EXAMINATION OF THE CITY OF YORK LOCAL PLAN

2017 – 2033

AIR QUALITY MONITORING AREA NOTE

18 MAY 2022

York Local Plan Air Quality Monitoring Area Note
16 May 2022

Since air quality has been raised at the Examination Hearing Sessions is thought helpful to put this into the examination library.

This reports refers to the revocation of the Fulford AQMA. A new report will be published next month and will be submitted

Appendix 1: 2021 Air Quality Annual Status Report (ASR)

2021 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date: June, 2021

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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 28,000 to 36,000 deaths at typical ages[3], with a total estimated healthcare cost to the NHS and social care of £157 million in 2017[4].

At the start of 2020, City of York Council had two Air Quality Management Areas (AQMAs), declared on the basis of breaches of the health based annual mean air quality objective for nitrogen dioxide (NO_2). These AQMAs were located in the city centre (AQMA Order No.5) and in Fulford (AQMA Order No.2). Historically, a third AQMA for NO_2 existed on Salisbury Terrace between 2012 and 2017 (AQMA Order No.3). The Salisbury Terrace AQMA was revoked in 2017 due to improvements in air quality in this area. Following an Executive Member Decision Session in November 2019, the Fulford AQMA was also revoked in February 2020[5] as a result of local improvements in air quality. Current and historical AQMAs declared by City of York Council can be viewed at List of York AQMAs.

City of York Council has a statutory duty to try to reduce NO_2 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 NO_2 and particulate matter (PM). Typically traffic is responsible for around 50-

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

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

[3] Defra. Air quality appraisal: damage cost guidance, July 2020

[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

[5] Member report for Fulford Road AQMA revocation

70% of the total NO_2 at any particular location in the city, although the exact amount varies according to proximity to roads and other emission sources.

The Covid-19 lockdowns in 2020 provided an unexpected and unique opportunity to study York's air quality in the absence of normal traffic levels. Widespread improvements in air quality were observed in York in 2020 compared with previous years, primarily due to a reduction in emissions from vehicles on the York road network caused by work from home directions and non-essential retail being closed. The reduced number of vehicles on the roads, combined with guidance to exercise outside the home once a day resulted in increase in active forms of travel such as walking and cycling. Bus patronage also declined during the lockdown periods.

The latest air pollution monitoring data indicates that the annual average air quality objective for NO_2 (40µg/m^3) was met at all monitored relevant locations in York during 2020, including all sites within the current Air Quality Management Area. The highest concentration of NO_2 recorded at a relevant location was 40µg/m^3 on Gillygate (equal to the objective). Only one monitoring site, on Rougier Street, recorded an annual mean concentration above the objective at 49µg/m^3. This site is not located at a relevant location for the purposes of Local Air Quality Management (i.e. it is not at a location that would be representative of long term public exposure).

Annual mean NO_2 concentrations monitored at all roadside real-time monitoring stations were significantly lower in 2020, compared with levels monitored in 2019. Reductions in NO_2 of between 13.9% (Gillygate) and 27.8% (Fishergate) were observed (average reduction 23.4%). The percentage reduction in annual mean NO_2 at Bootham Hospital (City of York Council's urban background monitoring site) between 2019 and 2020 was 13.5%. The fact that this is lower than the average reduction observed across roadside sites is expected and reflects the reduced impact of local traffic emissions on air quality in the vicinity of this background site.

Whilst concentrations of NO_2 monitored in York throughout 2020 could be regarded as atypical (due to the Coronavirus pandemic and resultant reductions in traffic), they continue the general downward trend in NO_2 concentrations monitored across 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 and decreased use of public transport.

With respect to the city centre AQMA, no exceedances of the health based annual mean NO_2 objective of 40µg/m^3 were monitored in any technical breach area in 2020. Maximum annual mean concentrations of NO_2 monitored at relevant locations within the current AQMA 'technical breach' areas were 40µg/m^3 (Gillygate), 39µg/m^3 (Rougier St), 35µg/m^3 (Holgate / Blossom Street), 33µg/m^3 (Lawrence St), 29µg/m^3 (Fishergate / Paragon St), 27µg/m^3 (Prices Lane/Nunnery Lane) and 31µg/m^3 (Coppergate). Maximum concentrations of NO_2 recorded in current 'technical breach areas' were on average 19.2% lower in 2020 than in 2019 and ranged from 9.2% lower in Gillygate to 27.3% lower in Prices Lane / Nunnery Lane.

As traffic levels and associated emissions in the city were atypical in 2020 as a result of the Covid-19 lockdowns, 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. This will be reviewed again as part of City of York Council's next Annual Status Report (due June 2022) when the longer terms impacts of the pandemic on traffic may be clearer.

Concentrations of NO_2 monitored in the former Fulford Road AQMA in 2020 continue to be well below the annual mean objective of 40µg/m^3. The highest recorded levels of NO_2 in this area were monitored on Fulford Main Street and were 24.6µg/m^3. This further 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 NO_2 monitored in the former Salisbury Terrace / Leeman Road AQMA in 2020 were also all well below the annual mean objective of 40µg/m^3. The highest recorded levels of NO_2 in this area were monitored on Salisbury Terrace and were 24.4µg/m^3. This confirms that the decision to revoke this AQMA in December 2017 was appropriate.

In City of York Council's 2017 Annual Status Report it was highlighted that consideration should be given to extending the city centre AQMA to include new relevant exposure for the annual mean NO_2 objective in Coppergate. City of York Council's 2018 Annual Status Report confirmed that this amendment was necessary and on 17th 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 (designated AQMA Order No. 5). Concentrations

of NO_2 monitored along Coppergate in 2020 were significantly lower than those monitored in 2019, with the highest concentration in 2020 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO_2 concentration of 31.2µg/m^3 which is well below the annual mean objective for this pollutant and represents an 18.3% reduction in NO_2 compared with concentrations monitored in 2019[6]. The new AQMA Order 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 2020 monitoring results for this area of the city indicate that this short-term objective is still being met.

City of York Council monitors particulate (PM_{10}) at 4 sites in the city (Bootham, Fishergate, Holgate Road and Plantation Drive) and ultra-fine particulate ($PM_{2.5}$) at 3 sites (Bootham, Fishergate and Gillygate). National air quality objectives for PM_{10} and $PM_{2.5}$ are currently met in York. The highest annual mean levels of PM_{10} and $PM_{2.5}$ monitored in York during 2020 were 19.2µg/m^3 and 8.6µg/m^3 respectively (these concentrations are also within World Health Organisation (WHO) guidelines for these pollutants of 20µg/m^3 for PM_{10} and 10µg/m^3 for $PM_{2.5}$). Concentrations monitored in 2020 compare with maximum levels of 21.9µg/m^3 (PM_{10}) and 11.1µg/m^3 ($PM_{2.5}$) monitored in 2019.

Previous air quality modelling work undertaken by City of York Council indicated that with delivery of the third Air Quality Action Plan (AQAP3) (with all measures in place) the health based national air quality objectives for NO_2 could be met in all the current air quality technical breach areas in York by 2021. Whilst members of the public have indeed had a unique opportunity to experience cleaner air in York throughout 2020 and early 2021, the Covid-19 pandemic has meant that the ongoing impact of AQAP3, including major air quality improvement measures implemented in 2020 such as the impact of the York Clean Air Zone (introduced January 2020) and a new all electric bus fleet, have been difficult to quantify. The true impacts of such measures may only be apparent in subsequent years, when/if traffic levels and behaviour return to 'normal' and the air quality impact of such interventions can be verified via ongoing air quality trends.

Current uncertainties with respect to future travel behaviour, particularly around confidence in the use of public transport (and possible subsequent increases in private car

[6] It should be noted that during the daytime, access to Coppergate is restricted to buses and taxis. During the pandemic, Coppergate was made one-way for vehicles to provide additional space for social distancing.

journeys) could offset some of the air pollution gains that have been made in recent years. However, if York can sustain some of the improvements in walking and cycling levels that arose during lockdown and many people continue to work at home, there may be an opportunity to improve air quality beyond that previously possible with only AQAP3 in place.

Actions to Improve Air Quality

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

The 2019 Clean Air Strategy[7] sets out the case for action, with goals even more ambitious than EU requirements to reduce exposure to harmful pollutants. The Road to Zero[8] sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

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, taxis and HGVs, which fall outside the scope of trip reduction based modal shift measures.

[7] Defra. Clean Air Strategy, 2019

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

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). CYC are currently preparing a new Local Transport Plan (LTP4) and Carbon Reduction Strategy. 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.

City of York Council's third Air Quality Action Plan (AQAP3), adopted December 2015 , sets out how York intends to continue to deliver its ambitious and pioneering overarching Low Emission Strategy (LES) and to work towards becoming an internationally recognised ultra-low emission city.

York's LES (October 2012) has already changed the way York delivers public transport and plans for future transport trips. Since the publication of the LES, York has:

- Delivered a fully electric Park & Ride (P&R) site at Poppleton Bar and introduced electric buses across other P&R 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. As part of a partnership between bus company First York and CYC, the first of 21 new all-electric double decker buses entered service on the York Park & Ride network in July 2020. The remaining Metrodecker EVs, manufactured by Optare in Yorkshire, have now been brought into operation, replacing diesel vehicles in an investment totalling £9.3m and expanding the fully electric fleet on York Park & Ride to 33 buses, one of the largest fleets of electric double decker buses outside London. York, along with its bus companies, bid for the 'All Electric Town Fund' to make all bus services electric, but was unfortunately not successful. It does, however, remain an ambition for CYC to ensure all bus services are electric in the future.

- 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 has been

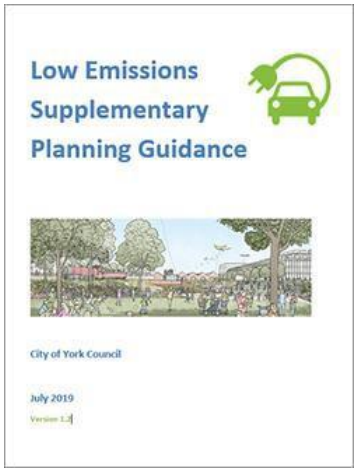
allocated by City of York Council to 5 bus operators to help replace/retrofit 93 buses to CAZ compliant standards.

- Encouraged 25% [170 vehicles] (figure correct as of April 2021) of the taxi fleet to change to low emission alternatives (petrol hybrid); a number of these were converted through CYC's innovative taxi incentive grant scheme. The latest DEFRA funded low emission taxi grant scheme was launched in November 2020 and offers financial support for CYC registered taxi drivers to upgrade their vehicles to low emission versions. A new taxi licensing policy is also currently being developed that will introduce conditions about the types of vehicles that will be licensed by CYC in the future, including a vehicle age limit for all vehicles except electric vehicles (EVs) or plug-in hybrids (PHEVs).
- Implemented an extensive 'pay as you go' fast and rapid charge public electric vehicle recharging network. City of York Council's Executive have also endorsed the ambition that a minimum of 5% of bays in council owned car parks will be charging bays by 2023 (subject to funding). The existing council owned charging estate is currently being updated with the number of fast charging spaces increasing from 40 to 350 and the hardware at all rapid chargers being replaced. An additional rapid charger site is also proposed. Once completed, the new 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

- On 19th March 2020, City of York Council's Executive agreed to commence the transition to an electric fleet for all vehicles under 3.5 tonne as part of a four year programme. With respect to waste collection, twelve new refuse trucks, including two fully electric vehicles, have been bought by CYC. The new vehicles are expected to reduce fuel costs and pollution output by approximately 16%.

- Been awarded £816,000 from the Office of Low Emission Vehicles (OLEV) after becoming the only Yorkshire location out of eight in the country to achieve 'Go Ultra Low' city status. The money is being used to fund a network of charging HyperHubs, providing ultra-fast, reliable and convenient electrical charging. Since receiving this funding allocation, City of York Council has secured further European funding to allow the delivery of a full solar canopy/battery storage solution. The HyperHub sites are dedicated charging hubs with 24/7 access containing four 50kW Rapid chargers and four 150kW Ultra Rapid chargers at each site under a solar voltaic canopy structure. CYC are delivering HyperHubs at Monks Cross and Poppleton (planning applications approved November 2019) and are working on a third City Centre site. These sites will be opening in 2021.

- Developed Low Emission Planning guidance to accompany policy ENV1 'Air Quality' of the Local Plan. This guidance outlines City of York Council'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 has also been used as the basis for a 'common principles' document relating to low emission planning, developed by the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG), to ensure consistency in the approach to low emission planning across the region.



- Launched an ECO-Stars Fleet Recognition Scheme. The scheme attracted fleet membership from 106 organisations and has provided advice on operational best practice. Further information about the scheme can be found at ECO Stars Webpage

- Created City of York Council's dedicated 'JorAir' air quality website (JorAir Website). The website contains information about air pollution and health, low emission vehicles, air quality improvement measures and the planning process. The site also provides up to date information about air quality levels across the city.

- Obtained member approval to implement a package of measures aimed at deterring stationary vehicles from idling, including the use of discretionary powers under the Road Traffic Regulations 2002 to issue fixed penalty notices to drivers who refuse to switch off their engines. A 'Kick the Habit' anti-idling awareness-raising campaign was launched in mid-2019, aimed at encouraging people to think about the importance of clean air and the impact that this has on them, their health and those around them. The campaign is designed to change the way people feel about idling and encourage them to 'kick the habit' by highlighting idling as socially unacceptable. The highly successful campaign received extensive positive media coverage, including features in York Press, The Yorkshire Post, Minster FM, Radio York, That's York TV and BBC Look North.

- Undertaken promotional work in relation to anti-idling as part of Clean Air Day 2018, 2019 and 2020. For Clean Air Day 2020, Public Protection officers hosted a pop-up anti-idling event at York Railway Station short stay parking area. CYC also worked in partnership with staff from York District Hospital and local primary schools to erect banners and raise awareness of idling emissions. Campaign posters have previously been put up in all doctors' surgeries and multiple petrol stations in York. Permanent signage has also been erected 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 where vehicles have been observed idling. In December 2020, further promotional material and signage was erected at the Askham Bar Flu / Covid vaccination site, in partnership with CYC Public Health.

- Obtained DEFRA AQ Grant funding and is currently acting as lead authority in development of a new Air Quality Hub, alongside Lancaster City Council and Mid Devon District Council. The Air Quality Hub extends the existing Low Emission Hub to create an online Air Quality Knowledge Hub. The new hub provides a space where air quality experience and knowledge can be shared and where local authority officers can be up-skilled without the need to attend external training courses or meet travel costs. The Air Quality Hub was launched on 26th November 2020 and over 170 individuals from local authorities and organisations across the UK attended the online launch event

In addition to the above, York continues to deliver on walking, cycling and public transport improvements, maintaining its national reputation as a leader in sustainable transport.

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 and difficult challenges for the foreseeable future.

Measures in AQAP3 are intended to build upon (but not replace) the modal shift based measures included in previous AQAPs, and are intended to support other emission reduction measures in the Climate Change Framework and Action Plan (CCFAP) and the Local Transport Plan (LTP3). York will commence consultation on a revised Local Transport Plan (LTP4) and updated Air Quality Action Plan (AQAP4) during 2021.

Conclusions and Priorities

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

- The annual average air quality objective for NO_2 (40µg/m^3) was met at all monitoring sites (at relevant locations) in York in 2020, including all sites within the current Air Quality Management Area. The highest concentration of NO_2 recorded at a relevant location was 40µg/m^3 on Gillygate, which is equal to the objective.
- Annual mean NO_2 concentrations monitored at all roadside real-time monitoring stations were significantly lower in 2020, compared with levels monitored in 2019. Reductions in NO_2 of between 13.9% (Gillygate) and 27.8% (Fishergate) were observed (average reduction 23.4%). The percentage reduction in annual mean NO_2 at

Bootham Hospital (City of York Council's urban background monitoring site) between 2019 and 2020 was 13.5%.

- With respect to the city centre AQMA, no significant exceedances of the health based annual mean NO_2 objective of 40µg/m^3 were monitored in any technical breach area in 2020. Maximum annual mean concentrations of NO_2 monitored at relevant locations within the current AQMA 'technical breach' areas were 40µg/m^3 (Gillygate), 39µg/m^3 (Rougier St), 35µg/m^3 (Holgate / Blossom Street), 33µg/m^3 (Lawrence St), 29µg/m^3 (Fishergate / Paragon St), 27µg/m^3 (Prices Lane/Nunnery Lane) and 31µg/m^3 (Coppergate). Maximum concentrations of NO_2 recorded in current 'technical breach areas' were on average 19.2% lower in 2020 than in 2019 and ranged from 9.2% lower in Gillygate to 27.3% lower in Prices / Nunnery Lane.
- Concentrations of NO_2 monitored in York throughout 2020, although atypical due to pandemic and resultant reductions in traffic, continue the general downward trend in NO_2 concentrations monitored across the city since 2012. In line with DEFRA guidance, as traffic levels and associated emissions in the city were atypical in 2020 as a result of the Covid-19 lockdowns, it is not considered appropriate to reduce the size of the city centre AQMA at this time.
- 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 and decreased use of public transport.
- Maximum concentrations of NO_2 monitored in the former Fulford Road AQMA in 2020 continue to be well below the annual mean objective at 24.6µg/m^3. Maximum concentrations of NO_2 monitored in the former Salisbury Terrace / Leeman Road AQMA in 2020 were also well below the annual mean objective at 24.4µg/m^3.
- Concentrations of NO_2 monitored along Coppergate in 2020 were significantly lower than those monitored in 2019, with the highest concentration in 2020 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO_2 concentration of 31.2µg/m^3 which is well below the annual mean objective for this pollutant and represents an 18.3% reduction in NO_2 compared with the concentration monitored in 2019.
- Monitoring of NO_2 in 2020 has not indicated any potential breaches of the short-term hourly NO_2 objective.
- National air quality objectives for PM_{10} and $PM_{2.5}$ are currently met in York. The highest annual mean levels of PM_{10} and $PM_{2.5}$ monitored in York during 2020 were 19.2µg/m^3 and 8.6µg/m^3 respectively. This compares with maximum levels of

21.9µg/m^3 (PM_{10}) and 11.1µg/m^3 ($PM_{2.5}$) monitored in 2019. Concentrations of PM_{10} and $PM_{2.5}$ were within WHO Guidelines in 2020 (more stringent than UK AQ Objectives), but have exceeded such guidelines in previous years.

City of York Council's priorities for the coming year are:

- **Production of a new, fourth Air Quality Action Plan (AQAP4)** including measures to further reduce nitrogen oxides and particulates from all sources and to support and complement the Council's economic strategy, Local Plan, fourth Local Transport Plan (LTP4) and Climate Change Strategy.
- **Reducing emissions from buses through a Clean Air Zone (CAZ)** - The Clean Air Zone (CAZ) for buses in the city centre was launched on 31st January 2020 and became fully operational on 31st January 2021 after a 12 month sunset period to enable suppliers to complete orders. Buses making 5 or more entrances to the CAZ area per day are now required to be Ultra Low Emission Buses (ULEB) (Euro VI diesel or electric). The Traffic Regulation Condition implemented for the CAZ also prohibits all local buses from idling their engines anywhere within the CAZ area, irrespective of service frequency. City of York Council will continue to work with bus operators to ensure that the CAZ requirements are fully adhered to and idling events are minimised.
- **Continue promotion of anti-idling measures (including enforcement**) – City of York Council will continue to investigate complaints of idling in the city and undertake further promotion of the hard hitting 'Kick the Habit' anti-idling campaign throughout 2021. This will be supported by anti-idling enforcement patrols by staff in Public Protection and Civil Enforcement Officers, subject to Covid-19 restrictions. Enforcement will only be undertaken as a last resort with the problem of stationary vehicle idling being addressed first and foremost, by raising awareness, particularly in those areas of the city where complaints arise, such as residential areas and outside schools. We will continue to work with bus operators through the Quality Bus Partnership to raise awareness of idling and minimise its occurrence.
- **Continue to reduce emissions from taxis** – Revisions to City of York Council's Taxi Licensing Policy are proposed for 2021 subject to approval by City of York Council's Executive. New standards proposed are likely to affect both the Private Hire and Hackney Carriage fleet. Policy revisions will affect the types of vehicles that can be registered as taxis in with York and may also include an age limit, to bring York in line with other standards in the West Yorkshire transport authority area. These new licensing standards 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. An additional DEFRA Air Quality grant allocation was awarded to City of York Council in 2020 to assist with further taxi upgrades; the remaining grant funds will continue to be rolled out throughout 2021.

- **Continued delivery of strategic EV charging network** - on 19th March 2020, City of York Council's Executive approved a new 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. CYC are delivering HyperHubs (containing rapid and ultra-rapid charge points) at Monks Cross and Poppleton (planning applications approved November 2019) and are working on a third City Centre site. These sites will be opening in 2021. CYC is also planning a significant upgrade of charging facilities across the rest of the city, starting with increasing the number of Fast charging spaces from 40 to 350. Once completed the new 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.
- **Continuing to reduce emissions from new development** – by continuing to require electric vehicle recharging infrastructure, Construction Environmental Management Plans (CEMPs) and, where appropriate, emissions mitigation plans on new developments.
- **Reducing emissions from the council's fleet** – by switching from diesel to low and zero emission alternatives wherever practical. City of York Council will continue to reduce 'grey fleet' trips by utilising Enterprise Car Club to provide a pool of low emission cars for exclusive use by CYC staff during office hours. CYC will also commence the transition to an electric fleet for all vehicles under 3.5 tonnes as part of a four year programme. The council's fleet of vehicles is set to be upgraded as part of a bid to make York carbon neutral by 2030. Officers will continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels such as diesel. CYC aims to replace 153 vehicles from its current fleet during the next three years, reducing CO_2 emissions by a third.
- **Increasing awareness of the impact of air pollution of public health** – we will undertake further work around anti-idling via continued promotion of the highly

successful ‘Kick the Habit’ anti-idling campaign across York (and across the wider Yorkshire region in partnership with neighbouring local authorities).

- **Continued modal shift and network improvement measures** – via both the LTP3 capital programme and i-Travel York sustainable travel programme.
- **Review of current AQAP3 measures** - City of York Council’s existing Air Quality Action Plan (AQAP3) focusses predominantly on reducing nitrogen dioxide and carbon emissions from transport. As emissions from transport reduce, other sources will become more significant. Subsequent Air Quality Actions Plans for the city are likely to have a much greater focus on pollution from domestic and commercial heating and other sources, and a greater emphasis on reducing particulate emissions. City of York Council are considering further survey and educational campaign work in relation to this issue in line with the Government’s Environment Bill to reduce pollution from domestic heating and other sources. We also plan to look at opportunities for further Smoke Control Areas in the context of the Local Plan process and new sites being brought forward for development. Staff in Public Protection will engage with members to seek support and direction for the development of further air quality improvement interventions.
- **Investigate 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 (such as small vans or larger heavy goods vehicles). A study will 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. The project will aim to reduce both the overall number of vehicles undertaking deliveries and emissions from the remaining fleet. The council will be engaging with businesses, including delivery companies, on the study and pilot scheme.

Challenges faced by City of York Council

There are a number of challenges faced by City of York Council, and indeed the UK, with respect to air quality improvement measures and the ability of local authorities to meet health based air quality objectives in their areas. These include:

- The failure of current vehicle emission standards to deliver reductions in NOx emissions. There is still uncertainty about the on-road performance of some Euro VI

diesel vehicles. If Euro VI vehicles do not perform as expected, the number of UK zones and agglomerations exceeding the EU limit values in the future may be greater than the number currently predicted by central government.

- The number of diesel vehicles in York (which have increased primary emission of NO_2 and carcinogenic diesel particulate).
- Development related 'emissions creep' through the cumulative impact of increased development in the city.
- Unnecessary vehicle idling in the city, particularly amongst heavy diesel vehicles. City of York Council has made significant headway in reducing idling events in the city over the last 2-3 years, especially with buses and taxis.
- There are uncertainties with respect to future travel behaviour, particularly around confidence in the use of public transport (and possible subsequent increases in private car journeys). These could offset some of the air pollution gains that have been made in recent years. However, if York can sustain some of the improvements in walking and cycling levels that arose during lockdown and many people continue to work at home, there may be an opportunity to improve air quality further.

Despite the improvements in air quality seen in York in recent years, the above factors are anticipated to remain challenges for City of York Council in the future and are considered to be the main reasons for the current AQMA designation.

The year of 2020 is considered to be a unique year for air quality due to the Covid-19 lockdowns; the future air quality situation in the city is very much dependent upon the rate of recovery from the pandemic and the extent to which traffic levels and behaviour return to the pre-pandemic position.

CYC has already begun this recovery through its one year 'Transport and Place Strategy' aimed to harness the cultural shift to towards active modes of transport. Various interdependent strands of this strategy were delivered throughout 2020, including:

- creating a people-focussed city centre;
- increasing the city centre footstreets and public spaces to create an attractive environment that people can visit with confidence;
- creating space to social distance;
- prioritising active travel, by investing in and improving park and cycle sites, increasing cycle parking and creating new cycle routes;

- maintaining confidence in and responding to the short-term reduction in capacity on public transport by working with bus and rail operators to ensure people can continue to use public transport with confidence.

These measures were delivered at pace to best accelerate the recovery of the local economy, allowing businesses to open safely, whilst protecting residents' safety and recognising the continued importance of sustainable travel provision across the city.

Any updates relating to these issues will be provided in future Air Quality Status Reports to DEFRA.

Local Engagement and How to get Involved

Further information about air quality and previous consultations can be obtained from the air quality pages of City of York Council's main website at City of York Council's Air Quality Webpages , or from City of York Council's dedicated air quality website at JorAir Air Quality Website . 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

If you have any queries on Local Air Quality Management in York, please contact the Public Protection team using the details below:

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 York during 2020. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by 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 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

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. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at UK Air - City of York Council's AQMAs . 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:

- NO_2 annual mean;

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	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)	NO_2 Annual Mean	Inner ring road and properties included within 7 areas of technical breach	NO	62µg/m^3	40µg/m^3	AQAP3 published September 2015	Visit the AQAP for AQMA Order No.5

☒ 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.

Note 2020 considered atypical due to COVID-19 lockdowns and resultant reductions in traffic

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

Defra's appraisal of last year's ASR supported the outlined measures to improve air quality across the city and accepted the conclusions reached for all sources and pollutants.

City of York Council's last ASR outlined proposals to revoke the Fulford AQMA, subject to approval from the Executive Member for Environment and Climate Change. This approval was obtained on 11th November 2019 and the AQMA was revoked on 14th February 2020. A copy of the revocation Order and accompanying map can be found on City of York Council's air quality website, see AQMAs in York. Monitoring will continue within the area formerly covered by the Fulford AQMA to ensure that concentrations of nitrogen dioxide remain below health based objective levels.

City of York Council has taken forward a number of direct measures during the current reporting year of 2020 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 has made during the reporting year of 2020 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:

- **Clean Air Zone (CAZ)** - 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). An advisory minimum emission level applies to exempted vehicles (i.e. those buses making fewer than 5 entrances to the CAZ per day) of Euro IV by January 2020, increasing to Euro V from January 2022 and ULEB / Euro VI from January 2024. A twelve month 'sunset' period was in place until January 2021, during which time vehicles not meeting the CAZ requirement could continue to be operated if evidence could be submitted by an operator that an order for retro-fitting of an existing vehicle (or procurement of a replacement Euro VI or better vehicle) had been placed but not yet delivered. This period has now lapsed. 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. Operators that received funding were required to commit to operating any upgraded vehicles on routes serving the CAZ for a minimum of five years. Condition 2 of the CAZ Traffic Regulation Condition prohibits buses from idling their engines anywhere within the CAZ for more than 2 minutes. This condition applies to all local bus services operating within the CAZ, irrespective of service frequency or engine type. In addition to the aforementioned grant supported vehicles, operators have either converted or replaced approximately 40 additional buses. This mostly applies to the inter-urban fleets used by operators like Coastliner and East Yorkshire, but also includes 9 buses used by Transdev on CYC tendered services and 6 Park & Ride single decker articulated diesel buses used on the Rawcliffe Bar P&R. The majority of these are new buses.

- **Expansion of zero emission York Park and Ride fleet** - as part of a partnership between First York and CYC, the first of 21 new all-electric double decker buses entered service on the York Park & Ride network in July 2020. Further Metrodecker EVs, manufactured by Optare in Yorkshire, have now been brought into operation and replace existing diesel vehicles in an investment totalling £9.3m and expanding the fully electric fleet on York Park & Ride to 33 buses. Each bus saves almost one kilogram of carbon dioxide emissions for every kilometre travelled, with an estimated saving of 1.6 million tonnes of CO2 a year from the 21-bus Metrodecker fleet. The vehicles, which herald new-look York Park & Ride branding and feature audio visual next stop technology, USB charging points and Wi-Fi connectivity, have been supported with £2.7m funding secured by City of York Council from the Office for Low Emission Vehicles (OLEV). All but one of the 21 new electric double decker buses were in service by the end of 2020, with the final one entering service at the beginning of January 2021
- **Anti-Idling Initiatives, including 'Kick the Habit' campaign** - CYC continued to promote its hard hitting anti-idling campaign throughout 2020. 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. The campaign is designed to change the way people feel about idling and encourage them to 'kick the habit' by highlighting idling as socially unacceptable, and plays on the negative stigmas already associated with smoking to deliver a powerful message about the impact of vehicle emissions on health. Originally developed by City of York Council, the campaign is now being rolled out in other areas, including across Selby District Council's area. A softer, secondary campaign has been developed specifically for active community groups, schools

children and parents. As part of this campaign, an anti-idling schools pack has been developed which includes posters, electronic resources for use on social media, stickers, leaflets and postcards. The highly successful campaign has received extensive positive media coverage, including features in York Press, The Yorkshire Post, Minster FM, Radio York, That's York TV and BBC Look North. In December 2020, further promotion al material and signage was erected at the Askham Bar Flu / Covid vaccination site, in partnership with CYC Public Health. Further information about the campaign can be found on the 'Kick the Habit' Webpage

- **Clean Air Day 2020** - Working in tandem with Walk to School Month (October 2020), Clean Air Day (8th October 2020) was promoted through the council's Kick the Habit campaign. In addition to a press release and messaging via CYC's social media channels throughout the day, this year, Officers from CYC's Public Protection department organised a 'pop-up' anti-idling event/campaign within the short stay parking area of York Railway Station. Anti-idling signage was also erected outside a local primary school (as a result of recent complaints) and at York District Hospital. The 'Switch off engines for Clean Air Day' message was also posted on all variable message signs around the city. Further photos of the day can be found at: Photos of Clean Air Day in York. Work in 2020 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.
- **Idling Patrols** - City of York Council have previously undertaken regular daytime and night-time anti-idling enforcement patrols, although routine idling enforcement was suspended throughout 2020 due to COVID-19 and social-distancing measures. Enforcement of idling legislation is delivered by staff in Public Protection, with support from Civil Enforcement Officers. Previously, between June 2019 and January 2020, 69 drivers were specifically approached regarding unnecessary idling in their vehicles, with over 6 hours idling time saved. City of York Council aim to tackle complaints of persistent idling through awareness raising in the first instance, the need for enforcement patrols is reviewed on a case by case basis.
- **Low Emission Planning Guidance** - City of York Council continues to develop and apply the LES based Planning Guidance, which accompanies policy ENV1 'Air Quality' of the Local Plan. The guidance outlines City of York Council's design and mitigation expectations for all new development in the city (including provision of EV charging facilities). It 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 and

Low Emission Strategy. This note is currently being used by City of York Council's Public Protection team to ensure that air quality impacts of new developments in the city are appraised and mitigated appropriately. The guidance is actively used for all new developments in the city. An overview of planning applications reviewed by Public Protection during 2020 is provided in this Annual Status Report.

- **Updates to Taxi Licensing Policy** – Updates to CYC's Taxi Licensing Policy were provisionally approved at a meeting of the Licensing & Regulatory Committee on 25th September 2020. A recommendation has been made to the council's Executive that they amend the Taxi Licensing Policy and conditions with regards to the type of hackney carriage and private hire vehicles that will be licensed by the Council in the future. Proposed changes also include the introduction of a vehicle age limit for all vehicles except electric vehicles (EV) or plug-in hybrid electric vehicles (PHEV). Changes 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. The Executive has been requested to take the current economic situation and impact on the taxi trade into account when implementing the changes.
- **Low Emission Taxi Incentive Scheme** - CYC launched its latest Defra funded Low Emission Taxi incentive scheme in November 2020. The scheme offers financial support for eligible CYC registered taxi drivers to upgrade to low emission vehicles. The scheme provides grant funding of up to £3000 to purchase petrol hybrid, plug-in hybrid and some petrol/diesel vehicles and will have the direct effect of reducing emissions of NO_x/NO_2 and particulate matter across the city. The use of low emission taxis will also contribute to City of York Council's net carbon neutral target by 2030, following the declaration of a climate emergency in March 2019. The taxi incentive builds on a successful taxi grant scheme funded through previous rounds of LSTF funding that kick-started the conversion of 25% of the York taxi fleet to using hybrid vehicles (figure correct as of April 2021). Further information about the scheme can be viewed at Low Emission Taxi Grant Scheme.
- **Electric Vehicle Charging Strategy and continued delivery of the strategic electric vehicle fast charge network** - on 19th March 2020, City of York Council's Executive approved a new 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 strategy outlines an equitable approach to charging infrastructure that will

support improved air quality, climate change objectives and financial vitality, and aligns with wider transport policy objectives. 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. City of York Council's new HyperHub sites are new dedicated charging hubs with 24/7 access containing four 50kW Rapid chargers and four 150kW Ultra Rapid chargers at each site under a solar voltaic canopy structure. CYC are delivering HyperHubs at Monks Cross and Poppleton (planning applications approved November 2019) and are working on a third City Centre site. These sites will be opening later in 2021. CYC is also planning a significant upgrade of charging facilities across the rest of the city, starting with increasing the number of Fast charging spaces from 40 to 350. CYC aim to complete the rollout of Fast charge points within 6 months. At the same time CYC are also replacing all of the existing Rapid chargers and adding an additional site. Once completed the new 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. City of York Council's charging network is complemented by a number of commercial providers and charger options available in different parts of the city are shown on ZapMap.

- **Air Quality Hub Launched** - City of York Council has previously obtained DEFRA AQ Grant funding and has been acting as lead authority in development of a new air quality hub, alongside Lancaster City Council and Mid Devon District Council. Focused on information exchange between local authority professionals, the Hub features a range of content areas related to strategy 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. Academics and public sector professionals with an interest in air quality management can also access the site at Air Quality Hub. The Air Quality Hub was launched on 26th November 2020; over 170 individuals from local authorities and organisations across the UK attended the online launch event.
- **Upgrades to CYC Fleet and addressing grey fleet trips** - On 19th March 2020, City of York Council's Executive agreed to commence the transition to an electric fleet for all vehicles under 3.5 tonne as part of a four year programme. The council's fleet of vehicles is set to be upgraded as part of a bid to make York carbon neutral by 2030. The focus of the first phase of the programme is to address the risks posed by the worst of the fleet, and improve reliability and emissions of the fleet of waste vehicles.

Twelve new refuse trucks, including two fully electric vehicles, have been bought by CYC. The new vehicles have cost £3 million in total and are expected to reduce fuel costs and pollution output by approximately 16%. Officers will continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels such as diesel. CYC aims to replace 153 vehicles from its current fleet during the next three years, reducing CO_2 emissions by a third. We have also continued to reduce CYC 'grey fleet' trips by working in partnership with Enterprise Car Club to provide a pool of low emission hybrid vehicles for exclusive use by CYC staff during office hours.

- **ECO Stars Fleet Recognition Scheme** - City of York Council is not currently actively recruiting new members to the York ECO Stars scheme (currently 106 members) as funding has now expired, but existing members are being supported as required.
- **Extension of Footstreets** - York's footstreets were extended from Monday 15th June 2020 to increase pedestrian zones within the city centre and support local businesses by providing residents more space to social distance and making access to city centre shops and businesses easier. The actions are designed to support the council's Economic Recovery - Transport and Place Strategy, to build resident, visitor and stakeholder confidence that York is a safe, healthy and attractive place for everyone. York has one of the largest pedestrian zones in Europe, with many areas within York's city centre already designated as pedestrian footstreets. The core footstreet rules will apply to the extension area, including no vehicles being allowed to access, or park on, these streets, including deliveries between 10.30am and 5pm.
- **E-Scooter Trial in York** - E-scooters are now available on the streets of York as part of a 12-month rental trial operated by the leading European operator TIER, providing a safe and sustainable way of getting around the city. The Department for Transport-approved scheme has initially deployed 50 e-scooters in the City, with the potential to gradually increase to up to 700. Renting an e-scooter in York cost riders £1 to unlock the vehicle and 15p per minute travelled. People can pick up the e-scooters at several locations and ride them along a number of cycle and road routes, offering an environmentally friendly and Covid-safe mode of transport. City of York Council selected TIER as the sole operator because of the company's pioneering approach to safety, responsible operations and sustainability.
- **Production of 'Wildlife Sites around York' booklet** - The aim of this booklet was to encourage people to visit local green spaces without travelling by car and also to reduce the distance that people travel, thereby helping to cut air pollution. The booklet also has a note on the back about the threat to wildlife sites from air pollution. The

booklet has been popular with residents and CYC have given out 5500 copies of these booklets all over York.

- **Active Travel Fund** - After successfully delivering phase one of the Government's Emergency Active Travel Fund in the summer of 2020 (£193,000), City of York Council have now been provisionally allocated £658,350 as part of phase two of this scheme. Funds will be used to support more active travel across York and the many residents who are choosing to walk and cycle more throughout the city's COVID recovery. The Government's Active Travel Fund is designed to support walking and cycling as a long-term method for commuting. To receive any allocation from the fund, the council must carry out wide reaching engagement on a variety of proposed schemes to inform designs for people-centred transport infrastructure and more active travel opportunities for residents. Consultation activities during 2021 will provide residents the opportunity to shape future plans and ensure that they are designed to meet the needs of local communities. The second phase of funding will allow the city to build upon action taken in 2020 through temporary changes to road layout and improving cycle safety, and enable the council to design and implement more permanent and wider reaching schemes to support residents with active travel opportunities. Full details of Phase 1 and 2 active travel measures are available at City of York Council's Active Travel Fund website.
- **Walk to School Week 2020** - Almost two thirds of York's primary schools took part in Walk to School Week 2020, which ran from 5 - 9 October during International Walk to School Month. The annual awareness-raising event aims to encourage children and their families to walk, cycle or scoot to and from school, rather than travelling by car. In York, around 9,700 students from 32 different schools got involved, making it a record year for participation across the city. Clifton Green Primary School topped the league with 89.6% of pupils walking, cycling or scooting, with Archbishop of York's Junior School closely following in second place with 89.4% and Bishopthorpe Infant's School in third place with 85.8%. City of York Council's iTravel team presented the coveted Jack Archer Award to Clifton Green Primary, in addition to cash to spend on sports equipment. The Jack Archer Award is now in its seventeenth year and Age UK has supported the competition since it was first launched as part of its intergenerational work to encourage children to be more active.
- **Bike to School Week 2020 and partnership working with Sustrans** - City of York Council has teamed up with walking and cycling charity Sustrans to urge parents across York to try walking, cycling or scooting with their children to school to create a

safer, less congested, more healthy environment for start of the new term. Around 69 per cent of children in York currently walk, cycle or scoot to school, a figure that rises up to 85 per cent in some schools during active travel incentive days. The council encouraged schools to sign up for Sustrans' Bike to School Week that ran from 28th September to 2nd October 2020 and has renewed Sustrans' contract to work intensively with eight primary schools in York, helping to support an increase in children walking, cycling and scooting to school and a reduction in congestion. Following a successful pilot at Carr Junior School in 2020, some schools have also redesigned their school street, aiming to make them safer and healthier for the whole community. At Carr Junior School Sustrans' designers worked with children to assess the problems around the school gate and suggest improvements such as informal street crossings and build-outs. In March, Sustrans tested the designs and gathered feedback from local residents and these can now be developed through the active travel fund measures.

- **Air Quality Sensor Evaluation Project** - City of York Council's Public Protection team is working in partnership with the University of York as part of a DEFRA / UKRI funded program of research to provide a comprehensive and open field test of the performance of a suite of commercial low-cost air pollution sensor devices over a 2 year period. The trial is being undertaken at City of York Council's Fishergate air pollution monitoring station and will provide crucial open and transparent data on the nature and extent of the calibration corrections made, as well as sensor performance over a range of conditions. Further information can be found at the UKRI Website.
- **Bus Services** - The council and bus operators have worked together throughout 2020 via the York Quality Bus Partnership (QBP) in relation to the Clean Air Zone and anti-idling initiatives.

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

- **Production of a new, fourth Air Quality Action Plan (AQAP4)** including measures to further reduce nitrogen oxides and particulates from all sources and to support and complement the Council's economic strategy, Local Plan, fourth Local Transport Plan (LTP4) and Climate Change Strategy.
- **Continued anti-idling enforcement across the city** - Whilst the 'Kick the Habit' campaign is primarily a social media based campaign aimed at making idling socially unacceptable and promoting conversation around this issue, it is necessary to issue

some physical reminders to drivers in the form of signage in key idling locations. City of York Council will continue to address complaints of idling as and when necessary and will install further signage if appropriate. We will continue to build links with external organisations to enable the joint delivery of ad-hoc awareness raising events.

- **Local Incentives** - Further development of local incentives for low emission vehicles and alternative fuel use. In particular, the continued roll out of electric vehicle recharging infrastructure across the city via the planning process.
- **Standards for taxis** - Adoption of City of York Council's Taxi Licensing Policy is anticipated in 2021. New standards proposed will affect both the Private Hire and Hackney Carriage fleet and are likely to require either fully electric, plug-in hybrid, minimum Euro 5 petrol hybrid, or minimum Euro 6 wheelchair accessible vehicles. In addition, City of York Council proposes a maximum age limit for all vehicles operating as a taxi in the city. The proposed age limit will bring City of York Council in line with the highest standard in the West Yorkshire transport authority area. New local licensing standards 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. An additional DEFRA Air Quality grant allocation was awarded to City of York Council in 2020 to assist with further taxi upgrades; this will be rolled out throughout 2021 until all funding is allocated.
- **Hyper Hub Projects** - Delivery of a full solar canopy/battery storage solution in addition to the proposed charging points at Monks Cross and Poppleton Bar Park & Ride sites as part of the Hyper Hubs project. The solar carport has a proposed generation capacity of up to 400kW powering a mix of 160kW and 7kW charge points, A battery storage unit is also set to go on the site to store any excess solar, with the solar expected to generate up to 380,000kWh of electricity per year. We will also continue upgrading our existing charging estate as outlined in our recently approved EV Charging Strategy.
- **Further modal shift and network improvement measures** - including delivering initiatives to promote walking, cycling and the use of public transport. Further updates are available at City of York Council's iTravel website.
- **Review of current AQAP3 measures** - whilst City of York Council's existing Air Quality Action Plan (AQAP3) focusses predominantly on reducing air pollution and carbon emissions from transport, subsequent Actions Plans for the city are likely to have a much greater focus on pollution from domestic and commercial heating and other sources, especially particulates. As emissions from transport reduce, then other

sources will become relatively more significant, as will particulates compared with nitrogen dioxide. City of York Council are considering further survey and educational campaign work in relation to this issue in line with the Government's Environment Bill to reduce pollution from domestic heating and other sources (the Bill is currently delayed but expected later in 2021). We also plan to look at opportunities for further Smoke Control Areas in the context of the Local Plan process and new sites being brought forward for development.

- **Investigate 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 (such as small vans or larger heavy goods vehicles). A study will 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. The project will aim to reduce both the overall number of vehicles undertaking deliveries and emissions from the remaining fleet. The council will be engaging with businesses, including delivery companies, on the study and pilot scheme, due to be progressed over the next 12 months.

City of York Council's priorities for the coming year are:

- **Clean Air Zone** - The Clean Air Zone (CAZ) for buses in the city centre was launched on 31st January 2020 and became fully operational on 31st January 2021 after a 12 month sunset period to enable suppliers to complete orders. The Traffic Regulation Condition implemented for the CAZ also prohibits all local buses from idling their engines anywhere within the CAZ area, irrespective of service frequency. City of York Council will continue to work with bus operators to ensure that the CAZ requirements are fully adhered to and idling events are minimised.
- **Anti-idling Measures** – City of York Council will continue to investigate complaints of idling in the city and undertake further promotion of the 'Kick the Habit' anti-idling campaign throughout 2021, especially as part of Clean Air Day 2021. Further signage will be rolled out in key locations as required.
- **Continue to reduce emissions from taxis** – we will endeavour to gain approval to proceed with the implementation of revised Taxi Licensing Policy that 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. An additional DEFRA Air Quality grant allocation

was awarded to City of York Council in 2020 to assist with further taxi upgrades; this grant funding will continue to be rolled out throughout 2021 until funds are exhausted.

- **Delivery of strategic EV charging network** – we will complete the installation of electric vehicle recharging facilities at key Park & Ride sites to include 'hyper-hubs', providing ultra-fast, reliable and convenient electrical recharging. We will also continue delivery of our new EV Charging Strategy, which strives to ensure that 5% of all CYC car parking spaces have facilities for charging electric vehicles, and commits to explore options for on-street charging and facilities for charging electric taxis in the city centre.
- **Reduce emissions from new development** - we will reduce and mitigate emissions from new development through the planning process, which will include requiring electric vehicle charging facilities and/or passive provision on all new developments with parking provision.
- **Reducing emissions from the council's fleet** – by switching from diesel to low and zero emission alternatives wherever practical. City of York Council's Executive agreed to commence the transition to an electric fleet for all vehicles under 3.5 tonne as part of a four year programme. The council's fleet of vehicles is set to be upgraded as part of a bid to make York carbon neutral by 2030. CYC aims to replace 153 vehicles from its current fleet during the next three years, reducing CO2 emissions by a third.
- **Continued modal shift and network improvement measures** – via both the LTP3 capital programme and i-Travel York sustainable travel programme.
- **Further controls to address particulate emissions** – we will consider further survey and educational campaign work in relation to this issue in line with the Government's Environment Bill to reduce pollution from domestic heating and other sources. We also plan to look at opportunities for further Smoke Control Areas in the context of the Local Plan process and new sites being brought forward for development. Staff in Public Protection will engage with members to seek support and direction for the development of further air quality improvement interventions and will keep abreast of emerging national legislation, ensuring any new measures to reduce particulate emissions are adequately resourced and implemented in York.
- **Reducing emissions associated with deliveries of light goods** – we will progress the DEFRA funded feasibility study and subsequent pilot scheme to investigate first/last mile delivery options for the city. We will engage with businesses, including delivery companies, on both aspects of the study.

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

- The failure of current vehicle emission standards to deliver reductions in NO_x emissions. There is still uncertainty about the on-road performance of some Euro VI diesel vehicles. If Euro VI vehicles do not perform as expected, the number of UK zones and agglomerations exceeding the EU limit values in the future may be greater than the number currently predicted by central government.
- The number of diesel vehicles in York (which have increased primary emission of NO_2 and carcinogenic diesel particulate).
- Development related 'emissions creep' through the cumulative impact of increased development in the city.
- Unnecessary vehicle idling in the city, particularly amongst heavy diesel vehicles. City of York Council has made significant headway in reducing idling events in the city over the last 2-3 years, especially with buses and taxis.
- Current uncertainties with respect to future travel behaviour, particularly around confidence in the use of public transport (and possible subsequent increases in private car journeys).

Progress on the following measures has been slower than expected due to:

- **Planning and delivery of CNG refuelling infrastructure (and freight consolidation centre).** Whilst a feasibility study was completed in 2015, delivery is subject to third party investment and a suitable site being found. A potential site has previously identified based on location of high pressure gas mains to the south west of the city, however, this location is designated greenbelt and is therefore unlikely to be progressed. As mentioned above, City of York Council has since been awarded funding from DEFRA to explore options for moving goods sustainability into and out of York and commission a pilot scheme to test options.

Previous modelling work undertaken for City of York Council's third Air Quality Action Plan (AQAP3) suggested that the measures stated above and in Table 2.2 below would help achieve compliance in all of the current AQMA technical breach areas by 2021 (based on all AQAP3 measures being delivered in full). The possible exception to this was Nunnery Lane, where modelling suggested that the low emission measures in AQAP3 may not be enough to completely offset the predicted development led traffic growth in this area. As we approach the final delivery phase of AQAP3, current indications suggest that the air quality objectives will be delivered on Nunnery Lane. As part of the development of the next AQAP the impacts of future development on the Nunnery Lane area will be explored further.

Whilst members of the public have had a unique opportunity to experience cleaner air in York throughout 2020 and early 2021, the Covid-19 pandemic has meant that the ongoing air quality impact of AQAP3, including major air quality improvement measures implemented in 2020 such as the impact of the York Clean Air Zone and a new all electric bus fleet, have been challenging to quantify precisely. The true impacts of such measures may only be apparent in subsequent years, when/if traffic levels and behaviour return to 'normal' and the air quality impact of such interventions can be verified via ongoing air quality trends. Current uncertainties with respect to future travel behaviour, particularly around confidence in the use of public transport (and possible subsequent increases in private car journeys) could offset some of the air pollution gains that have been made in recent years. However, if York can sustain some of the improvements in walking and cycling levels that arose during lockdown and many people continue to work at home, there may be an opportunity to improve air quality beyond that previously possible with just AQAP3 in place.

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance, City of York anticipates that further additional measures not yet prescribed may be required in subsequent years to achieve continued compliance and enable the revocation of the city centre AQMA

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	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
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 NO_2 and PM_{10} and reduce CO_2 emissions by approx 35 tonnes.	Number of ultra low emission buses operating within York Inner Ring Road	On 25 January 2018, City of York Council's Executive approved the concept of a bus-based CAZ, subject to consultation with local bus operators, the public and others. A report back to the Council's Executive on 17 January 2019 set out the options and timescales for the introduction of emission standards of vehicles operating on the local bus network. The minutes/decision of the meeting can be found here. The CAZ officially came into operation on 31st Jan 2020. Buses making 5 or more entrances to the CAZ per day are required to be Ultra Low Emission Buses (ULEB) (Euro VI diesel or electric). A 12 month sunset period was in operation until January 2021. 13 vehicles were exempted from the sunset clause of the CAZ scheme on the basis of delayed bus upgrades due to the covid lockdown (some vehicles required technicians to come in from Germany which presented issues with the travel ban). This exemption lasts until 31st July 2021, but it is anticipated that buses will be converted much sooner. Indeed, 5 of the 13 vehicles were actually upgraded before the end of January 2021. To facilitate the upgrade of local bus services, City of York Council has been awarded more than £1.6million in funding. Bus operators were invited to bid for the funding to help them meet the cost of retrofitting or replacing their vehicles. A total of £1,654,000 was allocated to 5 operators to help replace/retrofit 93 buses. Operators that received funding were required to commit to operating any upgraded vehicles on routes serving the CAZ for a minimum of five years. 83 buses had been converted by 31st Jan 2021 with 2 new buses bought (85 vehicles therefore updated as of January 2021). In addition to the grant supported vehicles mentioned above, operators have either converted or replaced approximately 40 additional buses. This mostly applies to the inter-urban fleets used by operators like Coastliner and East Yorkshire, but also includes 9 buses used by Transdev on CYC tendered services and 6 P&R single decker articulated diesel buses used on the Rawcliffe Bar P&R. The majority of these are new buses. First are operating 34 fully electric buses used on the park and ride, 21 of which are new Optare Metrodeckers delivered since summer 2020 (with the other 13 being the Optare Versas from 2014/5).	Measures to reduce emissions from buses are a critical part of City of York Council's current AQAP. The main costs are associated with new or upgraded buses (cost to third party operators) and City of York Council has made funding available to support bus upgrades on essential services. CYC is currently considering offering further support for a small number of buses which operate outside the CAZ area.
AQAP3 (2)	Anti-idling measures	Traffic Management	Anti-idling enforcement	2015	2021	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 NO_x, 36kg PM_{10}, 46,555kg CO_2,and 17,949 litres of fuel.	Estimate of idling time saved	CYC continued to promote its hard hitting 'Kick the Habit' anti-idling campaign throughout 2020. The 'Kick the Habit' 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. Originally developed by CYC, the campaign is now being rolled out in other areas, including across Selby District Council's area. A softer, secondary campaign has been developed specifically for active community groups, schools children and parents. As part of this campaign, an anti-idling schools pack has been developed which includes posters, electronic resources for use on social media, stickers, leaflets and postcards. The highly successful campaign has received extensive positive media coverage, including features in York Press, The Yorkshire Post, Minster FM, Radio York, That's York TV and BBC Look North. On Clean Air Day 2020 Public Protection officers hosted a pop-up anti-idling event at York Railway Station short stay parking area. CYC also worked in partnership with staff from York District Hospital and local primary schools to erect banners and raise awareness of idling emissions. A 'Switch off engines for Clean Air Day' message was posted on all variable message signs	To date CYC has not had to serve any Fixed Penalty Notices (FPNs) specifically for idling. There may be some legal and debt recovery costs associated with any future FPNs. 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. Anyone issued with a Fixed Penalty Notice for idling would have 28 days to pay. If they fail to do so, the fine would rise to £40. The legislation only applies to the public highway and not to private land, such as car parks. It is also not

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														(VMS) across the city. Further promotional activities are planned for National Clean Air Day in 2021. In December 2020, further promotional signage was erected at the Askham Bar Flu vaccination site, in partnership with CYC Public Health. Permanent signage has also been erected in all council owned car parks, at most city centre bus stops, multiple taxi ranks and at other key locations across the city since the scheme launched in 2019.	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. Drivers' are also allowed a reasonable period in which to defrost their vehicles to a safe level during periods of cold weather and anti-idling patrols are generally postponed during such circumstances. 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.
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	Implementation	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 2020). City of York Council is not currently actively recruiting new members to the York scheme as funding expired in November 2018, but existing members are being supported as required. Further information about the scheme can be found at http://www.jorair.co.uk/air-quality-in-york/eco-stars-scheme/	Continuation of the scheme (specifically, recruitment of new members) is subject to external grant funding, although the York scheme is currently offering ongoing support to existing scheme members in terms of fleet reassessments and further advice in line with the York Clean Air Zone (CAZ) requirements.
AQAP3 (4)	Planning and delivery of CNG refuelling infrastructure	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV charging, Gas fuel recharging	2015	Currently unknown	CYC and third party investment (to be identified)	Subject to third party investment	YES	Partially Funded	£10k - 50k	Planning	A vehicle running on CNG has significantly lower emissions of NO_2, PM_{10} and CO_2 compared with a diesel equivalent. Detailed emission savings to be determined at planning application stage	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. No investor or alternative location identified to date.	The delivery of a CNG refuelling facility is subject to third party investment and a suitable site. Note that estimated cost of £10-£50k is for the feasibility study, not the implementation of a CNG refuelling facility
AQAP3 (5)	Freight delivery and service plan for key city centre retailers	Freight and delivery management	Delivery and service plans	2015	2022 (feasibility study and pilot)	CYC	CYC and DEFRA Grant	YES	Partially Funded	£100k - £500k	Planning	To be determined	To be determined	Freight improvement study undertaken in 2013. City of York Council has since been awarded funding from DEFRA to explore options for moving goods sustainability into and out of York and to commission a pilot scheme to test options (see update for measure 5a)	Depends on external investment and planning process. Estimated cost includes feasibility and pilot study only.

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	and streets.														
AQAP3 (5a)	Freight consolidation Centre	Freight and delivery management	Freight consolidation centre	2015	2022 (feasibility study and pilot)	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.	No investor or suitable location (outside of greenbelt) identified to date. 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 (such as small vans or larger heavy goods vehicles). A study will 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.	The delivery of a Freight Consolidation Centre is subject to third party investment and a suitable site. This is the subject of the current feasibility study being undertaken.
AQAP3 (6)	Development and implementation of LES based planning guidance	Policy guidance and development control	Air quality planning and policy guidance	2015	2021	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)	Draft Low Emission Planning Guidance has been developed to accompany policy ENV1 'Air Quality' of the Local Plan. The guidance outlines City of York Council'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 has also been used as the basis for a 'common principles' document relating to low emission planning, developed by the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG), to ensure consistency in the approach to low emission planning across the region. This note is currently being actively used by City of York Council's Public Protection team to ensure that air quality impacts of new developments in the city are appraised and mitigated appropriately. The note was updated in July 2019 to reflect changes in City of York Council's expectations for electric vehicle charging facilities on new developments. The guidance is available at: https://www.york.gov.uk/downloads/file/2749/aq-plan-guidance.pdf	In line with the guidance, developers are required to demonstrate how they are mitigating site emission 'damage costs' via the use of suitable mitigation measures. Developers may be required to off-set large emission damage costs via provision of on-site or off-site facilities and/or contribution towards wider Low Emission Strategy measures in York.
AQAP3 (7a)	Reducing emissions from taxis (financial incentive for low emissions taxi purchase)	Promoting low emission transport	Taxi emission incentives	2015	2022	CYC	CYC and DEFRA Grant	YES	Funded	£100k - £500k	Implementation	A hybrid taxi produces approx 8 tonnes per annum of CO_2 less than a diesel equivalent and has considerably lower emissions of NO_x and PM_{10}.	Number of low emission taxis purchased through the local grant scheme	The first incentive scheme, operating in 2015/16, provided financial assistance to 50 taxi drivers to purchase low emission taxis. City of York Council submitted a further bid to the DEFRA Air Quality Grant Scheme in 2019 and was awarded a further funding in March 2020 to continue the incentive scheme in 2020/21. Funding is currently available to eligible York registered taxi drivers to upgrade their vehicles to electric, petrol-hybrid or conventionally fuelled vehicles meeting certain standards under the Air Index scheme (https://airindex.com/). Despite delays with the approval of City of York Council's Taxi Licensing policy due to the Coronavirus pandemic, a decision was taken to formally launch the low emission taxi grant scheme on 10th November 2020 based on the driver and vehicle eligibility statement previously agreed with DEFRA / JAQU (see https://www.york.gov.uk/LowEmissionTaxiGrantScheme).	With respect to the current low emission taxi grant scheme, the original intention was to run the scheme until the end of March 2021, but the grant application window has now been extended until March 2022 due to delays in launching the scheme due to the Coronavirus pandemic and grant funds remaining.
AQAP3 (7b)	Reducing emissions from taxis (taxi licensing emissions controls)	Promoting low emission transport	Taxi licensing conditions	2015	2022	CYC	CYC	NO	Funded	< £10k	Planning	Not yet quantified	Number of low emission taxis present in the CYC taxi fleet	An updated Taxi Licensing Policy was provisionally approved at the Licensing & Regulatory Committee on 25th September 2020 (see https://democracy.york.gov.uk/ieListDocuments.aspx?CId=606&MId=12398), but still requires formal approval by CYC's Executive. The contents of the revised policy may be subject to further consultation at the request of the CYC's Executive committee. Members of the Licensing & Regulatory Committee have recommended to the Council's Executive that they amend the Taxi Licensing Policy and conditions with regards to the type of hackney carriage and private hire vehicles that will be licensed by the Council in the future. For hackney carriages, it is proposed that if the council deregulates or additional licences are released / become available, the only type of vehicle allowed to operate as a taxi would be either a fully electric wheelchair accessible, or plug in petrol hybrid wheelchair accessible vehicle. In terms of private hire new grants, or change of vehicle applications for hackney carriage / private hire vehicles, it is proposed that the only types of vehicle that will be granted licences will be fully electric, plug in petrol hybrid, petrol hybrid (minimum Euro 6), or wheelchair accessible (minimum Euro 6) vehicles. In addition, a maximum age limit is proposed for all licenced vehicles of 7 years from the date of first registration, with the exception of fully	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 City of York Council in 2020 to assist with further taxi upgrades - see AQAP3 Measure 7a for update.

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														electric or plug-in hybrid electric vehicles. Full details are provided in paragraph 25a,b,c and d of the report at https://democracy.york.gov.uk/documents/s142263/Taxi%20Licensing%20Report.pdf. CYC's Executive have been asked to take the current economic situation and impact on the taxi trade into account when implementing the changes.	
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	2022	CYC	CYC	NO	Funded	£1 million - £10 million	Implementation	-	Number of publically accessible EV parking bays available in York	EV charging previously provided at 12 hotels in conjunction with Zero Carbon World. CYC has implemented an extensive 'pay as you go' fast charge public electric vehicle recharging network which currently consists of 20 fast double headed charge points (40 sockets) and 5 rapid chargers. The number of charging episodes in the city increased from 1,733 in 2014, to 20,355 in 2019. Charging episodes fell to 11,895 in 2020 as a result of the pandemic and much lower volumes of traffic on the network. Planning applications for the new Hyper Hubs at Poppleton and Monks Cross Park and Ride sites were approved in November 2019. These are new dedicated charging hubs with 24/7 access containing four 50kW Rapid chargers and four 150kW Ultra Rapid chargers at each site under a canopy structure. The planning applications also included provision for a solar voltaic (PV) module mounted on the canopies at each site. CYC is also working on a third City Centre Hyper Hub site. The three sites are expected to be operational by the end of 2021. On 19th March 2020, City of York Council's Executive approved a new 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 strategy outlines an equitable approach to charging infrastructure that will support improved air quality, climate change objectives and financial vitality, and aligns with wider transport policy objectives. 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.	The ultra-rapid Hyper Hub facilities are aimed at improving recharging facilities for owners of electric vehicles, who will soon have a quality alternative to off street charging which provides familiarity with the petrol forecourt method of refuelling. 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. CYC are planning a significant upgrade to charging facilities during 2021, starting with increasing the number of 'Fast' charging spaces from 40 to 350. CYC are also replacing all of the existing 'Rapid' chargers and adding an additional site. CYC's aim is to provide charging facilities within a 10 minute walk of residential areas without off-street parking. Once all upgrades are completed, the new network will consist of 350 Fast charging spaces, 19 Rapid chargers, and 12 Ultra Rapid chargers providing different charging options depending on user preference for Fast, Rapid, or Ultra Rapid facilities. The City of York Council charging network is complemented by a number of commercial providers. Residents and visitors can use ZapMap(https://www.zap-map.com/live/) to find the charging options available to them.
AQAP3 (9a)	Reducing CYC 'grey fleet' trips	Alternatives to private vehicle use	Car clubs	2015	2021	CYC	CYC	NO	Funded	£50k - £100k	Implementation	-	Reduction in annual business mileage	The council, 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	CYC membership of car club has significantly reduced the number of people using their own private vehicles on CYC business.

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														with low emission Yaris Petrol Hybrid vehicles as part of the car club initiative.	
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 during the next three years, reducing CO_2 emissions by a third. The entire fleet emits a total of 1,763 tonnes of CO_2 each year.	Number of full electric and electric hybrid vehicles in CYC fleet	As well as promoting the use of low emission car clubs, CYC Public Protection also leased an electric vehicle that was used as a pool vehicle (ended May 2019). Charging infrastructure is now in place at the Hazel Court Depot for charging up to 6 electric vehicles simultaneously. On 19th March 2020, City of York Council's Executive agreed to commence the transition to an electric fleet for all vehicles under 3.5 tonne as part of a four year programme. The council's fleet of vehicles is set to be upgraded as part of a bid to make York carbon neutral by 2030. The focus of the first phase of the programme is to address the risks posed by the worst of the age expired fleet, and improve reliability and emissions of the fleet of waste vehicles. With respect to waste collection, twelve new refuse trucks, including two fully electric vehicles, have been bought by CYC. The new vehicles have cost £3 million in total and are expected to reduce fuel costs and pollution output by approximately 16%. Officers will continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels such as diesel.	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 over the next three years.
AQAP3 (9c)	CYC Eco-driver training and vehicle emission controls	Vehicle Fleet Efficiency	Driver training and Eco aids	2015	2020	CYC	CYC	NO	Funded	£10k - 50k	Implementation	-	Number of CYC staff obtaining ECPO driver training	Lightfoot trial completed, Fuel additive trial completed, Programme of mandatory HGV driver training completed (including eco-driving element)	Ongoing programme of driver training
AQAP3 (10)	Marketing and Communication Strategy	Public Information	Via the Internet	2015		CYC	CYC and DEFRA Grant	YES	Funded	£10k - 50k	Implementation	Between June 2019 and January 2020, 69 drivers were specifically approached regarding unnecessary idling in their vehicles, with over 6 hours idling time saved.	Number of visitors on upgraded JorAir website per annum / Idling time saved	Ad-hoc public communication work ongoing, including ongoing updates to City of York Council's air quality web pages. A comprehensive update to CYC's JorAir website was progressed in 2016/17. Hard hitting 'Kick the Habit' anti-idling awareness raising campaign was launched in mid-2019. The campaign is now being rolled out in other areas, including across Selby District Council's area. A softer, secondary campaign has also been developed specifically for active community groups, schools children and parents. Kick the Habit campaign posters have been put up in all doctors' surgeries and multiple petrol stations in York. Permanent signage has also been erected 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 where vehicles have been observed idling. In December 2020, further promotion al material and signage was erected at the Askham Bar Flu / Covid vaccination site, in partnership with CYC Public Health. City-wide programme of anti-idling initiatives as part of Clean Air Day 2019 and 2020, including pop-up events at York Railway Station, York District Hospital and work with local Primary Schools.	The highly successful 'Kick the Habit' anti-idling campaign has received extensive positive media coverage, including features in York Press, The Yorkshire Post, Minster FM, Radio York, That's York TV and BBC Look North. Further information about the campaign can be found at: https://www.york.gov.uk/engineoff Photos of promotional work undertaken on Clean Air Day 2017, 2018, 2019 and 2020 can be found at: http://jorair.co.uk/air-quality-in-york/photos/ Whilst regular daytime and night-time anti-idling enforcement patrols were undertaken throughout 2019 by staff in Public Protection with support from Civil Enforcement Officers, patrols have been scaled back considerably during 2020 due to the Coronavirus pandemic and need for social distancing.
AQAP3 (11a)	Local incentives for low emission vehicles and alternative fuel use – EV chargers and	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 and trialled demonstrator vehicle per annum	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 advice on EV charging to local businesses and other local authorities on an ongoing basis

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	business demonstrators														
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	2022	CYC	CYC	NO	Funded	£10k - 50k	Implementation	-	Number of low emission permits issued	A total of 1769 'Low Emission' Permits were issued during the 2020 calendar year (including 1296 Household Low Emission Vehicle Permits)	A further review into parking fees and bandings for low emission vehicles is currently progressing
AQAP3 (12)	Attracting Low Emission industries, businesses and jobs to York	Policy guidance and development control	Other policy	2015	Ongoing	CYC	CYC	NO	Funded	£10k - 50k	Implementation	Not quantifiable	To be determined	Provided advice to business on low emission technologies/solutions as required	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		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	Ongoing delivery and funding of i-Travel York sustainable travel programme - see https://www.itravelyork.info/ for further details and current updates. Specific updates for 2020 include: Almost two thirds of York's primary schools took part in Walk to School Week 2020, which ran from 5 - 9 October during International Walk to School Month. The annual awareness-raising event aims to encourage children and their families to walk, cycle or scoot to and from school, rather than travelling by car. In York, around 9,700 students from 32 different schools got involved, making it a record year for participation across the city. CYC has renewed its Sustrans' contract to work intensively with eight primary schools in York, helping to support an increase in children walking, cycling and scooting to school and a reduction in congestion. Following a successful pilot at Carr Junior School in 2020, some schools have also redesigned their school street, aiming to make them safer and healthier for the whole community. At Carr Junior School Sustrans' designers worked with children to assess the problems around the school gate and suggest improvements such as informal street crossings and build-outs. Sustrans tested the designs and gathered feedback from local residents and these can now be developed through the active travel fund measures. CYC is investing £500k, as part of a longer term initiative, to introduce cycling and walking improvements across the city. The funding will be used on longer-term schemes to make routes safer by: resurfacing road with hazardous pot-holes for cyclists, making improvements to footways, pedestrian crossings, introducing more dropped kerbs, smart travel options and improving cycle across the city. This is in addition to shorter-term measures introduced during the coronavirus pandemic City of York Council has been allocated £658,350 to support more active travel across York and the many residents who are choosing to walk and cycle more throughout the city's COVID recovery. The Government's Active Travel Fund is designed to support walking and cycling as a long-term method for commuting. This funding is the second phase of funding, following on from an initial £193,000 received in July 2020. The council's iTravel team will be supporting engagement across local communities and schools to better understand barriers to active travel and how this funding can improve this across the city.	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.

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
AQAP3 (13b)	Modal shift and network improvement measures (Bus Improvements)	Transport planning and infrastructure	Public transport improvements interchanges, stations and services	2015	2021	CYC	CYC/DfT	NO	Funded	£1 million - £10 million	Implementation	Aim to increase uptake of public transport	National Annual Passenger satisfaction survey	The council and bus operators have worked together to improve York's bus network over the last few years through the York Quality Bus Partnership. Innovations in York have included improvements to bus information, including new on-street 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 the Poppleton and Monks Cross park and ride services; introduction of refurbished electric open-top buses on the City Sightseeing tour service; new services, such as the CityZap service between York and Leeds, and 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. As part of a partnership between First York and CYC, the first of 21 new all-electric double decker buses entered service on the York Park & Ride network in July 2020. Further Metrodecker EVs, manufactured by Optare in Yorkshire, have now been brought into operation and replace existing diesel vehicles in an investment totalling £9.3m and expanding the fully electric fleet on York Park & Ride to 33 buses. Each bus saves almost one kilogram of carbon dioxide emissions for every kilometre travelled, with an estimated saving of 1.6 million tonnes of CO2 a year from the 21-bus Metrodecker fleet. All but one of the 21 new electric double decker buses were in service by the end of 2020, with the final one entering service at the beginning of January 2021. Network improvements are to be defined through a "Bus Recovery Partnership" which CYC and bus operators are forming with the aim of recovering the bus passengers lost to the network during the pandemic. This will be developed in the Spring 2021 in response to anticipated guidance from the DfT.	
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	Measures in LTP3 can be viewed online at: https://www.york.gov.uk/downloads/file/3725/ltp3pdf (Also see updates against measure 13b) The York Outer Ring Road 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, now featuring increased capacity through 3-lane entrances and 2-lane exits. In October 2019 the Department for Transport awarded the council £26m from its Major Road Network fund to dual the Outer Ring Road from A19 Rawcliffe (Shipton Road) roundabout to A1036 Little Hopgrove (Malton Road) roundabout. Subject to planning consent, construction work on the YORR is anticipated to commence in mid-2023 for 2 years, with completion in 2025. CYC held an online consultation in November 2020. Issues raised are currently being considered and will be addressed, where possible, in the final scheme design.	CYC's third Local Transport Plan (LTP3), covering the period to 2031, sets out the transport policies and measures that will contribute to the city's economic prosperity, whilst meeting challenging national and local targets for reducing emissions. As well as reducing delays, the improvements to the Outer Ring Road are necessary to cope with predicted housing and employment growth projections in the New Local Plan. The improvements to the roundabouts will create an increase in junction capacity similar to changes made at the A1237/B1224 Wetherby Road and A1237/A59 junctions. Creation of a dual carriageway on the northern section of the A1237 outer ring road will remove 'bottlenecks', and shorten journey times. Upgrades to pedestrian and cycling facilities throughout this scheme will improve connectivity. This may feature subway underpasses at the roundabout junctions and an orbital route for walking and cycling parallel to the A1237, linking communities to the

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															north of the city such as Haxby and Earswick, making it easier for those outside the city centre to get around sustainably.
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	Updates published here when available: https://www.york.gov.uk/GIStrategy	
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 four electric buses which have been used in York have, whilst they have been in use, reduced emission levels 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	CYC made a bid to DfTs CBTF in 2013 for funds to convert 6 open-top buses used on York's City Sightseeing tour service from diesel engines to be fully electric. When the bid was made, it was anticipated that conversion would follow over a 24 month period and the first bus was delivered to the operator of the service in 2014, with 3 further buses delivered over the following 24 months. Although four buses have now been delivered and entered into service, conversion of the final two buses in the programme has not commenced at the time of writing. Unfortunately, despite best efforts, performance of the retro-fitted electric buses on the ground has not met an acceptable threshold of reliability, and vehicle availability has been poor, causing operational issues for the service – particularly the need to maintain spare diesel buses to step in to provide the service when availability of the electric buses is poor. Regrettably, the operator's costs and operational challenges are so high it has concluded that the project has not been successful in its primary objective of converting the City Sightseeing Tour fleet to electric traction which can be operated to a level of reliability comparable to the diesel vehicles which previously operated the service. York's experience has not been 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 has not been successful in meeting its primary objective, it has been successful in delivering against other objectives. It has 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 park and ride fully electric bus fleet (21 new buses currently coming into service), 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.	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	2021	CYC	DfT Clean Bus Technology Fund	NO	Funded	£100k - £500k	Implementation	-	Number of retrofitted school buses	The school bus retrofit work experienced delays in 2019/20 due to withdrawal of Clean Vehicle Retrofit Accreditation Scheme (CVRAS) certification for the primary vehicle retrofit manufacturer. Further delays were experienced in 2020 due to the Coronavirus pandemic. A new manufacturer has now been found and CYC are working with York Pullman to resolve the remaining issues and proceed with the remaining retrofit programme.	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	Implementation	-	Amount of energy generated by solar panels	City of York Council has secured European funding 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. Battery storage units are also set to go on the site to store any excess solar, with the solar expected to generate up to 380,000kWh of electricity per year.	This project is funded through the European Regional Development Fund (ERDF)
19	Hyper Hubs	Promoting Low	Procuring alternative Refuelling	2016	2021	CYC	CYC and OLEV	NO	Funded	£1 million - £10 million	Implementation	-	Number of charging	The HyperHub sites are new dedicated charging hubs with 24/7 access containing four 50kW Rapid chargers and four 150kW Ultra Rapid chargers at each site under a solar voltaic canopy	Further information about the HyperHub project can be found on the CYC Website.

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		Emission Transport	infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging										episodes at hyper hubs	structure. CYC are delivering HyperHubs at Monks Cross and Poppleton (planning applications approved November 2019) and are working on a third City Centre site. These sites will be opening later in 2021. CYC is also planning a significant upgrade of charging facilities across the rest of the city, starting with increasing the number of Fast charging spaces from 40 to 350. CYC aim to complete the rollout of Fast charge points within 6 months. At the same time CYC are also replacing all of the existing Rapid chargers and adding an additional site. Once completed the new 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 preference for Fast, Rapid, or Ultra Rapid facilities.	The CYC network is complemented by a number of commercial providers; details of all charge points in the city can be viewed using ZapMap

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

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

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 mortality burden associated with long-term exposure to anthropogenic 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 2019 and are 4.5%. This figure is slightly less than the figure reported for the wider Yorkshire and Humber region (4.8%) and less than the average figure reported for England in 2019 (5.1%).

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. The main source of NO_x and man-made particulate in York is traffic, particularly diesel vehicles.

Policy Guidance LAQM.PG(16) acknowledges that many local authorities will consider how to address $PM_{2.5}$ alongside other pollutants when tackling their own fleets and services and/or work with communities and business to achieve improvements in air quality and that few standalone $PM_{2.5}$ measures will be chosen (unless in order to address a very specific local problem).

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) (adopted in October 2002). 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 third Air Quality Action Plan. 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]** – City of York Council'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 Well Being Strategy. The Joint Strategic Needs Assessment (JSNA) already recognises the importance of good air quality in delivering a number of key health outcomes. City of York Council has also declared a climate emergency (March 2019) and continues to develop its response.

- **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. Within Public Health England (PHE) there is increasing interest in developing a national campaign and there are opportunities for York to get involved in this via the PHE Air pollution and public health advisory group which has historically been attended by one of City of York Council's air quality officers. The 'JorAir' air quality website is used to communicate information locally about air quality and links to public health. City of York Council has also undertaken promotional work in relation to anti-idling as part of Clean Air Day 2020.
- **Low Emission Vehicle Upgrades [AQAP3 Measures 16 & 17]** – York has delivered a fully electric Park & Ride (P&R) site at Poppleton Bar and introduced electric buses across other P&R 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. As part of a partnership between First York and CYC, the first of 21 new all-electric double decker buses entered service on the York Park & Ride network in July 2020. The remaining Metrodecker EVs, manufactured by Optare in Yorkshire, have now been brought into operation and replace existing diesel vehicles in an investment totalling £9.3m and expanding the fully electric fleet on York Park & Ride to 33 buses, one of the largest fleets of electric double decker buses outside London. York has also previously secured £308k from Department for Transport's Clean Bus Technology Fund to retrofit 28 school buses used in around York with the latest Selective Catalytic Reduction (SCR) exhaust technology.
- **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 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 to petrol hybrid taxis. Further funding was awarded to York under DEFRA's 2019/20 Air Quality Grant Scheme to further 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 hybrid taxis in the York fleet has been increased to 25% (figure correct as of April 2021). Traditional petrol hybrid, plug-in hybrid and electric cars produce significantly less $PM_{2.5}$ tailpipe emissions than diesel equivalents.
- **Low Emission Vehicle Events** – In the past few years, York 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. City of York Council will continue to enforce existing smoke control areas and are currently considering further survey and educational campaign work in relation to this issue in line with the Government's Environment Bill to reduce pollution from domestic heating and other sources. We also plan to look at opportunities for further Smoke Control Areas in the context of the Local Plan process and new sites being brought forward for development. Staff in Public Protection will engage with members to seek support and direction for the development of further air quality improvement interventions and will strive to 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 (such as small vans or larger heavy goods vehicles). This will directly reduce particulate emissions.

Links between CYC Public Protection and Public Health continue to strengthen. 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, including full involvement in any future air quality steering group activities for the city. Public Protection has previously briefed CYC Public Health and Public Health

England on air quality issues in York and recently supported them with the provision of anti-idling signage at vaccination centres. CYC also have 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 2020 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 2016 and 2020 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 2020. 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 webpage presents automatic monitoring results for City of York Council, 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 NO_2 at 233 sites during 2020. Table A.2 in Appendix A presents the details of the non-automatic sites.

Interactive maps showing the location of passive diffusion tube monitoring sites are provided on the JorAir website. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. 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 2020 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

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

The latest air pollution monitoring data indicates that the annual average air quality objective for NO_2 (40µg/m^3) was met at all monitoring sites (at relevant locations) in York in 2020, including all sites within the current Air Quality Management Area. The highest concentration of NO_2 recorded at a relevant location was 40µg/m^3 on Gillygate, which is equal to the objective. Only one site, on Rougier Street, recorded an annual mean concentration above the objective at 49µg/m^3, but this site is not located at a relevant location for the purposes of Local Air Quality Management (i.e. it is not at a location that would be representative of long term public exposure).

Annual mean NO_2 concentrations monitored at all roadside real-time monitoring stations were significantly lower in 2020, compared with levels monitored in 2019. Reductions in NO_2 of between 13.9% (Gillygate) and 27.8% (Fishergate) were observed (average reduction 23.4%). The percentage reduction in annual mean NO_2 at Bootham Hospital (City of York Council's urban background monitoring site) between 2019 and 2020 was 13.5%. The fact that this is lower than the average reduction observed across roadside

sites is expected and reflects the reduced impact of local traffic emissions on air quality in the vicinity of this background site.

Whilst concentrations of NO_2 monitored in York throughout 2020 could be regarded as atypical (due to the pandemic and resultant reductions in traffic across the city), they continue the general downward trend in NO_2 concentrations monitored across 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, and decreased use of public transport.

With respect to the city centre AQMA, no exceedances of the health based annual mean NO_2 objective of 40µg/m^3 were monitored in any technical breach area in 2020. Maximum annual mean concentrations of NO_2 monitored at relevant locations within the current AQMA 'technical breach' areas were 40µg/m^3 (Gillygate), 39µg/m^3 (Rougier St), 35µg/m^3 (Holgate / Blossom Street), 33µg/m^3 (Lawrence St), 29µg/m^3 (Fishergate / Paragon St), 27µg/m^3 (Prices Lane/Nunnery Lane) and 31µg/m^3 (Coppergate). Maximum concentrations of NO_2 recorded in current 'technical breach areas' were on average 19.2% lower in 2020 than in 2019 and ranged from 9.2% lower in Gillygate to 27.3% lower in Prices / Nunnery Lane.

As traffic levels and associated emissions in the city were atypical in 2020 as a result of the Covid-19 lockdowns, 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. This will be reviewed again as part of City of York Council's next Annual Status Report (due June 2022) when the longer terms impacts of the pandemic on traffic are known.

Concentrations of NO_2 monitored in the former Fulford Road AQMA in 2020 continue to be well below the annual mean objective of 40µg/m^3. The highest recorded levels of NO_2 were monitored on Fulford Main Street and were 24.6µg/m^3. This further 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 NO_2 monitored in the former Salisbury Terrace / Leeman Road AQMA in 2020 were also all well below the annual mean objective of 40µg/m^3. The highest recorded levels of NO_2 in this area were monitored on Salisbury Terrace and were 24.4µg/m^3. This confirms that the decision to revoke this AQMA in December 2017 was appropriate.

In City of York Council's 2017 Annual Status Report it was highlighted that consideration should be given to extending the city centre AQMA to include new relevant exposure for the annual mean NO_2 objective in Coppergate. City of York Council's 2018 Annual Status Report confirmed that this amendment was necessary and on 17th 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 (designated AQMA Order No. 5). Concentrations of NO_2 monitored along Coppergate in 2020 were significantly lower than those monitored in 2019, with the highest concentration in 2020 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO_2 concentration of 31.2µg/m^3 which is well below the annual mean objective for this pollutant and represents an 18.3% reduction in NO_2 compared with concentrations monitored in 2019. Monitoring data for the last 5 years has indicated that concentrations of nitrogen dioxide along Coppergate are falling, but as 2020 has been atypical in terms of traffic, it will be important to maintain the current monitoring to review concentrations as normal conditions resume. During the daytime, access to Coppergate is restricted to buses and taxis. Whilst taxi emissions are likely to have fallen significantly during 2020 as a result of the pandemic, further CYC incentives to reduce taxi emissions (as the demand for taxi services returns) will help to maintain air quality on Coppergate into the future. It is also expected that cleaner buses associated with the implementation of the York CAZ are contributing to air quality improvement in this area.

The new AQMA Order 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 2020 monitoring results for this area of the city indicate that this short-term objective is still being met.

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 long term air quality objective of 40µg/m^3.

Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the short term air quality objective of 50µg/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 2020 was 19.2µg/m^3 at the Fishergate roadside monitoring site. This compares with a maximum concentration of 21.9µg/m^3 monitored in 2019 at the same site.

PM_{10} concentrations did not exhibit a consistent change across CYC monitoring stations between 2019 and 2020. At roadside locations between 2019 and 2020, annual mean PM_{10} decreased at Fishergate and Plantation Drive by 12.1% and 3.9% respectively, but increased by 32.3% on Holgate Road. Annual mean concentrations of PM_{10} monitored at the Bootham background site also increased by 8.9% between 2019 and 2020. Based on PM_{10} monitoring data over the last 5 years, there does not appear to be any clear trend in PM_{10} concentrations. The general downward trend in PM_{10} concentrations previously observed at roadside monitoring sites up to 2017 has not continued through 2018, 2019 and 2020.

City of York Council is currently reviewing the scope of it's particulate monitoring network. Updates on any changes will be provided in future Annual Status Reports.

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 2020 was 8.6µg/m^3. This compares with a maximum level of 11.1µg/m^3 monitored in 2019.

Between 2019 and 2020, annual mean concentrations of $PM_{2.5}$ decreased at Gillygate and Fishergate roadside monitoring sites by 6.5% and 28.6% respectively. Similarly, decreases of 22.3% were observed at the Bootham background monitoring site. No exceedances of the annual mean $PM_{2.5}$ objective have been recorded to date since monitoring of $PM_{2.5}$ was established; concentrations recorded in 2020 are the lowest ever recorded in the city. Trend analysis over the last 5 years reveals that concentrations of $PM_{2.5}$ have generally decreased at roadside monitoring sites in this time, although $PM_{2.5}$ monitored at the Bootham urban background site has been more variable in this timeframe.

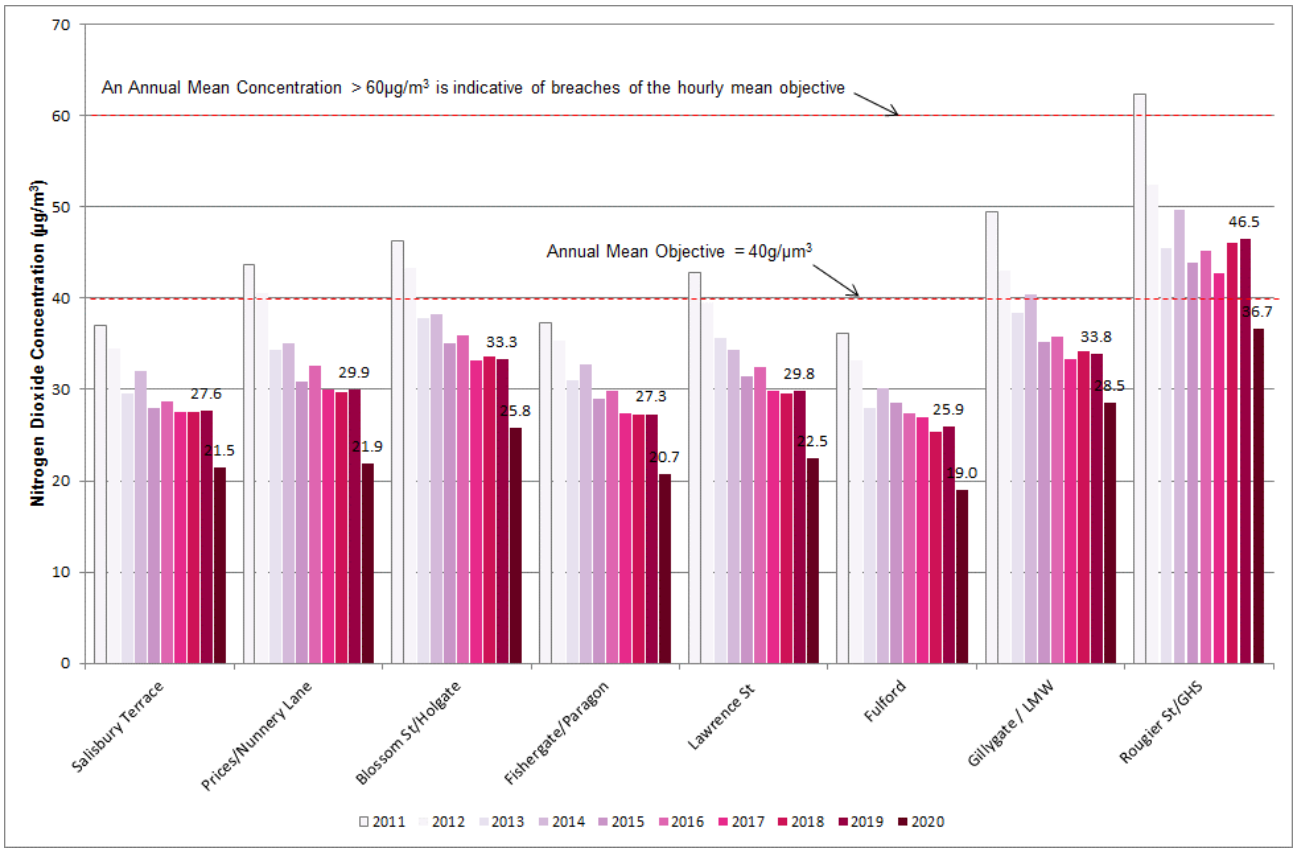
3.3 Air Quality Indicators

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:

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 over the last 10 years are shown below.

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

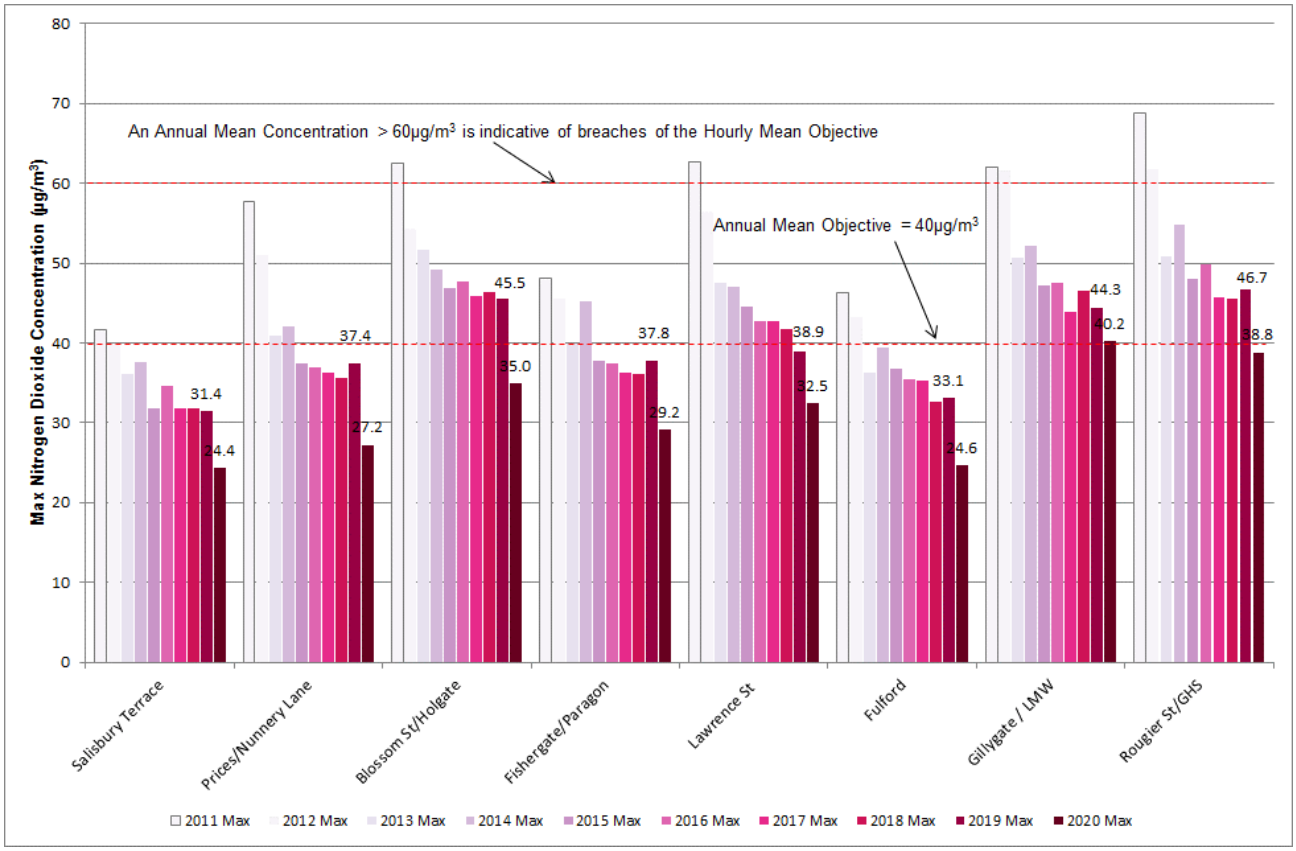


Average concentrations of NO_2 monitored in all technical breach areas were significantly lower in 2020 compared with 2019. Reductions in average NO_2 between 2019 and 2020 ranged from 15.7% (Gillygate/LMW) to 26.9% (Prices Lane / Nunnery Lane). Indicator CAN027 continues to suggest a steady downward trend in nitrogen dioxide concentrations

over the last 10 years, although as previously discussed in this report, NO_2 concentrations in 2020 are atypical / depressed due the Covid-19 pandemic.

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 over the last 10 years are shown below.

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



The maximum annual mean NO_2 concentration monitored at a relevant location was 40.2µg/m^3 on Gillygate (i.e. equivalent to the annual mean NO_2 objective of 40µg/m^3 to 1 decimal place). Maximum concentrations of NO_2 in all other current and historical technical breach areas were below the annual mean NO_2 objective.

As previously stated in this report, as traffic levels and associated emissions in the city were atypical in 2020 as a result of the Covid-19 lockdowns, 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

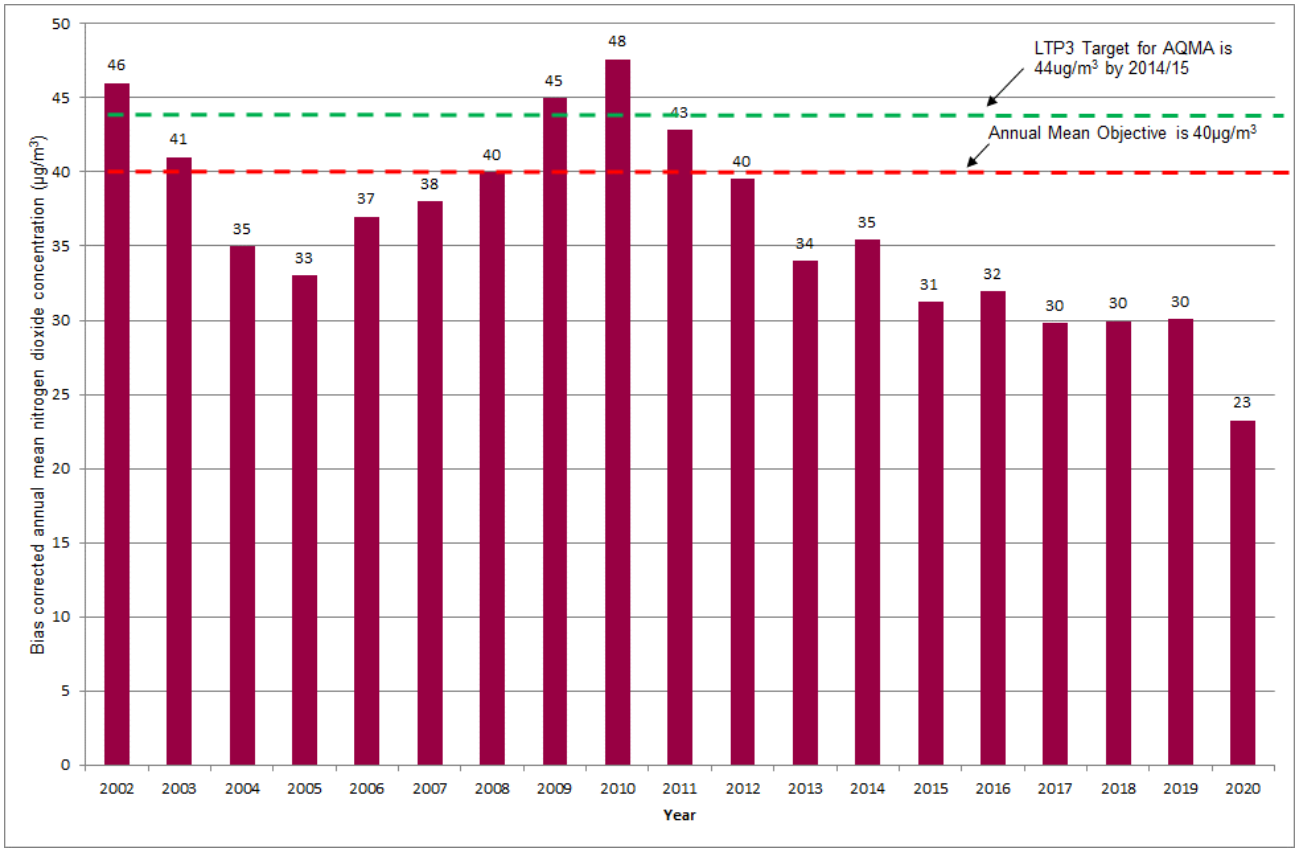
concentrations, a local authority needs to be reasonably certain that any future exceedences of air quality objectives are unlikely.

Maximum concentrations of NO_2 monitored at a relevant location within the former Salisbury Terrace and Fulford Road AQMAs indicate that the health based annual mean objective continues to be easily met in these areas and that it was appropriate to revoke these AQMAs in 2017 and 2020 respectively.

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 2020 are shown below.

LTP AQ Indicator – Average concentration of NO_2 monitored across 36 locations located within the city centre Air Quality Management Area



Nitrogen dioxide 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 nitrogen dioxide within the city centre AQMA improved again, with levels of nitrogen dioxide across all the sites used for the indicator

falling to 30µg/m^3 in 2019 (this indicator was also 30µg/m^3 in 2017 and 2018 and had appeared to plateau). The figure of 23µg/m^3 in 2020 is the lowest recorded value since the indicator was established in 2002 and is a likely consequence of significantly lower traffic levels and associated emissions in the city as a result of the Covid-19 lockdowns in 2020.

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 2020. 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 passive provision for electric vehicle recharging is now requested for all applications for residential properties where secure off-street parking is provided (secure parking is defined as a house with a garage or private driveway). Due to the large number of applications that this applies to, 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 2020

[N.B. Comments provided relating to application status reflect the position as of end March 2021]

Planning Reference	Description	Type	Comments	Status
15/00166/FULM	Development of 188 dwellings	Full Application	Conditions suggested regarding the provision of electric vehicle recharging on the site. Emissions mitigation statement requested for the site.	**2021 Update** Extension of time agreement for determination by 27th April 2021
15/00167/FULM	Development of 69 dwellings	Full Application	Conditions suggested regarding the provision of electric vehicle recharging on the site. Emissions mitigation statement requested for the site.	**2021 Update** Extension of time agreement for determination by 27th April 2021
15/00183/FULM	Residential development of 130 dwellings with associated public open space and allotments, Land At Boroughbridge Road To The South West Of Former Civil Service Club and Trenchard Road	Full Application	Recommended condition regarding CEMP, electric vehicle recharging and emission mitigation package	**2021 Update** Application withdrawn 11th May 2020

Planning Reference	Description	Type	Comments	Status
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	Public Protection requested conditions regarding a Construction Environmental Management Plan (CEMP) and facilities for charging electric vehicles on the site.	**2021 Update** Awaiting determination
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)	**2021 Update** Awaiting determination
19/00078/OUTM	Outline application for redevelopment of the former North Selby Mine site to a leisure development comprising of a range of touring caravan and glamping uses, static caravans and self-contained lodges with associated facilities. North Selby Mine, New Road, Deighton, York, YO19 6EZ	Outline Application	Impacts on annual mean NO_2 and PM_{10} as result of the proposed development were shown to be negligible at all receptor locations. Predicted concentrations of NO_2 and PM_{10} were shown to be well below the relevant air quality objectives at all modelled receptors. Public Protection requested that 2% of the parking spaces on the site should include facilities for	**2021 Update** Approved 7/8/2020 CEMP and EV charging for 2% of parking spaces was a condition of approval

Planning Reference	Description	Type	Comments	Status
			charging electric vehicles. A condition requiring the production of a Construction Environmental Management Plan was also requested.	
19/00246/FULM	Erection of 80 Dwellings with associated access, infrastructure, landscaping, public open space and parking. York City Football Club, Bootham Crescent, York, YO30 7AQ	Full Application	Public Protection previously advised (as part of the pre-application consultation for the site) that an air quality assessment was unlikely to be required based on the number of dwellings and the likely traffic generation figures for the development. Conditions were requested relating to the provision of electric vehicle recharging facilities and a Construction Environmental Management Plan.	**2021 Update** Awaiting determination
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 the production of a Construction Environmental Management Plan	**2021 Update** Awaiting determination

Planning Reference	Description	Type	Comments	Status
19/00535/FULM	Demolition of Queen Street Bridge and construction of new highway; reinstatement and construction of earth ramparts and retaining walls to part of the City Wall. York Station Frontage, Station Road, York	Full Application	Public Protection requested the provision of 12 electric vehicle charge points (fast charge) and 1 rapid charger. A Construction Environmental Management Plan (CEMP) was also requested to control dust emissions during construction phases	**2021 Update** Approved 16/3/2021 A CEMP and 32 Fast EV charge points / 1 Rapid EV charge point were conditions of approval
19/00979/OUTM	Former Gas Works Heworth Green, York, YO31 7UG	Outline Application	Public Protection recommended conditions relating to the provision of electric vehicle recharge points and the production of an emissions mitigation statement, to ensure that the emissions mitigation proposed for the site was reasonable and proportionate to the emissions 'harm' generated by the site. A Construction Environmental Management Plan was also requested.	**2021 Update** Approved 1/7/2020 CEMP and active EV charging for a minimum of 9 parking bays was a condition of approval
19/01183/FUL	Erection of three storey block of 6no. Apartments. Car Parking Area Adjacent 15 Holgate Road, York	Full Application	No specific conditions were requested by Public Protection but an informative was attached to the planning response highlighting historical air quality issues in the area.	**2021 Update** Approved 9/11/2020

Planning Reference	Description	Type	Comments	Status
19/01467/FULM	Erection of 5 storey apartment building with basement comprising 65 residential units (Use Class C3), associated car parking and landscaping works. Vacant Site, Eboracum Way, York, YO31 7RE	Full Application	Public Protection requested a condition requiring the provision of both active and passive electric vehicle charging facilities on the site.	**2021 Update** Approved 22/5/2020 Active EV charging facilities for 2 parking bays was a condition of approval
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.	**2021 Update** Awaiting determination

Planning Reference	Description	Type	Comments	Status
19/01588/FULM	Conversion of building to form 9no. apartments and 2no. studios with redevelopment of land to rear to include erection of detached three storey building to create 6no. apartments and 3no. studios (20 units in total). York City Living Limited, 22 - 26 Blossom Street, York, YO24 1AJ	Full Application	To reduce exposure of future occupants of the apartments to pollution levels currently exceeding health based standards, Public Protection recommended that all windows to habitable rooms (bedrooms / living areas) facing Blossom Street should be non-opening, with ventilation provided through continuous mechanical supply and extract to the rear of the building.	**2021 Update** Approved 3/11/2020 A ventilation strategy and non-opening windows to the Blossom St facade was a condition of approval
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.	**2021 Update** Awaiting determination

Planning Reference	Description	Type	Comments	Status
19/02092/FUL	Conversion of office to 5no. residential units with associated external alterations and extensions including demolition of 2no. outbuildings. Rathbone House, 292 Tadcaster Road, York, YO24 1ET	Full Application	Public Protection requested that a minimum of 1 parking space should be provided with facilities for charging electric vehicles (with an additional bay identified for the future installation of an additional electric vehicle charge point, should demand require this).	**2021 Update** Application withdrawn
19/02099/FUL	Conversion of ground floor retail (A1) and first floor flat, two storey rear extension and 2no. dormers to side resulting in 8no. flats. Overland Underwater, Fawcett House, 201 Acomb Road, York, YO24 4HD	Full Application	Public Protection requested that a minimum of 1 parking space should be provided with facilities for charging electric vehicles (with an additional bay identified for the future installation of an additional electric vehicle charge point, should demand require this).	**2021 Update** Approved 22/10/2020

Planning Reference	Description	Type	Comments	Status
19/02293/FULM	Partial demolition of existing building and construction of 3 to 5 storey hotel with ancillary restaurant/bar, landscaping and retention of the Banana Warehouse facade (resubmission), Axcel Group Limited, 36 - 44 Piccadilly, York, YO1 9NX	Full Application	Public Protection recommended that a Construction Environmental Management Plan should be prepared for the site to outline the measures proposed to mitigate dust impacts. The proposed development is for a car-free hotel with no on-site parking facilities and therefore it was considered that there were unlikely to be any significant air quality impacts from operational traffic. It was, however, recommended that an air quality screening assessment should be carried out to consider emissions from all combustion plant proposed for the site.	**2021 Update** Approved 22/7/2020 CEMP and screening assessment for combustion plant was a condition of approval
19/02062/FUL	Addition of 53 parking spaces to the existing cardbox car park. Nestle, Haxby Road, York, YO31 8XY	Full Application	Public Protection requested the addition of 3 active charge points for electric vehicles (with passive provision for 3 additional points)	**Application Refused 24/12/2019** Was not considered that applicants were taking reasonable steps to promote sustainable travel

Planning Reference	Description	Type	Comments	Status
19/02339/FUL	Use of land for car parking with associated access. North Yorkshire Police, Police Station, Fulford Road, York, YO10 4BY	Full Application	Public Protection requested the addition of 2 active charge points for electric vehicles (with passive provision for 2 additional points)	**Application Approved 10/2/2020** Proposed condition regarding electric vehicle charge points not attached to approval
19/02690/FUL	Erection of single storey recreational building with associated external works and car parking. Acomb Sports And Social Club, The Green, Acomb, York, YO26 5FG	Full Application	Public Protection requested the addition of 1 active charge point for electric vehicles (with passive provision for 1 additional point)	**Application Approved 6/4/2020** Condition attached regarding electric vehicle recharging facilities in line with Public Protection's recommendations
20/00135/FUL	Change of use from office (use class B1) to eye clinic (use class D1) and provision of plant and fenced enclosure. Unit 6 Arabesque House, Monks Cross Drive, Huntington, York, YO32 9GW	Full Application	Public Protection requested the addition of 2 active charge points for electric vehicles (with passive provision for 2 additional points)	**Application Approved 30/3/2020** Condition attached regarding electric vehicle recharging facilities in line with Public Protection's recommendations

Planning Reference	Description	Type	Comments	Status
19/02615/FUL	Change of use from residential care facility (use Class C2) to a day patient facility (Use Class D1) with car parking configuration and external alterations and enclosed walkway within the courtyard. The Retreat Strensall Charles Court, Strensall, York, YO32 5XP	Full Application	Public Protection requested the addition of 1 active charge point for electric vehicles (with passive provision for 1 additional point)	**Application Approved 18/12/2020** Condition attached regarding electric vehicle recharging facilities in line with Public Protection's recommendations
20/00090/FUL	Change of use from residential and storage to office (use class B1), formation of window opening and new archway in car park wall. Brew House Cottage, Bishopthorpe Road, York, YO23 2QE	Full Application	Public Protection requested the addition of 1 active charge point for electric vehicles (with passive provision for 1 additional point)	**Application Withdrawn**
20/00359/FUL	Hotel Ibis, 77 The Mount, York, YO24 1AX	Full Application	Public Protection requested the addition of 1 active charge point for electric vehicles (with passive provision for 1 additional point)	**Awaiting determination**
20/00427/REM	Reserved matters application for approval of siting, design, external appearance and landscaping of a 2MW combined heat and power energy centre with associated infrastructure and service yard following outline permission 15/02923/OUT. Land Lying To The South Of Kimberlow Lane, Heslington, York	Reserved Matters	Emissions released from the proposed development were demonstrated to have no significant impact on NO_2 concentrations at sensitive receptors in the vicinity of the site, including a mix of residential dwellings, student accommodation and a local health care complex. The NO_2	**Application Approved 27/4/2020**

Planning Reference	Description	Type	Comments	Status
			concentrations predicted, achieved compliance with both the short term (1-hour mean) and the long term (annual mean) health based NO_2 objectives.	
20/00752/FULM	Erection of 60no. affordable homes with associated infrastructure, including access, public open space and landscaping. Land At Boroughbridge Road ,West Of Trenchard Road, York	Full Application	An Air Quality Screening Assessment was submitted to consider the potential air quality impacts of the development on existing and new residential receptors. The assessment also included a review of construction dust impacts in accordance with the Institute of Air Quality Management (IAQM) Guidance. The screening assessment demonstrated that the development is predicted to have a negligible air quality impact on existing and new receptors and concluded that further detailed air quality assessment work is not required. Passive EVR provision was requested for all dwellings with allocated off-street parking. A minimum of 1 active EV charge point was requested in connection with the flats (with passive provision for 1 additional point)	**Application Refused 7/12/2020** Considered inappropriate development in Green Belt

Planning Reference	Description	Type	Comments	Status
20/00962/FUL	Variation of condition 7 of permitted application 19/02637/FUL (conversion and extension of existing office buildings to 13no. residential units plus new dwelling) to alter electric vehicle charging provision. Bootham House 46 - 48 Bootham, York	Full Application	Applicant requested amendments to EV charging provision on the site. The proposals, which included installation of three active EV charge points from the outset, with passive provision to all other spaces, exceeded CYC's standards and were therefore acceptable to Public Protection.	**Application Approved 20/7/2020**
20/00977/FUL	Conversion of former restaurant (Use Class A3) to form 3no. holiday let apartments. The Go Down Restaurant Basement York House, 15 Clifford Street, York, YO1 9RG	Full Application	Public Protection requested that a ventilation strategy should be agreed by CYC for any habitable rooms (bedroom / living area etc) facing onto Clifford Street / Friargate. Such rooms were also requested to have non-opening windows.	**Application Approved 3/8/2020** Ventilation strategy and non-opening windows were a condition of the approval
20/01225/FUL	Installation of 2no. EV charging bays with associated infrastructure. London Bridge Filling Station, 235 Tadcaster Road, Dringhouses, York, YO23 2UB	Full Application	Public Protection welcomed this application on the basis that it promotes the use of electric / low emission vehicles and complements other air quality improvement measures laid out in City of York Council's Air Quality Action Plan and Low Emission strategy.	**Application Approved 7/9/2020**

Planning Reference	Description	Type	Comments	Status
20/01369/FUL	Two storey and single storey extensions to residential care home and new car parking layout following demolition of existing conservatory and accommodation building – resubmission. Somerset Nursing Home, 1 Church Lane, Wheldrake, York, YO19 6AW	Full Application	Public Protection requested the addition of 2 active charge points for electric vehicles (with passive provision for 2 additional points)	**Application Approved 20/10/2020** Condition attached regarding electric vehicle recharging facilities for 1 vehicle
20/01336/FUL	Modifications to car parking areas (elect and card box), new vehicle access to south, demolition of gatehouse at east entrance and associated external works, Nestle, Haxby Road, York, YO31 8XY	Full Application	Public Protection requested the addition of 10 active charge points for electric vehicles (with passive provision for 10 additional points)	**Application Approved 28/9/2020** Requested condition not attached to approval
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)	**Awaiting determination**
20/01521/FULM	Erection of a 3, 4 and 5 storey student accommodation block (providing 105 bedrooms) following demolition of existing buildings. Plumbase, Waterloo House, Fawcett Street, York, YO10 4AH	Full Application	Public Protection requested a screening assessment for the proposed boiler plant. It was also requested that windows to ground floor rooms fronting Fawcett Street (gym and communal living area) should be non-openable to minimise	**Awaiting determination**

Planning Reference	Description	Type	Comments	Status
			exposure of residents as far as possible to vehicle emissions / poor air quality emanating from Fawcett Street. As the proposals include the demolition of the existing buildings and construction of a new structure, a CEMP was also requested.	
20/01703/FUL	Erection of new building for vehicle rental office with wash bay and associated vehicle storage, parking areas and landscaping following demolition of existing buildings on site. Brew And Brisket Steak House, Wigginton Road, York, YO32 2RJ	Full Application	Public Protection requested the addition of 2 active charge points for electric vehicles (with passive provision for 2 additional points)	**Application Withdrawn**
20/01867/EIASN	Screening opinion in respect of the proposed development of Hungate Block H. Hungate Development Site, Hungate, York	Screening Opinion	Whilst there is the potential for increase in trips generated by the 61 additional dwellings, in line with CYC's draft Low Emission Planning Guidance it was not considered that this level of increase would require further detailed air quality assessment.	**Application Decided 4/12/2020** EIA not required
19/02672/FULM	Demolition of 1 - 9 Rougier Street and erection of 11 storey building, with roof terrace etc Northern House, Rougier Street, York	Full Application	Public Protection requested that all windows to habitable rooms (bedrooms / living areas) facing Rougier Street, up to and including second floor level, should be non-opening, with ventilation provided through continuous mechanical supply and extract. A CEMP and anti-	**Application Refused 12/3/2021** Inappropriate scale of structure in conservation area

Planning Reference	Description	Type	Comments	Status
			idling signage at the taxi pick-up / drop-off facility was also requested.	
20/01916/OUTM	Erection of 85no. dwellings (use class C3) with associated parking, landscaping, access and ancillary works. No matters reserved except for the appearance, scale and internal layout of 5no. self-build plots in Terrace 5. Burnholme Community Hub, Mossdale Avenue, York, YO31 0HA	Outline Application	Public Protection requested that prior to first occupation of the development a strategy for the provision of electric vehicle charging facilities on the site shall be agreed with City of York Council. The strategy should detail the numbers, specification, locations and installation timescales for all Electric Vehicle Charging Points (including any future locations/passive provision).	**Awaiting determination**
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 electric vehicle charging points to the north and east of the development were proposed for use by staff and visitors	**Awaiting determination**

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, FDMS	60.0	49.6	3.0
CM2	Fishergate	Roadside	460746	451038	NOx, PM10, PM2.5	Yes - AQMA No.5	C, BAM	10.0	3.2	2.7
CM3	Holgate	Roadside	459512	451282	NOx, PM10	Yes - AQMA No.5	C, FDMS	12.0	2.5	1.7
CM4	Nunnery Lane	Roadside	460068	451199	NOx	Yes - AQMA No.5	C	4.0	1.7	1.7
CM5	Gillygate	Roadside	460147	452345	NOx, PM2.5	Yes - AQMA No.5	C, TEOM	3.0	2.1	2.5
CM6	Lawrence Street	Roadside	461256	451340	NOx	Yes - AQMA No.5	C	5.0	3.2	1.7
CM7	Heworth Green	Roadside	461126	452602	NOx	No	C	3.0	1.2	1.5
CM8	Plantation Drive	Roadside	457428	452620	PM10	No	TEOM	17.0	1.0	1.7
CM9	Fulford Road	Roadside	460937	449464	NOx	No	C	19.0	5.0	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

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)
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
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

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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 on	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)
	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

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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
125	Osbaldwick 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

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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
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

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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

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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
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

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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 (cornor 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
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

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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

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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
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

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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
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

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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
B89	Outside old DC Cook site on signpost	Roadside	461170	451357	NO_2	YES	2	2.8	N	~2.75
B90	11 Lawrence Street	Roadside	461133	451394	NO_2	YES	0.1	4.4	N	~2.75
C12	Lamp post 1 Ainsty Grove	Urban Background	458825	449928	NO_2	NO	10.8	0.3	N	~2.75

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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
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

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)
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
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

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)
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

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)
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
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

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)
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 of India restaurant on Fawcett Street	Roadside	460764	451185	NO_2	YES	23.6	2.4	N	~2.75
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

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)
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 "Except for Access" sign on it.	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)
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

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)
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
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	Roadside	459962	451771	NO_2	YES	47	1.5	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)
	from tube 114) Rougier Street									

Notes:

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

(2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
Bootham	460022	452777	Urban Background	61.4	61.4	17.8	14.9	15.2	14.9	12.9
Fishergate	460746	451038	Roadside	97.8	97.8	29.0	27.7	26.1	26.1	18.8
Holgate	459512	451282	Roadside	99.0	99.0	29.4	24.8	24.8	25.2	20.7
Nunnery Lane	460068	451199	Roadside	91.9	91.9	31.4	25.9	23.4	22.9	16.7
Gillygate	460147	452345	Roadside	98.7	98.7	27.3	25.2	27.1	27.3	23.5
Lawrence Street	461256	451340	Roadside	93.9	93.9	33.0	29.3	27.3	26.9	19.5
Heworth Green	461126	452602	Roadside	92.7	92.7	28.3	26.5	26.2	25.6	19.5
Fulford Road	460937	449464	Roadside	90.4	90.4	25.2	23.0	22.2	22.3	16.6

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

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

Notes:

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

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

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

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

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

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

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
5	462040	454883	Roadside	92	92	16.7	16.0	15.2	16.2	14.3
6	459777	451406	Roadside	100	100	**40.6**	37.3	37.1	37.3	29.1
7	460217	452421	Roadside	100	100	**46.6**	**42.4**	**45.3**	**45.4**	38.2
8	460163	452468	Urban Background	100	100	17.6	15.7	15.5	18.1	12.5
9	460163	452468	Urban Background	100	100	18.1	15.7	15.7	17.6	12.3
11	458846	450946	Urban Background	92	92	19.3	14.7	15.6	17.9	12.5
13	460176	452377	Roadside	100	100	**44.9**	**42.5**	**42.6**	**40.7**	38.0
14	460167	452347	Roadside	100	100	**47.5**	**43.6**	**46.6**	**44.3**	**40.2**
15	461105	451458	Roadside	100	100	38.1	35.9	36.0	34.7	28.7
16	460160	451152	Roadside	92	92	36.2	36.0	35.6	35.9	26.2
17	459646	451500	Roadside	100	100	33.5	30.9	32.2	31.4	25.0
18	460457	452903	Roadside	100	100	31.7	28.9	29.4	29.9	24.0
25	461721	452709	Roadside	100	100	25.2	20.9	20.0	22.4	17.1
26	460829	453524	Roadside	92	92	25.7	28.3	26.0	26.7	21.0
33	460598	453227	Roadside	100	100	25.8	26.0	23.7	23.5	20.0
35	457603	451492	Roadside	100	100	24.7	24.4	24.3	23.5	18.4
37	459522	451187	Roadside	92	92	31.9	33.3 (estimate)	31.1	29.6	22.6
44	460679	452326	Roadside	100	100	24.3	22.4	22.9	22.3	18.4
45	460319	452754	Roadside	100	100	32.0	29.5	31.6	31.4	25.7
47	462009	456996	Roadside	100	100	28.3	28.4	26.9	26.8	21.0
60	461017	451781	Roadside	100	100	21.2	22.5	19.8	22.9	17.2
78	460149	452342	Roadside	100	100	29.2	28.3	30.3	28.6	23.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2020 (%) [2]	2016	2017	2018	2019	2020
79	460149	452342	Roadside	100	100	29.5	28.7	29.6	29.4	24.3
80	460149	452342	Roadside	100	100	30.1	28.2	29.4	29.8	24.8
83	461597	452830	Urban Background	100	100	20.9	22.6	20.2	19.9	13.8
88	463354	451972	Urban Background	100	100	13.2	13.1	11.9	13.8 (estimate)	9.9
90	459997	450109	Roadside	100	100	17.6	15.6	15.7	15.7	10.9
96	460978	449452	Roadside	92	92	22.8	20.9	20.5	20.9	14.4
100	456228	453312	Roadside	100	100	20.5	18.7	17.7	18.3	13.2
101	459746	455897	Roadside	100	100	32.7	32.2	29.1	31.2	23.0
102	458703	452429	Roadside	100	100	32.1	29.8	31.5	30.8	23.7
103	458703	452429	Roadside	100	100	32.7	30.9	31.8	30.5	21.7
104	458703	452429	Roadside	100	100	32.9	31.7	31.2	31.4	24.4
107	458779	452387	Roadside	92	92	21.0	18.1	18.8	18.7	14.0
108	458814	452373	Roadside	100	100	19.2	22.2	21.6	22.3	18.8
109	459924	451833	Roadside	83	83	**45.4**	**43.3**	**45.1**	**46.7**	38.8
110	459985	451727	Roadside	100	100	**46.4**	**45.8**	**43.6**	**45.3**	34.4
111	459917	451728	Roadside	100	100	26.3	25.9	25.6	28.0	19.8
112	459873	451684	Roadside	100	100	22.3	22.6	22.5	23.3	17.7
114	459981	451778	Roadside	100	100	**41.7**	**39.8**	38.0	38.5	29.0
116	458212	452037	Roadside	100	100	28.0	27.7	26.1	25.9	19.4
125	463194	451967	Roadside	92	92	14.5	14.7	14.2	14.2	12.0
126	463482	451896	Roadside	92	92	16.5	16.1	16.3	16.0	13.9
127	461108	452313	Roadside	100	100	24.0	22.8	19.3	19.5	17.6
128	458686	452369	Roadside	100	100	19.2	18.6	19.1	19.1	13.5
129	455968	453397	Roadside	83	83	16.9	17.2	15.9	16.7	11.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
2a	460746	451034	Roadside	100	100	28.6	25.3	24.5	24.1	17.6
2b	460746	451034	Roadside	100	100	28.4	25.5	25.5	24.8	18.1
2c	460746	451034	Roadside	100	100	27.2	24.8	24.8	23.4	18.0
3a	460024	452767	Urban Background	100	100	16.1	14.5	14.8	16.4	12.3
3b	460024	452767	Urban Background	100	100	17.1	15.5	15.3	16.8	11.6
3c	460024	452767	Urban Background	100	100	19.7	15.6	15.1	16.8	11.9
95a	460938	449465	Roadside	92	92	23.1	22.6	21.5	21.9	16.8
95b	460938	449465	Roadside	100	100	24.0	22.5	21.7	22.4	16.6
95c	460938	449465	Roadside	100	100	24.1	23.3	21.5	22.7	16.5
9a	460163	452468	Urban Background	100	100	18.7	16.2	15.0	18.3	12.4
A1	460088	452263	Roadside	100	100	**54.3**	**43.9**	**43.5**	**43.0**	36.4
A11	459341	453042	Roadside	100	100	30.9	30.0	31.3	29.8	23.6
A12	459251	453008	Roadside	92	92	29.0	27.7	30.3	27.7	20.1
A13	459335	452931	Urban Background	100	100	18.7	16.0	16.3	17.3	12.9
A14	459335	452931	Urban Background	100	100	19.1	15.1	16.0	17.7	13.0
A14a	459335	452931	Urban Background	100	100	18.8	16.3	17.1	17.8	12.3
A17	458578	452472	Roadside	92	92	29.6	27.6	28.7	27.6	21.5
A19	458713	452414	Roadside	100	100	26.8	27.7	26.4	27.2	21.7
A19a	458713	452414	Roadside	100	100	27.3	28.7	26.4	27.4	20.9
A19b	458713	452414	Roadside	100	100	27.9	28.5	27.3	27.2	21.3
A2	459917	452405	Roadside	100	100	30.6	30.3	27.9	30.0	23.8
A20	458760	452404	Roadside	92	92	34.6	29.1	29.3	30.0	23.5
A20a	458760	452404	Roadside	92	92	30.2	27.4	30.0	29.4	22.5

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 2020 (%) [2]	2016	2017	2018	2019	2020
A20b	458760	452404	Roadside	92	92	31.5	29.5	28.8	29.1	23.7
A21	458806	452326	Urban Background	92	92	20.0	19.3	17.9	21.5	15.5
A22	458792	452242	Urban Background	100	100	21.7	19.1	19.0	21.2	14.5
A25	458706	452225	Roadside	100	100	22.9	21.8	21.6	20.2	15.0
A29	456939	453013	Urban Background	92	92	20.0	18.1	17.3	19.3	12.9
A3	459822	452492	Roadside	83	83	28.2	26.7	26.7	27.4	21.7
A30	457060	452888	Urban Background	100	100	20.7	18.4	17.8	19.7	13.3
A36	457625	452446	Urban Background	50	50	22.3 (estimate)	15.8 (estimate)	15.8 (estimate)	18.4 (estimate)	11.4 (estimate)
A38	457857	452334	Urban Background	100	100	18.3	14.3	15.1	16.3	11.8
A4	459699	452638	Urban Background	100	100	20.5	18.2	18.3	20.0	13.9
A40	458109	452196	Urban Background	100	100	22.7	18.0	19.3	21.2	14.0
A41	458172	452108	Roadside	100	100	23.0	19.9	21.2	20.7	15.3
A45	458384	451817	Urban Background	100	100	16.1	13.3	14.5	16.3	10.6
A50	458732	451393	Roadside	100	100	24.6	26.1	26.4	26.2	21.4
A51	458827	451348	Urban Background	100	100	22.8	20.6	19.5	22.1	15.4
A52	458945	451254	Roadside	83	83	31.9	29.7	31.5	30.7	24.6
A53	459066	451239	Roadside	100	100	30.6 (estimate)	28.8	29.3	30.6	23.4
A54	459254	451223	Roadside	83	83	33.7	33.1	35.2 (estimate)	31.4	25.1
A55	459351	451221	Roadside	100	100	29.5	29.7	29.3	30.1	24.2
A56	459470	451268	Urban Background	83	83	30.0	26.4	25.8	28.1	19.8
A57	459533	451280	Roadside	100	100	**47.7**	**43.1**	**45.3**	**45.5**	33.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
A6	459536	452811	Roadside	100	100	24.4	24.2	23.9	23.5	17.9
A60	458906	453276	Urban Background	100	100	14.9	13.2	13.5	14.7	9.7
A62	458806	453483	Urban Background	100	100	14.7	13.8	13.0	15.3	10.1
A64	460030	452327	Roadside	100	100	32.4	28.3	30.0	28.6	20.8
A66	458672	453685	Urban Background	100	100	16.5	14.7	13.9	16.3	10.6
A69	458375	453958	Urban Background	100	100	15.6	12.6	12.8	14.8	9.7
A7	459441	452892	Roadside	92	92	30.0	26.7	23.3	24.3	18.8
A70	458299	454070	Urban Background	100	100	18.5	17.0	15.8	17.5	11.5
A71	458121	454254	Urban Background	100	100	16.0	13.5	12.6	14.7	10.0
A74	458041	454371	Urban Background	100	100	15.8	13.4	12.6	14.4	9.7
A77	457929	454537	Urban Background	100	100	18.8	17.5	17.5	20.1	13.4
A81	457733	454805	Urban Background	92	92	16.7	14.7	14.2	17.9	12.3
A85	459364	453009	Urban Background	100	100	21.2	19.2	18.6	21.4	14.5
A88	457470	452550	Urban Background	100	100	18.4	15.0	15.4	17.9	11.4
A9	459295	453067	Roadside	92	92	32.3	27.0	30.3 (estimate)	28.8	22.8
A90	459238	453157	Roadside	100	100	34.3	35.9	33.6	32.1	25.6
A94	458651	452426	Roadside	100	100	24.6	22.4	28.7	27.8	20.1
A96	459038	452850	Roadside	100	100	31.7	29.4	28.1	29.9	21.5
A97	457431	452616	Roadside	100	100	21.0	19.3	19.7	18.9	14.3
A98	458666	451468	Roadside	100	100	-	22.8	21.8	22.8	17.0
B1	460848	452582	Roadside	83	83	27.9	28.5	26.6	28.9	18.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2020 (%) [2]	2016	2017	2018	2019	2020
B15	461294	455305	Roadside	92	92	28.4	18.9	18.1	18.5	15.1
B19	461891	455876	Roadside	83	83	21.1	19.9	18.9	19.3	16.2
B2	460924	452697	Roadside	100	100	24.9	24.2	22.8	24.0	17.9
B29	461453	452750	Roadside	100	100	21.7	20.0	19.5	19.3	15.6
B3	460952	452826	Roadside	100	100	22.0	21.5	21.8	21.5	15.9
B36	462565	454194	Urban Background	100	100	15.9	13.6 (estimate)	13.2	15.4	10.4
B37	462565	454194	Urban Background	92	92	15.9	13.0 (estimate)	13.8	14.5	9.6
B37a	462565	454194	Urban Background	100	100	17.2	14.3 (estimate)	12.9	13.9	10.5
B38	463757	455155	Urban Background	100	100	20.0	15.9	16.1	17.2	11.9
B41	461326	451330	Urban Background	100	100	31.3	28.2	27.4	30.1	20.0
B42	461430	451348	Urban Background	100	100	25.8	22.3	20.8	23.3	15.5
B43	461557	451343	Urban Background	100	100	22.2	19.8	19.2	20.0	14.3
B44	461643	451343	Roadside	100	100	30.3	29.4	28.1	28.9	23.1
B45	461849	451284	Roadside	100	100	27.8	26.5	27.2	26.2	18.7
B47	462019	451289	Urban Background	92	92	16.0	15.0	14.1	15.8	11.2
B48	462122	451289	Urban Background	83	83	19.7	19.8	17.5	19.0	11.8
B50	462291	451269	Roadside	100	100	22.0	22.2	21.5	22.7	15.8
B51	462384	451298	Urban Background	92	92	17.6	16.2	15.6	18.2	12.8
B56	462888	451289	Roadside	100	100	31.7	30.7	28.3	28.6	20.8
B58	462970	451300	Urban Background	100	100	19.7	17.6	16.8	19.0	12.7
B60	463234	451339	Urban Background	100	100	19.3	18.0	16.7	19.0	12.1

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 2020 (%) [2]	2016	2017	2018	2019	2020
B63	462704	451300	Roadside	100	100	29.1	29.7	27.9	29.2	22.4
B72	461122	451374	Roadside	100	100	**42.7**	**42.8**	**41.8**	38.9	32.5
B74	461371	452708	Urban Background	100	100	20.4	17.1	17.8	18.9	13.7
B80	461185	452663	Urban Background	100	100	16.7	15.1	15.0	17.3	12.2
B82	460974	452563	Urban Background	100	100	22.2	21.7	21.5	24.1	17.4
B83	461285	452695	Roadside	92	92	25.3	25.2	25.3	24.6	21.1
B84	462654	451293	Urban Background	100	100	22.2	21.6	19.8	22.3	15.1
B85	461227	451368	Roadside	100	100	31.9	28.4	28.1	28.7	20.8
B86	461116	452602	Roadside	100	100	23.5	23.2	22.5	23.0	18.6
B88	462799	451291	Roadside	100	100	27.8	28.5	25.9	26.8	19.9
B89	461170	451357	Roadside	100	100	34.7	36.8	33.7	32.9	25.6
B90	461133	451394	Roadside	100	100	34.0	34.1	36.8	36.0	27.5
C12	458825	449928	Urban Background	100	100	18.3	15.2	15.9	18.6	12.1
C17	459085	450544	Urban Background	100	100	18.7	16.1	15.2	16.2	11.4
C18	459204	450772	Urban Background	100	100	25.1	22.5	21.8	25.3	17.0
C19	459271	450819	Urban Background	100	100	19.2	15.6	15.9	17.5	11.7
C2	458333	448974	Roadside	92	92	31.5	31.5	29.0	29.8	24.4
C20	459280	450923	Urban Background	83	83	19.8	16.8	17.2	19.3	14.9
C21	459410	451040	Roadside	92	92	26.7	25.8	23.5	24.9	20.6
C22	459570	451195	Urban Background	100	100	24.6	19.6	19.6	21.0	15.2
C23	459553	451252	Roadside	100	100	**39.9**	37.0	36.2	35.7	29.5
C26	459639	451334	Roadside	100	100	**41.2**	38.1	**41.0**	38.3	31.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2020 (%) [2]	2016	2017	2018	2019	2020
C27	459717	451433	Roadside	100	100	**45.8**	**45.9**	**46.3**	**44.0**	35.0
C28	461201	448386	Urban Background	100	100	16.6	14.3	14.4	16.4	10.8
C29	461196	448426	Roadside	75	75	30.0	28.1	26.5	26.8	19.6
C30	461185	448462	Roadside	92	92	30.8	29.0	31.1	30.0	22.7
C31	461193	448473	Urban Background	92	92	18.8	17.8	16.3	18.0	12.0
C32	461128	448823	Urban Background	100	100	24.5	21.6	20.9	22.9	15.0
C33	461085	448933	Urban Background	92	92	17.3	15.2	14.9	16.7	10.5
C34	461085	449067	Roadside	100	100	25.2	22.3	22.8	23.5	16.2
C36	461052	449146	Roadside	92	92	28.5	27.3	25.0	25.3	19.7
C37	461045	449223	Urban Background	100	100	23.4	18.7	20.6	21.2	14.2
C38	461038	449225	Roadside	100	100	28.1	25.6	24.8	25.2	17.1
C39	460974	449336	Roadside	92	92	32.6	34.9	32.7	33.1	22.9
C4	458470	449126	Urban Background	100	100	19.0	15.9	16.3	18.2	12.5
C40	460910	449628	Urban Background	100	100	19.0	17.6	17.1	18.7	12.6
C42	460857	449748	Urban Background	92	92	22.8	20.0	19.1	21.8	14.3
C43	460869	449730	Roadside	100	100	28.8	28.2	26.7	25.1	18.4
C43a	460869	449730	Roadside	100	100	30.4	28.3	26.5	26.5	19.3
C44	460869	449730	Roadside	92	92	29.0	28.5	26.8	27.0	19.6
C49	460860	450530	Urban Background	92	92	21.6	17.6	17.7	20.0	13.0
C51	460871	450727	Roadside	83	83	26.2	24.4	25.0	25.5	17.9
C52	460853	450781	Roadside	92	92	24.1	23.8	23.0	22.6	17.8
C53	460766	450924	Roadside	50	50	22.8	22.1 (estimate)	20.8	22.0	15.2 (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 2020 (%) (2)	2016	2017	2018	2019	2020
C54	460762	451069	Roadside	83	83	28.4	22.8	25.7	24.7	18.4
C56	459484	451141	Roadside	83	83	31.4	28.3	30.8	30.5	21.8
C57	458912	450111	Urban Background	100	100	22.6	18.8	19.1	20.6	14.4
C58	460926	449429	Roadside	100	100	35.5	35.2	32.5	33.0	24.6
C59	458735	449713	Roadside	100	100	29.6	28.3	27.5	27.1	22.3
C62	459579	451251	Roadside	92	92	26.9	27.2	27.0	26.4	20.1
C63	458790	449740	Roadside	92	92	18.8	17.8	16.9	18.1	13.3
C7	458611	449477	Roadside	92	92	19.8	18.0	17.5	19.2	14.9
D10	460443	451927	Urban Background	100	100	18.4	16.5	16.5	19.1	11.3
D12	460567	451740	Roadside	100	100	20.4	19.8	18.5	19.4	15.7
D13	460271	451358	Roadside	100	100	27.6	24.9	25.3	24.9	20.4
D14	461077	451354	Roadside	100	100	36.2	32.7	37.6	36.6	28.2
D16	460708	451231	Roadside	100	100	37.5	36.2	36.1	37.8	29.2
D17	460575	451616	Roadside	92	92	29.2	26.7	27.9	29.6	23.7
D18	460395	451502	Roadside	92	92	28.7	27.7	29.1	28.7	23.1
D19	460038	451626	Roadside	92	92	**49.9**	**44.1**	**45.5**	**45.9**	34.8
D20	460323	451685	Roadside	100	100	**39.7**	**40.6**	**39.7**	38.9	30.1
D22	460035	452010	Roadside	83	83	34.4	31.8	32.5	31.5	27.2
D24	459805	451543	Roadside	92	92	30.6	28.2	28.9	27.5	18.9
D25	459693	451750	Roadside	100	100	37.6	36.7	36.5	37.4	29.0
D26	460671	451400	Roadside	100	100	26.6	24.9	23.9 (estimate)	25.1	20.2
D27	460734	451563	Roadside	100	100	25.8	23.3	23.6	22.8	19.5
D28	460764	451185	Roadside	100	100	33.3	31.4	31.9	32.4	25.0
D30	460834	451252	Roadside	100	100	24.6	24.7	23.7	24.7	18.6

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 2020 (%) [2]	2016	2017	2018	2019	2020
D31	461002	451229	Roadside	83	83	32.6	29.2	29.5	28.0	20.6
D32	460258	451208	Roadside	100	100	35.1	31.7	33.7	34.6	26.4
D33	460075	451174	Roadside	100	100	30.0	27.5	26.6	26.3	20.7
D35	460134	451170	Roadside	100	100	36.9	36.3	35.2	37.4	27.2
D36	460135	450884	Roadside	100	100	35.3	31.7	33.2	31.6	22.8
D37	460157	450988	Roadside	100	100	30.9	27.0	27.1	27.5	18.7
D38	460088	450929	Roadside	100	100	22.0	21.8	20.9	22.1	16.8
D39	460185	451055	Roadside	100	100	31.4	29.2	30.2	29.5	20.4
D4	460560	452300	Roadside	100	100	25.7	25.3	24.4	25.5	19.2
D40	460069	451196	Roadside	92	92	29.2	25.8	25.6	25.5	18.9
D41	460286	452487	Roadside	100	100	32.9	33.4	34.5	32.8	27.9
D43	459920	451834	Roadside	83	83	**42.4**	**41.0**	**44.4**	**43.6**	34.2
D45	460673	451869	Roadside	92	92	28.3	27.9	26.3	23.9	17.7
D47	460682	452187	Roadside	92	92	27.7	25.9	24.8	25.9	20.8
D48	460103	452180	Roadside	100	100	36.1	32.9	34.7	34.3	28.0
D49	460656	451269	Roadside	100	100	36.8	38.0	34.3	35.0	24.4
D50	460371	451682	Roadside	92	92	**40.3**	37.7	37.9	34.7	27.2
D51	459640	451722	Roadside	100	100	**56.5**	**58.6**	**57.7**	**55.5**	34.4
D52	460887	451140	Roadside	92	92	25.8	23.6	23.4	23.7	17.4
D53	460115	451146	Roadside	83	83	28.7	24.4	25.1	24.3	19.6
D54	460146	451116	Roadside	100	100	27.3	23.8	24.8	23.9	18.5
D55	460087	452065	Roadside	92	92	**48.8**	35.1	37.4	38.2	33.5
D6	460570	452177	Urban Background	92	92	20.5	17.9	15.8	19.5	13.5
D8	460553	451843	Roadside	100	100	36.9	31.5	34.1	31.7	28.4
D9	460483	452357	Roadside	100	100	34.1	31.7	32.6	33.6	25.3

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 2020 (%) (2)	2016	2017	2018	2019	2020
D56	460400	451685	Roadside	100	100	**47.4**	**42.1**	**42.3**	38.2	31.2
D57	460416	451708	Roadside	100	100	35.7 (estimate)	30.3 (estimate)	33.8	29.4	25.0
D58	460435	451732	Roadside	100	100	38.9	38.7	36.8	34.6	26.1
D59	460087	452156	Roadside	92	92	**44.7**	**41.2**	39.2	39.7	35.4
D60	460294	451883	Roadside	100	100	21.7	22.3	20.5	21.4	15.6
130	463663	451054	Roadside	100	100	14.7	13.9	13.5 (estimate)	13.3	10.5
115	459962	451771	Roadside	100	100	-	-	**59.7 (estimate)**	**59.2**	**48.8**

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

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

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

Notes:

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

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

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

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

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

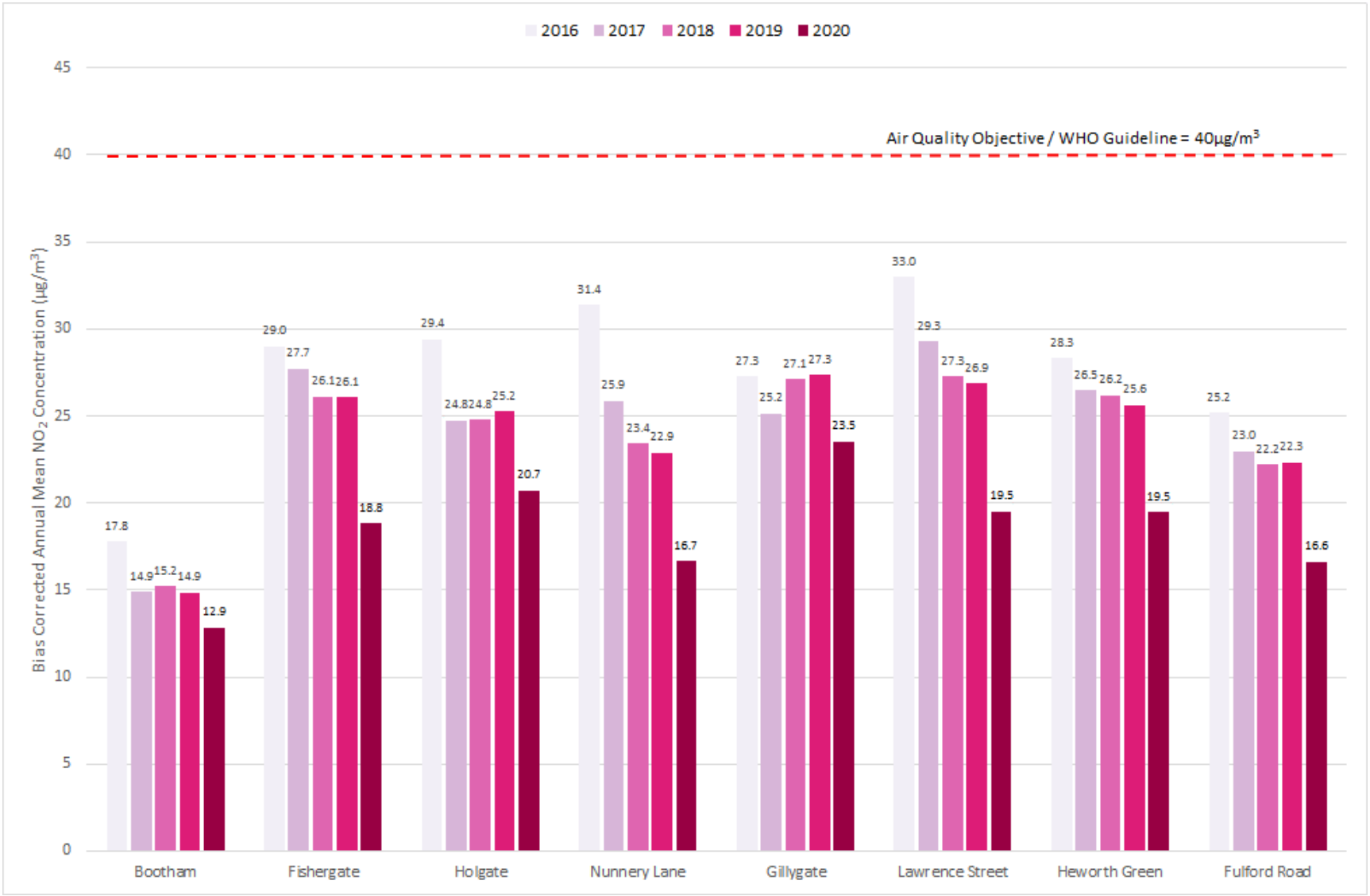


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
Bootham	460022	452777	Urban Background	61.4	61.4	0	0	0	0	0 (60.1)
Fishergate	460746	451038	Roadside	97.8	97.8	0	0	0	0	0
Holgate	459512	451282	Roadside	99.0	99.0	0	0	0	0	0
Nunnery Lane	460068	451199	Roadside	91.9	91.9	0	0	0	0	0
Gillygate	460147	452345	Roadside	98.7	98.7	0	0	0	0	0
Lawrence Street	461256	451340	Roadside	93.9	93.9	0	0	1	0	0
Heworth Green	461126	452602	Roadside	92.7	92.7	0	0	0	0	0
Fulford Road	460937	449464	Roadside	90.4	90.4	0	0	0	0 (80.3)	0

Notes:

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

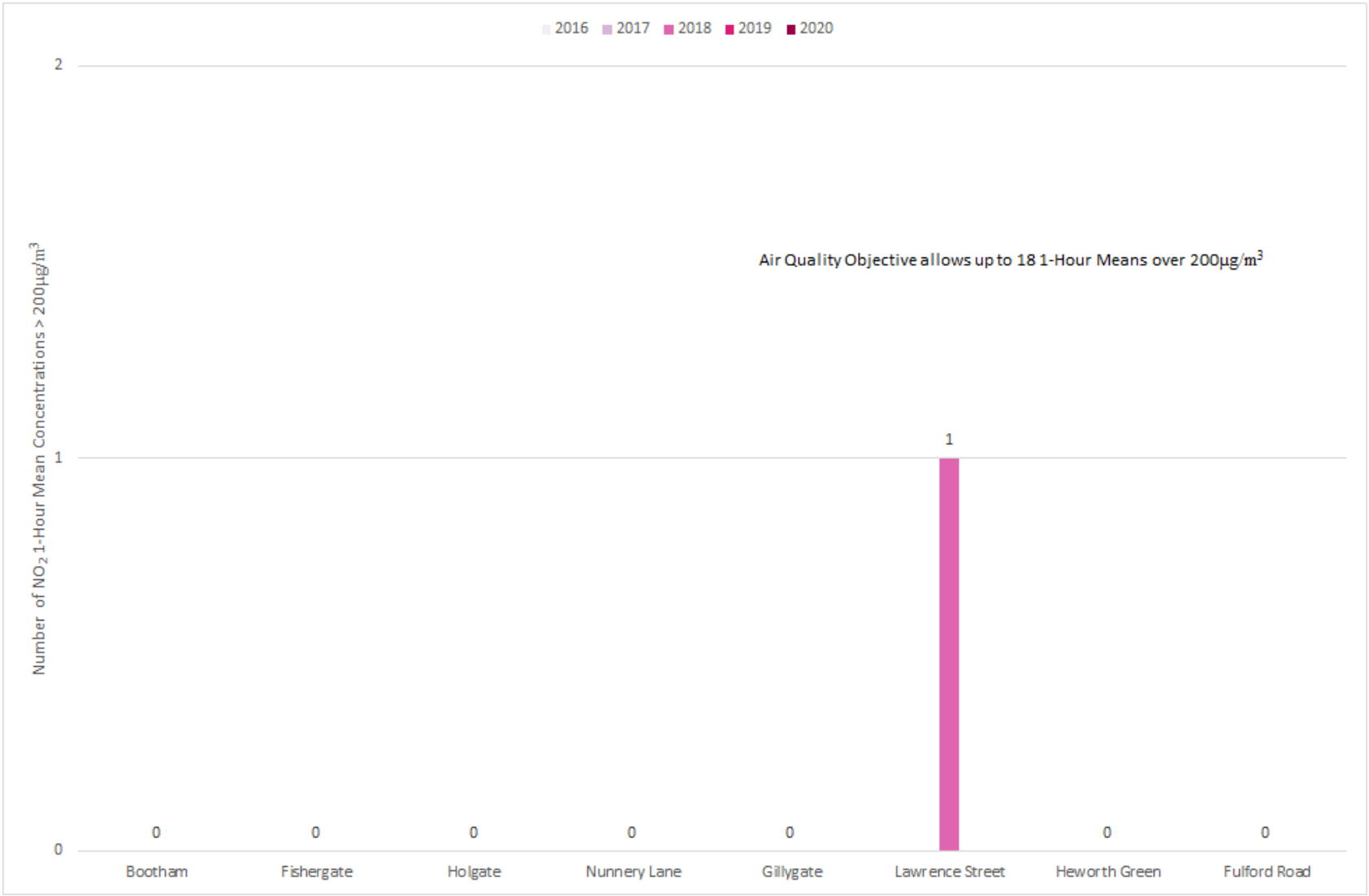
Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

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

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

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

Figure A.2 – Trends in Number of NO_2 1-Hour Means > 200µg/m^3



Note: there was only 1 exceedance seen at Lawrence Street in 2018 (no other exceedances in any other years)

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
Bootham	460022	452777	Urban Background	95.2	95.2	14.9	13.4	13.8	14.0	15.2
Fishergate	460746	451038	Roadside	96.9	96.9	16.3	16.3	18.3	21.9	19.2
Holgate Road	459512	451282	Roadside	98.9	98.9	12.0	10.5	12.4	13.9	18.4
Plantation Drive	457428	452620	Roadside	96.0	96.0	15.5	15.6	14.3	16.4	15.8

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

Notes:

The annual mean concentrations are presented as $\mu g/m^3$.

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

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

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

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

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

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
Bootham	460022	452777	Urban Background	95.2	95.2	2	5	3	0	2
Fishergate	460746	451038	Roadside	96.9	96.9	2	6	4	8	1
Holgate Road	459512	451282	Roadside	98.9	98.9	2	4	1	0	2
Plantation Drive	457428	452620	Roadside	96.0	96.0	2	4	0	4	1

Notes:

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

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

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

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

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

Figure A.4 – Trends in Number of 24-Hour Mean PM_{10} Results > 50µg/m^3

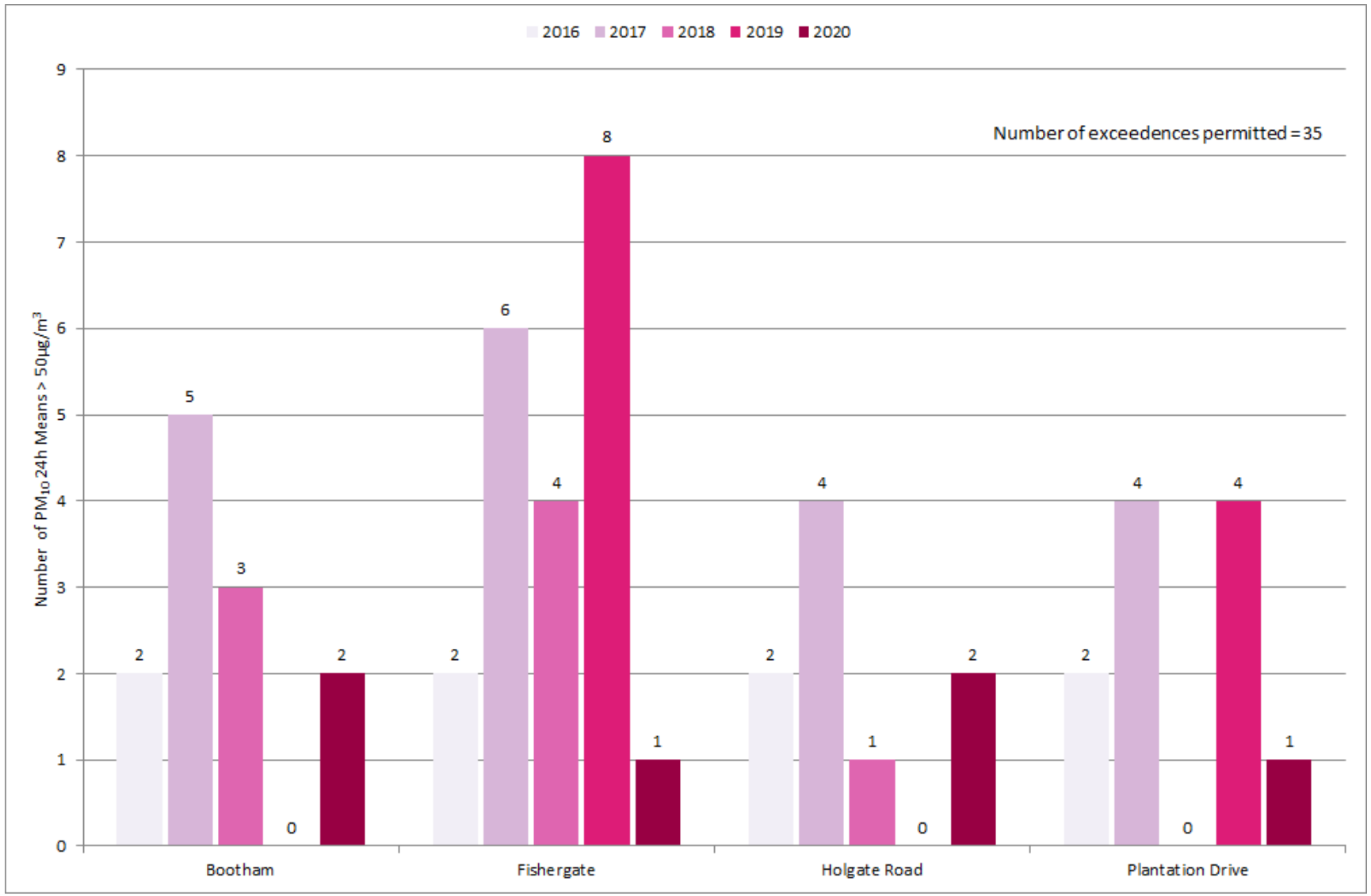


Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
Bootham	460022	452777	Urban Background	92.6	92.6	9.8	8.7	10.8	11.1	8.6
Fishergate	460746	451038	Roadside	95.7	95.7	12.0	11.4	10.5	10.7	7.6
Gillygate	460147	452345	Roadside	96.8	96.8	9.0	8.4	8.3	7.6	7.1

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

Notes:

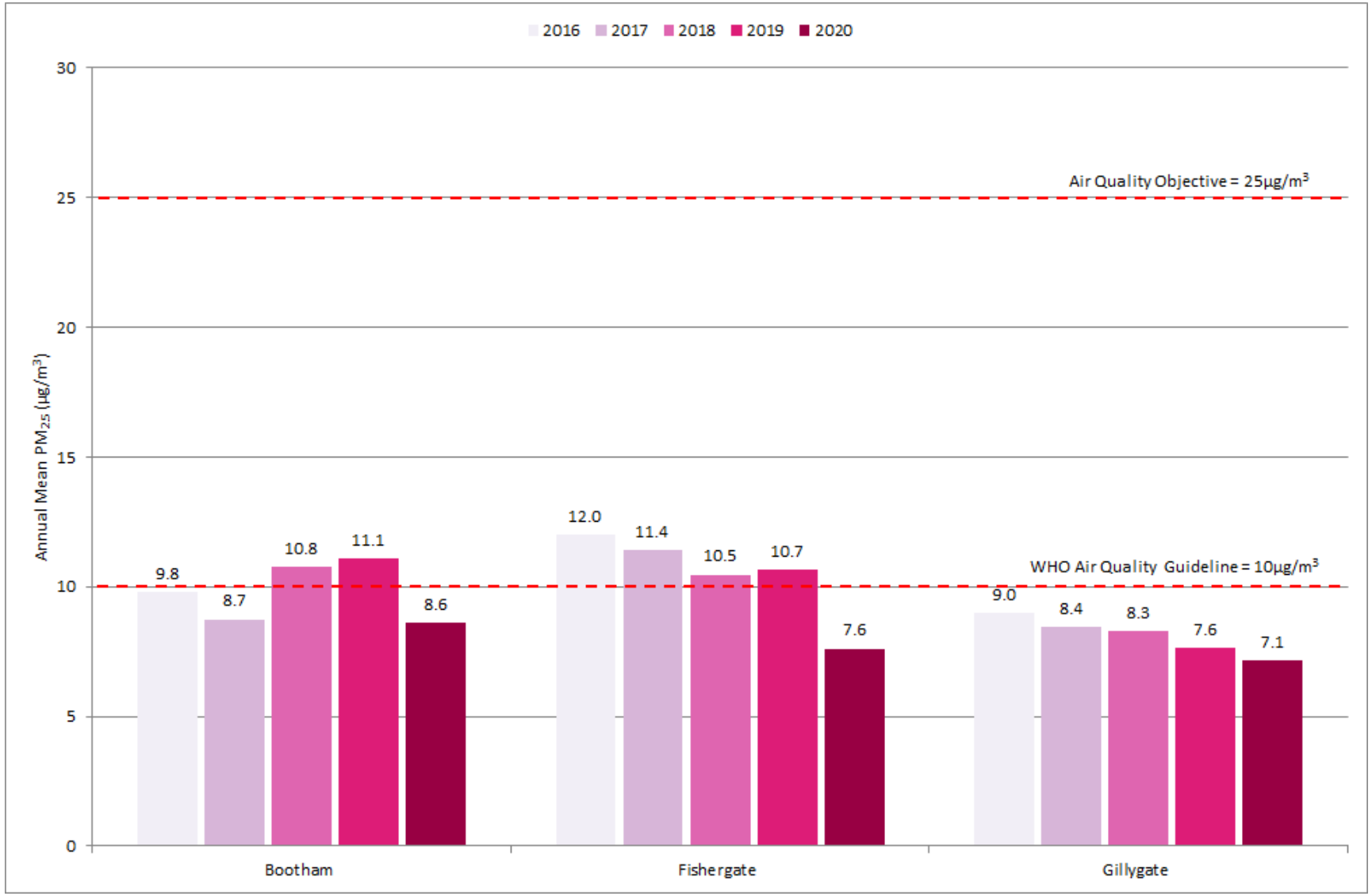
The annual mean concentrations are presented as $\mu g/m^3$.

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

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

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

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



Appendix B: Full Monthly Diffusion Tube Results for 2020

Table B.1 – NO_2 2020 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (R=0.74, B=0.68)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
5	462040	454883	30.0	28.6	19.7	11.7	-	10.9	10.4	12.1	15.7	19.4	28.8	24.8	19.3	14.3	-	
6	459777	451406	56.9	40.9	37.6	21.0	25.3	24.1	32.7	38.1	49.9	46.6	43.6	55.5	39.4	29.1	-	
7	460217	452421	53.4	55.8	43.4	30.7	29.5	43.2	33.9	60.6	69.7	59.8	67.5	71.3	**51.6**	38.2	29.8	
8	460163	452468	35.2	21.1	17.8	10.6	9.1	13.1	10.8	13.8	15.6	20.7	27.3	25.8	18.4	12.5	-	Part of triplicate set – see bottom of table for triplicate average
9	460163	452468	31.2	20.8	17.5	10.9	8.6	11.0	11.7	14.1	17.3	21.1	27.6	25.9	18.1	12.3	-	Part of triplicate set – see bottom of table for triplicate average
11	458846	450946	30.4	-	22.5	10.8	9.7	14.0	10.9	13.1	17.7	20.4	27.0	26.0	18.4	12.5	-	
13	460176	452377	65.1	53.8	34.1	18.9	30.7	44.2	39.0	54.7	69.8	67.5	70.9	68.2	**51.4**	38.0	-	
14	460167	452347	66.7	55.6	46.6	29.2	30.4	42.7	35.0	62.2	65.6	77.9	73.4	66.7	**54.3**	**40.2**	-	
15	461105	451458	57.7	41.9	35.7	22.5	21.8	37.6	24.6	35.6	39.1	45.1	53.7	49.7	38.8	28.7	-	
16	460160	451152	55.1	-	30.5	18.7	21.0	23.6	24.0	35.2	42.3	50.7	48.8	39.6	35.4	26.2	-	
17	459646	451500	53.6	38.9	32.7	16.4	16.8	25.0	22.6	34.2	37.3	39.1	45.0	43.2	33.7	25.0	-	
18	460457	452903	43.7	37.5	19.4	18.4	22.6	22.6	25.4	30.6	38.6	39.2	48.2	42.5	32.4	24.0	-	
25	461721	452709	33.5	28.7	27.0	13.3	14.1	18.4	15.1	16.8	19.8	25.2	28.5	37.0	23.1	17.1	-	
26	460829	453524	52.9	23.8	30.1	19.8	16.9	22.3	17.6	22.9	28.2	-	41.1	36.3	28.4	21.0	-	
33	460598	453227	46.2	32.3	21.5	14.6	15.0	15.4	17.8	20.7	28.1	27.6	45.6	39.2	27.0	20.0	-	
35	457603	451492	46.4	33.3	18.0	7.9	14.4	18.0	19.7	19.1	24.7	27.1	35.1	34.5	24.9	18.4	-	
37	459522	451187	46.5	23.0	31.6	17.3	-	26.4	27.3	32.2	32.4	31.8	30.0	37.5	30.5	22.6	-	
44	460679	452326	45.0	30.8	27.4	13.4	12.4	14.3	17.2	19.3	24.4	28.6	30.8	34.7	24.9	18.4	-	
45	460319	452754	51.2	36.2	25.9	18.8	18.5	22.0	24.2	34.5	47.5	44.2	47.6	45.4	34.7	25.7	-	
47	462009	456996	42.6	32.9	28.4	16.2	18.7	23.4	23.7	27.2	24.7	29.7	38.9	34.2	28.4	21.0	-	
50	N/A	N/A	2.3	<0.7	2.8	0.7	0.8	1.3	<0.7	<0.5	<0.6	0.6	<0.7	0.9	1.3	BLANK	-	
60	461017	451781	40.1	28.1	21.6	12.5	10.9	17.0	14.4	18.9	22.6	26.0	33.1	33.6	23.2	17.2	-	
78	460149	452342	46.6	34.6	24.9	18.9	19.8	31.1	21.9	33.2	36.7	41.1	45.7	32.8	32.3	23.9	-	Part of triplicate set – see bottom of table for triplicate average
79	460149	452342	41.9	33.6	29.9	20.7	20.8	27.5	21.1	36.6	39.4	37.4	40.4	44.3	32.8	24.3	-	Part of triplicate set – see bottom of table for triplicate average
80	460149	452342	45.1	33.4	29.3	19.9	20.2	28.9	21.1	35.4	38.0	40.2	46.4	43.8	33.5	24.8	-	Part of triplicate set – see bottom of table for triplicate average
83	461597	452830	39.2	25.4	20.8	7.9	9.6	13.2	16.2	14.6	19.8	20.2	29.5	27.8	20.4	13.8	-	
88	463354	451972	29.6	18.6	17.7	2.8	6.2	7.7	9.0	8.9	12.3	15.4	23.5	22.7	14.5	9.9	-	
90	459997	450109	28.0	17.0	12.2	4.1	10.4	11.2	9.8	10.8	15.1	16.2	21.0	20.8	14.7	10.9	-	
96	460978	449452	37.1	22.4	10.7	10.5	9.5	-	12.2	13.3	18.9	21.5	29.5	29.0	19.5	14.4	-	
100	456228	453312	29.6	20.1	13.1	11.3	11.6	14.2	14.2	15.9	18.8	19.1	23.6	23.2	17.9	13.2	-	
101	459746	455897	49.0	33.6	29.4	16.4	20.1	24.5	28.3	26.3	34.0	35.3	40.0	36.7	31.1	23.0	-	
102	458703	452429	47.1	31.1	33.4	15.7	19.5	31.6	19.8	28.0	37.3	32.9	41.6	45.9	32.0	23.7	-	Part of triplicate set – see bottom of table for triplicate average
103	458703	452429	43.5	33.5	33.9	10.5	21.8	23.0	20.8	29.7	38.2	38.7	18.9	38.6	29.3	21.7	-	Part of triplicate set – see bottom of table for triplicate average
104	458703	452429	37.4	32.0	38.1	19.7	20.4	26.3	20.7	32.8	35.7	36.4	45.9	49.8	32.9	24.4	-	Part of triplicate set – see bottom of table for triplicate average

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (R=0.74, B=0.68)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
107	458779	452387	27.6	19.9	17.8	12.3	9.1	12.8	11.7	-	17.1	21.7	29.5	28.8	18.9	14.0	-	
108	458814	452373	42.2	31.1	25.7	14.5	12.4	16.1	18.1	18.8	26.4	25.3	40.4	34.4	25.5	18.8	-	
109	459924	451833	-	58.7	50.9	26.3	-	40.3	42.8	60.9	61.2	60.0	66.0	57.2	**52.4**	38.8	-	
110	459985	451727	72.2	49.0	34.3	24.5	23.8	31.6	40.9	51.1	59.1	72.8	62.1	37.1	**46.5**	34.4	-	
111	459917	451728	33.7	32.2	27.5	16.6	16.6	20.0	23.0	26.6	29.1	33.4	32.1	30.4	26.8	19.8	-	
112	459873	451684	38.3	23.1	23.3	13.9	15.1	16.1	23.1	19.6	22.8	30.0	32.4	28.9	23.9	17.7	-	
114	459981	451778	55.4	46.4	23.3	21.9	26.0	31.2	39.7	43.7	47.9	50.7	51.2	32.9	39.2	29.0	-	
115	459962	451771	100.3	84.9	55.9	22.7	27.0	33.8	71.1	84.6	74.6	88.6	91.6	56.0	**65.9**	48.8	-	
116	458212	452037	36.7	32.4	18.8	15.3	17.0	18.3	19.7	20.4	28.3	31.7	38.5	37.3	26.2	19.4	-	
125	463194	451967	27.6	21.2	17.5	3.6	-	9.2	10.2	10.0	13.6	16.2	24.8	24.1	16.2	12.0	-	
126	463482	451896	30.7	19.5	19.2	9.5	-	11.7	11.3	11.6	15.8	19.2	27.7	30.4	18.8	13.9	-	
127	461108	452313	41.3	29.9	21.9	10.6	11.6	15.7	16.3	18.7	23.4	28.7	35.3	31.4	23.7	17.6	-	
128	458686	452369	31.3	14.4	20.0	13.2	11.7	13.8	10.9	14.0	16.2	19.5	27.8	26.2	18.3	13.5	-	
129	455968	453397	29.4	-	13.5	7.1	10.0	11.1	14.1	12.9	16.0	15.9	21.4	-	15.1	11.2	-	
130	463663	451054	25.6	17.4	15.3	8.4	6.8	7.9	7.7	8.7	11.5	14.9	24.5	22.0	14.2	10.5	-	
2a	460746	451034	38.4	28.3	14.9	13.6	12.7	21.0	18.2	23.0	25.8	27.1	29.4	33.6	23.8	17.6	-	Part of triplicate set – see bottom of table for triplicate average
2b	460746	451034	41.7	28.0	24.9	13.8	12.4	18.4	16.2	22.1	26.7	27.6	30.6	31.8	24.5	18.1	-	Part of triplicate set – see bottom of table for triplicate average
2c	460746	451034	37.9	26.3	26.4	13.3	12.9	19.3	16.6	23.1	25.9	27.8	30.8	31.6	24.3	18.0	-	Part of triplicate set – see bottom of table for triplicate average
3a	460024	452767	36.2	27.6	19.0	5.5	8.2	10.2	9.5	10.9	14.7	21.2	25.6	27.8	18.0	12.3	-	Part of triplicate set – see bottom of table for triplicate average
3b	460024	452767	30.5	21.1	20.3	10.1	8.5	10.8	9.9	12.0	15.8	20.7	27.5	17.6	17.1	11.6	-	Part of triplicate set – see bottom of table for triplicate average
3c	460024	452767	29.8	20.7	19.9	9.8	9.2	9.6	10.1	12.8	14.3	19.4	28.3	25.9	17.5	11.9	-	Part of triplicate set – see bottom of table for triplicate average
95a	460938	449465	36.6	26.9	20.2	7.3	-	14.3	17.2	18.7	23.0	25.8	29.8	29.6	22.7	16.8	-	Part of triplicate set – see bottom of table for triplicate average
95b	460938	449465	36.8	23.2	22.9	11.4	12.8	15.8	18.3	18.3	23.7	25.7	30.1	30.2	22.4	16.6	-	Part of triplicate set – see bottom of table for triplicate average
95c	460938	449465	36.7	25.9	23.3	11.9	12.3	16.5	18.2	18.6	23.3	24.7	27.7	27.8	22.2	16.5	-	Part of triplicate set – see bottom of table for triplicate average
9a	460163	452468	29.6	22.0	17.9	11.7	9.5	10.5	11.4	14.3	16.5	20.9	27.2	27.0	18.2	12.4	-	Part of triplicate set – see bottom of table for triplicate average
A1	460088	452263	60.7	52.7	51.8	22.3	33.7	39.6	40.0	54.8	56.3	58.9	57.8	62.1	**49.2**	36.4	-	
A11	459341	453042	50.4	38.2	25.9	20.3	21.5	26.4	25.4	28.2	33.5	37.4	35.9	39.7	31.9	23.6	-	
A12	459251	453008	38.5	-	26.4	16.6	16.9	23.4	21.1	24.3	30.0	33.0	35.6	32.6	27.1	20.1	-	
A13	459335	452931	31.7	22.3	16.6	10.5	9.9	18.1	11.0	14.8	18.5	21.1	28.7	24.2	19.0	12.9	-	Part of triplicate set – see bottom of table for triplicate average
A14	459335	452931	31.3	21.6	18.4	11.8	9.7	15.4	11.5	14.5	18.2	22.1	28.0	26.9	19.1	13.0	-	Part of triplicate set – see bottom of table for triplicate average
A14a	459335	452931	30.7	16.6	19.5	9.7	10.3	14.1	10.9	15.6	15.1	20.3	27.3	26.2	18.0	12.3	-	Part of triplicate set – see bottom of table for triplicate average
A17	458578	452472	47.6	34.8	13.8	17.1	17.0	21.0	-	24.6	30.1	33.6	38.1	42.6	29.1	21.5	-	
A19	458713	452414	45.5	38.2	28.2	17.9	17.2	18.3	20.5	23.9	30.9	32.7	41.4	37.7	29.4	21.7	-	Part of triplicate set – see bottom of table for triplicate average
A19a	458713	452414	49.7	36.4	22.8	6.5	16.3	21.8	22.5	23.6	27.9	32.1	39.9	39.5	28.3	20.9	-	Part of triplicate set – see bottom of table for triplicate average
A19b	458713	452414	45.9	37.0	29.4	16.7	16.5	19.3	21.1	23.5	27.5	29.0	41.0	39.1	28.8	21.3	-	Part of triplicate set – see bottom of table for triplicate average

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (R=0.74, B=0.68)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
A2	459917	452405	63.8	35.2	26.4	16.0	16.8	24.4	26.0	27.3	33.4	31.8	44.3	41.3	32.2	23.8	-	
A20	458760	452404	46.4	27.5	22.2	19.0	19.3	22.3	22.3	-	37.2	37.8	44.2	50.4	31.7	23.5	-	Part of triplicate set – see bottom of table for triplicate average
A20a	458760	452404	44.7	33.3	27.8	10.8	17.8	23.2	22.7	-	35.9	36.9	43.0	38.6	30.4	22.5	-	Part of triplicate set – see bottom of table for triplicate average
A20b	458760	452404	44.5	29.2	32.7	19.8	19.5	23.1	23.4	-	38.1	37.7	36.9	48.0	32.1	23.7	-	Part of triplicate set – see bottom of table for triplicate average
A21	458806	452326	36.5	28.3	21.9	11.4	11.9	-	15.7	14.2	21.2	25.7	33.5	30.1	22.8	15.5	-	
A22	458792	452242	37.3	25.2	20.4	13.4	12.5	15.1	13.4	15.5	20.4	23.9	33.4	25.7	21.4	14.5	-	
A25	458706	452225	28.6	23.1	9.9	13.2	12.9	16.5	14.1	17.9	23.8	21.5	30.9	31.2	20.3	15.0	-	
A29	456939	453013	37.5	21.8	15.8	11.0	11.4	12.0	14.4	14.1	19.2	22.3	-	29.6	19.0	12.9	-	
A3	459822	452492	44.3	34.3	-	15.6	14.9	17.9	-	28.8	31.6	30.9	38.3	37.3	29.4	21.7	-	
A30	457060	452888	31.5	24.3	20.4	12.2	11.1	16.9	13.8	16.3	20.1	22.3	27.4	17.8	19.5	13.3	-	
A36	457625	452446	27.9	18.8	-	-	-	-	11.0	13.7	-	18.0	25.1	-	19.1	11.4 (annualised)	-	
A38	457857	452334	27.6	20.0	19.7	10.0	10.2	13.2	9.0	12.6	15.3	17.2	26.5	27.6	17.4	11.8	-	
A4	459699	452638	37.2	25.3	21.2	12.3	11.3	13.0	13.9	15.3	19.0	20.0	29.4	27.0	20.4	13.9	-	
A40	458109	452196	28.7	20.2	20.6	13.4	13.8	20.8	12.5	18.8	20.2	21.5	27.6	29.1	20.6	14.0	-	
A41	458172	452108	29.8	20.8	20.1	10.5	14.0	18.5	12.9	19.3	22.9	21.7	27.8	30.6	20.7	15.3	-	
A45	458384	451817	26.5	18.2	18.0	11.5	8.7	12.0	9.5	11.6	14.3	15.9	21.4	20.3	15.7	10.6	-	
A50	458732	451393	42.1	28.8	28.6	18.1	17.6	27.1	20.2	26.3	30.3	29.3	38.8	40.4	29.0	21.4	-	
A51	458827	451348	37.9	27.2	20.6	12.9	12.7	15.3	17.9	18.0	24.1	24.8	31.3	29.9	22.7	15.4	-	
A52	458945	451254	49.9	39.2	24.3	8.5	-	-	21.6	28.3	36.8	38.5	43.6	41.5	33.2	24.6	-	
A53	459066	451239	45.1	37.4	32.3	12.1	19.2	22.7	21.6	28.1	37.5	38.1	43.3	41.8	31.6	23.4	-	
A54	459254	451223	53.1	-	-	14.0	19.0	27.3	27.3	32.6	40.6	40.9	40.3	43.6	33.9	25.1	-	
A55	459351	451221	50.6	38.1	26.6	19.0	19.7	25.7	25.1	30.3	34.1	36.5	44.2	41.8	32.6	24.2	-	
A56	459470	451268	48.6	-	24.6	-	18.0	22.9	20.0	25.2	31.5	33.5	34.3	32.2	29.1	19.8	-	
A57	459533	451280	64.3	46.8	34.1	8.9	28.6	44.0	35.3	52.2	62.4	46.3	57.7	65.2	**45.5**	33.7	-	
A6	459536	452811	43.8	25.7	23.6	13.6	11.9	14.0	18.2	19.1	24.6	26.8	34.9	34.0	24.2	17.9	-	
A60	458906	453276	20.8	16.8	12.9	9.6	7.8	11.1	8.6	12.2	13.3	14.0	21.7	22.4	14.3	9.7	-	
A62	458806	453483	27.3	19.5	18.0	8.3	7.9	9.2	9.9	9.9	12.6	16.3	20.5	18.9	14.9	10.1	-	
A64	460030	452327	35.3	26.9	24.2	15.0	16.8	20.8	21.6	31.7	34.7	32.2	36.0	41.3	28.0	20.8	-	
A66	458672	453685	27.6	17.9	11.8	9.4	8.4	9.0	11.3	11.5	14.0	18.1	24.7	23.1	15.6	10.6	-	
A69	458375	453958	19.0	16.5	16.1	9.3	8.0	11.7	8.3	10.8	13.5	16.0	19.4	23.3	14.3	9.7	-	
A7	459441	452892	40.6	-	29.3	14.3	13.5	15.9	19.3	20.0	24.8	27.6	38.1	36.3	25.4	18.8	-	
A70	458299	454070	28.4	17.9	13.5	2.0	9.1	12.8	13.7	13.7	17.2	20.4	27.0	27.6	16.9	11.5	-	
A71	458121	454254	24.6	17.7	14.7	8.6	6.8	8.6	9.1	9.0	13.8	16.1	23.9	23.0	14.7	10.0	-	
A74	458041	454371	25.1	15.1	15.8	6.8	8.2	6.9	9.8	10.1	14.1	15.3	21.7	22.5	14.3	9.7	-	
A77	457929	454537	32.7	26.8	22.6	12.5	10.4	12.6	12.5	14.0	16.8	14.5	31.4	30.1	19.7	13.4	-	
A81	457733	454805	31.4	22.5	20.7	-	9.8	9.3	12.0	11.3	15.7	17.1	24.4	24.6	18.1	12.3	-	
A85	459364	453009	33.5	24.9	20.9	13.3	12.9	10.6	17.0	17.0	22.7	22.9	31.8	28.9	21.4	14.5	-	
A88	457470	452550	25.4	20.5	19.3	2.1	8.3	12.9	10.2	12.9	16.4	18.5	27.2	26.8	16.7	11.4	-	
A9	459295	453067	39.5	36.9	29.9	18.0	18.5	-	20.0	24.4	31.7	34.3	41.5	43.9	30.8	22.8	-	
A90	459238	453157	56.2	43.5	30.5	18.6	18.4	23.7	24.0	28.4	37.9	41.8	46.9	45.4	34.6	25.6	-	
A94	458651	452426	41.0	25.5	39.5	12.8	28.0	11.5	11.3	12.7	16.7	21.9	47.6	57.0	27.1	20.1	-	
A96	459038	452850	44.6	34.7	31.1	9.1	15.4	22.9	23.0	25.9	34.1	27.1	44.1	36.7	29.1	21.5	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (R=0.74, B=0.68)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
A97	457431	452616	37.5	25.6	22.1	9.4	11.4	14.0	11.9	15.0	18.7	20.9	30.6	15.5	19.4	14.3	-	
A98	458666	451468	34.4	27.0	25.6	13.6	15.2	17.1	16.7	18.2	23.4	24.7	29.0	30.5	23.0	17.0	-	
B1	460848	452582	48.7	-	26.4	15.0	16.4	20.6	-	23.7	21.2	21.4	32.0	20.0	24.5	18.2	-	
B15	461294	455305	35.5	26.0	19.4	10.6	9.4	12.0	14.9	-	18.5	20.8	31.3	26.6	20.5	15.1	-	
B19	461891	455876	37.0	<0.6	21.0	11.6	11.1	-	14.1	16.0	21.5	24.0	34.6	28.2	21.9	16.2	-	
B2	460924	452697	39.7	30.2	24.8	12.9	10.8	17.4	15.6	19.4	24.5	29.1	35.8	30.4	24.2	17.9	-	
B29	461453	452750	36.7	22.9	19.7	9.9	12.1	16.2	15.3	16.7	20.7	24.5	28.9	28.8	21.0	15.6	-	
B3	460952	452826	37.6	25.0	17.3	13.0	11.7	14.0	15.9	17.8	22.9	24.2	33.2	25.8	21.5	15.9	-	
B36	462565	454194	30.4	19.0	15.8	10.2	8.1	8.8	9.6	10.3	14.1	16.0	24.6	16.0	15.2	10.4	-	Part of triplicate set – see bottom of table for triplicate average
B37	462565	454194	-	21.5	16.0	8.4	7.4	9.5	10.5	10.6	13.6	15.0	21.1	21.2	14.1	9.6	-	Part of triplicate set – see bottom of table for triplicate average
B37a	462565	454194	26.5	21.6	17.6	7.9	8.2	7.3	10.7	10.5	14.0	16.8	20.9	23.3	15.4	10.5	-	Part of triplicate set – see bottom of table for triplicate average
B38	463757	455155	30.1	19.1	18.0	8.9	9.4	15.7	11.2	11.9	14.9	19.6	25.2	26.1	17.5	11.9	-	
B41	461326	451330	45.8	30.9	33.5	16.5	18.7	21.2	23.1	24.9	27.9	33.0	41.9	36.3	29.5	20.0	-	
B42	461430	451348	34.6	24.3	24.5	14.6	14.4	19.0	16.0	18.2	22.2	25.4	29.5	30.3	22.8	15.5	-	
B43	461557	451343	33.5	23.9	21.3	14.4	14.1	17.0	13.6	17.0	19.6	22.5	29.8	25.5	21.0	14.3	-	
B44	461643	451343	50.6	37.1	34.7	18.2	17.2	22.2	22.1	21.0	29.0	37.0	43.0	41.9	31.2	23.1	-	
B45	461849	451284	40.8	26.8	18.4	14.8	15.6	20.7	16.3	21.8	26.0	28.8	36.9	35.6	25.2	18.7	-	
B47	462019	451289	28.0	20.4	18.8	9.8	-	9.2	9.7	11.2	14.7	16.5	23.9	19.4	16.5	11.2	-	
B48	462122	451289	32.6	-	21.9	12.0	11.3	11.2	12.1	13.6	17.0	19.5	-	21.9	17.3	11.8	-	
B50	462291	451269	40.0	27.9	26.3	12.2	14.0	15.3	14.4	19.0	17.7	9.9	31.6	27.9	21.4	15.8	-	
B51	462384	451298	31.3	22.6	18.7	10.0	9.7	10.7	-	13.7	15.8	19.4	28.3	26.1	18.8	12.8	-	
B56	462888	451289	46.1	33.7	35.1	14.0	15.6	22.4	18.0	22.5	29.7	30.3	36.4	32.9	28.1	20.8	-	
B58	462970	451300	34.2	23.9	19.8	9.2	9.2	12.2	12.4	13.5	17.6	20.1	26.3	25.6	18.7	12.7	-	
B60	463234	451339	31.3	26.0	20.6	9.8	8.0	11.4	11.7	12.9	17.4	21.7	21.4	21.1	17.8	12.1	-	
B63	462704	451300	47.0	37.9	27.3	14.8	17.1	25.8	26.6	28.1	30.2	33.3	40.9	34.6	30.3	22.4	-	
B72	461122	451374	68.0	56.9	43.6	21.3	27.0	34.9	38.7	42.3	44.9	47.7	54.0	47.2	**43.9**	32.5	-	
B74	461371	452708	29.9	24.4	22.7	11.9	11.5	11.5	14.6	14.9	19.4	23.2	30.0	27.7	20.1	13.7	-	
B80	461185	452663	28.7	23.7	17.4	10.8	10.0	12.2	11.9	11.1	16.5	18.9	28.1	25.7	17.9	12.2	-	
B82	460974	452563	42.9	27.9	26.6	14.1	13.7	18.0	22.0	21.7	24.4	25.8	35.6	34.6	25.6	17.4	-	
B83	461285	452695	47.3	32.8	28.6	-	15.7	20.3	20.1	23.6	25.0	30.2	36.4	34.2	28.6	21.1	-	
B84	462654	451293	36.6	28.9	20.3	11.0	12.7	15.5	16.2	20.5	21.8	25.3	31.0	26.6	22.2	15.1	-	
B85	461227	451368	44.8	30.2	32.2	17.9	18.6	22.2	22.8	25.8	29.0	27.8	35.6	30.0	28.1	20.8	-	
B86	461116	452602	43.8	31.7	28.6	8.0	14.0	14.9	18.7	19.4	24.8	26.9	36.1	34.6	25.1	18.6	-	
B88	462799	451291	48.5	38.1	30.0	12.0	14.6	17.5	18.3	19.9	26.8	30.7	36.9	29.0	26.9	19.9	-	
B89	461170	451357	53.4	43.1	34.4	17.1	22.1	23.1	30.6	29.5	33.9	42.7	44.9	39.7	34.5	25.6	-	
B90	461133	451394	61.7	43.0	31.7	22.4	24.5	30.0	26.1	35.4	40.7	43.7	48.4	37.9	37.1	27.5	-	
C12	458825	449928	32.2	18.3	19.0	12.5	9.9	12.8	10.5	13.7	19.3	20.1	28.5	16.4	17.8	12.1	-	
C17	459085	450544	28.5	16.1	19.4	11.3	10.2	11.2	9.5	12.9	16.8	19.3	24.1	22.4	16.8	11.4	-	
C18	459204	450772	41.8	28.7	26.3	16.1	17.4	18.4	18.7	17.6	26.8	29.9	33.4	25.0	25.0	17.0	-	
C19	459271	450819	28.3	17.6	17.8	11.3	5.4	12.0	12.6	13.5	17.4	22.8	23.6	23.6	17.2	11.7	-	
C2	458333	448974	47.1	31.5	35.7	19.4	-	26.0	25.0	29.7	34.8	36.1	43.8	33.4	33.0	24.4	-	
C20	459280	450923	28.1	-	19.1	-	13.2	17.6	13.3	17.0	19.8	26.7	33.0	31.2	21.9	14.9	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (R=0.74, B=0.68)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
C21	459410	451040	37.8	30.0	26.1	-	15.5	19.0	22.4	23.3	30.4	32.7	33.3	35.4	27.8	20.6	-	
C22	459570	451195	36.9	29.4	20.3	12.8	12.8	15.3	16.6	16.9	22.7	25.2	29.9	30.1	22.4	15.2	-	
C23	459553	451252	59.5	47.6	43.3	22.1	28.6	32.1	35.2	39.2	47.0	41.5	40.3	41.6	**39.8**	29.5	-	
C26	459639	451334	54.0	56.9	39.1	20.8	27.1	31.5	32.1	38.1	47.4	54.7	54.9	50.1	**42.2**	31.2	-	
C27	459717	451433	70.2	40.2	36.6	21.5	30.3	40.7	40.9	46.7	60.8	57.1	62.3	59.5	**47.2**	35.0	-	
C28	461201	448386	26.4	18.5	16.6	9.5	8.6	11.8	9.8	13.5	15.8	16.0	22.4	21.9	15.9	10.8	-	
C29	461196	448426	42.4	27.3	14.5	-	14.7	23.1	-	24.4	26.4	25.8	39.4	-	26.4	19.6	-	
C30	461185	448462	51.4	-	33.9	14.9	18.1	22.6	25.0	27.8	34.3	31.2	40.1	38.1	30.7	22.7	-	
C31	461193	448473	28.7	-	17.9	11.5	10.2	11.9	13.1	13.8	18.4	17.6	25.8	26.0	17.7	12.0	-	
C32	461128	448823	42.4	25.5	20.1	7.0	13.0	17.7	18.4	18.1	23.2	25.2	31.4	23.5	22.1	15.0	-	
C33	461085	448933	27.6	21.0	16.6	8.6	9.3	11.1	9.2	11.9	14.5	17.2	22.2	-	15.4	10.5	-	
C34	461085	449067	34.1	25.5	14.7	7.9	12.9	21.0	15.6	22.7	22.4	23.8	30.9	31.9	22.0	16.2	-	
C36	461052	449146	36.7	34.7	29.7	12.1	15.3	-	21.4	24.1	26.2	26.8	31.9	34.0	26.6	19.7	-	
C37	461045	449223	34.8	23.6	24.4	7.5	10.3	14.9	13.8	17.9	19.9	22.2	29.9	30.8	20.8	14.2	-	
C38	461038	449225	38.5	27.0	27.7	3.6	13.3	17.5	16.0	20.2	22.0	21.9	33.5	36.7	23.2	17.1	-	
C39	460974	449336	54.2	-	34.1	15.8	17.9	21.5	25.9	27.2	31.3	33.8	40.7	37.9	30.9	22.9	-	
C4	458470	449126	32.2	22.2	20.7	11.9	10.1	12.3	12.2	12.8	18.1	20.3	24.9	22.3	18.3	12.5	-	
C40	460910	449628	31.7	21.0	18.4	11.7	10.7	13.9	13.5	14.4	17.4	19.6	25.3	25.3	18.6	12.6	-	
C42	460857	449748	37.5	26.9	12.6	11.7	11.6	-	17.7	16.4	21.4	23.3	26.3	26.3	21.1	14.3	-	
C43	460869	449730	44.4	33.7	17.2	4.9	14.4	16.9	22.0	23.5	27.8	27.6	34.8	31.3	24.9	18.4	-	Part of triplicate set – see bottom of table for triplicate average
C43a	460869	449730	45.2	33.8	20.3	14.4	14.1	18.4	19.5	23.3	26.7	28.6	35.2	33.8	26.1	19.3	-	Part of triplicate set – see bottom of table for triplicate average
C44	460869	449730	45.0	32.9	27.9	14.9	14.9	17.3	21.4	23.3	-	26.9	35.2	31.0	26.4	19.6	-	Part of triplicate set – see bottom of table for triplicate average
C49	460860	450530	30.1	-	22.4	7.0	11.4	15.3	12.3	13.8	18.6	21.6	28.1	29.4	19.1	13.0	-	
C51	460871	450727	42.2	-	-	5.6	12.0	19.5	15.5	22.5	25.3	27.8	35.8	35.1	24.1	17.9	-	
C52	460853	450781	41.9	25.1	21.6	-	12.0	14.6	15.2	19.7	21.7	25.5	34.2	32.6	24.0	17.8	-	
C53	460766	450924	33.2	23.3	23.2	11.5	-	-	-	-	-	22.5	30.3	-	24.0	15.2 (annualised)	-	
C54	460762	451069	38.7	-	15.5	-	13.0	20.4	16.2	23.9	28.6	28.5	36.0	28.0	24.9	18.4	-	
C56	459484	451141	-	-	33.1	10.2	16.0	22.3	25.2	31.7	36.4	38.8	40.6	39.8	29.4	21.8	-	
C57	458912	450111	34.8	21.0	24.3	13.0	13.3	17.6	12.3	18.4	22.9	20.6	27.6	29.1	21.2	14.4	-	
C58	460926	449429	60.6	44.7	29.0	8.4	17.3	23.6	29.0	29.1	35.8	38.0	42.7	41.2	33.3	24.6	-	
C59	458735	449713	39.5	33.5	31.6	17.3	18.2	21.9	25.4	28.4	33.5	36.9	41.6	34.5	30.2	22.3	-	
C62	459579	451251	41.1	-	28.9	14.7	18.4	18.2	21.5	23.8	29.6	34.9	31.2	36.0	27.1	20.1	-	
C63	458790	449740	31.4	-	20.8	11.4	10.2	12.2	12.9	14.3	18.7	21.2	21.3	22.7	17.9	13.3	-	
C7	458611	449477	-	21.6	35.9	11.7	11.4	16.0	12.9	16.3	18.8	22.3	26.2	28.2	20.1	14.9	-	
D10	460443	451927	34.2	21.9	12.4	9.6	9.8	9.8	12.2	12.4	16.4	19.2	23.1	18.1	16.6	11.3	-	
D12	460567	451740	54.5	25.2	17.8	11.2	8.5	11.3	15.4	15.0	17.3	23.0	27.2	27.4	21.2	15.7	-	
D13	460271	451358	45.8	28.3	26.9	14.1	14.5	18.1	22.4	23.3	29.6	33.6	37.0	37.4	27.6	20.4	-	
D14	461077	451354	56.7	39.5	37.6	25.0	22.7	36.7	29.9	38.1	40.0	41.2	46.2	43.9	38.1	28.2	-	
D16	460708	451231	53.1	37.9	27.1	23.0	24.7	33.1	26.7	44.5	47.5	51.7	50.9	52.6	39.4	29.2	-	
D17	460575	451616	49.5	40.7	26.1	14.6	14.5	23.4	26.3	31.3	35.8	45.2	-	44.5	32.0	23.7	-	
D18	460395	451502	53.6	37.6	24.4	13.4	16.0	18.1	-	29.7	32.0	36.0	38.8	43.6	31.2	23.1	-	
D19	460038	451626	70.5	50.6	36.7	25.1	28.3	35.3	42.1	58.7	59.9	53.9	-	55.7	**47.0**	34.8	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (R=0.74, B=0.68)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
D20	460323	451685	62.9	50.3	36.2	20.0	20.0	33.3	33.4	40.1	47.9	46.5	48.0	48.9	**40.6**	30.1	-	
D22	460035	452010	51.2	42.1	-	-	18.8	21.6	25.4	37.1	43.0	37.9	43.0	48.1	36.8	27.2	-	
D24	459805	451543	-	33.5	26.2	14.6	15.0	18.5	22.2	20.7	27.5	31.8	36.3	34.4	25.5	18.9	-	
D25	459693	451750	58.9	47.5	38.0	18.6	21.3	30.3	30.9	36.5	49.8	45.5	46.3	47.0	39.2	29.0	-	
D26	460671	451400	42.1	32.5	17.2	14.4	11.9	18.3	20.5	26.1	29.9	34.8	38.1	41.8	27.3	20.2	-	
D27	460734	451563	41.1	28.5	23.6	13.8	13.1	16.4	14.7	21.8	27.8	37.6	41.7	35.5	26.3	19.5	-	
D28	460764	451185	54.4	42.9	31.2	17.9	23.1	22.8	29.1	33.1	40.3	39.2	41.6	29.5	33.8	25.0	-	
D30	460834	451252	42.4	22.8	23.6	15.5	14.4	18.4	17.2	21.4	24.4	28.9	34.1	38.9	25.2	18.6	-	
D31	461002	451229	-	-	18.2	20.3	18.5	27.1	18.9	29.5	32.3	31.4	40.6	41.7	27.9	20.6	-	
D32	460258	451208	54.5	42.2	32.4	21.4	20.7	27.7	26.0	38.5	44.0	41.1	47.7	31.5	35.6	26.4	-	
D33	460075	451174	42.6	28.7	24.9	16.0	19.8	24.7	25.3	22.9	29.4	31.2	35.8	34.4	28.0	20.7	-	
D35	460134	451170	48.4	42.9	32.7	19.2	22.2	27.9	27.6	38.2	42.2	48.6	49.8	41.7	36.8	27.2	-	
D36	460135	450884	55.3	37.2	28.9	17.7	14.6	18.5	18.8	24.6	33.4	37.9	42.8	40.4	30.8	22.8	-	
D37	460157	450988	37.4	30.2	25.4	17.1	11.4	14.6	11.6	22.8	25.9	32.8	37.5	37.1	25.3	18.7	-	
D38	460088	450929	37.0	21.8	21.2	13.5	12.0	15.4	12.3	15.2	23.8	29.3	34.2	36.4	22.7	16.8	-	
D39	460185	451055	48.1	32.6	26.1	15.1	12.7	13.2	14.0	23.6	30.8	35.2	40.7	39.4	27.6	20.4	-	
D4	460560	452300	49.4	33.6	22.7	15.4	13.2	15.0	16.1	19.0	26.4	30.0	36.8	34.2	26.0	19.2	-	
D40	460069	451196	37.6	-	25.1	16.3	17.0	26.4	16.7	22.8	27.7	24.4	33.2	33.9	25.6	18.9	-	
D41	460286	452487	58.4	44.6	25.6	17.3	21.5	25.1	31.6	39.1	44.1	50.0	47.7	47.2	37.7	27.9	-	
D43	459920	451834	62.8	51.1	-	24.4	27.0	38.9	-	53.4	50.6	46.3	59.2	48.5	**46.2**	34.2	-	
D45	460673	451869	38.3	30.0	22.5	12.8	14.2	16.2	-	21.0	27.7	30.0	30.1	19.7	23.9	17.7	-	
D47	460682	452187	39.6	28.9	24.9	14.7	15.0	21.1	40.3	-	26.9	29.5	34.8	33.2	28.1	20.8	-	
D48	460103	452180	41.7	39.8	32.3	19.3	22.8	29.1	27.3	42.0	49.3	49.8	48.4	52.1	37.8	28.0	-	
D49	460656	451269	59.2	44.1	26.1	18.2	15.7	22.8	19.9	31.0	34.6	42.2	38.0	44.5	33.0	24.4	-	
D50	460371	451682	55.9	38.8	36.4	20.4	23.9	-	27.8	32.7	39.1	41.4	43.2	44.3	36.7	27.2	-	
D51	459640	451722	83.5	74.4	56.4	19.9	26.6	33.7	32.1	40.2	49.8	49.3	47.5	45.0	**46.5**	34.4	-	
D52	460887	451140	38.5	24.5	17.2	13.5	14.1	16.6	14.5	21.2	-	28.5	36.1	33.8	23.5	17.4	-	
D53	460115	451146	33.3	-	24.0	18.3	-	30.0	16.9	24.8	24.2	28.2	29.4	35.1	26.4	19.6	-	
D54	460146	451116	34.3	25.7	20.4	17.3	20.4	23.5	17.6	24.4	26.5	27.2	29.9	33.0	25.0	18.5	-	
D55	460087	452065	61.4	-	43.3	11.6	21.2	31.9	32.8	52.3	58.9	61.2	62.6	60.7	**45.3**	33.5	-	
D56	460400	451685	63.7	50.1	42.1	25.8	23.5	39.1	33.3	35.5	44.6	50.0	51.0	47.2	**42.2**	31.2	-	
D57	460416	451708	50.1	43.5	27.5	19.9	21.4	27.4	28.4	32.2	37.8	39.2	42.0	36.5	33.8	25.0	-	
D58	460435	451732	57.5	44.4	36.0	17.0	17.9	27.1	31.2	33.2	37.7	42.2	42.1	37.0	35.3	26.1	-	
D59	460087	452156	66.8	57.2	37.4	20.1	24.0	30.9	41.7	-	65.4	61.4	73.3	48.6	**47.9**	35.4	-	
D6	460570	452177	38.0	24.7	18.5	10.8	10.7	11.7	-	13.3	18.8	23.2	29.2	18.7	19.8	13.5	-	
D60	460294	451883	40.1	28.9	15.2	10.1	9.7	11.6	15.5	15.4	20.9	24.9	32.5	27.4	21.0	15.6	-	
D8	460553	451843	52.0	41.3	35.0	20.9	20.4	26.3	27.8	41.4	48.8	54.0	44.5	47.4	38.3	28.4	-	
D9	460483	452357	45.5	33.3	26.5	20.7	24.5	26.4	24.5	32.8	43.5	42.1	42.9	48.0	34.2	25.3	-	
8, 9, 9a	460163	452468	32.0	21.3	17.7	11.1	9.1	11.5	11.3	14.1	16.5	20.9	27.4	26.2	18.3	12.4	-	Triplicate Average for sites 8, 9 and 9a (Portland Street)
A13, A14, A14a	459335	452931	31.2	20.2	18.2	10.7	10.0	15.9	11.1	15.0	17.3	21.2	28.0	25.8	18.7	12.7	-	Triplicate Average for sites A13, A14 and A14a (Clifton Dale)
78, 79, 80	460149	452342	44.5	33.9	28.0	19.8	20.3	29.2	21.4	35.1	38.0	39.6	44.2	40.3	32.9	24.3	-	Triplicate Average for sites 78, 79 and 80 (Gillygate)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (R=0.74, B=0.68)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
102, 103, 104	458703	452429	42.7	32.2	35.1	15.3	20.6	27.0	20.4	30.2	37.1	36.0	35.5	44.8	31.4	23.2	-	Triplicate Average for sites 102, 103 and 104 (Salisbury Terrace)
2a, 2b, 2c	460746	451034	39.3	27.5	22.1	13.6	12.7	19.6	17.0	22.7	26.1	27.5	30.3	32.3	24.2	17.9	-	Triplicate Average for sites 2a, 2b and 2c (Fishergate)
3a, 3b, 3c	460024	452767	32.2	23.1	19.7	8.5	8.6	10.2	9.8	11.9	14.9	20.4	27.1	23.8	17.5	11.9	-	Triplicate Average for sites 3a, 3b and 3c (Bootham)
95a, 95b, 95c	460938	449465	36.7	25.3	22.1	10.2	12.6	15.5	17.9	18.5	23.3	25.4	29.2	29.2	22.2	16.4	-	Triplicate Average for sites 95a, 95b and 95c (Fulford)
A19, A19a, A19b	458713	452414	47.0	37.2	26.8	13.7	16.7	19.8	21.4	23.7	28.8	31.3	40.8	38.8	28.8	21.3	-	Triplicate Average for sites A19, A19a and A19b (Salisbury Terrace)
A20, A20a, A20b	458760	452404	45.2	30.0	27.6	16.5	18.9	22.9	22.8	-	37.1	37.5	41.4	45.7	31.4	23.2	-	Triplicate Average for sites A20, A20a and A20b (Salisbury Terrace)
B36, B37, B37a	462565	454194	28.5	20.7	16.5	8.8	7.9	8.5	10.3	10.5	13.9	15.9	22.2	20.2	15.3	10.4	-	Triplicate Average for sites B36, B37 and B37a (Malton Road)
C43, C43a, C44	460869	449730	44.9	33.5	21.8	11.4	14.5	17.5	21.0	23.4	27.3	27.7	35.1	32.0	25.8	19.1	-	Triplicate Average for sites C43, C43a and C44 (Fulford Road)

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

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

☒ **Local bias adjustment factor used.**

☐ **National bias adjustment factor used.**

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

☒ **City of York Council confirm that all 2020 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within York During 2020

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 draft City of York Council's Low Emission Planning Guidance.

Additional Air Quality Works Undertaken by City of York Council During 2020

City of York Council has not completed any additional works within the reporting year of 2020.

QA/QC of Diffusion Tube Monitoring

Diffusion tubes used by City of York Council in 2020 were supplied and analysed by SOCOTEC (Formally known as Environmental Scientifics Group (ESG)), 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 2020 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 2020 period, the percentage of results submitted by SOCTEC that were deemed to be satisfactory was 100% (round AR036, Jan – Feb 2020) and 100% (round AR040, Sept – Oct 2020). No results were reported for rounds AR037 (May – Jun 2020) and AR039 (Jul – Aug 2020); these rounds

were cancelled due to the pandemic. Further information about this scheme is available on the DEFRA webpage.

Diffusion Tube Annualisation

LAQM.TG16 states that for those nitrogen dioxide diffusion tube sites with fewer than 9 months worth of data, it is necessary to perform annualisation. 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 2020. Of these sites, 52 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 was considered preferable to using data from the York Bootham background continuous monitor where data capture was only 61% in 2020. 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 52 background diffusion tube locations. Use these two figures to calculate the period mean to annual mean ratio for each of the 52 diffusion tube sites.
- **Step 3** – Calculate the average ratio across the 52 background monitoring sites (i.e. n = 52)
- **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.

Two diffusion tube sites required annualisation, namely A36 and C53. The calculations and annualisation factors are provided in Table C.2. Both the annualised diffusion tube results are well below the annual mean objective for nitrogen dioxide.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2020 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under

or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous 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 0.74 and 0.68 respectively to the 2020 monitoring data. This approach was agreed with the LAQM helpdesk on 19th April 2021 *(email correspondence with Daniel Clampin on behalf of the LAQM Helpdesk).* A summary of bias adjustment factors used by City of York Council over the past five years is presented in Table C.1.

For the purposes of this ASR, local bias adjustment factors have been calculated for diffusion tubes located at roadside and urban background locations separately. This is in line with the approach used by City of York Council for the last 15+ years and in line with recent communication from the LAQM Helpdesk as described above. AEA's Precision and Accuracy spreadsheet AEA_DifTPAB_v04.xls 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 2020 was shown to be very good at all 3 roadside sites and the resultant combined/average bias factor across the 3 sites (following methodology in TG16 para 7.205) was 0.74. This factor has been used to correct diffusion tube results at roadside locations in 2020. The methodology used to derive the combined factor was:

- **Step 1** - Average of Bias Factor B's = (31+40+36)/3 = 35.7
- **Step 2** - Express as a factor = 0.357
- **Step 3** - Add 1 to this value = 0.357 + 1 = 1.357
- **Step 4** - Take the inverse to give the bias adjustment factor = 1/1.357 = 0.74

Urban background bias adjustment factor

Based on the data capture from our continuous monitor and the triplicate tube sites that were excluded from the calculation (based on poor precision), 6 valid periods were available for creation of the bias factor of 0.68. This factor has been used to correct diffusion tubes at urban background locations in 2020. Applying the factor of 0.68 to

diffusion tubes in background locations resulted in a maximum bias corrected tube result of 20.0µg/m^3 (uncorrected/raw annual mean of 29.5µg/m^3). City of York Council's other 67 background diffusion tubes all monitor concentrations lower than this. Due to only 6 valid periods being available for the urban background bias adjustment factor, advice was sought from the LAQM Helpdesk (Query Ref 6957). Based on the fact that the factor of 0.68 was comparable with that used in previous years, it was similar to the local roadside factor, the fact that the bias corrected results were all well under the annul mean objective of 40µg/m^3 and the fact that the local roadside factor would not strictly be appropriate for correction of diffusion tubes located in background locations, it was agreed that a factor of 0.68 would be acceptable for correction of diffusion tubes located in background locations, with accompanying discussion around this decision in the ASR.

Comparison with national bias adjustment factor

The overall 2020 bias correction factor from the national diffusion tube bias adjustment factor spreadsheet for SOCOTEC Didcot [preparation method 50% TEA in acetone] from 22 studies was 0.77. 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 broadly comparable to this national figure. Historically, locally derived bias correction factors have always 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 2020 are also comparable to factors calculated or previous years and reported in historical Annual Status Reports and shown in Table C.1.

If the national bias correction factor of 0.77 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)	38.2µg/m^3 (Local factor)	39.7µg/m^3 (National factor)
Tube 13 (Gillygate)	38.0µg/m^3 (Local factor)	39.6µg/m^3 (National factor)
Tube 14 (Gillygate)	40.2µg/m^3 (Local factor)	41.8µg/m^3 (National factor)
Tube 109 (Rougier St)	38.8µg/m^3 (Local factor)	40.4µg/m^3 (National factor)
Tube 115 (Rougier St)	48.8µg/m^3 (Local factor)	50.8µg/m^3 (National factor)

All tubes above are already included within City of York Council's AQMA boundary. Tube 115 is not in a relevant location with respect to the annual mean NO_2 objective as it is

located in a bus shelter. The result is also below 60µg/m^3, which would potentially indicative of potential breaches of the short-term hourly NO_2 objective.

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factors
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
2017	Local	-	Background tubes 0.66 Roadside tubes 0.71
2016	Local	-	Background tubes 0.74 Roadside tubes 0.72

NO_2 Fall-off with Distance from the Road

Wherever possible, local authorities should ensure that monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure should be estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

Distance correction has been considered at monitoring sites where the annual mean concentration is greater than 36µg/m^3 and the monitoring site is not located at a point of relevant exposure (taking the limitations of the calculator into account). In 2020, 6 diffusion monitoring sites recorded bias corrected annual mean concentrations in excess of 36µg/m3, namely site references 7, 13, 14, 109, 115 and A1.

Site reference 7 requires distance correction as this is located 2.3m from the nearest point of relevant exposure. Site references 13, 14, 109 and A1 are already located in relevant locations as they are mounted on drainpipes attached to the facades of buildings. Site 115 site is located inside a bus stop canopy on Rougier Street it is not considered a relevant location with respect to annual mean NO_2 objective. Whilst it would be relevant

with respect to the hourly NO_2 objective, as concentrations of NO_2 monitored in 2020 were less than 60µg/m^3, the site is not currently of concern.

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 continuous sites are calibrated fortnightly by City of York Council's Public Protection Team. 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 2021 by Ricardo-AEA.

City of York Council 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.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

For Holgate Road and Plantation Drive TEOM data in 2020, there was one FDMS in the York region for Q1 2020, and the only valid data was in March 2020 between dates 04/03/20 – 18/03/20. Hence, data presented in this report for these sites, between these dates, is VCM corrected. For the rest of the year, a correction factor of 1.3 has been applied (INDIC.GRAV). 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).

Automatic Monitoring Annualisation

Annualisation is required for any site with data capture less than 75% but greater than 25%. As data capture for the Bootham NO_2 continuous monitor was only 61.4% in 2020,

annualisation has been performed in line with guidance in LAQM.TG16 using three nearby background AURN monitoring sites. Details are provided in Table C.2.

The Bootham NO_2 period mean of 14.7 µg/m^3 has been multiplied by the average ratio of 0.876 to give a figure of 12.9 µg/m^3. This is an estimate of the 2020 annual mean NO_2 concentration monitored at this site.

NO_2 Fall-off with Distance from the Road

Wherever possible, local authorities should ensure that monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure should be estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

No automatic NO_2 monitoring locations within York required distance correction during 2020.

Table C.2 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor – 52 background diffusion tubes	Annualisation Factor Barnsley Gawber	Annualisation Factor High Muffles	Annualisation Factor Leeds Centre	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
A36	Average factor across 52 background diffusion tube locations with 100% data capture used	-	-	-	0.8755	19.1	16.7	This is an urban background monitoring site. Using a local bias correction factor of 0.68 results in a bias corrected annual mean of 11.4 µg/m^3
C53	Average factor across 52 background diffusion tube locations with 100% data capture used	-	-	-	0.8546	24.0	20.5	This is roadside monitoring site. Using a local bias correction factor of 0.74 results in a bias corrected annual mean of 15.2 µg/m^3
CM1	-	0.894	0.883	0.851	0.876	14.7	12.9	

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)	Local Bias Adjustment Input 5
Periods used to calculate bias	6	11	12	10	-
Bias Factor A	0.68 (0.64 – 0.73)	0.76 (0.72 – 0.82)	0.71 (0.67 – 0.76)	0.73 (0.69 – 0.79)	-
Bias Factor B	47% (37% - 56%)	31% (22 – 40%)	40% (31% - 49%)	36% (27% - 45%)	-
Diffusion Tube Mean (µg/m^3)	22	24	33	24	-
Mean CV (Precision)	8	3	6	4	-
Automatic Mean (µg/m^3)	15	19	23	17	-
Data Capture (for periods used)	96%	98%	99%	93%	-
Adjusted Tube Mean (µg/m^3)	15 (14 – 16)	19 (18 - 20)	23 (22 – 25)	17 (16 – 19)	-

Notes:

A single local bias adjustment factor of 0.68 has been used to bias adjust the 2020 diffusion tube results at urban background locations.

A combined local bias adjustment factor of 0.74 has been used to bias adjust the 2020 diffusion tube results at roadside locations.

Table C.4 – NO_2 Fall off With Distance Calculations (concentrations presented in $\mu g/m^3$)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
7	0.3	2.6	38.2	14.2	29.8	Site already in AQMA and calculated concentration at relevant location less than annual mean NO_2 objective.

Note:

Background concentration obtained from DEFRA background maps (2018 maps projected to 2020, grid square centroid 460500, 452500)

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

Figure D.1 – Map of Non-Automatic Monitoring Sites

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 tubes over 36µg/m^3 in 2020 are labelled below for information and to aid the reader.

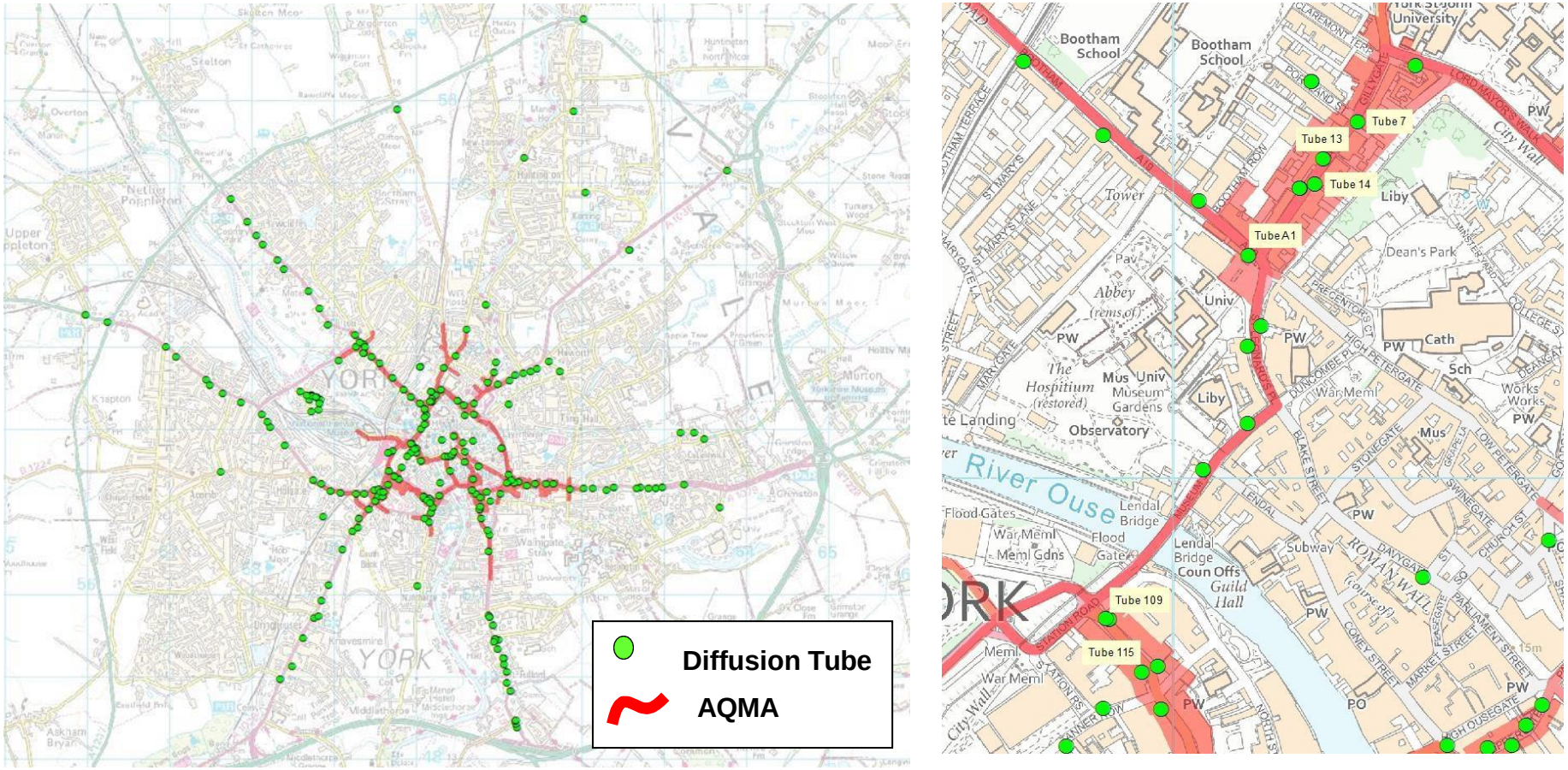
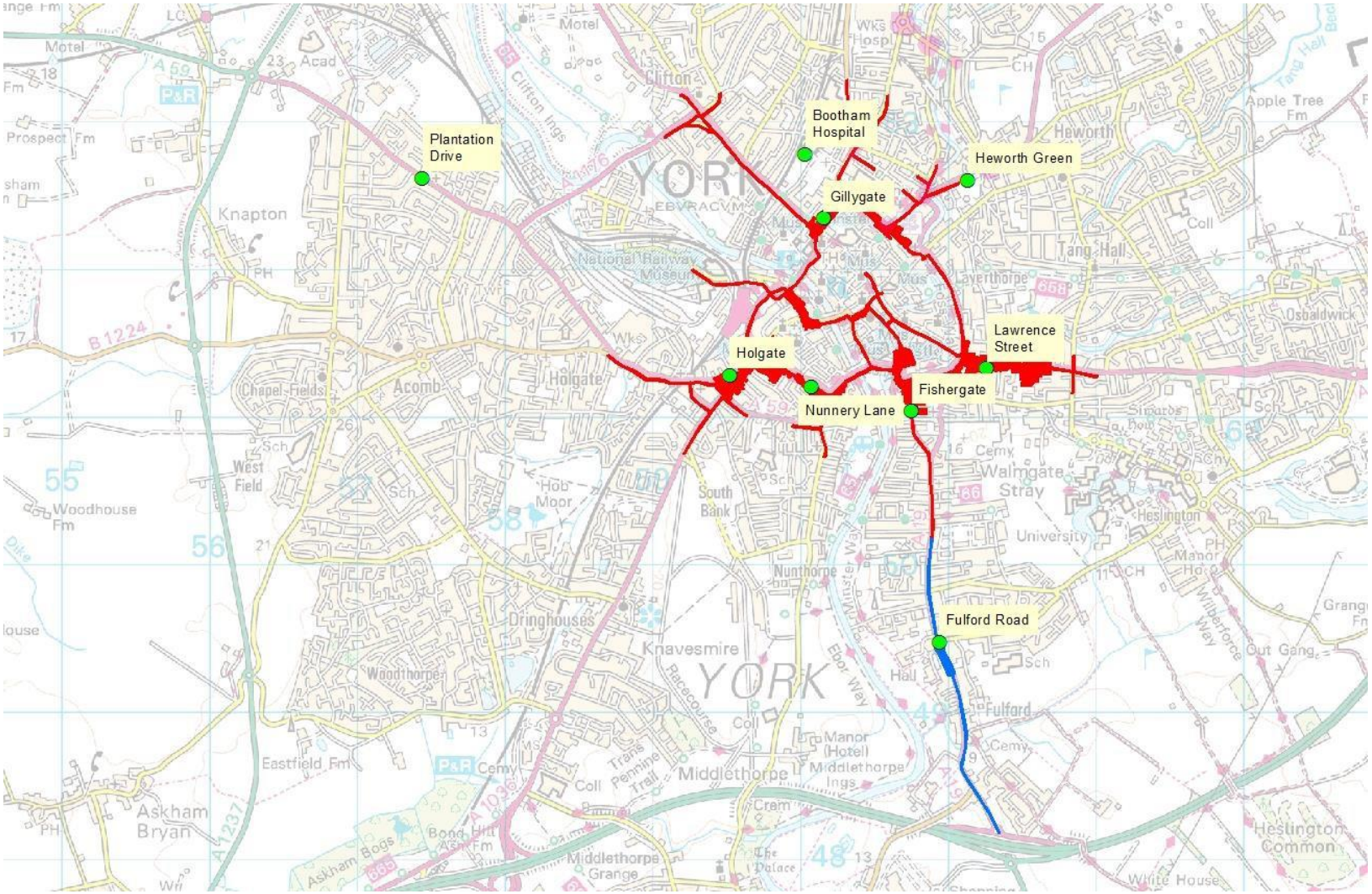


Figure D.2 - Map of Automatic Monitoring Sites in relation to AQMA

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



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[9]

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

[9] The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

Appendix F: Impact of COVID-19 upon LAQM

COVID-19 has had a significant impact on society. Inevitably, COVID-19 has also had an impact on the environment, with implications to air quality at local, regional and national scales.

COVID-19 has presented various challenges for Local Authorities with respect to undertaking their statutory LAQM duties in the 2021 reporting year. Recognising this, Defra provided various advice updates throughout 2020 to English authorities, particularly concerning the potential disruption to air quality monitoring programmes, implementation of Air Quality Action Plans (AQAPs) and LAQM statutory reporting requirements. Defra has also issued supplementary guidance for LAQM reporting in 2021 to assist local authorities in preparing their 2021 ASR. Where applicable, this advice has been followed.

Despite the challenges that the pandemic has given rise to, the events of 2020 have also provided Local Authorities with an opportunity to quantify the air quality impacts associated with wide-scale and extreme intervention, most notably in relation to emissions of air pollutants arising from road traffic. The vast majority (>95%) of AQMAs declared within the UK are related to road traffic emissions, where attainment of the annual mean objective for nitrogen dioxide (NO_2) is considered unlikely. On 23rd March 2020, the UK Government released official guidance advising all members of public to stay at home, with work-related travel only permitted when absolutely necessary. During this initial national lockdown (and to a lesser extent other national and regional lockdowns that followed), marked reductions in vehicle traffic were observed; Department for Transport (DfT) data[10] suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

This reduction in travel in turn gave rise to a change of air pollutant emissions associated with road traffic, i.e. nitrous oxides (NO_x), and exhaust and non-exhaust particulates (PM). The Air Quality Expert Group (AQEG)[11] has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK reductions in NO_2 annual mean concentrations were between 20 and 30% relative to pre-pandemic levels, which

[10] Prime Minister's Office, COVID-19 briefing on the 31st of May 2020

[11] Air Quality Expert Group, Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK, June 2020

represents an absolute reduction of between 10 to 20µg/m^3 if expressed relative to annual mean averages. During this period, changes in $PM_{2.5}$ concentrations were less marked than those of NO_2. $PM_{2.5}$ concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. Through analysis of AURN monitoring data for 2018-2020, AQEG have detailed that $PM_{2.5}$ concentrations during the initial lockdown period are of the order 2 to 5µg/m^3 lower relative to those that would be expected under business-as-usual conditions.

As restrictions are gradually lifted, the challenge is to understand how these air quality improvements can benefit the long-term health of the population.

Impacts of COVID-19 on Air Quality within York

The Covid-19 lockdowns in 2020 provided an unexpected and unique opportunity to study York's air quality in the absence of normal traffic levels. Widespread improvements in air quality were observed in York in 2020 compared with previous years, primarily due to a reduction in emissions from vehicles on the York road network. The initial guidance to exercise outside the home once a day, and reduced numbers of vehicles on the roads, also resulted in an increase in active forms of travel such as walking and cycling. Use of public transport also decreased.

The latest air pollution monitoring data indicates that the annual average air quality objective for NO_2 (40µg/m^3) was met at all monitoring sites (at relevant locations) in York in 2020, including all sites within the current Air Quality Management Area. The highest concentration of NO_2 recorded at a relevant location was 40.2µg/m^3 on Gillygate, which is equal to the objective (to 1 decimal place).

Annual mean NO_2 concentrations monitored at all roadside real-time monitoring stations were significantly lower in 2020, compared with levels monitored in 2019. Reductions in NO_2 of between 13.9% (Gillygate) and 27.8% (Fishergate) were observed (average reduction 23.4%). The percentage reduction in annual mean NO_2 at Bootham Hospital (City of York Council's urban background monitoring site) between 2019 and 2020 was 13.5%.

Ricardo Energy and Environment (City of York Council's current air quality data management contractors) have produced a detailed technical note that examines the impact of lockdown measures on ambient air quality in York throughout 2020. Some of the content is reproduced in this Annual Status Report, but the full report is available

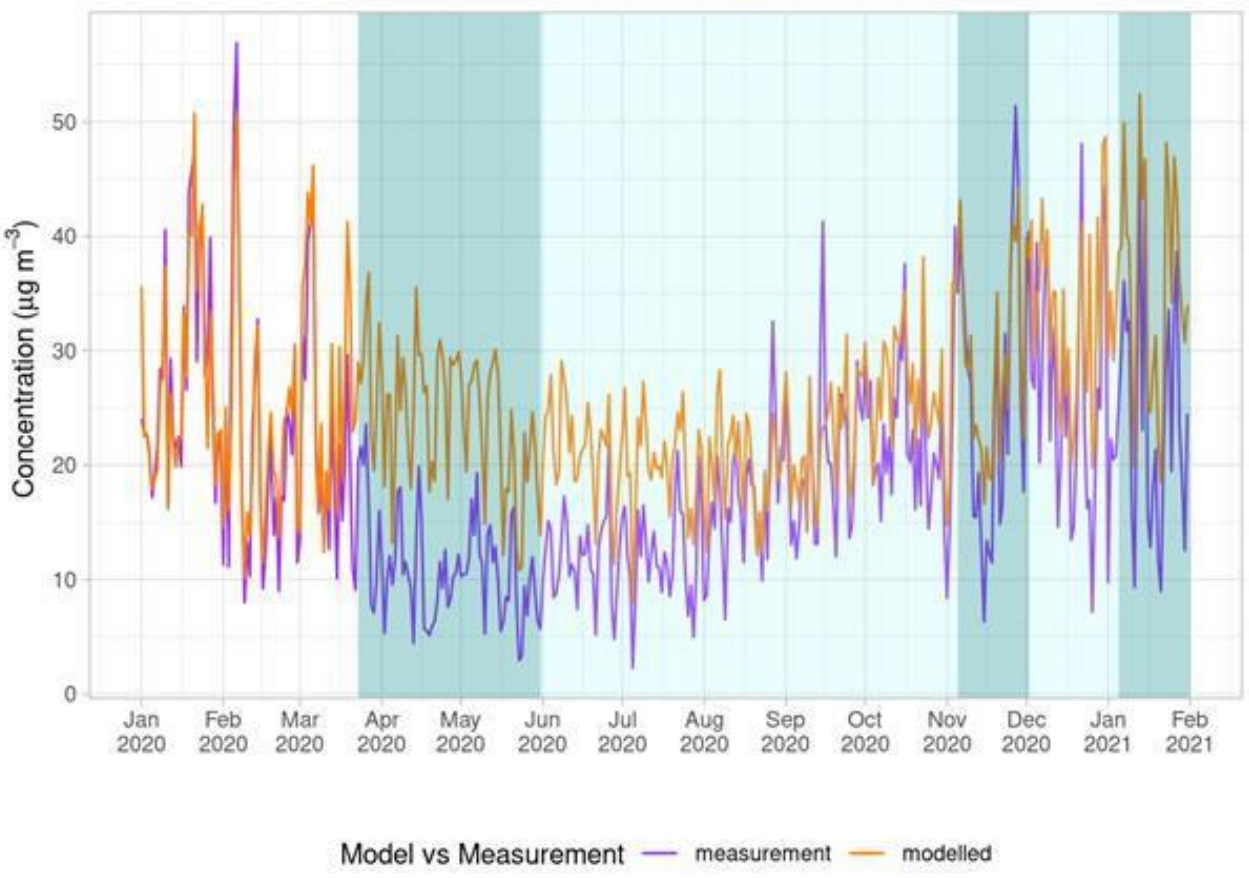
online at Impact of COVID-19 on Air Quality in York. The outputs of this report are based on provisional datasets which are subject to change.

A recurring problem when analysing air pollution measurements and looking to see a change due to some intervention is the effect of meteorological conditions. Indeed, changes in the weather can easily mask or emphasise changes in pollutant concentrations. The analysis undertaken by Ricardo focuses on City of York Council's air quality monitoring data and uses proven modelling techniques to discount the influence of weather on ambient pollutant concentrations. This analysis suggested that during the early part of the Covid-19 lockdown, nitrogen dioxide concentrations in some areas of York may have improved by up to 43% (average across all continuous monitoring sites was 30%) compared with a 'business as usual' scenario, clearly demonstrating that traffic is a significant source of nitrogen dioxide in the city and supporting the steps the council has taken so far to reduce vehicle emissions.

To counteract the effect of weather, a model was used to simulate pollutant concentrations using wind speed/direction, temperature, hour of the day, day of the week etc as predictors. This model was then used to predict concentrations from March 2020, which can be seen as the normal concentrations expected if no intervention had taken place. The model also takes into some account the long-term reduction in NO_x concentrations due to the ongoing decrease in NO_x emissions.

Before 23rd March, when lockdown was enforced, the measured and modelled pollutant concentrations were similar, suggesting that the measured concentrations were comparable to the usual levels for the time of the year and under normal business activities. The modelled (i.e. 'business as usual') NO_2 and NO_x concentrations are predominately higher than the measured ones from 23rd March to July, which suggests that reduced emissions from traffic and industry are being seen in the measurements. An example for NO_2 is shown for the York Fishergate monitoring site below, but all York monitoring sites are shown in the full report available online.

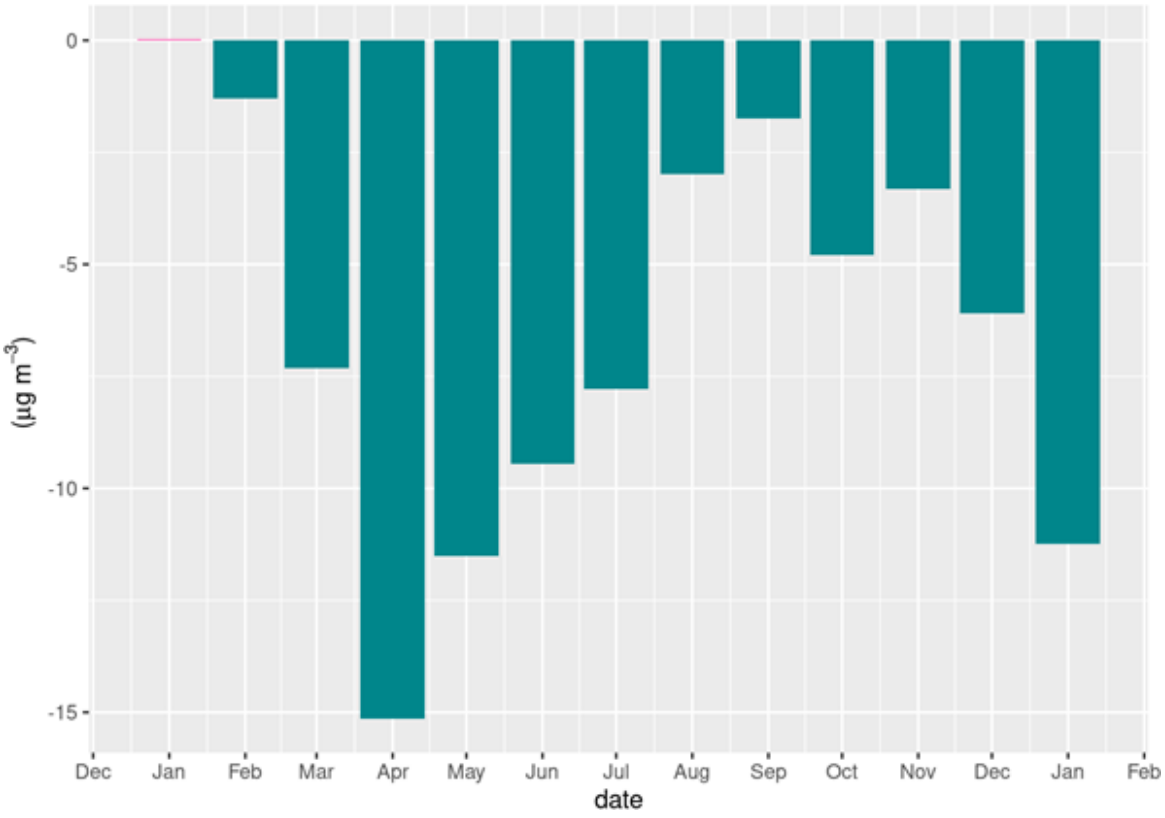
Simulated and measured NO_2 concentrations at Fishergate



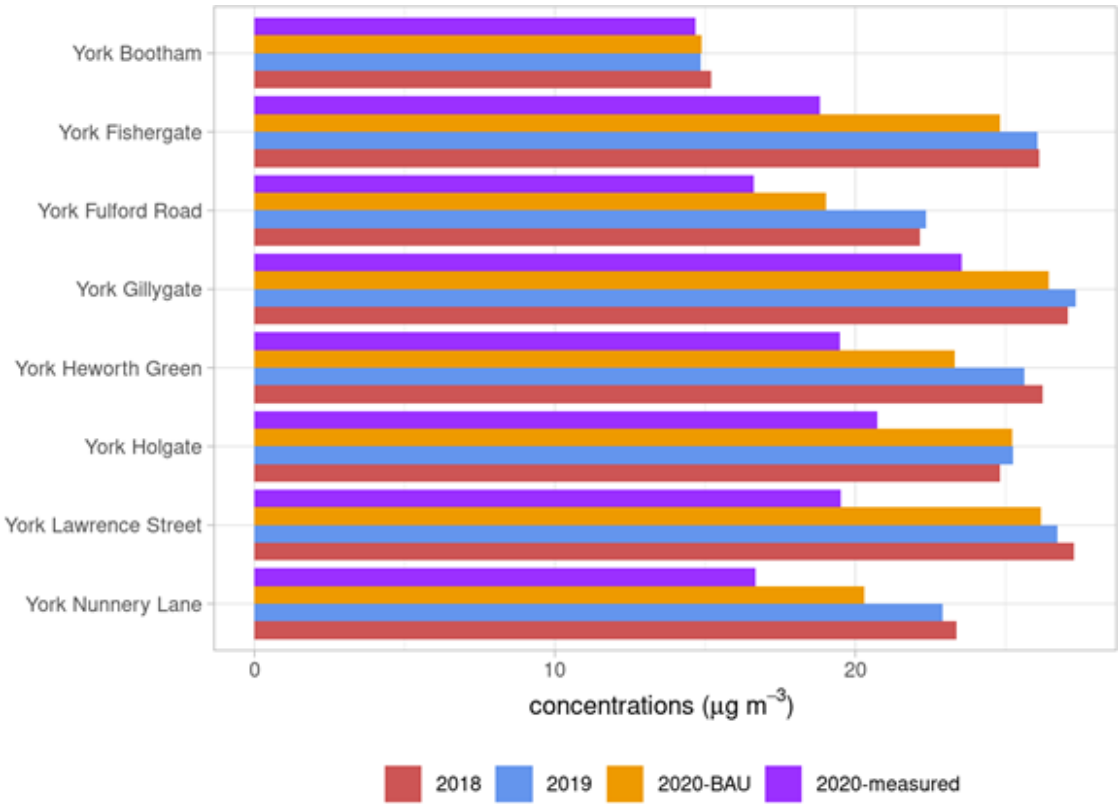
To put the magnitude of the decrease into perspective, the monthly mean difference in measured and modelled "business as usual" (BAU) concentrations are shown for all monitoring sites in the online report.

The figure below shows the monthly mean differences for City of York Council's monitoring station on Fishergate. Pink bars represent measurements greater than modelled concentrations and green bars represent measurements lower than modelled concentrations. As can be seen, measured values are significantly lower than the BAU scenario.

Monthly Mean Difference at Fishergate (NO_2)



The annual average NO_2 concentrations for 2018 and 2019 are shown below for each York site, along with the Business As Usual and measured averages for 2020.



Further details of the methodology used are provided in the blog article by Ricardo, available here: [Analysis of COVID-19 lockdown on UK local air pollution].

Whilst concentrations of NO_2 monitored in York throughout 2020 could be regarded as atypical (due to the pandemic and resultant reductions in traffic across the city), they continue the general downward trend in NO_2 concentrations monitored across 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 long-term cultural shift to alternative, sustainable modes of transport, such as walking and cycling.

Opportunities Presented by COVID-19 upon LAQM within York

In response to the Coronavirus pandemic, CYC developed a one year Covid-19 Economic Recovery Plan. This plan comprises 4 different strategies, including strategy for managing transport and place for York's economic recovery. The 'Economic Recovery - Transport and Place Strategy' has 5 interdependent strands that have been delivered throughout 2020:

- Creating a people-focussed city centre, including increasing the city centre footstreets and public spaces to create an attractive environment that people can visit with confidence, with space to social distance

- Prioritising active travel, including cycling and walking, by investing in and improving park and cycle sites, increased cycle parking and new cycle routes
- Encouraging the safe return of residents and visitors by considering incentivised short-stay parking in some of the city's car parks. This was considered a short term approach to car travel in direct response to the Coronavirus pandemic
- Maintaining confidence in and responding to the short-term reduction in capacity on public transport by working with bus and rail operators to ensure people can continue to use public transport with confidence
- Supporting secondary shopping areas

These measures were delivered at pace to best accelerate the recovery of the economy, allowing businesses to open safely, whilst protecting residents' safety and recognising the continued importance of sustainable travel provision across the city. Further information can be found at: City of York Council - Coronavirus Recovery.

Active Travel Fund - After successfully delivering phase one of the Government's Emergency Active Travel Fund in the summer of 2020 (£193,000), City of York Council have now been provisionally allocated £658,350 as part of phase two of this scheme. Funds will be used to support more active travel across York and the many residents who are choosing to walk and cycle more throughout the city's COVID recovery. The Government's Active Travel Fund is designed to support walking and cycling as a long-term method for commuting. To receive any allocation from the fund, the council must carry out wide reaching engagement on a variety of proposed schemes to inform designs for people-centred transport infrastructure and more active travel opportunities for residents. Consultation activities during 2021 will provide residents the opportunity to shape future plans and ensure that they are designed to meet the needs of local communities. The second phase of funding will allow the city to build upon action taken in 2020 through temporary changes to road layout and improving cycle safety, and enable the council to design and implement more permanent and wider reaching schemes to support residents with active travel opportunities. Full details of Phase 1 and 2 active travel measures are available at City of York Council's Active Travel Fund website.

Challenges and Constraints Imposed by COVID-19 upon LAQM within York

- Current uncertainties with respect to future travel behaviour, particularly around confidence in the use of public transport (and possible subsequent increases in private

car journeys) could offset some of the air pollution gains that have been made in recent years. However, if York can sustain some of the improvements in walking and cycling levels that arose during lockdown and more people work at home, there may be an opportunity to improve air quality further.

- The reduced capacity of public transport (due to social distancing requirements) and the initial reluctance to use public transport (as the close proximity to others means it was perceived to be a high risk form of transport) is anticipated to dissipate further with time following the widespread vaccine deployment programme. Public transport remains a strategic priority for the council and we will ensure that the bus and rail network continues to operate for those that need it, that bus stops and the railway station are safe environments, that capacity is increased at key times of day and times of the year, and as the risk or perceived risk of infection reduces people return to using public transport with confidence instead of cars.
- In line with instruction from the Central Management and Co-ordination Unit (CMCU) for the AURN, calibration frequency for the two York AURN sites (Bootham and Fishergate) was reduced to monthly for a short period during 2020. Calibration frequency at City of York Council's other operated automatic monitoring sites was also reduced to monthly during the same period due to staff availability for LAQM work. **Small Impact**
- Reduced data capture from the Bootham automatic monitoring site (specifically the NO_2 analyser) during 2020 resulted in a lower number of valid periods being available to calculate a local bias adjustment factor for diffusion tubes in background locations as previously explained in this ASR. Whilst the resultant factor was comparable with that used in previous years, there is the potential for a greater degree of uncertainty associated with the resultant annual mean NO_2 concentrations (as monitored at urban background locations) in 2020 than in previous years. **Small Impact**
- Delays in formal approval of City of York Council's updated Taxi Licensing Policy were brought about by the pandemic due to the potential impact of any changes on the taxi trade. A recommendation has been made to the council's Executive that they amend the Taxi Licensing Policy and conditions with regards to the type of hackney carriage and private hire vehicles that will be licensed by the Council in the future. Proposed changes also include the introduction of a vehicle age limit for all vehicles except electric vehicles (EV) or plug-in hybrid electric vehicles (PHEV). Changes 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. The Executive has been requested to take the current economic situation and impact on the taxi trade into account when implementing the changes. **Medium Impact**

- Despite delays with approval of City of York Council's Taxi Licensing policy, a decision was taken to launch the DEFRA funded low emission taxi grant scheme on 10th November 2020 based on the driver and vehicle eligibility statement previously agreed with DEFRA / JAQU. The original intention was to run the taxi grant scheme until March 2021, but due to funds remaining at that point the grant application window has been extended for a further 12 months until March 2022. Potentially there may currently be less of a desire by drivers to invest in new vehicles, due to current financial pressures and appetite to take on new finance agreements for vehicles. **Small Impact**

Table F 1 – Impact Matrix

Category	Impact Rating: None	Impact Rating: Small	Impact Rating: Medium	Impact Rating: High
Automatic Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Automatic Monitoring – QA/QC Regime	Adherence to requirements as defined in LAQM.TG16	Routine calibrations taken place frequently but not to normal regime. Audits undertaken alongside service and maintenance programmes	Routine calibrations taken place infrequently and service and maintenance regimes adhered to. No audit achieved	Routine calibrations not undertaken within extended period (e.g. 3 to 4 months). Interruption to service and maintenance regime and no audit achieved
Passive Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Passive Monitoring – Bias Adjustment Factor	Bias adjustment undertaken as normal	<25% impact on normal number of available bias adjustment colocation studies (2020 vs 2019)	25-50% impact on normal number of available bias adjustment studies (2020 vs 2019)	>50% impact on normal number of available bias adjustment studies (2020 vs 2019) and/or applied bias adjustment factor studies not considered representative of local regime
Passive Monitoring – Adherence to Changeover Dates	Defra diffusion tube exposure calendar adhered to	Tubes left out for two exposure periods	Tubes left out for three exposure periods	Tubes left out for more than three exposure periods
Passive Monitoring – Storage of Tubes	Tubes stored in accordance with laboratory guidance and analysed promptly.	Tubes stored for longer than normal but adhering to laboratory guidance	Tubes unable to be stored according to be laboratory guidance but analysed prior to expiry date	Tubes stored for so long that they were unable to be analysed prior to expiry date. Data unable to be used
AQAP – Measure Implementation	Unaffected	Short delay (<6 months) in implementation of measures, but has been progressed to a degree	Long delay (>6 months) in implementation of measures, but has been progressed to a degree	No progression in implementation of measures
AQAP – New AQAP Development	Unaffected	Short delay (<6 months) in development of a new AQAP, but is on-going	Long delay (>6 months) in development of a new AQAP, but is on-going	No progression in development of a new AQAP

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 Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- All City of York Council's previous LAQM Review and Assessment reports can be found online at the JorAir Website