	8.2	1.9	N	~2.75
A94	5 Salisbury Road	Roadside	458651	452426	NO ₂	NO	0.2	13.7	N	~2.75
A96	Ousecliffe Gardens signpost, outside 31 Water End	Roadside	459038	452850	NO ₂	NO	10	0.6	N	~2.75

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A97	Lamp post next to Air Quality Monitoring Station on Plantation Drive	Roadside	457431	452616	NO ₂	NO	18.7	2.2	N	~2.75
B1	Lamp post 1 Lowther Street opposite Riverside House Flats	Roadside	460848	452582	NO ₂	YES	0.2	1.3	N	~2.75
B15	Lamp post 99 Huntington Road	Roadside	461294	455305	NO ₂	NO	28	1.6	N	~2.75
B19	Lamp post 5 outside Huntington Primary School	Roadside	461891	455876	NO ₂	NO	17.2	1.6	N	~2.75
B2	Lamp post 7 Huntington Road opposite Park Grove	Roadside	460924	452697	NO ₂	YES	2.5	1.3	N	~2.75
B29	Eastern Terrace	Roadside	461453	452750	NO ₂	NO	0.3	1	N	~2.75
B3	Lamp post 11 Huntington Road outside no 70	Roadside	460952	452826	NO ₂	NO	2.9	1.4	N	~2.75
B36	Lamp post 60 Malton Road - triplicate	Urban Background	462565	454194	NO ₂	NO	16.9	0.6	N	~2.75
B37	Lamp post 60 Malton Road - triplicate	Urban Background	462565	454194	NO ₂	NO	16.9	0.6	N	~2.75
B37a	Lamp post 60 Malton Road - triplicate	Urban Background	462565	454194	NO ₂	NO	16.9	0.6	N	~2.75
B38	482 Malton Road	Urban Background	463757	455155	NO ₂	NO	0.2	11.7	N	~2.75
B41	76 Lawrence Street	Urban Background	461326	451330	NO ₂	YES	0.2	6.5	N	~2.75

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B42	83 Lawrence Street	Urban Background	461430	451348	NO ₂	YES	0.2	7.2	N	~2.75
B43	117 Lawrence Street	Urban Background	461557	451343	NO ₂	YES	0.2	7.9	N	~2.75
B44	Outside nursing home, Lawrence Street	Roadside	461643	451343	NO ₂	YES	8.6	1.9	N	~2.75
B45	Pedestrian crossing Traffic Light Melrosegate Crossroads	Roadside	461849	451284	NO ₂	YES	17.3	0.5	N	~2.75
B47	47 Hull Road	Urban Background	462019	451289	NO ₂	NO	0.2	12.2	N	~2.75
B48	61 Hull Road	Urban Background	462122	451289	NO ₂	NO	0.2	12.8	N	~2.75
B50	134 Hull Road	Roadside	462291	451269	NO ₂	NO	0.2	3.7	N	~2.75
B51	117 Hull Road	Urban Background	462384	451298	NO ₂	NO	0.2	13.2	N	~2.75
B56	Lamp post 40 Hull Road	Roadside	462888	451289	NO ₂	NO	14.4	2.3	N	~2.75
B58	231 Hull Road	Urban Background	462970	451300	NO ₂	NO	0.2	14	N	~2.75
B60	Lamp post 1 Nursery Gardens	Urban Background	463234	451339	NO ₂	NO	10.7	1.3	N	~2.75
B63	Lamp post 54 Tang Hall Lane	Roadside	462704	451300	NO ₂	NO	13.2	0.9	N	~2.75
B72	Front of York Cycleworks	Roadside	461122	451374	NO ₂	YES	10	2.9	N	~2.75
B74	Heworth Court Hotel sign outside Sutherland House on side of house on drainpipe.	Urban Background	461371	452708	NO ₂	NO	5.2	17.8	N	~2.75

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B80	On drainpipe on front of Heworth Surgery.	Urban Background	461185	452663	NO ₂	NO	24.5	13.4	N	~2.75
B82	Lamp post Dalguise Grove	Urban Background	460974	452563	NO ₂	NO	3.1	1.1	N	~2.75
B83	Lamp post 24 Outside No.55 Heworth Green	Roadside	461285	452695	NO ₂	NO	11.3	1	N	~2.75
B84	Drainpipe to the left of the front door on 167 Hull Road	Urban Background	462654	451293	NO ₂	NO	0.2	13.4	N	~2.75
B85	Lamp post 7 Outside St Lawrences Working Mens Club	Roadside	461227	451368	NO ₂	YES	18.8	5.6	N	~2.75
B86	Lamp post 16 Heworth Green, next to Air Quality Station	Roadside	461116	452602	NO ₂	NO	5	0.7	N	~2.75
B88	Telegraph Pole 381 Hull Road	Roadside	462799	451291	NO ₂	NO	10	6.8	N	~2.75
B90	11 Lawrence Street	Roadside	461133	451394	NO ₂	YES	0.1	4.4	N	~2.75
B91	Lamp post 4 outside flats, opposite Rose and Crown Pub	Roadside	461143	451364	NO ₂	YES	0.9	3.1	N	~2.75
C12	Lamp post 1 Ainsty Grove	Urban Background	458825	449928	NO ₂	NO	10.8	0.3	N	~2.75
C17	248 Tadcaster Rd	Urban Background	459085	450544	NO ₂	NO	0.2	20.6	N	~2.75
C18	196 Mount Vale	Urban Background	459204	450772	NO ₂	YES	0.2	9.2	N	~2.75
C19	Trentholme Dr	Urban Background	459271	450819	NO ₂	YES	7.7	0.4	N	~2.75

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C2	Lamp post 66 Tesco roundabout	Roadside	458333	448974	NO ₂	NO	16.9	1.1	N	~2.75
C20	Elmbank hotel	Urban Background	459280	450923	NO ₂	YES	21.4	0.5	N	~2.75
C21	Dalton Terrace	Roadside	459410	451040	NO ₂	YES	3.8	3.5	N	~2.75
C22	Park Street	Urban Background	459570	451195	NO ₂	YES	14.4	1.1	N	~2.75
C23	The Mount	Roadside	459553	451252	NO ₂	YES	0.2	3	N	~2.75
C26	Outside Odean	Roadside	459639	451334	NO ₂	YES	12.9	0.8	N	~2.75
C27	Windmill Pub	Roadside	459717	451433	NO ₂	YES	0.2	3.2	N	~2.75
C28	House top of Selby Rd	Urban Background	461201	448386	NO ₂	NO	0.2	15.3	N	~2.75
C29	Lamp post 34 Selby Road	Roadside	461196	448426	NO ₂	NO	21.7	0.5	N	~2.75
C30	Lamp post 2 Selby Rd	Roadside	461185	448462	NO ₂	NO	13.1	1.2	N	~2.75
C31	2 Selby Rd	Urban Background	461193	448473	NO ₂	NO	0.2	14.1	N	~2.75
C32	Fordlands Rd	Urban Background	461128	448823	NO ₂	NO	5.4	6.8	N	~2.75
C33	124 Main St	Urban Background	461085	448933	NO ₂	NO	1	11.2	N	~2.75
C34	103 Main St	Roadside	461085	449067	NO ₂	NO	0.2	3.5	N	~2.75
C36	50 Main St	Roadside	461052	449146	NO ₂	NO	0.2	3.7	N	~2.75
C37	59 Main St	Urban Background	461045	449223	NO ₂	NO	0.2	6.7	N	~2.75
C38	Lamp post 8 Main St	Roadside	461038	449225	NO ₂	NO	6	0.4	N	~2.75
C39	18 Main St	Roadside	460974	449336	NO ₂	NO	0.2	2.4	N	~2.75
C4	147 Tadcaster Rd	Urban Background	458470	449126	NO ₂	NO	0.2	14.3	N	~2.75
C40	Adams House B&B	Urban Background	460910	449628	NO ₂	NO	0.2	8.7	N	~2.75

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C42	300 Fulford Rd	Urban Background	460857	449748	NO ₂	NO	0.2	10	N	~2.75
C43	Lamp post 39 Fulford Rd - triplicate	Roadside	460869	449730	NO ₂	NO	8.7	0.3	N	~2.75
C43a	Lamp post 39 Fulford Rd - triplicate	Roadside	460869	449730	NO ₂	NO	8.7	0.3	N	~2.75
C44	Lamp post 39 Fulford Rd - triplicate	Roadside	460869	449730	NO ₂	NO	8.7	0.3	N	~2.75
C49	Alma terrace	Urban Background	460860	450530	NO ₂	YES	6	0.9	N	~2.75
C51	Conservative Club	Roadside	460871	450727	NO ₂	YES	9.8	1	N	~2.75
C52	Howard St	Roadside	460853	450781	NO ₂	YES	9.9	1.4	N	~2.75
C53	Winterscale St	Roadside	460766	450924	NO ₂	YES	14.7	2.1	N	~2.75
C54	Escrick St	Roadside	460762	451069	NO ₂	YES	1.7	3.2	N	~2.75
C56	Pedestrian crossing on junction of Scarcroft Road/The Mount	Roadside	459484	451141	NO ₂	YES	25.1	1.3	N	~2.75
C57	Lamp post 1 Nelson's Lane	Urban Background	458912	450111	NO ₂	NO	5.9	1.3	N	~2.75
C58	Drainpipe of 4 Main Street Fulford	Roadside	460926	449429	NO ₂	NO	0.2	3.6	N	~2.75
C59	Drainpipe of 34 Tadcaster Road	Roadside	458735	449713	NO ₂	NO	0.2	3.6	N	~2.75
C62	East Mount Road	Roadside	459579	451251	NO ₂	YES	0.1	1	N	~2.75
C63	1 St Edwards Close	Roadside	458790	449740	NO ₂	NO	0.1	15.6	N	~2.75
C7	Slingsby Grove	Roadside	458611	449477	NO ₂	NO	1.4	2.6	N	~2.75
D10	Daisy Taylors Card Shop, Kings Square	Urban Background	460443	451927	NO ₂	NO	0.2	0.9	N	~2.75
D12	On signpost outside 26 Fossgate	Roadside	460567	451740	NO ₂	YES	0.2	1.6	N	~2.75

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D13	Lamp post 4 Skeldergate, opposite City Mills	Roadside	460271	451358	NO ₂	YES	1.6	1.6	N	~2.75
D14	Lamp post 3 Barbican Road outside No.7	Roadside	461077	451354	NO ₂	YES	1.9	0.2	N	~2.75
D16	Lamp post 1, Paragon St	Roadside	460708	451231	NO ₂	YES	0.2	3	N	~2.75
D17	Piccadilly/ Merchantgate junction	Roadside	460575	451616	NO ₂	YES	19.3	0.3	N	~2.75
D18	Lamp post 6 Clifford St opposite Peckitt Street	Roadside	460395	451502	NO ₂	YES	0.4	1.8	N	~2.75
D19	Bridge St/ Micklegate Junction	Roadside	460038	451626	NO ₂	YES	1.7	0.2	N	~2.75
D20	Low Ousegate / Clifford St junction, outside Waterstones	Roadside	460323	451685	NO ₂	YES	13	0.5	N	~2.75
D22	Outside Museum Gardens	Roadside	460035	452010	NO ₂	YES	7.9	2.1	N	~2.75
D24	Priory St sign Micklegate	Roadside	459805	451543	NO ₂	NO	3.4	0.5	N	~2.75
D25	Bus Stop E outside Royal York Hotel	Roadside	459693	451750	NO ₂	YES	169.3	0.4	N	~2.75
D26	Lamp post 14 Piccadilly (near Travellodge)	Roadside	460671	451400	NO ₂	YES	15.5	2.1	N	~2.75
D27	Lamp post 2 St Deny's Road - outside hotel	Roadside	460734	451563	NO ₂	NO	11.7	1.5	N	~2.75
D28	Lamp post 4 outside The Garden	Roadside	460764	451185	NO ₂	YES	23.6	2.4	N	~2.75

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	of India restaurant on Fawcett Street									
D30	Lamp post outside Barbican Centre	Roadside	460834	451252	NO ₂	YES	35.5	0.1	N	~2.75
D31	Lamp post 9 Barbican road outside No.24	Roadside	461002	451229	NO ₂	YES	2	0.3	N	~2.75
D32	Lamp post 3 Bishopgate Street - next to bench	Roadside	460258	451208	NO ₂	YES	22.2	1.9	N	~2.75
D33	Lamp post 17 Nunnery Lane outside 81	Roadside	460075	451174	NO ₂	YES	3.9	0.2	N	~2.75
D35	Drainpipe of house 22, Prices Lane	Roadside	460134	451170	NO ₂	YES	0.2	1.6	N	~2.75
D36	Lamp post 7 Bishopthorpe Road, opposite entrance to Charlton St	Roadside	460135	450884	NO ₂	YES	6.1	0.2	N	~2.75
D37	Lamp post 3, Bishopthorpe Road, outside house 26	Roadside	460157	450988	NO ₂	YES	2	2	N	~2.75
D38	Lamp post 2 Scarcroft Rd	Roadside	460088	450929	NO ₂	YES	2.7	1.6	N	~2.75
D39	Lamp post 1 Bishopthorpe Road	Roadside	460185	451055	NO ₂	YES	1.5	0.5	N	~2.75
D4	Lamp post 11 Lord Mayor's Walk - opposite bike shop	Roadside	460560	452300	NO ₂	YES	25.1	2.3	N	~2.75
D40	Lamp post 16 Nunnery Lane	Roadside	460069	451196	NO ₂	YES	3.3	1.6	N	~2.75
D41	Drainpipe of 55 Lord Mayor's Walk	Roadside	460286	452487	NO ₂	YES	0.2	3.8	N	~2.75
D43	Rougier Street Signpost 1, has	Roadside	459920	451834	NO ₂	YES	3	0.3	N	~2.75

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA Order No.5?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	"Except for Access" sign on it.									
D45	Lamp post 6 The Stonebow Opposite Windsors World of Shoes	Roadside	460673	451869	NO ₂	YES	15.6	1	N	~2.75
D47	Lamp post 8 Jewbury	Roadside	460682	452187	NO ₂	YES	0.6	2.4	N	~2.75
D48	Outside De Grey House right hand side of side entrance gate post	Roadside	460103	452180	NO ₂	YES	33.6	2.3	N	~2.75
D49	Lamp post 1 Fishergate	Roadside	460656	451269	NO ₂	YES	0.2	2.8	N	~2.75
D50	Drainpipe side of Cardshop Coppergate	Roadside	460371	451682	NO ₂	YES	0.2	1.9	N	~2.75
D51	Inside Taxi Rank @ York Railway Station	Roadside	459640	451722	NO ₂	NO	N	40	N	~2.75
D52	Lamp post 3 Kent Street at side of car park	Roadside	460887	451140	NO ₂	NO	2	2	N	~2.75
D53	58 Nunnery Lane	Roadside	460115	451146	NO ₂	YES	0.1	3.6	N	~2.75
D54	76 Nunnery Lane	Roadside	460146	451116	NO ₂	YES	0.1	5.5	N	~2.75
D55	Museum Street - Opposite Thomas's Pub	Roadside	460087	452065	NO ₂	YES	1.8	2.2	N	~2.75
D6	Margaret Phillipson Court, Aldwalk	Urban Background	460570	452177	NO ₂	NO	0.2	2.6	N	~2.75
D8	Lamp post 2, The Stonebow - Jorvick café	Roadside	460553	451843	NO ₂	NO	27.3	0.5	N	~2.75

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA Order No.5?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
D9	Lamp post 8, Lord Mayor's Walk outside no 34	Roadside	460483	452357	NO ₂	YES	1.8	0.1	N	~2.75
D56	Three Tuns Pub, 12 Coppergate	Roadside	460400	451685	NO ₂	YES	0.1	1.6	N	~2.75
D57	Lamp post 4, Pedestrian Crossing, Coppergate	Roadside	460416	451708	NO ₂	YES	11.9	2.4	N	~2.75
D58	Traffic lights, opposite Duttons, Coppergate	Roadside	460435	451732	NO ₂	YES	8	0.1	N	~2.75
D59	Bus Stop outside 8/9 SLP	Roadside	460087	452156	NO ₂	YES	1.8	2.7	N	~2.75
D60	No entry sign outside 'Schuh' Shoe Shop	Roadside	460294	451883	NO ₂	NO	N	1.7	N	~2.75
130	Outside 81 Low Mill Close	Roadside	463663	451054	NO ₂	NO	13.6	1.1	N	~2.75
115	Inside Bus Stop (opposite side of road from tube 114) Rougier Street	Roadside	459962	451771	NO ₂	YES	47	1.5	N	~2.75

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 NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
Bootham	460022	452777	Urban Background	99.0	99.0	15.2	14.9	12.9	12.7	12.6
Fishergate	460746	451038	Roadside	98.6	98.6	26.1	26.1	18.8	19.8	19.2
Holgate	459512	451282	Roadside	99.3	99.3	24.8	25.2	20.7	23.6	21.1
Nunnery Lane	460068	451199	Roadside	92.5	92.5	23.4	22.9	16.7	19.8	19.1
Gillygate	460147	452345	Roadside	99.3	99.3	27.1	27.3	23.5	25.5	27.1
Lawrence Street	461256	451340	Roadside	98.5	98.5	27.3	26.9	19.5	21.3	20.0
Heworth Green	461126	452602	Roadside	97.6	97.6	26.2	25.6	19.5	20.3	20.4
Fulford Road	460937	449464	Roadside	93.9	93.9	22.2	22.3	16.6	17.3	16.8

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.

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the NO₂ annual mean objective of 40µg/m³ 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 NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
5	462040	454883	Roadside	100	100	15.2	16.2	14.3	12.1	12.1
6	459777	451406	Roadside	100	100	37.1	37.3	29.1	33.9	31.1
7	460217	452421	Roadside	92	92	45.3	45.4	38.2	46.2	49.5
8	460163	452468	Urban Background	83	83	15.5	18.1	12.5	12.7	13.4
9	460163	452468	Urban Background	92	92	15.7	17.6	12.3	12.6	13.6
11	458846	450946	Urban Background	100	100	15.6	17.9	12.5	13.2	13.6
13	460176	452377	Roadside	92	92	42.6	40.7	38.0	46.5	45.5
14	460167	452347	Roadside	100	100	46.6	44.3	40.2	47.5	47.3
15	461105	451458	Roadside	100	100	36.0	34.7	28.7	30.7	29.5
16	460160	451152	Roadside	92	92	35.6	35.9	26.2	30.4	29.1
17	459646	451500	Roadside	100	100	32.2	31.4	25.0	26.0	27.4
18	460457	452903	Roadside	83	83	29.4	29.9	24.0	30.3	29.7
25	461721	452709	Roadside	100	100	20.0	22.4	17.1	18.8	18.0
26	460829	453524	Roadside	100	100	26.0	26.7	21.0	26.4	25.8
33	460598	453227	Roadside	92	92	23.7	23.5	20.0	22.5	21.8
35	457603	451492	Roadside	100	100	24.3	23.5	18.4	19.7	18.8
37	459522	451187	Roadside	100	100	31.1	29.6	22.6	23.2	23.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
44	460679	452326	Roadside	100	100	22.9	22.3	18.4	18.9	17.8
45	460319	452754	Roadside	92	92	31.6	31.4	25.7	28.9	29.5
47	462009	456996	Roadside	100	100	26.9	26.8	21.0	22.1	22.6
60	461017	451781	Roadside	100	100	19.8	22.9	17.2	17.2	15.0
78	460149	452342	Roadside	92	92	30.3	28.6	23.9	27.2	27.1
79	460149	452342	Roadside	92	92	29.6	29.4	24.3	26.2	26.7
80	460149	452342	Roadside	75	75	29.4	29.8	24.8	29.4	26.5
83	461597	452830	Urban Background	100	100	20.2	19.9	13.8	14.9	14.6
88	463354	451972	Urban Background	100	100	11.9	13.8 (estimate)	9.9	9.3	10.4
90	459997	450109	Roadside	100	100	15.7	15.7	10.9	11.0	11.4
96	460978	449452	Roadside	100	100	20.5	20.9	14.4	15.2	14.8
100	456228	453312	Roadside	100	100	17.7	18.3	13.2	14.3	14.1
101	459746	455897	Roadside	83	83	29.1	31.2	23.0	24.5	22.5
102	458703	452429	Roadside	100	100	31.5	30.8	23.7	28.8	25.4
103	458703	452429	Roadside	100	100	31.8	30.5	21.7	29.1	28.5
104	458703	452429	Roadside	100	100	31.2	31.4	24.4	29.2	28.4
107	458779	452387	Roadside	100	100	18.8	18.7	14.0	15.9	15.5
108	458814	452373	Roadside	100	100	21.6	22.3	18.8	20.1	20.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
109	459924	451833	Roadside	92	92	45.1	46.7	38.8	39.3	43.7
110	459985	451727	Roadside	92	92	43.6	45.3	34.4	39.3	37.2
111	459917	451728	Roadside	83	83	25.6	28.0	19.8	20.6	17.8
112	459873	451684	Roadside	100	100	22.5	23.3	17.7	17.3	17.0
114	459981	451778	Roadside	100	100	38.0	38.5	29.0	33.8	34.4
116	458212	452037	Roadside	100	100	26.1	25.9	19.4	22.5	21.6
125	463194	451967	Roadside	92	92	14.2	14.2	12.0	10.6	11.5
126	463482	451896	Roadside	92	92	16.3	16.0	13.9	13.9	13.0
127	461108	452313	Roadside	100	100	19.3	19.5	17.6	18.3	20.1
128	458686	452369	Roadside	100	100	19.1	19.1	13.5	14.9	15.1
129	455968	453397	Roadside	92	92	15.9	16.7	11.2	12.7	12.4
2a	460746	451034	Roadside	100	100	24.5	24.1	17.6	18.7	17.9
2b	460746	451034	Roadside	100	100	25.5	24.8	18.1	18.4	18.1
2c	460746	451034	Roadside	100	100	24.8	23.4	18.0	18.8	18.4
3a	460024	452767	Urban Background	100	100	14.8	16.4	12.3	12.0	12.0
3b	460024	452767	Urban Background	100	100	15.3	16.8	11.6	12.5	11.7
3c	460024	452767	Urban Background	100	100	15.1	16.8	11.9	13.8	12.5
95a	460938	449465	Roadside	75	75	21.5	21.9	16.8	16.9	16.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
95b	460938	449465	Roadside	92	92	21.7	22.4	16.6	16.3	17.3
95c	460938	449465	Roadside	100	100	21.5	22.7	16.5	16.5	16.6
9a	460163	452468	Urban Background	92	92	15.0	18.3	12.4	12.6	13.3
A1	460088	452263	Roadside	100	100	43.5	43.0	36.4	43.6	44.1
A11	459341	453042	Roadside	100	100	31.3	29.8	23.6	25.8	24.8
A12	459251	453008	Roadside	100	100	30.3	27.7	20.1	22.4	22.6
A13	459335	452931	Urban Background	100	100	16.3	17.3	12.9	13.8	13.0
A14	459335	452931	Urban Background	100	100	16.0	17.7	13.0	13.6	12.4
A14a	459335	452931	Urban Background	100	100	17.1	17.8	12.3	13.5	12.8
A17	458578	452472	Roadside	100	100	28.7	27.6	21.5	24.7	23.0
A19	458713	452414	Roadside	100	100	26.4	27.2	21.7	22.7	23.6
A19a	458713	452414	Roadside	100	100	26.4	27.4	20.9	23.3	23.1
A19b	458713	452414	Roadside	100	100	27.3	27.2	21.3	22.7	22.7
A2	459917	452405	Roadside	100	100	27.9	30.0	23.8	25.7	26.1
A20	458760	452404	Roadside	100	100	29.3	30.0	23.5	27.2	25.4
A20a	458760	452404	Roadside	100	100	30.0	29.4	22.5	28.6	25.4
A20b	458760	452404	Roadside	100	100	28.8	29.1	23.7	28.9	26.6
A21	458806	452326	Urban Background	100	100	17.9	21.5	15.5	14.9	16.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
A22	458792	452242	Urban Background	100	100	19.0	21.2	14.5	15.8	16.9
A25	458706	452225	Roadside	92	92	21.6	20.2	15.0	18.0	18.2
A29	456939	453013	Urban Background	100	100	17.3	19.3	12.9	15.2	17.0
A3	459822	452492	Roadside	92	92	26.7	27.4	21.7	23.4	22.2
A30	457060	452888	Urban Background	100	100	17.8	19.7	13.3	15.8	15.1
A36	457625	452446	Urban Background	67	67	15.8 (estimate)	18.4 (estimate)	11.4 (estimate)	13.7 (estimate)	14.1 (estimate)
A38	457857	452334	Urban Background	100	100	15.1	16.3	11.8	12.6	13.0
A4	459699	452638	Urban Background	100	100	18.3	20.0	13.9	14.5	15.6
A40	458109	452196	Urban Background	100	100	19.3	21.2	14.0	16.3	16.1
A41	458172	452108	Roadside	100	100	21.2	20.7	15.3	18.1	16.8
A45	458384	451817	Urban Background	100	100	14.5	16.3	10.6	12.0	12.5
A50	458732	451393	Roadside	100	100	26.4	26.2	21.4	22.5	23.8
A51	458827	451348	Urban Background	100	100	19.5	22.1	15.4	17.9	18.4
A52	458945	451254	Roadside	100	100	31.5	30.7	24.6	27.9	26.6
A53	459066	451239	Roadside	100	100	29.3	30.6	23.4	28.1	27.5
A54	459254	451223	Roadside	83	83	35.2 (estimate)	31.4	25.1	30.9	27.9
A55	459351	451221	Roadside	100	100	29.3	30.1	24.2	28.0	26.8
A56	459470	451268	Urban Background	100	100	25.8	28.1	19.8	21.7	22.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
A57	459533	451280	Roadside	100	100	45.3	45.5	33.7	43.5	38.1
A6	459536	452811	Roadside	100	100	23.9	23.5	17.9	18.5	18.9
A60	458906	453276	Urban Background	92	92	13.5	14.7	9.7	10.7	11.2
A62	458806	453483	Urban Background	92	92	13.0	15.3	10.1	11.2	11.9
A64	460030	452327	Roadside	92	92	30.0	28.6	20.8	24.8	23.7
A66	458672	453685	Urban Background	100	100	13.9	16.3	10.6	12.0	12.7
A69	458375	453958	Urban Background	100	100	12.8	14.8	9.7	11.7	11.7
A7	459441	452892	Roadside	100	100	23.3	24.3	18.8	20.8	19.4
A70	458299	454070	Urban Background	100	100	15.8	17.5	11.5	13.6	13.7
A71	458121	454254	Urban Background	100	100	12.6	14.7	10.0	10.5	10.4
A74	458041	454371	Urban Background	92	92	12.6	14.4	9.7	10.8	11.5
A77	457929	454537	Urban Background	100	100	17.5	20.1	13.4	13.9	15.7
A81	457733	454805	Urban Background	100	100	14.2	17.9	12.3	12.0	12.8
A85	459364	453009	Urban Background	92	92	18.6	21.4	14.5	16.1	17.3
A88	457470	452550	Urban Background	100	100	15.4	17.9	11.4	12.9	13.5
A9	459295	453067	Roadside	83	83	30.3 (estimate)	28.8	22.8	25.7	25.2
A90	459238	453157	Roadside	100	100	33.6	32.1	25.6	32.7	30.3
A94	458651	452426	Roadside	100	100	28.7	27.8	20.1	23.2	18.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
A96	459038	452850	Roadside	100	100	28.1	29.9	21.5	25.7	25.0
A97	457431	452616	Roadside	100	100	19.7	18.9	14.3	16.0	16.7
A98	458666	451468	Roadside	100	100	21.8	22.8	17.0	19.4	18.5
B1	460848	452582	Roadside	92	92	26.6	28.9	18.2	15.9	15.2
B15	461294	455305	Roadside	83	83	18.1	18.5	15.1	15.5	15.2
B19	461891	455876	Roadside	100	100	18.9	19.3	16.2	15.4	15.9
B2	460924	452697	Roadside	92	92	22.8	24.0	17.9	19.4	18.7
B29	461453	452750	Roadside	100	100	19.5	19.3	15.6	15.7	14.6
B3	460952	452826	Roadside	100	100	21.8	21.5	15.9	17.7	16.8
B36	462565	454194	Urban Background	83	83	13.2	15.4	10.4	10.9	9.9
B37	462565	454194	Urban Background	100	100	13.8	14.5	9.6	9.8	10.4
B37a	462565	454194	Urban Background	100	100	12.9	13.9	10.5	10.2	10.9
B38	463757	455155	Urban Background	92	92	16.1	17.2	11.9	12.5	12.7
B41	461326	451330	Urban Background	100	100	27.4	30.1	20.0	23.7	23.2
B42	461430	451348	Urban Background	100	100	20.8	23.3	15.5	18.4	17.3
B43	461557	451343	Urban Background	92	92	19.2	20.0	14.3	15.9	15.7
B44	461643	451343	Roadside	92	92	28.1	28.9	23.1	25.3	23.6
B45	461849	451284	Roadside	100	100	27.2	26.2	18.7	22.4	21.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
B47	462019	451289	Urban Background	100	100	14.1	15.8	11.2	11.8	11.7
B48	462122	451289	Urban Background	100	100	17.5	19.0	11.8	14.5	14.5
B50	462291	451269	Roadside	100	100	21.5	22.7	15.8	17.1	17.1
B51	462384	451298	Urban Background	100	100	15.6	18.2	12.8	13.0	12.9
B56	462888	451289	Roadside	100	100	28.3	28.6	20.8	22.7	21.3
B58	462970	451300	Urban Background	100	100	16.8	19.0	12.7	12.6	13.8
B60	463234	451339	Urban Background	100	100	16.7	19.0	12.1	13.7	13.4
B63	462704	451300	Roadside	92	92	27.9	29.2	22.4	23.2	22.4
B72	461122	451374	Roadside	100	100	41.8	38.9	32.5	33.7	33.8
B74	461371	452708	Urban Background	67	67	17.8	18.9	13.7	13.4	14.1 (estimate)
B80	461185	452663	Urban Background	100	100	15.0	17.3	12.2	12.5	11.8
B82	460974	452563	Urban Background	92	92	21.5	24.1	17.4	17.3	19.7
B83	461285	452695	Roadside	100	100	25.3	24.6	21.1	20.7	19.1
B84	462654	451293	Urban Background	100	100	19.8	22.3	15.1	16.9	17.1
B85	461227	451368	Roadside	100	100	28.1	28.7	20.8	24.9	22.8
B86	461116	452602	Roadside	100	100	22.5	23.0	18.6	21.1	17.3
B88	462799	451291	Roadside	100	100	25.9	26.8	19.9	20.4	20.9
B90	461133	451394	Roadside	100	100	36.8	36.0	27.5	28.5	25.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
B91	461142	451365	Roadside	100	100	-	-	-	-	28.8
C12	458825	449928	Urban Background	100	100	15.9	18.6	12.1	13.1	13.0
C17	459085	450544	Urban Background	100	100	15.2	16.2	11.4	12.1	12.8
C18	459204	450772	Urban Background	100	100	21.8	25.3	17.0	16.8	16.6
C19	459271	450819	Urban Background	100	100	15.9	17.5	11.7	12.8	12.8
C2	458333	448974	Roadside	100	100	29.0	29.8	24.4	25.8	25.8
C20	459280	450923	Urban Background	100	100	17.2	19.3	14.9	14.1	16.4
C21	459410	451040	Roadside	100	100	23.5	24.9	20.6	18.7	18.4
C22	459570	451195	Urban Background	100	100	19.6	21.0	15.2	15.4	15.4
C23	459553	451252	Roadside	92	92	36.2	35.7	29.5	28.9	30.4
C26	459639	451334	Roadside	100	100	41.0	38.3	31.2	34.1	31.7
C27	459717	451433	Roadside	92	92	46.3	44.0	35.0	40.7	41.3
C28	461201	448386	Urban Background	100	100	14.4	16.4	10.8	11.1	11.3
C29	461196	448426	Roadside	100	100	26.5	26.8	19.6	20.3	20.6
C30	461185	448462	Roadside	100	100	31.1	30.0	22.7	23.7	21.5
C31	461193	448473	Urban Background	92	92	16.3	18.0	12.0	12.7	13.0
C32	461128	448823	Urban Background	100	100	20.9	22.9	15.0	15.8	17.1
C33	461085	448933	Urban Background	100	100	14.9	16.7	10.5	11.0	11.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
C34	461085	449067	Roadside	100	100	22.8	23.5	16.2	17.3	17.2
C36	461052	449146	Roadside	100	100	25.0	25.3	19.7	20.1	20.6
C37	461045	449223	Urban Background	100	100	20.6	21.2	14.2	15.7	16.1
C38	461038	449225	Roadside	100	100	24.8	25.2	17.1	18.2	18.1
C39	460974	449336	Roadside	100	100	32.7	33.1	22.9	22.8	22.2
C4	458470	449126	Urban Background	100	100	16.3	18.2	12.5	12.5	12.9
C40	460910	449628	Urban Background	100	100	17.1	18.7	12.6	12.9	13.7
C42	460857	449748	Urban Background	100	100	19.1	21.8	14.3	15.2	15.9
C43	460869	449730	Roadside	100	100	26.7	25.1	18.4	19.3	19.7
C43a	460869	449730	Roadside	100	100	26.5	26.5	19.3	20.2	20.6
C44	460869	449730	Roadside	92	92	26.8	27.0	19.6	19.7	20.6
C49	460860	450530	Urban Background	100	100	17.7	20.0	13.0	14.3	14.2
C51	460871	450727	Roadside	92	92	25.0	25.5	17.9	19.3	18.1
C52	460853	450781	Roadside	92	92	23.0	22.6	17.8	17.2	18.1
C53	460766	450924	Roadside	33	33	20.8	22.0	15.2 (estimate)	16.0 (estimate)	16.5 (estimate)
C54	460762	451069	Roadside	83	83	25.7	24.7	18.4	21.3	20.0
C56	459484	451141	Roadside	100	100	30.8	30.5	21.8	25.0	24.8
C57	458912	450111	Urban Background	100	100	19.1	20.6	14.4	14.4	15.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
C58	460926	449429	Roadside	100	100	32.5	33.0	24.6	25.4	26.0
C59	458735	449713	Roadside	100	100	27.5	27.1	22.3	23.3	25.0
C62	459579	451251	Roadside	92	92	27.0	26.4	20.1	20.8	21.3
C63	458790	449740	Roadside	92	92	16.9	18.1	13.3	13.8	12.0
C7	458611	449477	Roadside	100	100	17.5	19.2	14.9	15.4	13.1
D10	460443	451927	Urban Background	100	100	16.5	19.1	11.3	12.5	13.3
D12	460567	451740	Roadside	100	100	18.5	19.4	15.7	14.3	14.2
D13	460271	451358	Roadside	92	92	25.3	24.9	20.4	17.6	18.4
D14	461077	451354	Roadside	100	100	37.6	36.6	28.2	30.8	28.0
D16	460708	451231	Roadside	92	92	36.1	37.8	29.2	32.9	30.4
D17	460575	451616	Roadside	100	100	27.9	29.6	23.7	28.5	30.9
D18	460395	451502	Roadside	83	83	29.1	28.7	23.1	24.2	22.7
D19	460038	451626	Roadside	100	100	45.5	45.9	34.8	40.5	38.2
D20	460323	451685	Roadside	92	92	39.7	38.9	30.1	33.4	36.6
D22	460035	452010	Roadside	83	83	32.5	31.5	27.2	32.3	30.7
D24	459805	451543	Roadside	100	100	28.9	27.5	18.9	20.5	19.6
D25	459693	451750	Roadside	100	100	36.5	37.4	29.0	33.0	34.7
D26	460671	451400	Roadside	83	83	23.9 (estimate)	25.1	20.2	25.1	23.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
D27	460734	451563	Roadside	100	100	23.6	22.8	19.5	20.8	19.0
D28	460764	451185	Roadside	100	100	31.9	32.4	25.0	27.4	26.1
D30	460834	451252	Roadside	92	92	23.7	24.7	18.6	20.4	18.4
D31	461002	451229	Roadside	75	75	29.5	28.0	20.6	24.4	22.9
D32	460258	451208	Roadside	100	100	33.7	34.6	26.4	29.1	27.9
D33	460075	451174	Roadside	100	100	26.6	26.3	20.7	24.4	24.4
D35	460134	451170	Roadside	100	100	35.2	37.4	27.2	32.8	30.6
D36	460135	450884	Roadside	100	100	33.2	31.6	22.8	25.2	24.9
D37	460157	450988	Roadside	92	92	27.1	27.5	18.7	22.6	20.9
D38	460088	450929	Roadside	100	100	20.9	22.1	16.8	18.2	16.6
D39	460185	451055	Roadside	92	92	30.2	29.5	20.4	23.5	23.8
D4	460560	452300	Roadside	92	92	24.4	25.5	19.2	22.2	21.1
D40	460069	451196	Roadside	83	83	25.6	25.5	18.9	21.7	19.2
D41	460286	452487	Roadside	100	100	34.5	32.8	27.9	30.8	31.9
D43	459920	451834	Roadside	92	92	44.4	43.6	34.2	36.9	39.3
D45	460673	451869	Roadside	92	92	26.3	23.9	17.7	18.7	17.9
D47	460682	452187	Roadside	100	100	24.8	25.9	20.8	19.3	18.0
D48	460103	452180	Roadside	67	67	34.7	34.3	28.0	35.1	35.4 (estimate)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
D49	460656	451269	Roadside	92	92	34.3	35.0	24.4	30.0	29.8
D50	460371	451682	Roadside	100	100	37.9	34.7	27.2	29.1	29.4
D51	459640	451722	Roadside	100	100	57.7	55.5	34.4	35.9	41.4
D52	460887	451140	Roadside	100	100	23.4	23.7	17.4	19.3	19.4
D53	460115	451146	Roadside	75	75	25.1	24.3	19.6	21.9	19.8
D54	460146	451116	Roadside	100	100	24.8	23.9	18.5	20.6	19.3
D55	460087	452065	Roadside	75	75	37.4	38.2	33.5	44.9	39.2
D6	460570	452177	Urban Background	100	100	15.8	19.5	13.5	16.2	14.8
D8	460553	451843	Roadside	100	100	34.1	31.7	28.4	32.2	33.0
D9	460483	452357	Roadside	100	100	32.6	33.6	25.3	27.7	31.0
D56	460400	451685	Roadside	100	100	42.3	38.2	31.2	31.8	35.9
D57	460416	451708	Roadside	100	100	33.8	29.4	25.0	26.1	24.9
D58	460435	451732	Roadside	100	100	36.8	34.6	26.1	29.5	31.2
D59	460087	452156	Roadside	92	92	39.2	39.7	35.4	43.2	44.7
D60	460294	451883	Roadside	83	83	20.5	21.4	15.6	14.2	15.7
130	463663	451054	Roadside	67	67	13.5 (estimate)	13.3	10.5	10.1	10.5 (estimate)
115	459962	451771	Roadside	100	100	59.7 (estimate)	59.2	48.8	44.7	50.9

- ☒ 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_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.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 NO₂ Concentrations

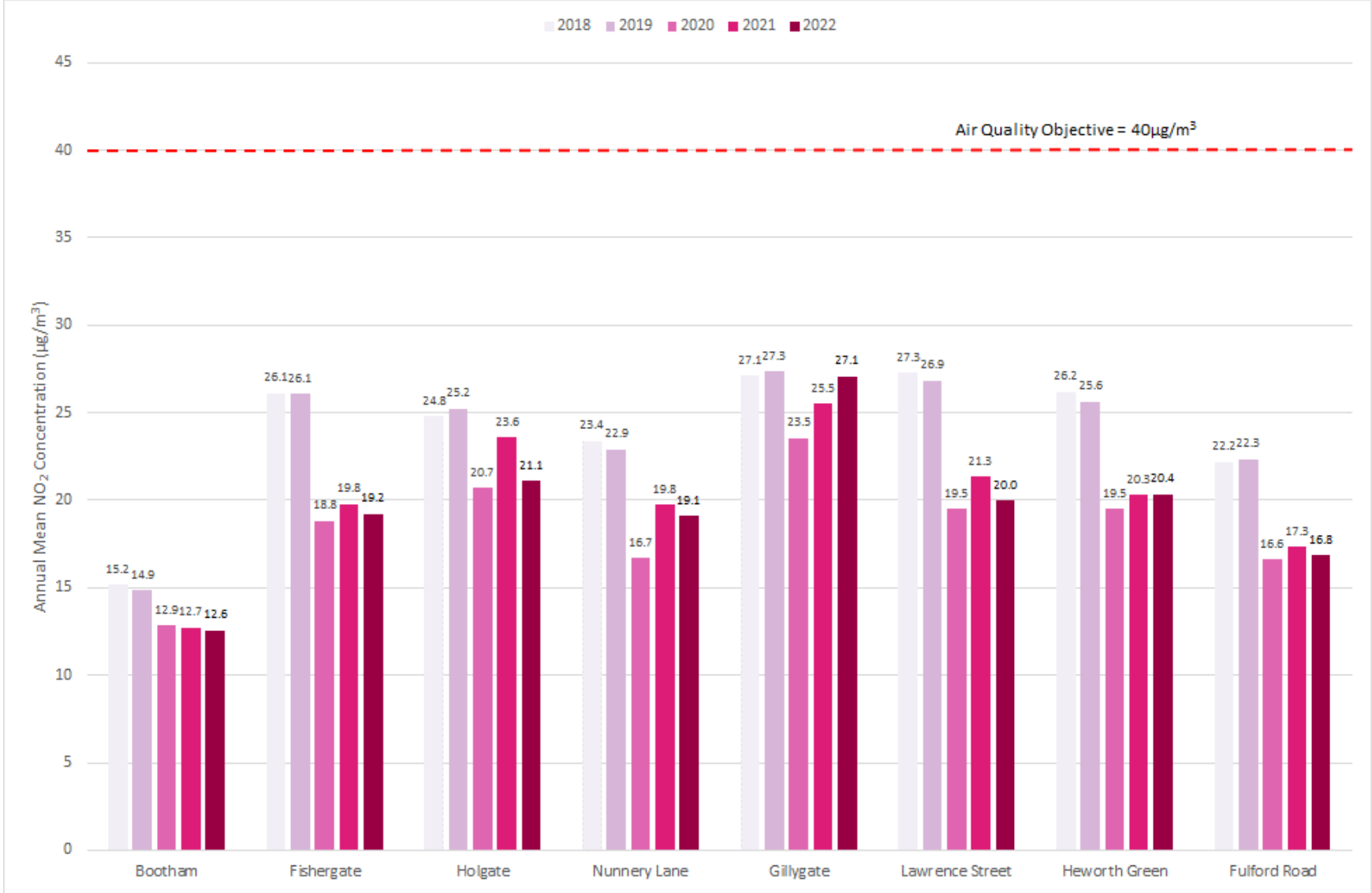


Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
Bootham	460022	452777	Urban Background	99.0	99.0	0	0	0	0	0
Fishergate	460746	451038	Roadside	98.6	98.6	0	0	0	0	0
Holgate	459512	451282	Roadside	99.3	99.3	0	0	0	0	0
Nunnery Lane	460068	451199	Roadside	92.5	92.5	0	0	0	0	0
Gillygate	460147	452345	Roadside	99.3	99.3	0	0	0	0	0
Lawrence Street	461256	451340	Roadside	98.5	98.5	1	0	0	0	0
Heworth Green	461126	452602	Roadside	97.6	97.6	0	0	0	0	0
Fulford Road	460937	449464	Roadside	93.9	93.9	0	0 (80.3)	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m³ have been recorded.

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ 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 NO₂ 1-Hour Means > 200µg/m³



Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
Bootham	460022	452777	Urban Background	97.8	97.8	13.8	14.0	15.2	13.4	15.2
Fishergate	460746	451038	Roadside	97.7	97.7	18.3	21.9	19.2	15.8	16.8
Holgate Road	459512	451282	Roadside	98.0	98.0	12.4	13.9	18.4	17.2	17.9
Plantation Drive	457428	452620	Roadside	88.5	88.5	14.3	16.4	15.8	16.0	16.3

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/m³.

Exceedances of the PM₁₀ annual mean objective of 40µg/m³ 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 PM₁₀ Concentrations

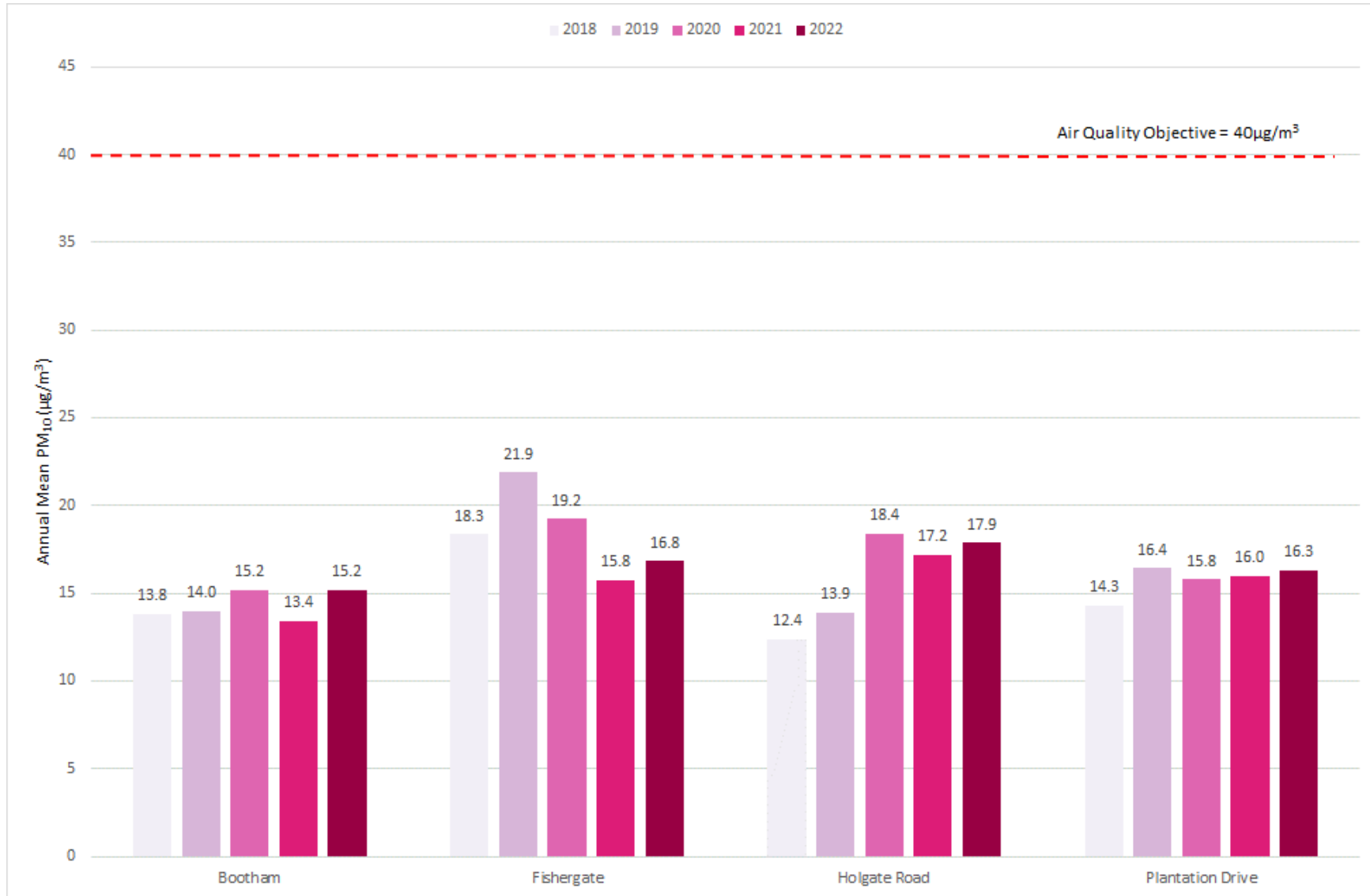


Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
Bootham	460022	452777	Urban Background	97.8	97.8	3	0	2	0	3
Fishergate	460746	451038	Roadside	97.7	97.7	4	8	1	0	6
Holgate Road	459512	451282	Roadside	98.0	98.0	1	0	2	0	2
Plantation Drive	457428	452620	Roadside	88.5	88.5	0	4	1	0	0

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m³ have been recorded.

Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ 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 PM₁₀ Results > 50µg/m³

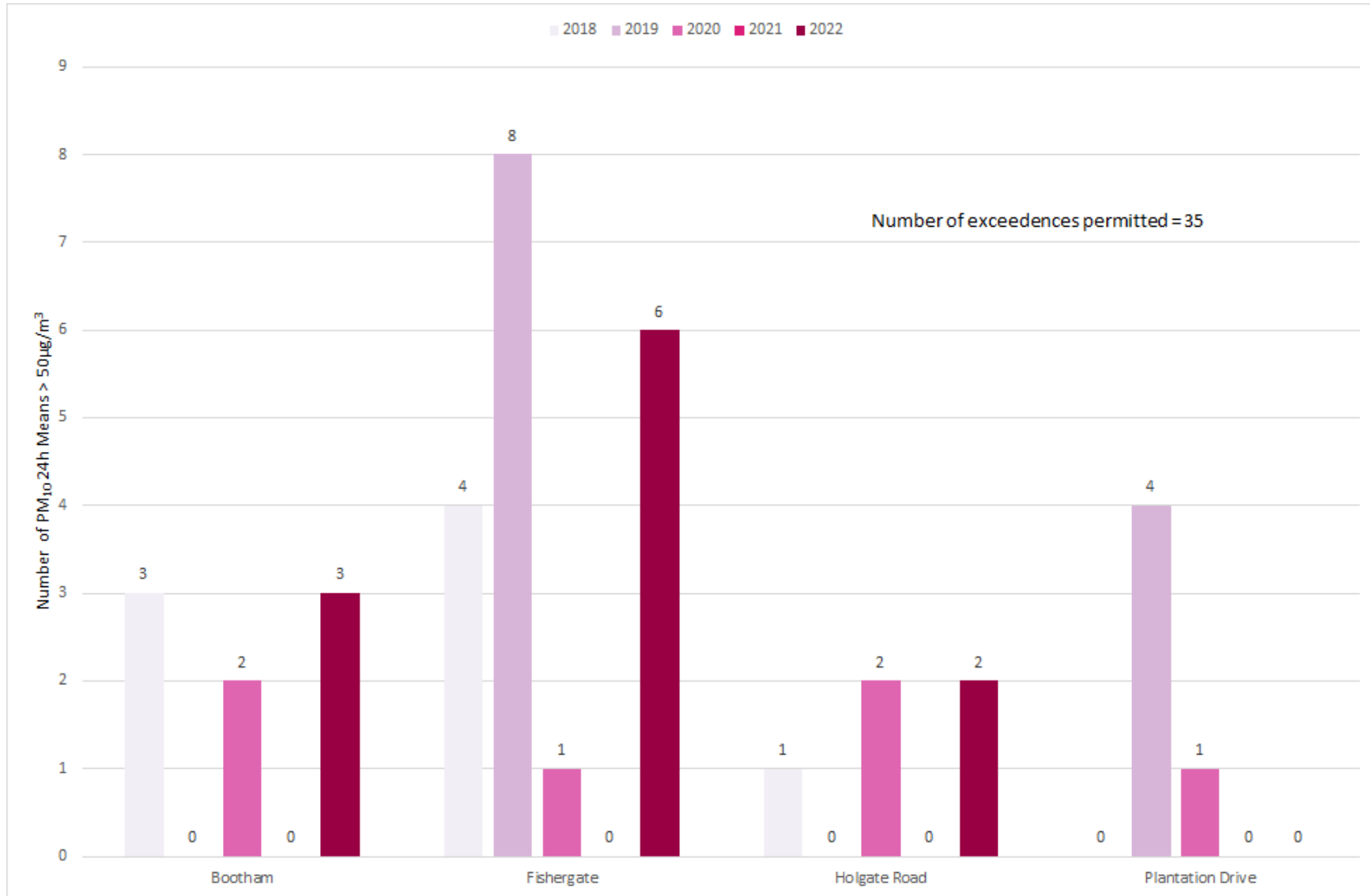


Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
Bootham	460022	452777	Urban Background	97.6	97.6	10.8	11.1	8.6	8.4	8.2
Fishergate	460746	451038	Roadside	96.1	96.1	10.5	10.7	7.6	7.9	8.8
Gillygate	460147	452345	Roadside	98.6	98.6	8.3	7.6	7.1	6.1	7.2

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

Notes:

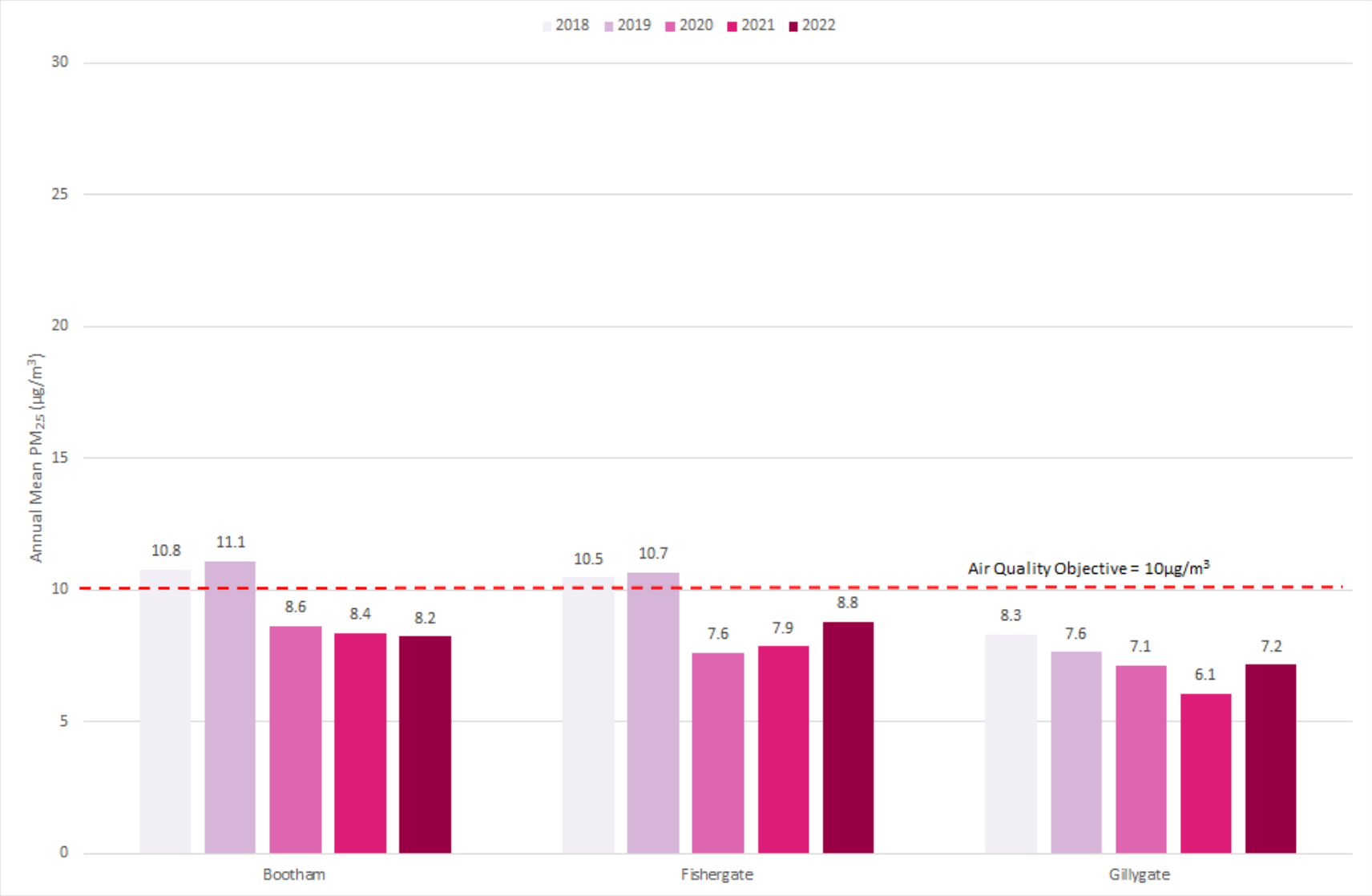
The annual mean concentrations are presented as µg/m³.

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_{2.5} Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2022 Diffusion Tube Results (µg/m³)

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 (B=0.73, R=0.73)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
5	462040	454883	26.1	18.5	21.1	14.7	12.0	11.2	11.0	12.5	14.6	18.2	19.0	20.7	16.6	12.1	-	
6	459777	451406	43.4	43.6	47.8	42.9	35.3	37.9	41.2	42.4	52.6	41.0	37.1	46.0	42.6	31.1	-	
7	460217	452421	69.9	63.5	92.0	68.2	61.5	51.3	67.3	63.3	71.2	74.9		62.8	67.8	49.5	36.8	
8	460163	452468	31.8	19.6		16.2	12.9	11.2	13.5	12.7	15.6	22.6	26.8		18.3	13.4	-	Part of triplicate set - see bottom of table for triplicate average
9	460163	452468	27.0	21.1		16.9	12.9	12.1	13.5	13.6	14.9	21.4	24.2	27.4	18.6	13.6	-	Part of triplicate set - see bottom of table for triplicate average
11	458846	450946	27.6	17.0	26.8	17.4	13.6	10.0	13.5	14.3	15.7	19.9	22.5	24.8	18.6	13.6	-	
13	460176	452377	77.7		65.5	60.1	56.6	57.1	62.4	63.0	66.0	63.7	48.2	65.1	62.3	45.5	-	
14	460167	452347	61.3	62.0	82.7	59.7	58.3	56.3	65.5	65.4	62.2	75.7	68.6	59.1	64.7	47.3	-	
15	461105	451458	56.7	44.6	56.7	35.7	33.1	33.2	39.0	36.5	33.3	29.1	45.1	42.1	40.4	29.5	-	
16	460160	451152		43.2	45.7	39.8	36.9	33.0	37.7	35.7	42.9	41.8	37.8	43.5	39.8	29.1	-	
17	459646	451500	47.8	33.7	46.4	33.4	30.8	29.3	34.4	32.0	39.3	40.9	39.8	43.4	37.6	27.4	-	
18	460457	452903	56.5	40.3	36.4	36.5			37.6	35.9	41.4	45.7	47.0	29.1	40.6	29.7	-	
25	461721	452709	31.5	25.8	37.3	17.2	18.8	15.9	20.2	20.8	23.0	27.8	31.8	26.2	24.7	18.0	-	
26	460829	453524	56.3	40.1	41.7	31.6	27.9	29.7	29.6	29.7	33.1	38.6	24.8	41.6	35.4	25.8	-	
33	460598	453227		33.8	32.1	26.0	23.4	25.6	25.9	24.3	27.9	37.2	37.6	34.5	29.8	21.8	-	
35	457603	451492	37.8	29.7	28.0	19.6	22.6	20.6	20.9	22.1	19.7	27.7	34.9	25.7	25.8	18.8	-	
37	459522	451187	37.8	30.4	39.5	30.7	26.3	21.7	28.1	32.7	31.3	32.1	32.5	35.9	31.6	23.1	-	
44	460679	452326	36.3	27.2	31.1	22.3	18.3	19.0	19.2	17.6	19.6	22.5	28.3	30.4	24.3	17.8	-	
45	460319	452754		38.6	38.6	40.5	31.8	38.0	37.6	40.9	43.7	42.9	45.7	46.7	40.5	29.5	-	
47	462009	456996	43.0	36.3	35.9	26.8	22.6	27.5	29.3	27.4	28.0	33.0	27.1	34.2	30.9	22.6	-	
60	461017	451781	37.1	26.0	27.9	21.0	14.8	13.4	17.2	15.8	19.7	23.9	8.8	21.5	20.6	15.0	-	
78	460149	452342		34.9	40.7	36.3	30.3	28.4	33.3	37.1	37.6	41.7	45.0	42.6	37.1	27.1	-	Part of triplicate set - see bottom of table for triplicate average
79	460149	452342		36.8	49.2	39.6	29.8	31.2	35.1	34.0	37.3	39.9	28.5	40.9	36.6	26.7	-	Part of triplicate set - see bottom of table for triplicate average
80	460149	452342			47.7	37.5	31.2	31.1	32.5	35.3	35.8	38.1		37.7	36.3	26.5	-	Part of triplicate set - see bottom of table for triplicate average

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 (B=0.73, R=0.73)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
83	461597	452830	30.7	22.1	24.0	15.7	17.3	16.8	17.1	15.8	15.9	22.9	17.4	24.8	20.0	14.6	-	
88	463354	451972	28.4	16.1	18.5	9.3	8.7	8.9	9.4	8.8	10.2	16.0	20.9	16.5	14.3	10.4	-	
90	459997	450109	23.7	14.6	20.7	13.9	11.9	10.3	11.6	13.1	14.5	15.3	18.5	18.5	15.6	11.4	-	
96	460978	449452	33.4	19.1	28.6	13.8	16.6	16.3	16.4	16.3	17.4	23.3	24.6	17.2	20.3	14.8	-	
100	456228	453312	29.5	18.4	27.5	16.6	15.8	14.1	16.1	16.1	16.0	20.6	20.3	20.7	19.3	14.1	-	
101	459746	455897		37.8	29.0	26.2	28.0		32.6	29.4	29.4	33.9	33.1	29.5	30.9	22.5	-	
102	458703	452429	35.7	31.7	47.1	38.0	30.4	26.6	33.6	30.2	36.0	37.0	41.1	29.6	34.8	25.4	-	Part of triplicate set - see bottom of table for triplicate average
103	458703	452429	50.8	36.4	54.0	38.0	29.4	28.3	33.5	36.7	39.8	39.2	41.0	40.6	39.0	28.5	-	Part of triplicate set - see bottom of table for triplicate average
104	458703	452429	52.4	33.5	47.9	40.9	33.5	28.5	32.0	36.9	40.4	39.3	39.5	41.8	38.9	28.4	-	Part of triplicate set - see bottom of table for triplicate average
107	458779	452387	31.0	19.6	30.6	17.6	14.2	12.9	15.1	15.2	17.3	22.5	29.9	28.6	21.2	15.5	-	
108	458814	452373	43.2	30.1	34.5	22.1	19.6	20.5	22.6	21.5	25.4	30.5	33.6	35.2	28.2	20.6	-	
109	459924	451833	69.9	59.9	71.1	53.2	55.8	51.5	58.0		59.0	71.4	57.9	51.3	59.9	43.7	-	
110	459985	451727		49.6	60.3	46.7	50.4	48.9	53.9	47.2	54.0	63.5	37.4	48.0	50.9	37.2	-	
111	459917	451728			24.2	24.3	24.5	19.0	22.0	25.0	27.5	26.5	28.3	22.2	24.4	17.8	-	
112	459873	451684	38.4	27.5	22.8	21.4	20.0	18.9	21.0	19.9	23.7	23.3	23.2	18.6	23.2	17.0	-	
114	459981	451778	56.8	49.1	45.0	49.5	45.6	42.8	43.7	49.4	52.3	45.2	35.0	51.1	47.1	34.4	-	
115	459962	451771	83.5	76.0	61.4	51.2	67.9	75.7	71.6	58.6	52.4	87.4	81.5	69.5	69.7	50.9	-	
116	458212	452037	48.0	31.2	33.7	24.6	24.6	25.3	23.3	25.9	26.5	27.0	31.7	33.3	29.6	21.6	-	
125	463194	451967	28.4		20.0	10.5	12.5	11.1	9.1	11.7	11.8	19.3	16.9	21.8	15.7	11.5	-	
126	463482	451896	32.8	18.7	24.9	13.6	12.7		11.7	12.9	12.6	16.2	21.5	18.9	17.9	13.0	-	
127	461108	452313	38.9	32.1	31.1	18.1	22.0	23.5	23.3	20.0	23.2	31.6	36.1	31.0	27.6	20.1	-	
128	458686	452369	23.8	18.6	29.5	17.8	15.2	13.2	15.6	15.5	18.3	22.6	30.9	27.5	20.7	15.1	-	
129	455968	453397	28.7		22.5	13.1	13.2	13.3	13.0	12.4	12.5	15.5	21.8	20.8	17.0	12.4	-	
130	463663	451054	26.2	16.8	21.4	10.4				9.4		14.0	14.3	15.9	16.1	10.5	-	
2a	460746	451034	36.7	20.9	31.5	21.5	20.8	17.2	20.1	22.8	24.5	24.1	25.5	29.0	24.6	17.9	-	Part of triplicate set - see bottom of table for triplicate average
2b	460746	451034	35.6	22.1	30.7	24.3	19.9	17.4	20.2	20.9	24.8	24.2	28.1	29.8	24.8	18.1	-	Part of triplicate set - see bottom of table for triplicate average
2c	460746	451034	36.2	22.4	32.3	21.1	20.1	18.2	20.0	22.9	26.3	24.5	30.3	27.7	25.2	18.4	-	Part of triplicate set - see bottom of table for triplicate average

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 (B=0.73, R=0.73)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
3a	460024	452767	26.8	19.0	20.7	12.7	10.9	10.1	11.7	10.3	13.8	21.0	13.8	25.7	16.4	12.0	-	Part of triplicate set - see bottom of table for triplicate average
3b	460024	452767	23.0	16.8	22.7	14.3	11.3	10.4	11.6	10.7	13.4	22.1	11.4	24.1	16.0	11.7	-	Part of triplicate set - see bottom of table for triplicate average
3c	460024	452767	30.2	19.4	21.1	12.9	10.2	10.9	11.2	10.8	14.6	20.4	18.7	25.2	17.1	12.5	-	Part of triplicate set - see bottom of table for triplicate average
95a	460938	449465	33.8		25.8	20.1	20.8	18.0	19.4	19.0	21.2		24.3		22.5	16.4	-	Part of triplicate set - see bottom of table for triplicate average
95b	460938	449465	36.3		25.7	19.0	20.5	16.5	19.1	20.4	21.3	23.3	27.6	30.6	23.7	17.3	-	Part of triplicate set - see bottom of table for triplicate average
95c	460938	449465	36.0	23.5	25.1	19.6	20.9	18.4	19.2	18.7	21.6	24.0	24.6	20.9	22.7	16.6	-	Part of triplicate set - see bottom of table for triplicate average
9a	460163	452468	30.1	21.7		15.1	12.1	11.9	13.5	13.2	15.5	21.5	20.4	25.0	18.2	13.3	-	Part of triplicate set - see bottom of table for triplicate average
A1	460088	452263	67.4	62.4	65.2	58.9	50.5	53.0	59.6	59.0	60.2	60.8	62.8	65.4	60.4	44.1	-	
A11	459341	453042	48.0	35.6	38.0	30.7	26.5	30.3	32.9	31.3	34.2	38.4	19.2	42.2	33.9	24.8	-	
A12	459251	453008	43.8	31.3	35.0	27.0	24.7	23.2	25.3	25.4	30.0	32.3	35.3	38.2	31.0	22.6	-	
A13	459335	452931	29.6	18.4	25.4	15.2	11.3	10.2	11.8	11.9	14.7	20.3	22.4	22.5	17.8	13.0	-	Part of triplicate set - see bottom of table for triplicate average
A14	459335	452931	28.0	18.1	25.2	14.9	11.4	9.8	11.9	12.1	15.4	19.5	12.7	24.9	17.0	12.4	-	Part of triplicate set - see bottom of table for triplicate average
A14a	459335	452931	28.1	16.4	23.7	16.8	11.6	10.4	11.7	11.9	16.0	19.8	18.1	26.6	17.6	12.8	-	Part of triplicate set - see bottom of table for triplicate average
A17	458578	452472	29.4	35.1	43.4	26.0	21.7	24.0	22.2	26.6	29.8	37.2	45.5	37.3	31.5	23.0	-	
A19	458713	452414	40.6	34.9	41.4	23.3	27.4	25.5	27.4	26.9	24.5	38.0	38.6	39.5	32.3	23.6	-	Part of triplicate set - see bottom of table for triplicate average
A19a	458713	452414	41.5	34.7	40.4	23.4	26.6	26.0	26.4	25.9	27.4	36.2	38.3	33.7	31.7	23.1	-	Part of triplicate set - see bottom of table for triplicate average
A19b	458713	452414	42.5	30.2	41.3	21.1	25.8	26.0	28.1	26.9	22.7	36.1	36.2	37.0	31.2	22.7	-	Part of triplicate set - see bottom of table for triplicate average
A2	459917	452405	51.4	36.9	38.9	27.3	28.4	30.9	33.8	27.6	38.3	36.3	35.9	42.9	35.7	26.1	-	
A20	458760	452404	51.1	32.6	45.0	37.1	28.4	26.4	31.5	34.9	38.4	35.6	36.9	19.4	34.8	25.4	-	Part of triplicate set - see bottom of table for triplicate average
A20a	458760	452404	53.0	32.2	42.9	31.1	29.5	26.0	31.9	34.3	36.4	36.1	24.4	39.2	34.8	25.4	-	Part of triplicate set - see bottom of table for triplicate average

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 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 York During 2022

A full overview of all planning applications considered by City of York Council with the potential to impact on air quality is provided in Chapter 4 of this Annual Status Report. The main sources identified include road traffic associated with new developments. Developments have been required to assess their impacts on air quality where necessary in line with [City of York Council's draft Low Emission Planning Guidance](#).

Additional Air Quality Works Undertaken by City of York Council During 2022

Additional work carried out in 2022 to support the development of AQAP measures includes:

- Continued work on developing a pilot scheme to reduce emissions relating to freight deliveries travelling in to and out of York. Following further engagement with partners, the pilot scheme concept was developed further throughout 2022 with one of CYC's own buildings, 107-109 Walmgate, identified as a base for the 9-month hub pilot, which is expected to progress in 2023, with evaluation and pilot review expected by December 2023. Updates on the pilot will be provided in future Annual Status Reports.
- CYC made a successful bid to DEFRA's Air Quality Grant scheme at the end of 2022. Two projects will be progressed in 2023. The first will aim to improve public awareness of the links between particulate matter emissions and health with emphasis on emissions from domestic solid fuel burning. The second will develop a platform that can be used by residents and visitors (especially those with health conditions exacerbated by air pollution) to make informed decisions with respect to travel around the city to help reduce their own exposure to air pollution. Updates will be provided in future Annual Status Reports.

QA/QC of Diffusion Tube Monitoring

Diffusion tubes used by City of York Council in 2022 were supplied and analysed by SOCOTEC (Didcot), Unit 12 Moorbrook, Southmead Industrial Park, Didcot, Oxfordshire, OX11 7HP. The preparation method used for the diffusion tubes was 50% TEA in Acetone.

Diffusion tube monitoring was completed in line with the 2022 Diffusion Tube Monitoring Calendar as available on DEFRA's LAQM webpage.

AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, which combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme. AIR offers a number of test samples designed to test the proficiency of laboratories undertaking analysis of chemical pollutants in ambient indoor, stack and workplace air. For the 2022 period, the percentage of results submitted by SOCTEC that were deemed to be satisfactory was 100% for all rounds reported at the time of writing (rounds AR049 [Jan – Feb 2022] and AR050 [May – June 2022]). Further information about this scheme is available on the [DEFRA webpage](#).

Diffusion Tube Annualisation

Annualisation is required for any diffusion tube monitoring site with data capture less than 75% but greater than 25%. Annualisation effectively scales the available monitoring data to provide an estimate of the annual mean nitrogen dioxide concentration. This can then be compared with health-based Air Quality Objectives.

City of York Council undertook background diffusion tube monitoring of nitrogen dioxide at a number of background locations during 2022. Of these sites, 54 diffusion tubes had 12 months data available and have been used to derive the period to annual ratios required for the annualisation. This methodology has previously been agreed with the LAQM Helpdesk and is in line with the methodology used in all of CYC's previous Annual Status Reports. The following steps were used:

- **Step 1** - Calculate the period mean for the diffusion tube sample requiring annualisation
- **Step 2** - Calculate the corresponding period means and annual means for each of the 54 background diffusion tube locations. Use these two figures to calculate the period mean to annual mean ratio for each of the 54 background diffusion tube sites.

- **Step 3** – Calculate the average ratio across the 54 background monitoring sites (i.e. $n = 54$)
- **Step 4** – Use the ratio in Step 3 to adjust the period mean (Step 1) to provide an estimate of the annual diffusion tube mean (non-bias adjusted)
- **Step 5** – Bias correct the value calculated in step 4 using the appropriate bias correction factor.

Five diffusion tube sites required annualisation, namely 130, A36, B74, C53 and D48. The calculations and annualisation factors are provided in Table C.2. All annualised diffusion tube results are below the annual mean objective for nitrogen dioxide.

Table C.1 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor – 54 Background Diffusion Tubes	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
130	Average factor across 54 background diffusion tube locations with 100% data capture used	0.895	16.1	14.4	Using a local bias correction factor of 0.73 results in a bias corrected annual mean of $10.5\mu\text{g}/\text{m}^3$
A36	Average factor across 54 background diffusion tube locations with 100% data capture used	1.039	18.6	19.3	Using a local bias correction factor of 0.73 results in a bias corrected annual mean of $14.1\mu\text{g}/\text{m}^3$
B74	Average factor across 54 background diffusion tube locations with 100% data capture used	1.168	16.5	19.3	Using a local bias correction factor of 0.73 results in a bias corrected annual mean of $14.1\mu\text{g}/\text{m}^3$
C53	Average factor across 54 background diffusion tube locations with 100% data capture used	0.926	24.5	22.6	Using a local bias correction factor of 0.73 results in a bias corrected annual mean of $16.5\mu\text{g}/\text{m}^3$
D48	Average factor across 54 background diffusion tube locations with 100% data capture used	0.977	49.6	48.5	Using a local bias correction factor of 0.73 results in a bias corrected annual mean of $35.4\mu\text{g}/\text{m}^3$

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 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 NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

City of York Council have applied local roadside and background bias adjustment factors of 0.73 and 0.73 respectively to the 2022 monitoring data. A summary of bias adjustment factors used by City of York Council over the past five years is presented in Table C.2.

For the purposes of this ASR, local bias adjustment factors have been calculated for diffusion tubes located at roadside and urban background locations separately (coincidentally for 2022 these factors are the same). This is in line with the approach used by City of York Council for the last 15+ years and in line with advice from the LAQM Helpdesk obtained in previous reporting years. AEA's [Precision and Accuracy spreadsheet](#) has been used to consider co-location studies at 3 York roadside locations (Fishergate, Gillygate and Fulford Road) and one York urban-background location (Bootham).

Roadside bias adjustment factor

Data capture and tube precision for 2022 was shown to be 'good' at all 3 roadside sites and the resultant combined/average bias factor across the 3 sites (following methodology in TG22 para 7.222) was 0.73. This factor has been used to correct diffusion tube results at roadside locations in 2022. The methodology used to derive the combined factor was:

- Step 1 - Average of Bias Factor B's = $(29+41+39)/3 = 36.33$
- Step 2 - Express as a factor = 0.3633
- Step 3 - Add 1 to this value = $0.3633 + 1 = 1.3633$
- Step 4 - Take the inverse to give the bias adjustment factor = $1/1.3633 = 0.73$

Urban background bias adjustment factor

Data capture and tube precision for 2022 was shown to be 'good' at the Bootham urban background site. The bias factor for this site was calculated to be 0.73. This factor has been used to correct diffusion tube results at urban background locations in 2022.

Comparison with national bias adjustment factor

The overall 2022 bias correction factor from the national diffusion tube bias adjustment factor spreadsheet for SOCOTEC Didcot [preparation method 50% TEA in acetone] from 26 studies was 0.76. This is the suggested figure to use for all site types in the absence of any local collocation data. It was considered that the locally derived bias correction factors

were comparable to this national figure. Historically, locally derived bias correction factors have always been used for the correction of City of York Council's diffusion tube data and the local figures have therefore been used for correction of tube data presented in this report. Local bias factors in 2022 are also comparable to factors calculated for previous years and reported in historical Annual Status Reports, shown in Table C.2.

If the national bias correction factor of 0.76 had been applied to all CYC diffusion tubes, this would have resulted in the following diffusion tubes coming close to / exceeding the annual mean objective.

Tube 7 (Gillygate)	49.5µg/m ³ (Local factor)	51.5µg/m ³ (National factor)
Tube 13 (Gillygate)	45.5µg/m ³ (Local factor)	47.4µg/m ³ (National factor)
Tube 14 (Gillygate)	47.3µg/m ³ (Local factor)	49.2µg/m ³ (National factor)
Tube 109 (Rougier St)	43.7µg/m ³ (Local factor)	45.5µg/m ³ (National factor)
Tube 110 (Rougier St)	37.2µg/m ³ (Local factor)	38.7µg/m ³ (National factor)
Tube 115 (Rougier St)	50.9µg/m ³ (Local factor)	53.0µg/m ³ (National factor)
Tube A1 (Bootham)	44.1µg/m ³ (Local factor)	45.9µg/m ³ (National factor)
Tube A57 (Holgate Rd)	38.1µg/m ³ (Local factor)	39.6µg/m ³ (National factor)
Tube C27 (Blossom St)	41.3µg/m ³ (Local factor)	43.0µg/m ³ (National factor)
Tube D19 (Bridge St)	38.2µg/m ³ (Local factor)	39.8µg/m ³ (National factor)
Tube D43 (Rougier St)	39.3µg/m ³ (Local factor)	41.0µg/m ³ (National factor)
Tube D51 (Taxi Rank)	41.4µg/m ³ (Local factor)	43.1µg/m ³ (National factor)
Tube D55 (Museum St)	39.2µg/m ³ (Local factor)	40.8µg/m ³ (National factor)
Tube D59 (St Leonards)	44.7µg/m ³ (Local factor)	46.6µg/m ³ (National factor)

All tubes except two (115 and D51) above are already included within City of York Council's AQMA boundary. Tubes 115 and D51 are not located in relevant locations with respect to the annual mean NO₂ objective as they are located at a bus shelter (115) and a taxi rank (D51). The results for these two tubes are also below 60µg/m³, which would indicate potential breaches of the short-term hourly NO₂ objective.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	Local	-	Background tubes 0.73 Roadside tubes 0.73
2021	Local	-	Background tubes 0.72 Roadside tubes 0.75
2020	Local	-	Background tubes 0.68 Roadside tubes 0.74
2019	Local	-	Background tubes 0.76 Roadside tubes 0.74
2018	Local	-	Background tubes 0.68 Roadside tubes 0.73

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1 – Bootham (Urban Background)	Local Bias Adjustment Input 2 – Fishergate (Roadside)	Local Bias Adjustment Input 3 – Gillygate (Roadside)	Local Bias Adjustment Input 4 – Fulford (Roadside)
Periods used to calculate bias	11	12	10	9
Bias Factor A	0.73 (0.69 – 0.77)	0.78 (0.73 – 0.83)	0.71 (0.66 – 0.78)	0.72 (0.68 – 0.77)
Bias Factor B	37% (29% - 45%)	29% (21% - 37%)	41% (29% - 52%)	39% (30% - 48%)
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	17	25	37	22
Mean CV (Precision)	5	4	5	3
Automatic Mean ($\mu\text{g}/\text{m}^3$)	12	19	26	16
Data Capture	99%	98%	99%	96%
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	12 (12 – 13)	19 (18 – 21)	26 (24 – 29)	16 (15 – 17)

Notes:

A single local bias adjustment factor of 0.73 has been used to bias adjust the 2022 diffusion tube results at urban background locations.

A combined local bias adjustment factor of 0.73 has been used to bias adjust the 2022 diffusion tube results at roadside locations.

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure

has been estimated using the Diffusion Tube Data Processing Tool/NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

Distance correction has been considered at monitoring sites where the annual mean concentration is greater than 36µg/m³ and the monitoring site is not located at a point of relevant exposure (taking the limitations of the calculator into account). In 2022, 15 diffusion monitoring sites recorded bias corrected annual mean concentrations in excess of 36µg/m³, namely site references 7, 13, 14, 109, 110, 115, A1, A57, C27, D19, D20, D43, D51, D55 and D59. Further commentary on each of these sites is provided in Table C.4.

Table C.4 – NO₂ Fall off With Distance Calculations (concentrations in µg/m³)

Note: background concentrations obtained from DEFRA background maps (2018 maps projected to 2022)

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
7	0.3	2.6	49.5	13.32	36.8	See calculation to left. Site located within current AQMA
13	1.5	1.6	45.5	-	-	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Site located within current AQMA
14	2.3	2.5	47.3	-	-	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Site located within current AQMA
109	2.5	2.7	43.7	-	-	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Site

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
						located within current AQMA
110	2.3	2.5	37.2	-	-	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Relevant exposure at first floor level. Site located within current AQMA
115	1.5	N/A	50.9	-	-	Not relevant location with respect to annual mean as located at a bus stop. Only relevant with respect to hourly NO ₂ objective, but currently under 60µg/m ³ so not of concern. Nevertheless, site located within current wider AQMA
A1	2.3	2.5	44.1	-	-	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Site located within current AQMA
A57	2.8	3.0	38.1	-	-	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Relevant exposure at first floor level. Site located within current AQMA
C27	3.2	3.4	41.3	-	-	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Site

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
						located within current AQMA
D19	0.2	1.9	38.2	14.90	30.2	See calculation to left. Site located within current AQMA
D20	0.5	13.5	36.6	14.90	23.9	See calculation to left. Site located within current AQMA
D43	0.3	3.3	39.3	13.31	29.2	See calculation to left. Site located within current AQMA
D51	N/A	N/A	41.4	-	-	Not relevant location with respect to annual mean as located at taxi rank, within railway station portico. Only potentially relevant with respect to hourly NO ₂ objective, but currently under 60µg/m ³ so not of concern.
D55	2.2	4.0	39.2	13.32	35.5	See calculation to left. Site located within current AQMA
D59	2.7	4.5	44.7	13.32	40.7	See calculation to left. Site located within current AQMA

QA/QC of Automatic Monitoring

To ensure that the air quality data obtained by City of York Council fully complies with the requirements of the Review and Assessment process, a comprehensive set of QA/QC procedures are in place. The aims of the QA/QC programme were fully detailed in 'Technical Annex 2: Air Pollution Monitoring in York' which was submitted with the Second and Third Stage Review and Assessment of Air Quality in York.

All roadside automatic monitoring sites are calibrated fortnightly by City of York Council's Public Protection Team. The Bootham urban background monitoring site is calibrated 4-weekly in line with AURN requirements. Sites are serviced by the equipment suppliers

every 6 months and independently audited every 12 months. The annual audit also provides an independent check of site cylinder concentrations against reference standards. The latest round of station audits was carried out in January 2023 by Ricardo-AEA.

City of York Council's continuous monitoring sites are currently serviced and maintained by 'Matt's Monitors'. Data management is currently undertaken by Ricardo-AEA with all results being published to the [Air Quality England website](#). This website displays live and historical data for all automatic monitoring sites in York. All data presented in this ASR is fully ratified.

PM₁₀ and PM_{2.5} Monitoring Adjustment

For Holgate Road and Plantation Drive TEOM (PM₁₀) data in 2022 a correction factor of 1.3 has been applied (INDIC.GRAV). The data could not be VCM corrected due to lack of nearby TEOM-FDMS data. Gillygate PM_{2.5} data is presented as uncorrected TEOM data, as the VCM is not considered appropriate for correction of PM_{2.5} data. No correction factors have been applied to the BAM data presented in this report (Bootham and Fishergate) as this is this monitoring method provides reference method equivalent data.

Automatic Monitoring Annualisation

All automatic monitoring locations within York recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

NO₂ Fall-off with Distance from the Road

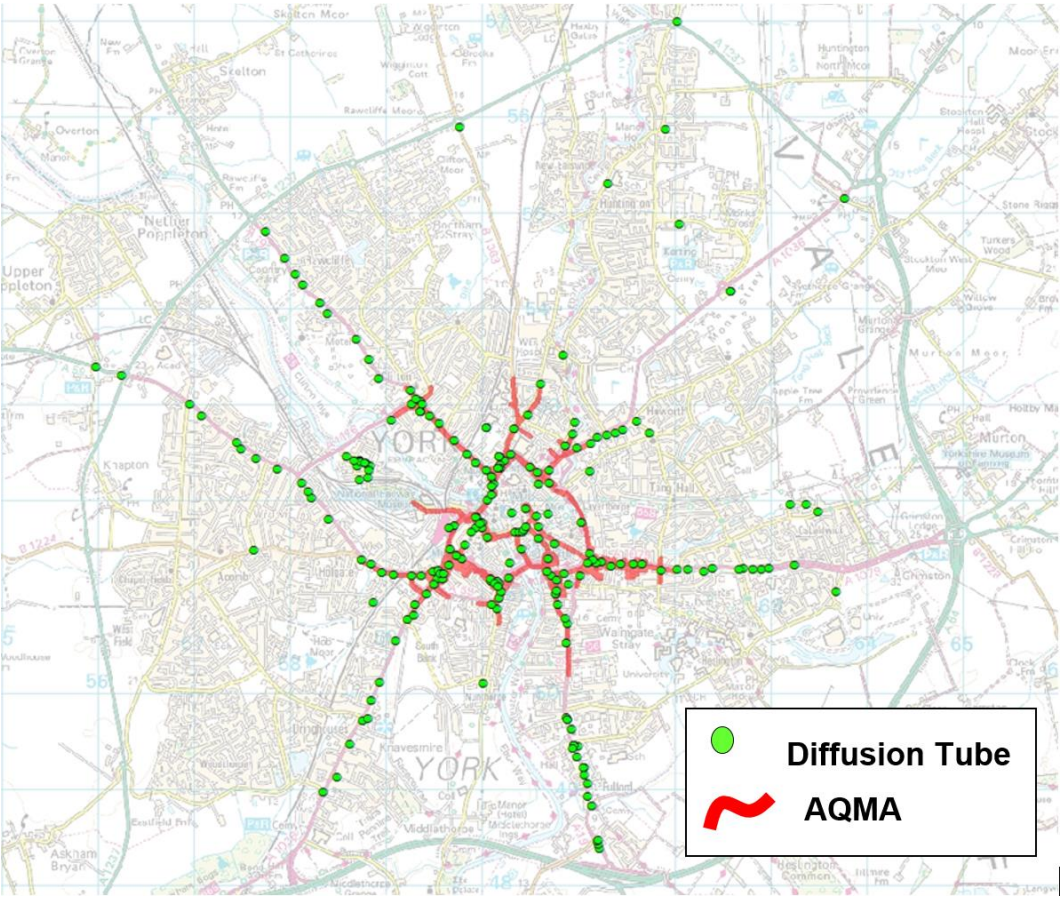
Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

No automatic NO₂ monitoring locations within City of York Council's area required distance correction during 2022.

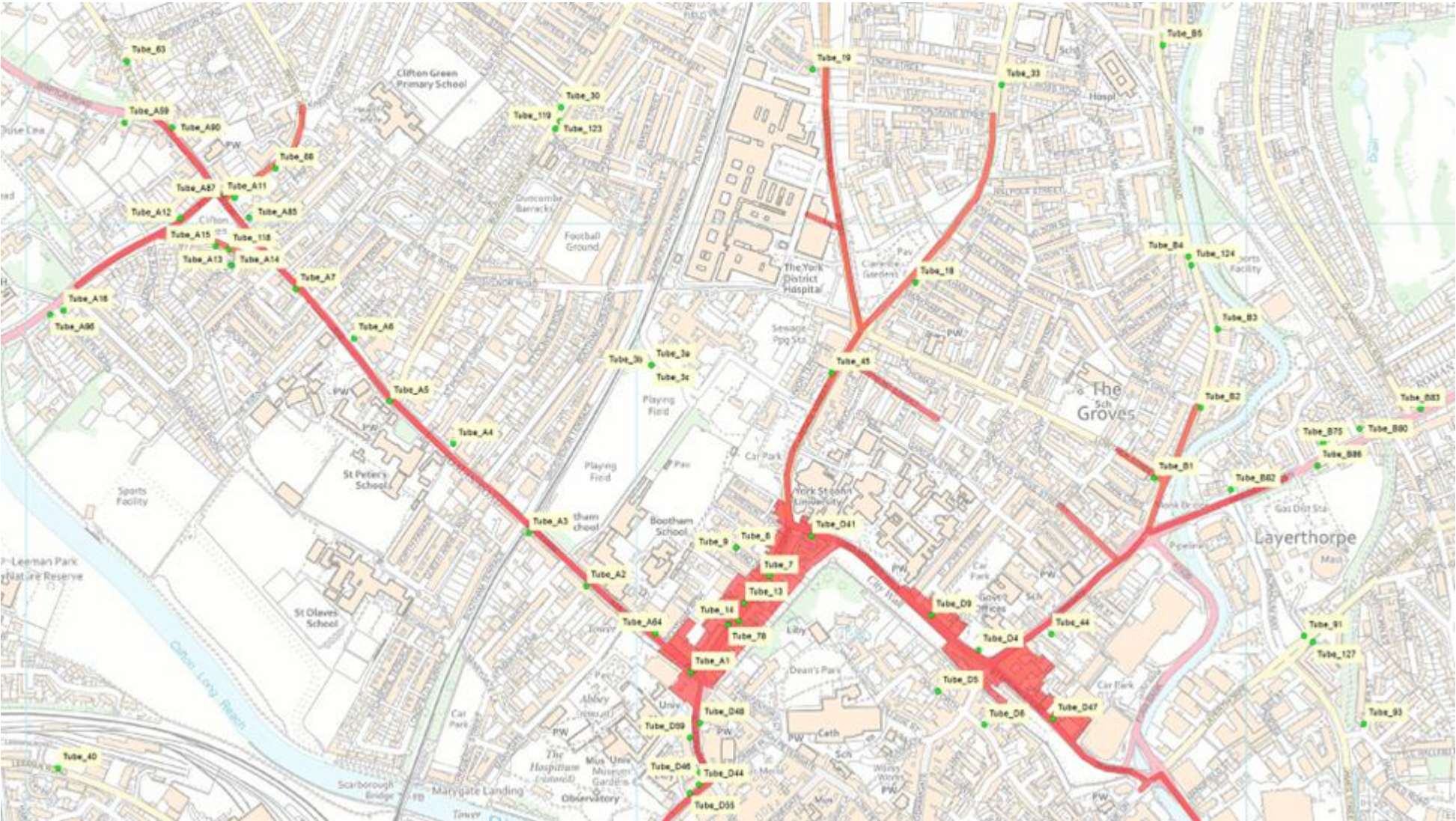
Appendix D: Map(s) of Monitoring Locations and AQMAs

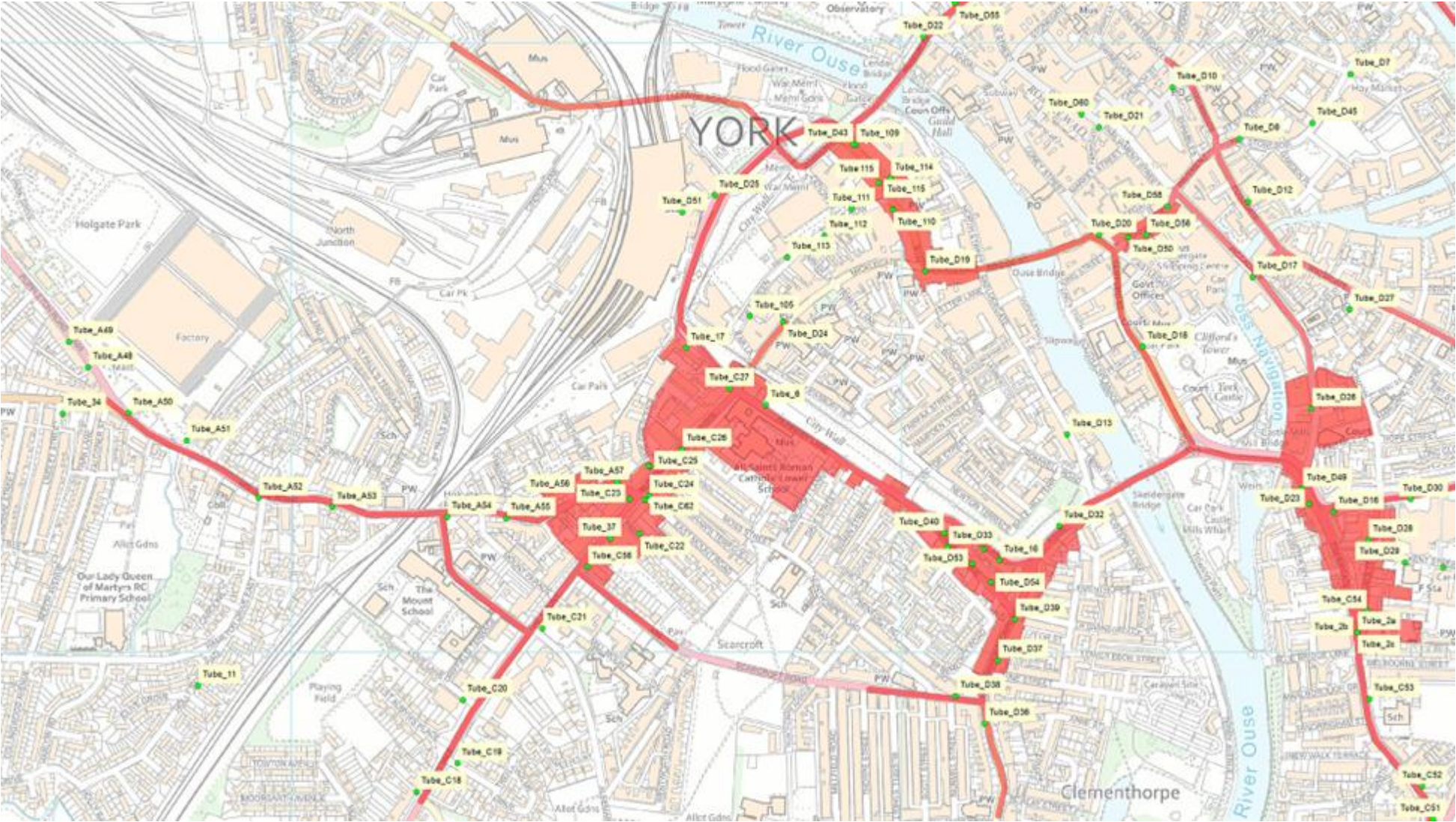
Figure D. 1 Map of Non-Automatic Monitoring Site

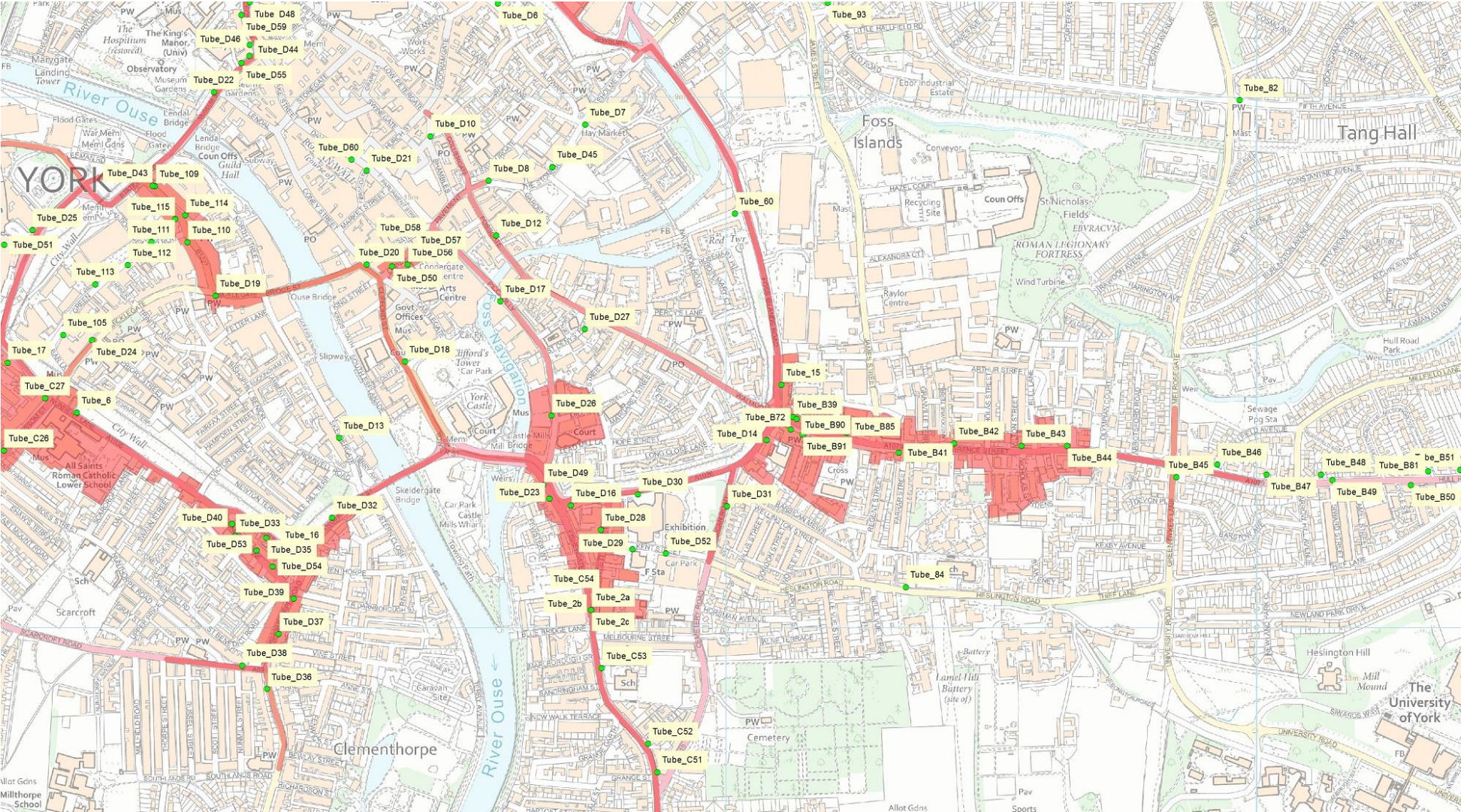
Due to the number of tubes operated by City of York Council, an interactive diffusion tube map showing tube reference numbers has been made available online to accompany the ASR. [View interactive diffusion tube map here.](#)



Diffusion tube locations in relation to the AQMA boundary are shown in the zoomed in maps below:







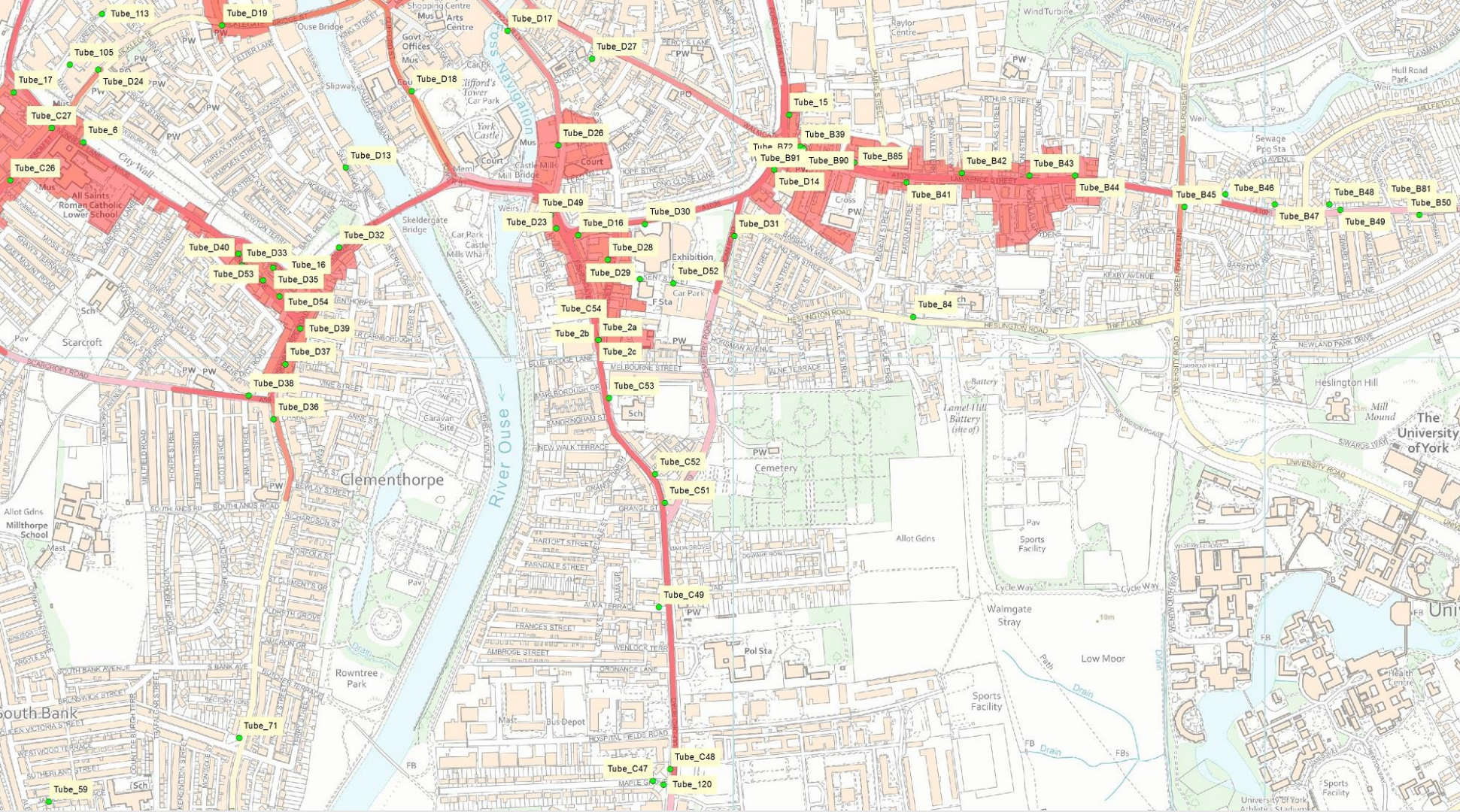
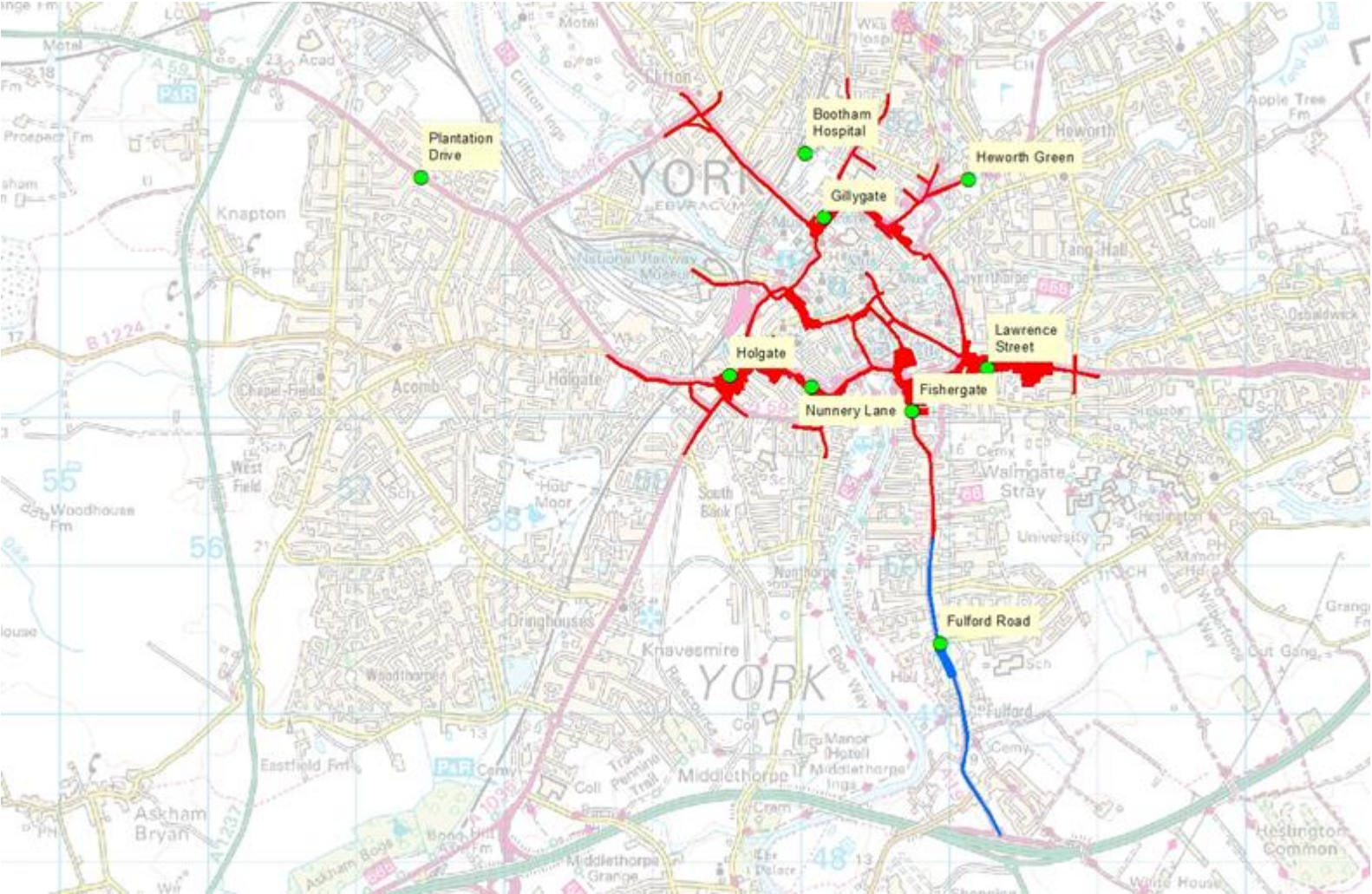


Figure D. 2 Map of Automatic Monitoring Sites in relation to AQMA

Air Quality Management Area (AQMA) shown in red. Note that the Fulford Road AQMA was revoked on 14/2/2020 and is shown in blue for information. Precise locations of automatic monitors are shown online at the [Air Quality England website](https://www.airqualityengland.gov.uk/).



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁷

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

⁷ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

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 ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.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.
- City of York Council's previous LAQM Review and Assessment reports can be found on [City of York Council's website](#)