Notice of a public

Decision Session - Executive Member for Environment and Climate Change

To: Councillor Widdowson (Executive Member)

Date: Thursday, 24 September 2020

Time: 4.00 pm

Venue: Remote Meeting

AGENDA

Notice to Members – Post Decision Calling In:

Members are reminded that, should they wish to call in any item* on this agenda, notice must be given to Democratic Services by **5:00 pm on Monday 28 September 2020.**

*With the exception of matters that have been the subject of a previous call in, require Full Council approval or are urgent, which are not subject to the call-in provisions. Any called in items will be considered by the Customer and Corporate Services Scrutiny Management Committee.

Written representations in respect of items on this agenda should be submitted to Democratic Services by **5.00 pm** on **Tuesday 22 September 2020.**

1. Declarations of Interest

At this point in the meeting, the Executive Member is asked to declare:

- any personal interests not included on the Register of

Interests

- any prejudicial interests or
- any disclosable pecuniary interests

which he might have in respect of business on this agenda.

2. Minutes (Pages 1 - 6)

To approve and sign the minutes of the Decision Session held on 12 August 2020.

3. Public Participation

At this point in the meeting members of the public who have registered to speak can do so. Members of the public may speak on agenda items or on matters within the remit of the committee. **Please note that our registration deadlines have changed to 2 working days before the meeting, in order to facilitate the management of public participation at remote meetings.** The deadline for registering at this meeting is **5:00pm on Tuesday 22 September 2020.**

To register to speak please contact Democratic Services, on the details at the foot of the agenda. You will then be advised on the procedures for dialling into the remote meeting.

Webcasting of Remote Public Meetings

Please note that, subject to available resources, this remote public meeting will be webcast including any registered public speakers who have given their permission. The remote public meeting can be viewed live and on demand at www.york.gov.uk/webcasts.

During coronavirus, we've made some changes to how we're running council meetings. See our coronavirus updates (www.york.gov.uk/COVIDDemocracy) for more information on meetings and decisions.

4. Air Quality - Annual Status Report 2020 (Pages 7 - 180)

The report details the latest air quality monitoring results for the city and progress on delivering the measures in York's third Air Quality Action Plan (AQAP3) to deliver further improvements.

5. Urgent Business

Any other business which the Executive Member considers urgent under the Local Government Act 1972.

Democracy Officer:
Robert Flintoft
Telephone No- 01904 555704
Email- robert.flintoft@york.gov.uk

For more information about any of the following please contact the Democratic Services Officer responsible for servicing this meeting:

- Registering to speak
- Business of the meeting
- Any special arrangements
- Copies of reports and
- For receiving reports in other formats

Contact details are set out above.

This information can be provided in your own language.

我們也用您們的語言提供這個信息 **(Cantonese)**

এই তথ্য আপনার নিজের ভাষায় দেয়া যেতে পারে। **(Bengali)**

Ta informacja może być dostarczona w twoim własnym języku. **(Polish)**

Bu bilgiyi kendi dilinizde almanız mümkündür. **(Turkish)**

یہ معلومات آپ کی اپنی زبان (بولی) میں بھی مہیا کی جاسکتی ہیں۔ **(Urdu)**

☎ **(01904) 551550**

This page is intentionally left blank

Agenda Item 2

City of York Council	Committee Minutes
Meeting	Decision Session - Executive Member for Environment and Climate Change
Date	12 August 2020
Present	Councillor Widdowson (Executive Member)
In Attendance	James Gilchrist (Assistant Director of Transport, Highways and Environment), Steve Wragg (Flood Risk Manager), Ben Hughes (Environment Agency Project Director for the York Flood Risk Programme) and Louise Cook (Democracy Officer)

1. Declarations of Interest

At this point in the meeting, the Executive Member was asked to declare any personal interests not included on the Register of Interests, or any prejudicial or discloseable pecuniary interests she may have in respect of business on the agenda. None were declared.

2. Minutes

Resolved: That the minutes of the Decision Session, and the Joint Budget Decision Session with the Executive Members for Transport and Economy & Strategic Planning, held on 13 January 2020 be approved as a correct record and be signed by the Executive Member at a later date.

3. Public Participation

It was reported that there had been no registrations to speak at the session under the Council's Public Participation Scheme.

4. York February Flood Review

The Executive Member considered a report that provided a review of response to flooding in York following storms in February and early March 2020 and an update from the Environment Agency on the progress of the York Flood Alleviation Scheme.

The Flood Risk Manager, the Assistant Director of Transport, Highways and Environment and the Environment Agency Project Director for the York Flood Risk Programme were all in attendance to provide an update, where they informed the Executive Member that:

- February 2020 had been confirmed as the wettest on record leading to four significant river peak levels, leaving significant areas of the city centre and outlying villages in flood alert and warning status for more than three weeks, with riverside access routes for pedestrians and cyclists being underwater for the majority of February.
- All flood plans including temporary measures were enacted by City of York Council, the Environment Agency (EA) and Yorkshire Water and the cities flood defences prevented flooding to around 1056 properties and the A19 access was maintained, which would have been flooded previously.
- All partners worked collaboratively to deliver flood response operations and communications and thanks was expressed to City of York Council officers who provided a 24 hour on call service.
- A Single Version of The Truth document was developed which detailed all aspects of the emerging incidents, latest forecasts, operational actions and likely impacts. This was updated daily and distributed to all key internal departments, Councillors, Parish Councillors, flood groups, the Local Resilience Forum and MPs.
- Forecast flood levels shown on the gov.uk website could be over predicted and differ from the information officers provided to partners and the public.

Officers highlighted the recommendations in the report and they answered questions raised by the Executive Member, where it was noted that:

- Timely and direct messages to residents was essential and that communications regarding the impact of flooding and preventative measures available should be issued from early autumn.
- The Single Version of The Truth document would be developed as messaging and communications were improved in advance of flooding and built into the flood plan.

- Officers would consider how they monitored the raw data to ensure residents received tailored and up to date forecasts, flood warnings and alerts in their areas.
- The replacement flood gate at Lendal Bridge had been delayed and would now be installed in spring 2021.

The Executive Member commended all officers and partners for ensuring that progress continued to be made on flood alleviation and prevention in York and she requested officers monitor the delay and installation of the flood gate.

Resolved: That the report and the update at Annex 2 be noted and the following be agreed:

i. Emergency Response Procedures – co-location of internal officers worked well and should be reinforced in the flood plan, linkages to the York Flood Group should be reviewed.

ii. Emergency Response Procedures – further awareness sessions for key duty officers across agencies were to be considered to ensure awareness and understanding of their roles.

iii. Operational – acting early to deploy temporary measures was successful, this should be recognised and supported as best practice and all teams be encouraged to act in this way.

iv. Operational – The flood resilience measures under consideration for Fulford were to be developed further and additional funding be sought to enable their delivery.

v. Operational – Sandbags were deployed in accordance with risk and forecast, this worked as an effective use of resource but need to communicate this better to affected communities so they know what to expect.

vi. Warning and Informing – Forecast levels were included for Viking recorder on the .gov.uk website as part of a trial. This functionality was not available on all EA level gauges. The website included a statement to refer to alerts

and warnings for information. Better understanding was needed by all users of this service to explain its limitations. All communications should provide supporting information to explain this, Environment Agency were supportive of this and example text was provided at Annex 1 of the report.

vii. Communications and Media – The Single Version of The Truth worked well to prove a rolling update on the forecasts, escalation and impacts of the flooding. The consequences of River Ouse flooding were well known and responses rehearsed, messaging and communication can be developed in advance of flooding and built into the flood plan.

viii. Impact – Environment Agency led schemes in areas affected by the event were essential to provide future flood resilience, all involved were to commit to their effective and timely delivery.

ix. Impact – The funding available for flood signage updates should be informed by feedback from the event to ensure it was targeted effectively and has maximum impact.

x. Impact – Council teams and partners support affected businesses wherever possible, businesses will be encouraged to ensure they were prepared for future flooding and business continuity planning takes this into account.

Reason: To confirm that the Executive Member was aware of the current position and to ensure that progress continued to be made on flood alleviation and prevention in the City of York.

5. Germany Beck Flood Scheme Update

The Executive Member considered a report that provided an update on the Germany Beck Flood Alleviation Scheme and requested she endorsed the procurement and development of the detailed design stage of the scheme and the funding options to deliver the construction phase.

The Flood Risk Manager, the Assistant Director of Transport, Highways and Environment and the Environment Agency Project Director for the York Flood Risk Programme were all in attendance to provide an update. They informed the Executive Member that City of York Council (CYC) had taken the lead in the development of a Germany Beck Flood Alleviation Scheme and that consultants were working on the wider Environment Agency (EA) led programme to develop a range of options that would better maintain a dry access to the Fordlands community, protect properties in this location and enhance the existing flood protection works on the A19.

Officers confirmed that the design, construction and whole life maintenance costs of the preferred solution was estimated at £4.9m and the various funding sources available were discussed. It was noted that the wider CYC funding available to contribute to the delivery of wider benefits from the EA led programme would be considered by Executive.

The Executive Member noted the benefits the scheme would have on residents and the A19 and she thanked officers and the EA for their continued contribution to keeping residents safe.

Resolved:

(i) That the contents of the report be noted.

(ii) That the development of the next stage of appraisal, as detailed in paragraphs 31 & 32 of the report, be agreed.

(iii) That the funding needs be considered by Executive for further consideration.

Reason: To confirm that the Executive Member was aware of the current position and to ensure that progress continued to be made on the Germany Beck Food Alleviation Scheme.

Cllr Widdowson, Executive Member
[The meeting started at 3.00 pm and finished at 3.44 pm].

This page is intentionally left blank

24 September 2020

Decision Session – Executive Member for Environment and Climate Change

Report of the Corporate Director, Economy and Place

Air Quality – Annual Status Report

Executive Summary

1. The report details the latest air quality monitoring results for the city and progress on delivering the measures in York's third Air Quality Action Plan (AQAP3) to deliver further improvements.

2. Recent air quality monitoring can be summarised as follows:
   - There has been a general downward trend in Nitrogen Dioxide (NO_2) concentrations monitored across the city since 2012, although year on year improvements in NO_2 have been much less pronounced over the last 2-3 years and in some areas appear to have plateaued. This clearly demonstrates the need to continue to deliver the air quality improvement measures in AQAP3.
   - The health based annual average nitrogen dioxide (NO_2) objective is still being breached at some locations in the city, including Gillygate, Holgate / Blossom Street and Rougier Street / George Hudson Street. Elevated levels of NO_2, below the objective, were monitored along Nunnery Lane, Lawrence Street, Fishergate and Coppergate.
   - NO_2 concentrations in the former Salisbury Terrace and Fulford Road AQMAs are still well within health based limits.
   - National air quality objectives for PM_{10} and $PM_{2.5}$ are currently easily met in York. There does not appear to be any clear trend in PM_{10} concentrations based on monitoring over the last 8 years. The general downward trend in PM_{10} concentrations observed at roadside monitoring sites up to 2017 has not continued through 2018 and 2019. Concentrations of $PM_{2.5}$ have generally decreased at roadside locations in recent years, although $PM_{2.5}$ monitored at York's background monitoring station have been more variable.

- During the early part of the Covid-19 lockdown NO_2 concentrations in some areas of York improved by up to 43%, clearly demonstrating that traffic is a significant source of NO_2 in the city and supporting the measures the council has taken so far to reduce vehicle emissions.

3. Briefly, CYC has progressed the delivery of measures within York's Third Air Quality Action Plan (AQAP3) as follows:
   - Secured funding to deliver fully electric buses and charging infrastructure at York's Park & Ride (P&R) sites.
   - Introduced a Clean Air Zone (CAZ) for buses and allocated funding to help to replace/retrofit 93 buses to CAZ compliant vehicles.
   - Encouraged 20% of York taxis to change to low emission vehicles and secured further funding to encourage more drivers to upgrade.
   - Implemented an extensive public electric vehicle recharging network
   - Been awarded 'Go Ultra Low' city status and is in the process of delivering ultra-rapid charge units (hyper-hubs) at two P&R sites.
   - Developed Low Emission Planning Guidance
   - Implemented a package of measures aimed at deterring stationary vehicles from idling, including a new 'Kick the Habit' anti-idling awareness-raising campaign
   - Reduced 'grey fleet' trips by utilising car club vehicles for CYC staff during office hours
   - Continued to deliver on walking, cycling and public transport improvements, maintaining its national reputation as a leader in sustainable transport.

   Work on all these measures will continue in the coming year; further details are provided in this report.

4. The report is provided for information following submission of the 2020 Annual Status Report to DEFRA. The executive member is asked to note the contents of the report.

Recommendations

5. The executive member is asked to note the contents of the report, including the continuing trend in air quality in York.

Background

6. In 2015 DEFRA changed the reporting system for air quality via the introduction of 'Annual Status Reports (ASRs)' for all local authorities in

England. The ASR replaced the historical 'Review and Assessment' reports and is intended to aid local transparency, increase accessibility of air quality to the wider public and encourage buy-in to delivering air quality improvement measures by those best placed to assist (e.g. Directors of Public Health and Transport).

7. This report provides an update on air quality in York (2019 calendar year), including progress on delivery of the measures within City of York Council's third Air Quality Action Plan (AQAP3), following submission of this year's Annual Status Report (ASR) to DEFRA in June 2020. The ASR and its conclusions were fully accepted by DEFRA on 2 July 2020. The full Annual Status Report (2020) is available to download from http://jorair.co.uk/data-downloads/reports/.

8. 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. Air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[1].

9. Recent research has suggested a link between coronavirus (Covid-19) deaths and exposure to high levels of pollution. It is well established that long term exposure to particulate matter causes stress to the respiratory and cardiovascular system. Emerging research suggests that pre-exposure to high levels of particulate pollution may make a person more likely to become seriously ill, or even die, after infection with Covid-19. Many of the deaths relating to Covid-19 have been amongst those who live in polluted areas or who experience high levels of occupational exposure (e.g. bus and taxi drivers). Whilst air pollution exposure appears to be one contributory factor to Covid-19 death rates there will be others including deprivation levels. In many places there is a close link between levels of air pollution and deprivation, the poorest areas often experiencing the highest exposure levels. Other research has suggested that polluted air more readily facilitates vapour spread and this can also increase the rate of Covid-19 infection.

10. During 2019, 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

[1] DEFRA. Abatement cost guidance for valuing changes in air quality, May 2013

No.2). A third AQMA for NO_2 existed on Salisbury Terrace between 2012 and 2017 (AQMA Order No.3). Following an Executive Member Decision Session in November 2019[2], the Fulford AQMA was revoked in February 2020 (due to air quality objectives no longer being exceeded in this area). CYC has a statutory duty to try to reduce NO_2 concentrations within the current 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 50-70% 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.

Air Quality Monitoring Update

11. Real-time monitoring of nitrogen dioxide and other pollutants has been undertaken at a total of 14 different locations across York since 1999 (real-time monitoring is currently undertaken at 9 sites). The Council has also historically undertaken nitrogen dioxide diffusion tube monitoring at up to 340 locations in the city. Results from this diffusion tube monitoring programme were last reported in the Annual Status Report (June 2019)[3]. The Council currently undertakes diffusion tube monitoring at 233 sites across the city; there has been no significant change to the Council's overall monitoring strategy in the last 12 months, since the last report to the Executive Member.

City Centre AQMA

12. Air pollution monitoring data for 2019 indicates that the annual average air quality objective for NO_2 is still being breached at a number of locations around the inner ring road, within the city centre AQMA. Annual mean NO_2 concentrations monitored at all roadside real-time monitoring stations remained similar (within 0.6µg/m3) in 2019, compared with levels monitored in 2018. Changes in annual mean NO2 at Bootham Hospital (an urban background monitoring site) between 2018 and 2019 were slightly more pronounced at +1.1µg/m3, but this is not considered significant based on the variation observed at this site over the last 5 years. There has been a general downward trend in NO_2 concentrations monitored across the city since 2012, although year on year improvements in NO_2 have been much less pronounced over the last 2-3 years and in

[2] https://democracy.york.gov.uk/ieListDocuments.aspx?CId=870&MId=11519
[3] Report available online at http://jorair.co.uk/data-downloads/reports/

some areas appear to have plateaued. This clearly demonstrates the need to continue to deliver the air quality improvement measures in AQAP3.

13. Exceedances of the health based annual mean NO_2 objective of 40µg/m^3 were monitored in the Gillygate, Holgate / Blossom Street and Rougier Street/George Hudson Street technical breach areas in 2019. The maximum annual mean concentrations of NO_2 monitored at relevant locations in the Nunnery Lane, Lawrence Street, Fishergate and Coppergate technical breach areas were below the objective at 37.4µg/m^3, 38.9µg/m^3, 37.8µg/m^3 and 38.2µg/m^3 respectively. Whilst these concentrations are below the 40µg/m^3 objective level, they are still considered elevated and upper confidence limits (calculated on the basis of the precision of the monitoring techniques used) are all within approximately 1µg/m^3 of the health based annual mean objective. It is therefore not considered appropriate to reduce the size of the city centre AQMA at this time. This will be reviewed as part of CYC's next Annual Status Report (due June 2021).

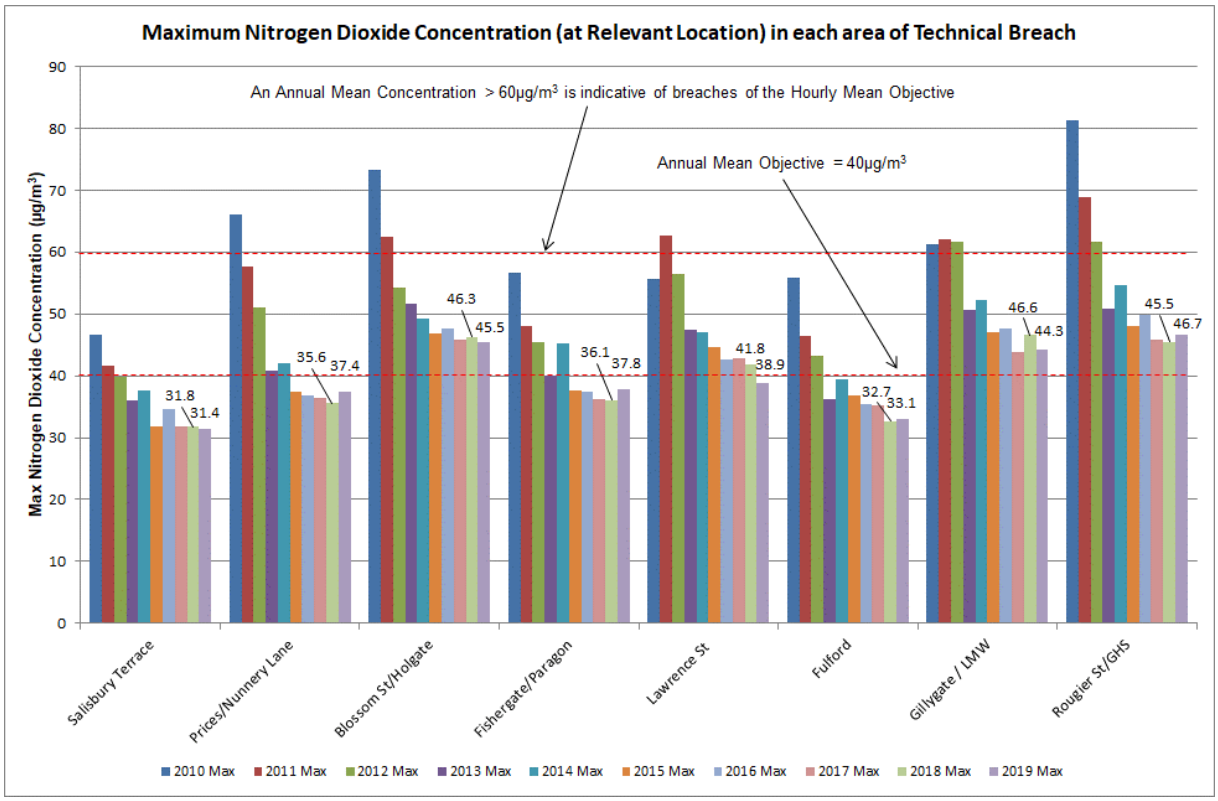
14. In December 2018, the boundary of the city centre AQMA was extended to include the full length of Coppergate and the buildings either side of the road. Concentrations of NO_2 monitored along Coppergate in 2019 were lower than those monitored in 2018, with the highest concentration in 2019 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO_2 concentration of 38.2µg/m^3 (upper confidence limit of 39.4µg/m^3) which is just below the health based annual mean objective for this pollutant.

Maximum monitored concentrations of nitrogen dioxide in 2019

15. The maximum NO_2 concentrations monitored (at a relevant location[4]) in each area of technical breach since 2010 are shown in figure 1 below. This indicator (Council Plan Indicator CAN028) only considers monitoring at relevant locations and is useful when considering the validity of AQMA boundaries year to year.

[4] A relevant location is an outdoor, non-occupational location (e.g. facade of a residential dwelling) where members of the public may be exposed to poor air quality

Figure 1



16. Figure 1 above demonstrates that the maximum annual mean nitrogen dioxide concentration at a relevant location was below the annual mean objective of 40µg/m^3 at 5 of the 8 areas shown *(note: the Salisbury Terrace AQMA and Fulford Road AQMAs have now been revoked).* Maximum concentrations of NO_2 monitored at a relevant location within the Holgate Road/Blossom Street, Gillygate/Lord Mayors Walk, and Rougier St/George Hudson Street were all well above the annual mean NO_2 objective in 2019. Whilst maximum concentrations of NO_2 monitored within the Prices/Nunnery Lane, Fishergate/Paragon Street and Lawrence Street are below the objective at 37.4µg/m^3, 37.8µg/m^3 and 38.9µg/m^3 respectively, based on precision analysis carried out on the monitoring results (and upper confidence limits) and consideration of results from previous years, it is not considered appropriate to remove these areas from the city centre AQMA boundary at the present time.

Former Fulford Road and Salisbury Terrace AQMAs

17. Concentrations of NO_2 monitored in the Fulford Road AQMA in 2019 were well below the annual mean objective of 40µg/m^3. The highest recorded levels of NO_2 were monitored on Fulford Main Street at 33.1µg/m^3. This further supports the decision to revoke the Fulford Road AQMA, as discussed in City of York Council's last Annual Status Report, and

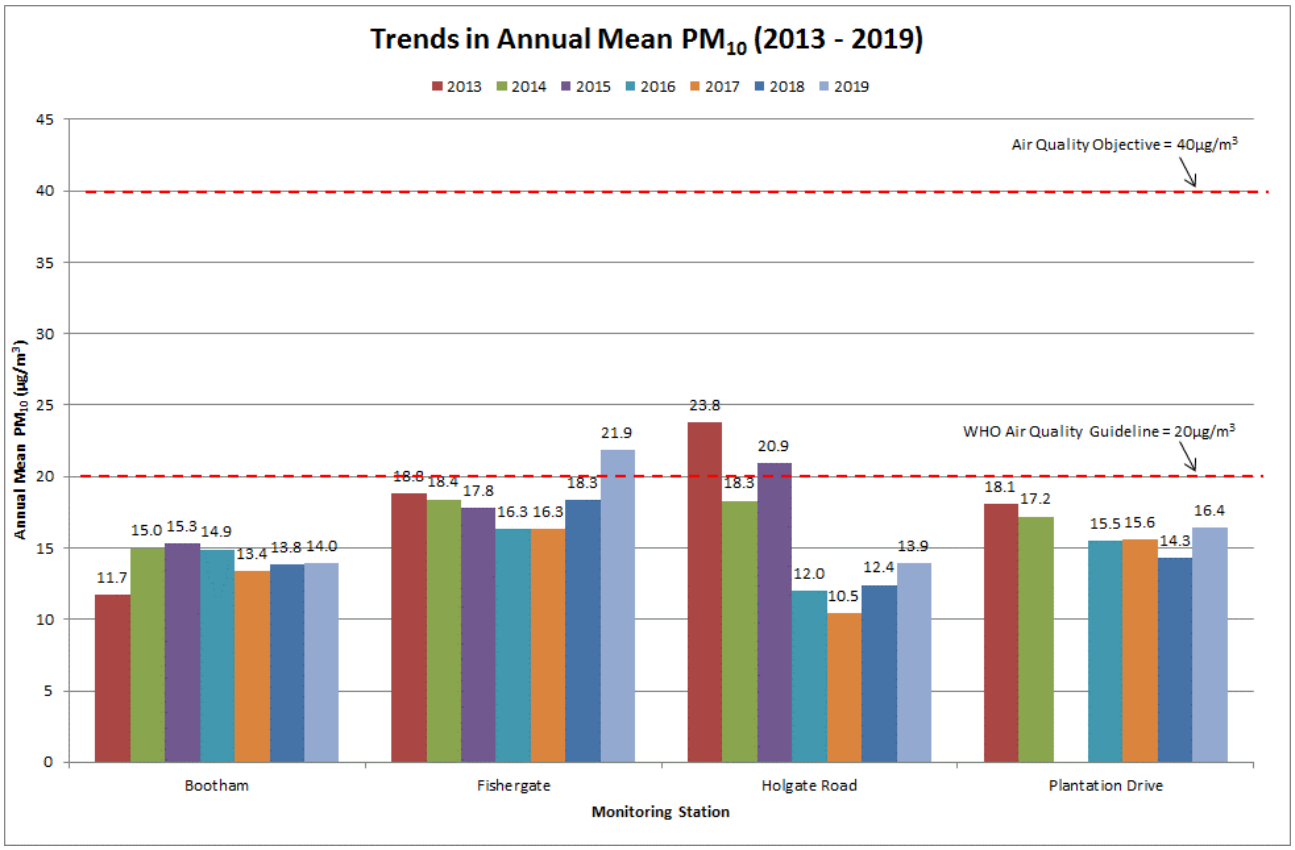
implemented in February 2020. Concentrations of NO_2 monitored in the former Salisbury Terrace AQMA in 2019 were all well below the annual mean objective of 40µg/m^3. Monitoring results indicate that the health based annual mean nitrogen dioxide objective continues to be met in this area, confirming that the decision to revoke this AQMA in December 2017 was appropriate. The current monitoring equipment along Fulford Road and Salisbury Terrace will remain in place to monitor any future changes in air quality due to development in the vicinity of the respective areas. In the unlikely event that pollution concentrations increase at these locations, the AQMAs could be re-instated, if required.

Monitoring of Particulate Matter (PM_{10} and $PM_{2.5}$)

18. 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 easily met in York. The highest annual mean levels of PM_{10} and $PM_{2.5}$ monitored in York during 2019 were 21.9µg/m^3 and 11.1µg/m^3 respectively.

19. PM_{10} concentrations increased at all roadside locations (Fishergate, Holgate Road and Plantation Drive) between 2018 and 2019 (by ~19%, ~12% and ~15% respectively). Annual mean concentrations of PM_{10} monitored at the Bootham background site were similar in 2018 and 2019 (~1% difference). Based on PM_{10} monitoring data over the last 8 years, there does not appear to be any clear trend in PM_{10} concentrations. The general downward trend in PM_{10} concentrations observed at roadside monitoring sites up to 2017 has not continued through 2018 and 2019. Trends in annual mean PM_{10} concentrations are shown in Figure 2 below.

Figure 2

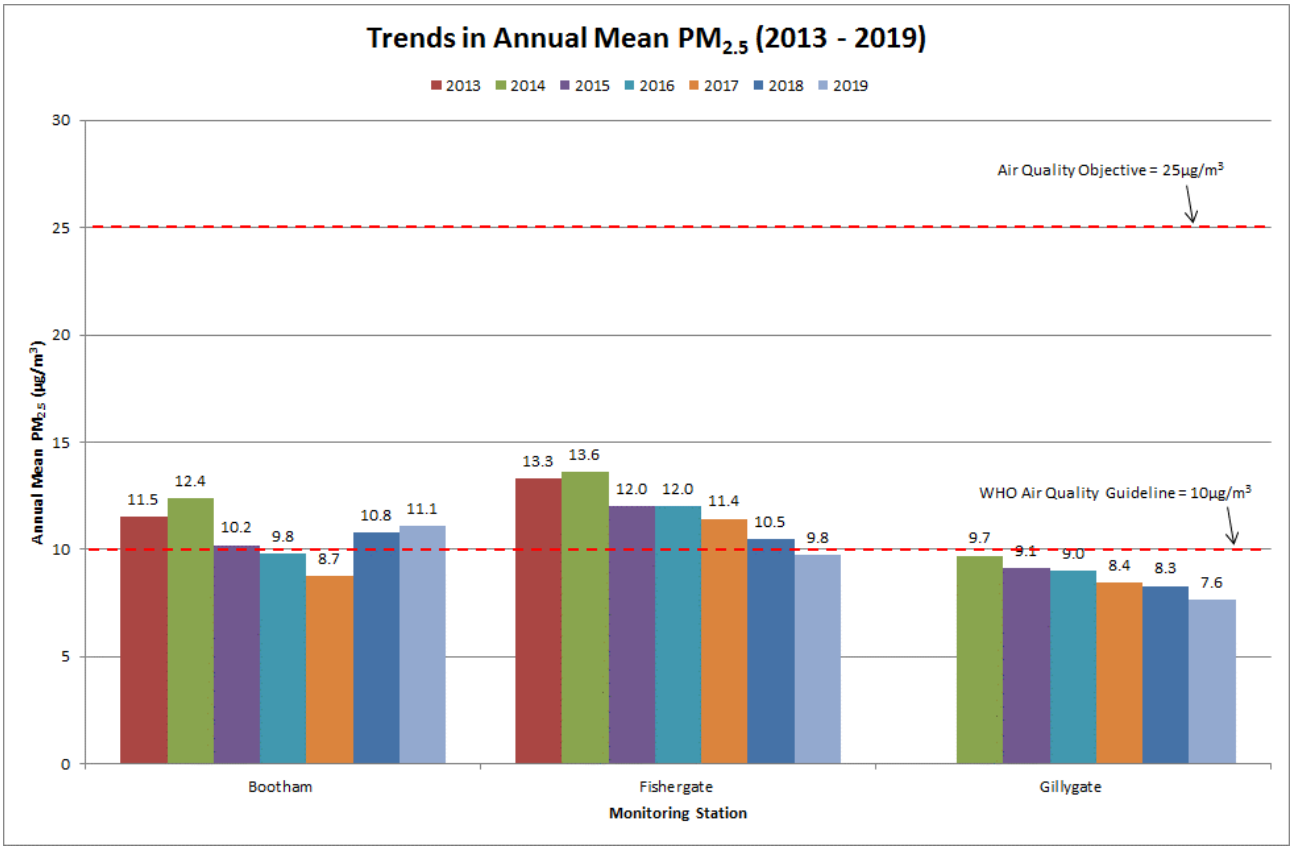


20. The World Health Organisation (WHO) Air Quality Guidelines offer global guidance on thresholds and limits for key air pollutants that pose health risks and have featured in the press in recent years. In 2016 it was estimated that 91% of the world population was living in places where WHO air quality guidelines levels were not met. Currently, guidelines of 10 and 20µg/m^3 (as annual means) have been set for $PM_{2.5}$ and PM_{10} respectively, although these guidelines are recommendations and do not apply to UK law. The WHO Air quality guidelines are currently under review.

21. Health based objective levels for fine particulates ($PM_{2.5}$) have not yet been set for local authorities. However, the EU limit value for $PM_{2.5}$ is 25µg/m^3 as an annual average. 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 $PM_{2.5}$. Trends in annual mean $PM_{2.5}$ in York are shown in figure 3 below. Over the last 7 years, concentrations of $PM_{2.5}$ have generally decreased at roadside monitoring

sites, although $PM_{2.5}$ monitored at the Bootham background site has been more variable and increased between 2017 and 2019. Background $PM_{2.5}$ concentrations are broadly comparable to those monitored in 2013. No exceedances of the annual mean $PM_{2.5}$ objective have been recorded to date since monitoring of $PM_{2.5}$ was established.

Figure 3



Meeting the Air Quality Objectives at all locations

22. Previous air quality modelling work undertaken for City of York Council's third Air Quality Action Plan (AQAP3) predicted that the current AQAP3 air quality improvement measures would help to achieve compliance in all of the current AQMA technical breach areas within the next 2 years (based on all AQAP3 measures being delivered in full). As can be seen from the data above, some locations currently remain at risk of breaching the annual average nitrogen dioxide objective. However, the results presented in this report do not include any improvement arising from the introduction of the bus based Clean Air Zone (CAZ) in January 2020 or the new electric Park & Ride bus fleet that has recently commenced operation. These measures are important parts of the AQAP3 delivery programme and should provide further emission reduction from frequent bus services and Park & Ride buses in coming years.

Impact of Covid-19 Lockdown

23. The Covid-19 lockdown provided an unexpected and unique opportunity to study York's air quality in the absence of normal traffic levels. During the early part of the Covid-19 lockdown nitrogen dioxide concentrations improved by an average of 30% across York and in some areas by up to 43%, 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. As lockdown has eased and traffic has started to return to more normal levels, the air quality improvement is unlikely to be sustained at these levels.

24. 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. Members of the public have had a unique opportunity to experience cleaner air and may have given the issue more thought than normal due to the links to Covid-19 death rates. Research indicates that there has been a significant change in attitudes towards walking, cycling and electric vehicle use as a result of the lockdown period and the council should aim to maximise this opportunity to influence behaviour change.

Actions to Improve Air Quality

25. CYC previously produced two AQAPs in 2004 and 2006. These plans were primarily based on modal shift and congestion reduction with an emphasis on reducing vehicle trips across the city.

26. However, air quality in York continued to deteriorate between 2004 and 2010, despite introduction of two AQAPs. York developed the UK's first overarching Low Emission Strategy (LES) in 2012 to tackle emissions from all sources. The strategy encompassed a new approach to local air quality management based on reducing emissions from all sources including vehicles and encouraging the uptake of alternative fuels and low emission vehicle technologies (whilst at the same time reducing greenhouse gas emissions). The LES has been particularly effective at tackling emissions from service vehicles such as buses, taxis and Heavy Goods Vehicles, which fall outside the scope of trip reduction based modal shift measures, but contribute to poor air quality in York.

27. Delivery of modal shift and congestion reduction measures (via the third Local Transport Plan and i-Travel York programme) remain important to air quality improvement and emission reduction in York. They are supported by planning policies that ensure sustainable travel is embedded into all new development in York.

28. CYC's third Air Quality Action Plan (AQAP3, 2015) described how York intends to continue to deliver its overarching Low Emission Strategy (LES) and to work towards becoming an internationally recognised ultra-low emission city. The LES has already changed the way York delivers public transport and plans for future transport trips. York continues to deliver on walking, cycling and public transport improvements, maintaining its national reputation as a leader in sustainable transport. Measures in AQAP3 are intended to build upon 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).

29. Since publication of CYC's Low Emission Strategy, York has:

- Delivered a fully electric Park & Ride (P&R) site at Poppleton Bar and introduced electric buses at the existing Monks Cross P&R site. 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. The first bus was deployed in York in February 2020. Once all buses are in operation, York will be home to one of the largest fleets of double decker electric buses outside London (ultimately, 21 new vehicles will join the existing fleet of 12 electric single deck vehicles, that have been operating in the city for the last 6 years).

- Introduced a Clean Air Zone (CAZ) for buses on 31 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 £1.65m has been allocated by City of York Council to 5 bus operators to help replace/retrofit 93 buses to CAZ compliant vehicles.

- Retrofitted the world's first fleet of electric double-decker sightseeing buses (Cleaner Bus Technology Fund).

- Encouraged 20% of York taxis (152 vehicles on 8 July 2020) to change to low emission alternatives (petrol hybrid or electric); a number of these were converted through our innovative CYC taxi incentive grant scheme. We have also introduced a new taxi licensing policy specifying minimum emission standards for new or replacement taxis. An additional DEFRA

Air Quality grant allocation of £105k was awarded to City of York Council in March 2020 to assist with further taxi upgrades. The low emission taxi incentive scheme is due to launch in autumn 2020.

- Implemented an extensive 'pay as you go' fast charge public electric vehicle recharging network in addition to a number of publicly accessible rapid chargers across the city. 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. The existing council owned charging estate will be updated throughout 2020 with the latest EV charging hardware. Charging episodes rose from 1,733 per year in 2014 to 20,355 in 2019.

- 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 hubs providing ultra-fast, reliable and convenient electric charging. Since receiving this funding, CYC has secured further European funding to allow the delivery of a full solar canopy/battery storage solution in addition to the proposed 'hyper hub' charging points at Monks Cross and Poppleton Bar. Planning applications for the new ultra rapid charge units at both Park and Ride sites were approved in November 2019.

- Developed Low Emission Planning guidance – this has been developed to accompany policy ENV1 'Air Quality' of the Local Plan and outlines the 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 AQAP3 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. There are currently 106 members of the scheme. Further information about the scheme can be found at http://www.jorair.co.uk/air-quality-in-york/eco-stars-scheme/

- Re-launched City of York Council's dedicated 'JorAir' air quality website (www.jorair.co.uk). The website contains information about air pollution and health, low emission vehicles, air quality improvement/mitigation measures and the planning process. The site also provides information about air quality levels across the city.

- Obtained member approval (Joint Decision Session of the Executive Member for Planning and Transport, and Executive Member for Environment, 7 Feb 2019) 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 new '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 it has on their health and that of 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.

- City of York Council has undertaken promotional work in relation to anti-idling as part of Clean Air Day 2019. On Clean Air Day, CYC and partners attended school assemblies at six schools, handed out over 2000 promotional postcards and put up over 50 anti-idling posters. Campaign posters were also put up in all doctors' surgeries and multiple petrol stations in York. Permanent anti-idling 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. Throughout 2019, we also undertook regular daytime and night-time anti-idling enforcement patrols.

- Obtained DEFRA AQ Grant funding: CYC is currently the lead authority in developing a new air quality hub, with Lancaster City Council and Mid Devon District Council. The project will extend the existing LEP resource (the Low Emission Hub www.lowemissionhub.org) to create an online Air Quality Knowledge Hub. The hub will provide 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 training courses or to travel. The new hub is due to launch in late 2020.

30. At the same time, York continues to deliver on walking, cycling and public transport improvements, maintaining its national reputation as a leader in sustainable transport.

Priorities for the Coming Year

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

- **Reducing emissions from buses through a Clean Air Zone (CAZ)** - The bus based CAZ in the city centre was introduced on 31 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 twelve month 'sunset' period is currently in operation until January 2021. The Traffic Regulation Condition has now been applied to the licences of all local bus operators serving the York area. In terms of the operational bus fleet, Euro VI retrofitted buses will gradually enter service throughout the course of 2020, with all local buses accessing the city centre 5 or more times per day fully compliant by January 2021. The Traffic Regulation Condition also prohibits all local buses from idling their engines anywhere within the CAZ area. CYC will continue to work with bus operators to ensure the CAZ requirements are fully delivered by the end of the sunset period.

- **Continue promotion of anti-idling measures (including enforcement)** – CYC 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 2020. Enforcement will only be undertaken as a last resort and when social distance rules allow for this to be done safely again. For the time being, the problem of stationary vehicle idling will be 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 address bus idling, particularly in the city centre Air Quality Management Area.

- **Continue to reduce emissions from taxis** – Further changes to CYC's Taxi Licensing Policy are proposed for 2020. New standards will affect both Private Hire and Hackney Carriage vehicles and will include a maximum age limit for all vehicles operating in the city. The proposed age limit will bring York into line with the highest standard in the West Yorkshire transport authority area. The 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 CYC in March 2020 to assist with further taxi upgrades; this will be rolled out from Autumn 2020 following changes to the Taxi Licensing policy. All

future proposed changes to Taxi Licensing Policy are subject to member approval.

- **Continued delivery of strategic EV charging network** - Planning applications for the new ultra-rapid charge units at Poppleton and Monks Cross Park and Ride sites were approved in November 2019. The applications were for the erection of a canopy shelter for the installation of 8 ultra-rapid charging hubs and 5 fast dual charge units for electric vehicles (at each site). The planning applications also included provision for solar voltaic (PV) modules mounted on the canopies at each site. Works will commence later in 2020. In addition to the new ultra-rapid charging hubs, CYC is currently in the process of updating the EV charging hardware at all existing council managed charge points, including those in council car parks and at Park & Ride sites. CYC's Executive approved a new EV Charging Strategy on 19 March 2020, which 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[5].

- **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. On 19 March 2020, the Executive agreed to commence the transition to an electric fleet for all vehicles under 3.5 tonne as part of a four year programme[6]. Officers will also continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels.

- **Increasing awareness of the impact of air pollution of public health** – via continued development of the JorAir website to include further information around the causes and consequences of poor air quality,

[5] See item 9 at https://democracy.york.gov.uk/ieListDocuments.aspx?CId=733&MId=11117
[6] See item 10 at https://democracy.york.gov.uk/ieListDocuments.aspx?CId=733&MId=11117

especially the health impacts of air pollution. We will also undertake further work around anti-idling via continued promotion of the '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 the LTP3 capital programme and i-Travel York sustainable travel programme.

32. Air quality improvement measures over and above those planned for 2020 and outlined in the current report, may be required to fully deliver the air quality objectives in all areas of technical breach in the city. It is likely to be several years before new 'normal' levels of air pollution can be reliably measured, but York's Air Quality Action Plan will be kept under review to ensure it is responding appropriately to the new ways in which people will choose to travel and any emerging new sources of air pollution, such as potential increases in domestic emissions (as more people continue to work from home). City of York Council is considering further incentivisation of walking and cycling via reallocation of highway space and improved cycle parking and 'Bike and Ride' facilities for cyclists. City centre parking (inside the inner ring road / AQMA) is also being reviewed to prevent unnecessary trips and ensure public transport use is maximised (whilst ensuring safety) as lockdown is eased. Such measures will be fully reported in the next Annual Status Report, due June 2021.

Options

33. The Executive Member is asked to note the content of the report.

Analysis

34. DEFRA's LAQM Policy Guidance (LAQM.PG16) and Technical Guidance (LAQM.TG16) outline the process that should be followed with respect to the Local Air Quality Management regime (for example amendments to and revocation of existing AQMAs).

35. Pollutant concentrations will vary from year to year due to the influence of meteorological conditions and DEFRA guidance makes it clear that authorities should avoid cycling between declaring, revoking and declaring AQMAs again simply due to these variations. For this reason, it is expected that 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, including measures introduced as part of the Air Quality Action Plan, together with information on high and low pollution years.

36. Public Protection have retained all air quality monitoring in the Fulford and Salisbury Terrace areas (areas previously covered by AQMAs) to ensure that any future changes in air quality are picked up and to ensure that baseline air quality in these areas can be monitored (to assist with the future appraisal of planning applications and the application of suitable mitigation measures, where appropriate).

Council Plan

37. Monitoring and reporting on air quality and measures to improve air quality will contribute to the Council Plan's aim of delivering a prosperous city for all, where local businesses can thrive and residents have good quality jobs, housing and opportunities.

38. Reducing emissions and improving air quality will reduce exposure to harmful air pollutants which can increase the symptoms of chronic and acute illnesses increase the risk of hospital admissions and in some case result in premature death. Good air quality reduces absence from work and education due to air pollution related illnesses.

39. Air pollution damages buildings as well as human health. Improving air quality will help to protect the city's many historic buildings and create a cleaner environment for visitors to York, now an ultra-low emission city.

Implications

The various implications of this report are summarised below:

Financial

40. This report has no direct financial implications. However, implementation of the measures in AQAP3 will require both capital and revenue funding. Ongoing monitoring of air quality in the city, including continuation of monitoring in previous AQMA areas, also requires ongoing revenue funding. Any request for funding will follow the council's budgetary process.

Human Resources (HR)

41. There are no human resources implications

One Planet Council / Equalities

42. A community impact assessment was undertaken for AQAP3. Vulnerable people, including older people, children, pregnant women and those with respiratory and other illnesses, are more likely to be adversely affected by poor air quality.

Legal

43. CYC has a statutory duty to periodically review the air quality within its area. There is a duty to designate an AQMA where air quality objectives are not being achieved or are not likely to be achieved. Once an area has been designated there is a duty to carry out an assessment and prepare an air quality action plan (AQAP) for the area. DEFRA have issued statutory guidance to which the council must have regard in exercising these functions. This includes annual reporting on progress with delivery of AQAPs via Annual Status Reports (ASRs).

Crime and Disorder

44. There are no crime and disorder implications

Information Technology (IT)

45. There are no information technology implications

Property

46. There are no property implications

Risk Management

47. Not applicable

Contact Details

Author:	**Chief Officer Responsible for the report:**
Mike Southcombe Public Protection Manager Public Protection Tel No. (01904) 551514	Mike Slater Assistant Director, Directorate of Economy and Place **Report Approved** ✓ **Date** Insert Date

Wards Affected: List wards or tick box to indicate all **All** ✓

For further information please contact the author of the report

Background Papers:
Adoption of York's Third Air Quality Action Plan (AQAP3) - Decision Session Executive Member for the Environment, 14th December 2014

The full Annual Status Report (2020) is available to view at
http://jorair.co.uk/data-downloads/reports/

List of Abbreviations Used in this Report

ASR	Annual Status Report
DEFRA	Department of Environment Food and Rural Affairs
AQAP3	Third Air Quality Action Plan
AQMA	Air Quality Management Area
CAZ	Clean Air Zone
EV	Electric Vehicle
µg/m^3	Micrograms per cubic metre
NO_2	Nitrogen dioxide
PM	Particulate Matter
LES	Low Emission Strategy
HGV	Heavy Goods Vehicles
OLEV	Office for Low Emission Vehicles
CEMP	Construction Environmental Management Plan
CCFAP	Climate Change Framework and Action Plan
LTP3	Local Transport Plan

This page is intentionally left blank

City of York Council

2020 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the
Environment Act 1995
Local Air Quality Management

June 2020

Local Authority Officers	Andrew Gillah / Liz Bates
Department	Economy and Place Directorate Public Protection
Address	City of York Council Public Protection Hazel Court Eco Depot James Street York, YO10 3DS
Telephone	(01904) 551525
E-mail	public.protection@york.gov.uk
Report Reference number	ASR2020
Date	June 2020

Note: This Annual Status Report is a snapshot of 2019 and reflects the thinking and priorities of City of York Council prior to the COVID-19 outbreak. Such priorities are currently under review and are subject to change in line with CYC's evolving Recovery and Renewal Strategy (incorporating a one year 'Transport and Place Strategy').

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 and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas[1,2].

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3].

During 2019, 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). Following an Executive Member Decision Session in November 2019[4], the Fulford AQMA was revoked in February 2020[5].

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 50-70% 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.

Air pollution monitoring data for 2019 indicates that the annual average air quality objective for NO_2 is still being breached at a number of locations around York's inner ring road, within the city centre AQMA. Annual mean NO_2 concentrations

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013
[4] https://democracy.york.gov.uk/ieListDocuments.aspx?CId=870&MId=11519
[5] Annual Mean Concentrations of NO_2 had remained been below objective levels for more than 3 years along the A19 Fulford Road and hence the AQMA was revoked

monitored at all roadside real-time monitoring stations remained similar (within 0.6µg/m^3) in 2019, compared with levels monitored in 2018. Changes in annual mean NO_2 at Bootham Hospital (an urban background monitoring site) between 2018 and 2019 were slightly more pronounced at +1.1µg/m^3, but this is not considered significant based on the variation observed at this site over the last 5 years. There has been a general downward trend in NO_2 concentrations monitored across the city since 2012, although year on year improvements in NO_2 have been less pronounced over the last 2-3 years.

With respect to the city centre AQMA, exceedances of the health based annual mean NO_2 objective of 40µg/m^3 were monitored in the Gillygate, Holgate / Blossom Street and Rougier Street/George Hudson Street technical breach areas in 2019. Whilst maximum annual mean concentrations of NO_2 monitored at relevant locations in the Nunnery Lane, Lawrence Street, Fishergate and Coppergate technical breach areas were below the objective at 37.4µg/m^3, 38.9µg/m^3, 37.8µg/m^3 and 38.2µg/m^3 respectively, they are still considered elevated and upper confidence limits (calculated on the basis of the precision of the monitoring techniques used) are all within approximately 1µg/m^3 of the annual mean objective. It is therefore not considered appropriate to reduce the size of the city centre AQMA at this time. This will be reviewed again as part of City of York Council's next Annual Status Report (due June 2021).

Concentrations of NO_2 monitored in the Fulford Road AQMA in 2019 were well below the annual mean objecitve of 40µg/m^3. The highest recorded levels of NO_2 were monitored on Fulford Main Street and were 33.1µg/m^3. This further supports the decision to revoke the Fulford Road AQMA, as discussed in City of York Council's last Annual Status Report, and implemented in February 2020.

Concentrations of NO_2 monitored in the former Salisbury Terrace AQMA in 2019 were all well below the annual mean objective of 40µg/m^3. Monitoring results indicate that the health based annual mean nitrogen dioxide objective continues to be met in this area, confirming 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. Concentrations of NO_2 monitored along Coppergate in 2019 were lower than those monitored in 2018, with the highest concentration in 2019 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO_2 concentration of 38.2µg/m^3 (upper confidence limit of 39.4µg/m^3) which is just below the annual mean objective for this pollutant.

The new AQMA (Order No. 5) 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 2019 monitoring results for this area of the city indicate that this 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 2019 were 21.9µg/m^3 and 11.1µg/m^3 respectively.

Previous air quality modelling work undertaken by City of York Council indicates 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.

Actions to Improve Air Quality

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.

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 (LTP3) and the iTravel York programme (see www.itravelyork.info). These programmes include many measures to 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[6], 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 overarching 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 at the existing Monks Cross P&R site. 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. The first bus was deployed in York in February 2020. Once all buses are in operation, York will be home to one of the largest fleets of double decker electric buses outside London (ultimately, 21 new vehicles will join the existing fleet of 12 electric single deck vehicles, that have been operating in the city for the last 6 years).

[6] AQAP3 available online at http://jorair.co.uk/data-downloads/reports/

- Launched a Clean Air Zone (CAZ) for buses (introduced 31st January 2020[7]). 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 £1.65m has been allocated by City of York Council to 5 bus operators to help replace/retrofit 93 buses to CAZ compliant vehicles.

- Retrofitted the world's first fleet of electric double-decker sightseeing buses (Cleaner Bus Technology Funding).

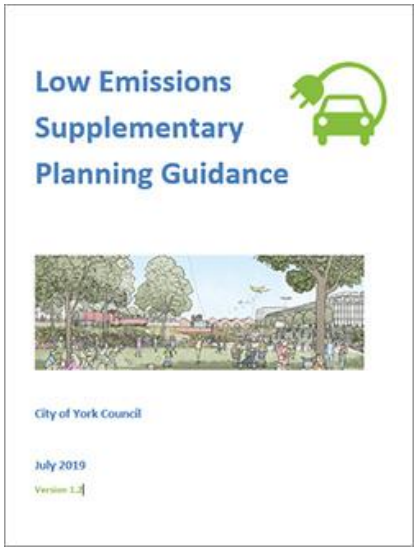
- Encouraged 18.9% [144 vehicles] *(figure correct as of 2/1/2020)* of the taxi fleet to change to low emission alternatives (petrol hybrid or electric); a number of these were converted through CYC's innovative taxi incentive grant scheme. A new taxi licensing policy has also been implemented, specifying minimum emission standards for new or replacement taxis. An additional DEFRA Air Quality grant allocation was awarded to City of York Council in March 2020 to assist with further taxi upgrades.

- Implemented an extensive 'pay as you go' fast charge public electric vehicle recharging network consisting of 20 'fast' double headed charge points (40 sockets) in addition to 5 publicly accessible rapid chargers across the city. 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 will be updated throughout 2020 with the very latest EV charging hardware. Charging episodes have risen from 1,733 per year in 2014 to 20,355 in 2019.

[7] A twelve month 'sunset' period is currently in operation until January 2021, during which time vehicles not meeting the CAZ requirement may continue to be operated if evidence can 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 has been placed but not yet delivered.

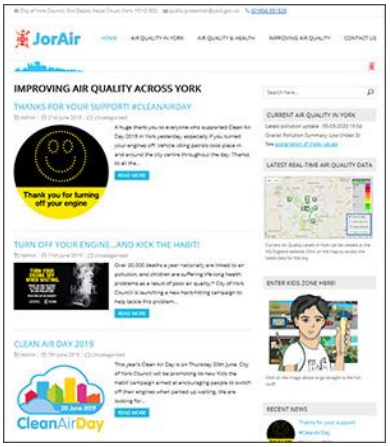
- Been awarded £816,000 from the Office of Low Emission Vehicles (OLEV) after becoming the only Yorkshire location out of eight in the country to achieve 'Go Ultra Low' city status. The money is being used to fund a network of charging hubs, providing ultra-fast, reliable and convenient electrical charging. 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 in addition to the proposed charging points at Monks Cross and Poppleton Bar. Planning applications for the new ultra rapid charge units at both Park and Ride sites were approved in November 2019.

- 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. There are currently 106 members of the scheme (as of 18th Dec 2019). Further information about the scheme can be found at http://www.jorair.co.uk/air-quality-in-york/eco-

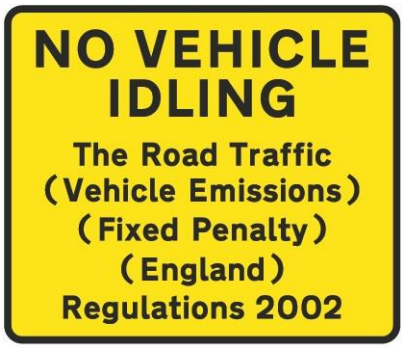
stars-scheme/



- Re-launched City of York Council's dedicated 'JorAir' air quality website (www.jorair.co.uk). 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 (Joint Decision Session of the Executive Member for Planning and Transport, and Executive Member for Environment, 7 Feb 2019) 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 new '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 2019. On Clean Air Day, City of York Council and partners attended school assemblies at six schools, handed out over 2000 promotional postcards and put up over 50 anti-idling posters.



Campaign posters were also 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. Throughout 2019, we have also undertaken regular daytime and night-time anti-idling enforcement patrols.

- 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 DEFRA Air Quality Grant funded project will extend the existing LEP resource (the Low Emission Hub www.lowemissionhub.org) to create an online Air Quality Knowledge Hub. The new hub will provide 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 new hub is due to launch in Autumn 2020.

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 successful local economy, preventing further 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).

Conclusions and Priorities

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

- Annual mean NO_2 concentrations monitored at all roadside real-time monitoring station remained similar (within 0.6 µg/m^3) in 2019, compared with levels monitored in 2018. Changes in annual mean NO_2 at Bootham Hospital (an urban background monitoring site) between 2018 and 2019 were slightly more pronounced at +1.1µg/m^3, but this is not considered significant based on the variation observed at this site over the last 5 years. There has been a general downward trend in NO_2 concentrations monitored across the city since 2012, although year on year improvements in NO_2 have been less pronounced over the last 2-3 years.
- With respect to the city centre AQMA, exceedances of the health based annual mean NO_2 objective (40µg/m^3) were monitored using diffusion tubes in the Gillygate, Holgate/Blossom Street and Rougier Street/George Hudson Street technical breach areas in 2019. Whilst maximum annual mean concentrations of NO_2 monitored at relevant locations in the Nunnery Lane, Lawrence Street, Fishergate and Coppergate technical breach areas were below the objective at 37.4µg/m^3, 38.9µg/m^3, 37.8µg/m^3 and 38.2µg/m^3 respectively, they are still considered elevated and upper confidence limits (calculated on the basis of the precision of the monitoring techniques used) are all within approximately 1µg/m^3 of the annual mean objective. It is therefore not considered appropriate to reduce the size of the city centre AQMA at this time.
- Concentrations of NO_2 monitored in the Fulford Road AQMA in 2019 were well below the annual mean objecitve of 40µg/m^3. The highest recorded levels of NO_2 were monitored on Fulford Main Street and were 33.1µg/m^3. This further supports the decision to revoke the Fulford Road AQMA, as discussed in City of York Council's last Annual Status Report, and implemented by City of York Council in February 2020.
- Concentrations of NO_2 monitored in the former Salisbury Terrace AQMA in 2019 were all well below the annual mean objective of 40µg/m^3. Monitoring results indicate that the health based annual mean nitrogen dioxide continues to be met

in this area, confirming that the decision to revoke this AQMA in December 2017 was appropriate.

- 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. Concentrations of NO_2 monitored along Coppergate in 2019 were lower than those monitored in 2018, with the highest concentration in 2019 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO_2 concentration of 38.2µg/m^3 (upper confidence limit of 39.4µg/m^3) which is just below the annual mean objective for this pollutant. The new AQMA (Order No. 5) 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 2019 monitoring results for this area of the city indicate that this 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 2019 were 21.9µg/m^3 and 11.1µg/m^3 respectively.

Local Priorities for City of York Council

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

- **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. 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 twelve month 'sunset' period is currently in operation until January 2021. The Traffic Regulation Condition has now been applied to the licences of all local bus operators serving the York area. In terms of the operational bus fleet, Euro VI retrofitted buses will gradually enter service throughout the course of 2020, with all local buses accessing the city centre 5 or more times per day fully compliant by January 2021. The Traffic Regulation Condition also prohibits all local buses from idling their engines anywhere within the CAZ area. City of York Council will

continue to work with bus operators to ensure that the CAZ requirements are fully delivered by the end of the sunset period.

- **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 2020. This will be supported by anti-idling enforcement patrols by staff in Public Protection and Civil Enforcement Officers. 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 put in place additional measures to address bus idling, particularly in the city centre Air Quality Management Area.
- **Continue to reduce emissions from taxis** – Further changes to City of York Council's Taxi Licensing Policy are proposed for 2020. New standards proposed will affect both the Private Hire and Hackney Carriage fleet and will 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. 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 March 2020 to assist with further taxi upgrades; this will be rolled out throughout 2020. All proposed changes to Taxi Licensing Policy are subject to member approval.
- **Continued delivery of strategic EV charging network** - Planning applications for the new ultra-rapid charge units at Poppleton and Monks Cross Park and Ride sites were approved in November 2019. The applications were for the erection of a canopy shelter for the installation of 8 ultra-rapid charging hubs and 5 fast dual charge units for electric vehicles (at each site). The planning applications also included provision for solar voltaic (PV) modules mounted on

the canopies at each site. Works will commence later in 2020. In addition to the aforementioned new ultra-rapid charging hubs, City of York Council is currently in the process of updating the EV charging hardware at all existing council managed charge points, including those in council car parks and at Park & Ride sites. On 19th March 2020, City of York Council's Executive approved a new EV Charging Strategy which 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[8].

- **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. 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[9]. Officers will also continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels. City of York Council has already undertaken soft market testing with leading alternative fuel vehicle providers such as Toyota, Ford and LDV to ensure that the Council understand the market place for lower emission vehicles; further trials are planned for 2020.
- **Increasing awareness of the impact of air pollution of public health** – via continued development of the JorAir website (www.jorair.co.uk) to include further information around the causes and consequences of poor air quality, especially health impacts of air pollution. We will also undertake further work around anti-idling via continued promotion of the highly successful 'Kick the Habit' anti-idling

[8] See item 9 at https://democracy.york.gov.uk/ieListDocuments.aspx?CId=733&MId=11117
[9] See item 10 at https://democracy.york.gov.uk/ieListDocuments.aspx?CId=733&MId=11117

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.

Air quality improvement measures over and above those planned for 2020 and outlined in the current report, may be required to fully deliver the air quality objectives in all areas of technical breach in the city. During the current COVID-19 pandemic there is a high degree of uncertainty with respect to future travel behaviour in the city. City of York Council is considering further incentivisation of walking and cycling via reallocation of highway space and improved cycle parking and 'Bike and Ride' facilities for cyclists. City centre parking (inside the inner ring road / AQMA) is also being reviewed to prevent unnecessary trips and ensure public transport use is maximised (whilst ensuring safety) as lockdown is eased. Such measures will be fully reported in the next Annual Status Report, due June 2021.

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 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 2020 may be greater than the number currently predicted by central government.
- The increasing 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 12 months.

Despite recent improvements in air quality in the city, the above factors are thought to be responsible for the continued existence of elevated levels of NO_2 concentrations in some areas of central York and are considered to be the main reasons for the current AQMA designation.

Local Engagement and How to get involved

Further information can be obtained from the air quality pages of City of York Council's main website https://www.york.gov.uk/airquality, or from City of York Council's dedicated air quality website http://www.jorair.co.uk.

Residents, businesses and other interested parties are encouraged to participate in consultations relating to air quality. These are advertised online at: https://www.york.gov.uk/info/20034/local_democracy/13/have_your_say_-_current_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: Public Protection (Air Quality)
City of York Council
Hazel Court Eco Depot, James Street
York
YO10 3DS

Table of Contents

List of Tables

List of Figures

1 Local Air Quality Management

This report provides an overview of air quality in City of York Council's area during 2019. 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 can be found in Table E.1 in Appendix E.

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months, setting out the 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. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=63. Alternatively, see Appendix D: Map(s) of Monitoring Locations and AQMAs, which provides a map of air quality monitoring locations in relation to the current and historical AQMA(s) in York.

On 17th December 2018, the boundary of City of York Council's City Centre AQMA was amended to include Coppergate, based on monitored exceedences of the health based annual mean nitrogen dioxide objective at relevant locations on the street. The existing AQMA was extended to include the full length of Coppergate and the buildings either side of the road, to encompass all areas of relevant exposure. An update on concentrations of NO_2 recorded along Coppergate in 2019 is provided in this Annual Status Report.

The Salisbury Terrace and Fulford Road AQMAs were formally revoked on 14th December 2017 and 14th February 2020 respectively in full consultation with DEFRA, following approval by City of York Council's Executive Member. Monitoring has been retained in both areas to allow levels of nitrogen dioxide to be reported in future Annual Status Reports and to ensure that any air quality deterioration is captured and can be acted on in future years. The latest monitoring results for both areas are presented in this Annual Status Report.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)				Action Plan		
						At Declaration		Now		Name	Date of Publication	Link
City Centre AQMA (AQMA Order No.5)	December 2018 (supercedes AQMA Order No. 4 declared Sept 2012)	NO_2 Annual Mean	York (City Centre)	Inner ring road and properties included within 7 areas of technical breach	NO	62	µg/m^3	46.7	µg/m^3	AQAP 3	Sept 2015	http://www.jorair.co.uk

City of York Council confirm the information on UK-Air regarding their AQMA(s) is up to date

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

DEFRA's appraisal of last year's Annual Status Report (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 previous Annual Status Reports have concluded that the Fulford AQMA should be considered for revocation as concentrations of NO_2 monitored in this area have been below health based objectives for a number of years. Based on additional monitoring carried out throughout 2018, 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, JorAir, see: http://jorair.co.uk/air-quality-in-york/aqmas/. 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 2019 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

More detail on these measures can be found in City of York Council's third Air Quality Action Plan (AQAP3), available online at http://jorair.co.uk/data-downloads/reports/.

Key completed measures and progress include:

- The Clean Air Zone (CAZ) for buses in the city centre was launched on 31st Jan 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). 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 is currently in operation until January 2021, during which time vehicles not meeting the CAZ requirement may continue to be operated if evidence can 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 has been placed but not yet delivered. 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. Condition 2 of the CAZ Traffic Regulation Condition 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.

- A new 'Kick the Habit' anti-idling awareness raising campaign was launched in mid-2019, approximately 6 weeks prior to the introduction of anti-idling enforcement patrols, which took place around Clean Air Day 2019. 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. The campaign is hard-hitting 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 was developed which included posters, electronic resources for use on social media, stickers, leaflets and postcards. 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. The campaign also engaged over 3000 Twitter and Facebook users on Clean Air Day alone. Further information about the campaign can be found at: https://www.york.gov.uk/engineoff
- City of York Council has undertaken promotional work in relation to anti-idling as part of Clean Air Day 2019. On Clean Air Day, City of York Council and partners

attended school assemblies at six schools, handed out over 2000 promotional postcards and put up over 50 anti-idling posters. Campaign posters were also 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 (informed by customer complaints of idling).

- City of York Council have undertaken regular daytime and night-time anti-idling enforcement patrols. Authorised council officers can now issue fixed penalty notices of £20 to drivers who refuse to switch off their engines after being observed idling on the public highway for more than two minutes, rising to £40 if they don't pay the fine within 28 days. Enforcement of idling legislation is delivered by staff in Public Protection, with support from Civil Enforcement Officers. Between June 2019 and January 2020, 69 drivers were specifically approached regarding unnecessary idling in their vehicles, with over 6 hours idling time saved[10].
- 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 2019 is provided in this Annual Status Report.
- Continued roll-out of the updated taxi licensing policy that specifies minimum emission standards for new or replacement taxis. This policy, in addition to City of York Council's earlier support for local taxi drivers through the Low Emission Taxi

[10] Idling time saved is estimated by enforcement officers, based on the conversation with the driver

Incentive Scheme, resulted in 18.9% of local taxis being upgraded to petrol hybrid or electric vehicles (figure correct as of 2nd Jan 2020).

- Continued delivery of the strategic electric vehicle fast charge network in the city. Planning applications for the new ultra rapid charge units at Poppleton and Monks Cross Park and Ride sites were approved in November 2019. The applications were for the erection of a canopy shelter for the installation of 8 ultra-rapid charging hubs and 5 fast dual charge units for electric vehicles (at each site). The planning applications also included provision for a solar voltaic (PV) module mounted on the canopies at each site. These two 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. On 19th March 2020, City of York Council's Executive approved a new EV Charging Strategy which 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[11].
- City of York Council has 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 DEFRA Air Quality Grant funded project will extend the existing LEP resource (the Low Emission Hub www.lowemissionhub.org) to create an online Air Quality Knowledge Hub. The new hub will provide a space where air quality experience and knowledge can be shared and where local authority officers can be up-skilled without the

[11] See item 9 at https://democracy.york.gov.uk/ieListDocuments.aspx?CId=733&MId=11117

need to attend external training courses or meet travel costs. The new air quality hub is expected to be launched in Autumn 2020.

- We have 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. In addition, 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. Officers will also continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels such as diesel. City of York Council has already undertaken soft market testing with leading alternative fuel vehicle providers such as Toyota, Ford and LDV to ensure that the Council understand the market place for lower emission vehicles; further trials are planned for 2020.
- Continuation of the York ECO Stars fleet recognition scheme. There are currently 106 members of the scheme (as of 18th December 2019). City of York Council is not currently actively recruiting new members to the York scheme as funding has now expired, but existing member 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/
- A variety of electric cars and bikes were showcased at a Switched On event (14th September 2019) organised by City of York Council's iTravel team as part of a month-long programme of activities aimed at raising awareness of the benefits of sustainable forms of transport. The Switched On event was just one of a series of activities delivered as part of the team's iTravel Savvy campaign. In mid-August, 16 workplaces from across the city were represented at a free networking breakfast event, where they were able to access information and advice on promoting sustainable travel to and from the workplace. A number of guest speakers shared their own inspiring ideas and examples of how employees can be encouraged to ditch their cars in favour of sustainable forms of transport, such as buses, bicycles and walking. There have also been a series of volunteer-led, clean-up events to tidy up York's key walking and cycling routes.
- A total of 71 York-based workplaces took part in the Cycle September global bike challenge, clocking up 122,460 miles between them. Cycle September is

organised by Love To Ride and was promoted locally by City of York Council, which offered a host of prizes and incentives to local people to persuade them to get involved and stay motivated for the duration of the challenge. More than 1,000 individuals who live or work in York took part in Cycle September by signing up at www.lovetoride.net and logging in excess of 15,200 cycling journeys between them during the month. 80 of those who took part were completely new to cycling.

- More than half of York's primary schools took part in Walk to School Week 2019. The national, awareness-raising event is staged annually and aims to encourage children and their families to walk, cycle or scoot to and from school, rather than travelling by car. Locally, more than 8000 students from 28 different schools were involved in the day's activities.
- 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. This study ties into the council's Smart City agenda, under which City of York Council won the Smart City Initiative prize at the 2019 Connected Britain Awards for its innovative approach to fast tracking the uptake of Internet of Things (IoT) services in the social housing, social care and transportation sectors.
- With respect to bus services, the council and bus operators have worked together throughout 2019 to improve York's bus services through the York Quality Bus Partnership (QBP), especially in relation to the Clean Air Zone and anti-idling initiatives. Use of bus services in York has increased by 7% against a decline for the Yorkshire and Humber Region of 10%. There are now over 16 million bus trips in York per year (over 50,000 per day), up from 15 million in 2012/13. York is the only authority in the Yorkshire and Humber area where bus use has increased since 2012. Bus trips per head of population in York (76.5 per person per year) is now the 11th highest in England outside London. There has also

been extensive investment in electric buses in the city, with a further electric Park and Ride fleet due to enter service in 2020.

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

- The York Clean Air Zone is now operational and the Traffic Regulation Condition has now been applied to the licences of all local bus operators serving the York area. In terms of the operational bus fleet, Euro VI retrofitted buses will gradually enter service throughout the course of 2020, with all local buses accessing the city centre 5 or more times per day fully compliant by January 2021. A twelve month 'sunset' period is currently in operation until this date.
- Additional electric buses on the Park & Ride services (and upgrading of the remaining P&R fleet to Euro 6) is expected during 2020. Once all buses are in operation, York will be home to one of the largest fleets of double decker electric buses outside London (ultimately, 21 new vehicles will join the existing fleet of 12 electric single deck vehicles, that have been operating in the city for the last 6 years). By 31st January 2021, the expectation is that only a small number of buses operating infrequent and longer distance services (i.e. entering the city less than 5 times per day) will not meet Euro VI or zero emission standard.
- New council contracts to specify Euro VI diesel, Ultra Low Emission Hybrid or electric vehicles.
- 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 organisations such as the University of York, to enable the joint delivery of ad-hoc awareness raising events.
- 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.

- Further changes to City of York Council's Taxi Licensing Policy are proposed for 2020. New standards proposed will affect both the Private Hire and Hackney Carriage fleet and will 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. 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 March 2020 to assist with further taxi upgrades; this will be rolled out throughout 2020.
- 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: https://www.itravelyork.info/

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

- Clean Air Zone – we will work with bus operators to ensure that anticipated delivery timescales for replacement / retrofitted buses are met. We will maintain ongoing dialogue with Traffic Commissioner's Office regarding any necessary enforcement of Clean Air Zone standards.
- Anti-idling Measures – we will roll-out of further anti-idling signage in key locations and undertake further promotional work as part of National Clean Air Day 2020.
- Planning and delivery of strategic EV charging network – we will expand electric vehicle recharging facilities at key Park & Ride sites to include 'hyper-hubs',

providing ultra-fast, reliable and convenient electrical recharging. We will also commence 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 (subject to funding), and commits to explore options for on-street charging and facilities for charging electric taxis in the city centre.

- We will reduce and mitigating emissions from new development through the planning process, which will include requiring electric vehicle charging facilities on all new developments with parking provision.
- Control of particulate emissions – we will consider opportunities for raising further awareness in relation to the use of wood burning stoves and bonfires. In light of the recently published Clean Air Strategy and Environment Bill, City of York Council will keep abreast of emerging national legislation and ensure any new measures to reduce $PM_{2.5}$ emissions are adequately resourced and implemented in York.

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.

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 will help achieve compliance in all of the current AQMA technical breach areas within the next 2 years (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[12]. Due to the current COVID-19 pandemic, there is a high degree of uncertainly with respect to future travel behaviour (particularly public transport use) and further measures over and above those outlined may be necessary to fully achieve the air quality objectives in all areas.

[12] Expected under the Local Plan proposals as they stood at the end of 2014

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
AQAP3 (1)	Clean Air Zone (CAZ)	Promoting Low Emission Transport	Low Emission Zone	CAZ launched in city centre 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 is currently in operation until January 2021.	CYC	CYC / DEFRA Grant	Number of ultra low emission buses operating within York Inner Ring Road	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.	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 at: https://democracy.york.gov.uk/ieListDocuments.aspx?CId=733&MId=10476 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 is currently in operation until 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	CAZ launched in city centre 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 is currently in operation until January 2021. In terms of the operational bus fleet, Euro VI retrofitted buses will gradually enter service throughout the course of 2020, with all local buses accessing the city centre 5 or more times per day fully compliant by January 2021.	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. A total of £1,654,000 has been allocated to 5 operators to help replace/retrofit 93 buses. There is the possibility that some bus operators will re-register their bus routes in such a way that they avoided the CAZ area, although this is considered unlikely as the bus routes would no longer be connecting their customers to the city centre.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									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.		
AQAP3 (2)	Anti-idling measures	Traffic Management	Anti-idling enforcement	2017	CYC	DEFRA Grant	Estimate of idling time saved	From feasibility report done by TTR Ltd - at 5 busiest service bus locations, estimated savings per annum of 1,526kg NOx, 36kg PM10, 46,555kg CO2,and 17,949 litres of fuel.	Anti-Idling promotional work undertaken as part of Clean Air Day 2017, 2018 and 2019. Further promotional activities are planned for National Clean Air Day in 2020. A package of measures aimed at deterring stationary vehicles from idling was approved at a Joint Decision Session of the Executive Member for Planning and Transport, and Executive Member for the Environment, on 7 February 2019. It was agreed that Council officers should be authorised to use discretionary powers under the Road Traffic Regulations 2002 to issue fixed penalty notices of £20 to drivers who refuse to switch off their engines. 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.	Promotional work and enforcement is ongoing, but 'Kick the Habit' campaign successfully launched in 2019. This campaign will be continually promoted via social media.	To date City of York Council has not had to serve any FPNs specifically for idling, although there may be some legal and debt recovery costs associated with serving future Fixed Penalty Notices (FPN). 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

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									Enforcement of idling is undertaken by staff in Public Protection and Taxi Licencing, with support from Civil Enforcement Officers. Between June 2019 and January 2020, 69 drivers were specifically approached regarding unnecessary idling in their vehicles, with over 6 hours idling time saved (estimated). A new 'Kick the Habit' anti-idling awareness raising campaign was launched in mid-2019, approximately 6 weeks prior to the introduction of anti-idling enforcement patrols, which took place around Clean Air Day 2019. 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 now being rolled out in other areas, including Selby District Council's area. 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. Further information about the campaign can be found at: https://www.york.gov.uk/engineoff. 'Kick the Habit' campaign posters have been		not applicable to vehicles waiting in a queue of traffic, unless there's an obvious source of prolonged delay, such as a level crossing or an incident that's blocking the highway. 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.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									put up in doctors' surgeries and multiple petrol stations in York. 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. CYC is working with bus operators through the Quality Bus Partnership to address idling in the city centre.		
AQAP3 (3)	Further development of ECO-Stars Fleet Recognition Scheme	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2013	CYC	DEFRA Grant	Number of operators signed up to the scheme	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/)	ECO-Stars scheme launched March 2013. There are currently 106 members of the scheme (as of 18 December 2019). City of York Council is not currently actively recruiting new members to the York scheme as funding has now expired, but existing member 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/	Funding for the scheme expired in November 2018.	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 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	-	CYC and third party investment (to be identified)	Subject to third party investment	To be determined	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	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.	Subject to external investment and planning process	The delivery of a CNG refuelling facility is subject to third party investment and a suitable site.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
								determined at planning application stage			
AQAP3 (5)	Freight delivery and service plan for key city centre retailers and streets.	Freight and delivery management	Delivery and service plans	-	CYC	CYC	To be determined	To be determined	Freight improvement study undertaken in 2013	Currently on hold due to lack of staff resources.	Depends on external investment and planning process.
AQAP3 (5a)	Freight consolidation Centre	Freight and delivery management	Freight consolidation centre	-	CYC and third party investment (to be identified)	Subject to third party investment	Number of city centre businesses using consolidation centre.	To be determined	No investor or suitable location (outside of greenbelt) identified to date.	To be determined	The delivery of a Freight Consolidation Centre is subject to third party investment and a suitable site.
AQAP3 (6)	Development and implementation of LES based planning guidance	Policy guidance and development control	Air quality planning and policy guidance	2016	CYC	CYC	Number of publicly Accessible EV parking bays available in York (some deliverable via the planning process)	Aims to minimise additional emission impact of development across the entire York area. Emission savings generally calculated and reported per development.	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,	The Draft Low Emission Planning Guidance has been produced (latest version July 2019) and is being actively used for Development Control purposes.	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.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									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.		
AQAP3 (7a)	Reducing emissions from taxis (financial incentive for low emissions taxi purchase)	Promoting low emission transport	Taxi emission incentives	First Incentive Scheme - 2014 Second Incentive Scheme planned for 2020	CYC	DEFRA Grant	Number of low emission taxis purchased through the local grant scheme	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}.	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 will be made 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/). The latest incentive scheme is innovative in that it is based on real world emission testing	Funding for the first local incentive scheme expired in March 2016, but additional funding was secured via DEFRA's Air Quality Grant Scheme in March 2020	Information on the number of taxi incentives granted through the 2020/21 scheme will be provided in the next Annual Status Report, due June 2021

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									undertaken independently of vehicle manufacturers and can be used to specifically target the poorest performing vehicles to ensure that cost benefit is maximised. Eligibility criteria for upgrades will be closely aligned to City of York Council's new Taxi Licencing Policy, which proposes new requirements for private hire and hackney carriage vehicles, including an age limit for new licences and change of vehicle applications.		
AQAP3 (7b)	Reducing emissions from taxis (taxi licensing emissions controls)	Promoting low emission transport	Taxi licensing conditions	2016 / Further policy updates planned for 2020	CYC	CYC	Number of low emission taxis present in the CYC taxi fleet	-	The Taxi Licensing Policy was updated in 2006. Following conditions approved by licensing committee in April 2016, vehicles applying to be licensed as taxis were required to meet a minimum Euro 5 emission standard for petrol, Euro 6 for diesel, or be ultra low emission vehicles from 1 June 2017 (for replacement hackney carriage vehicles), and from 1 November 2017 (for replacement private hire vehicles). A further report to CYC's Executive is proposed in 2020, recommending an amendment to the type and age of vehicles that will be licenced as both hackney carriages (taxis) and private hire vehicles in the future. For hackney carriages, it is proposed that if the council deregulates or additional	CYC's Taxi Licensing Policy updated in April 2016 and further changes to the policy are proposed in 2020.	Operators may experience some increased vehicle replacement costs as only modern vehicles meeting the required standards will now 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 March 2020 to assist with further taxi upgrades.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									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 from 1st November 2020, hackney carriage change of vehicle from 1st June 2021 and private hire change of vehicle from 1st November 2021, 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 5), or wheelchair accessible (minimum Euro 6) vehicles. In addition, a maximum age limit is proposed for all licenced vehicles. Under such proposals, York will have no Euro 5 diesel vehicles licensed by City of York Council by September 2022. These changes could impact approximately 50% of the taxi and private hire fleet. Updates to City of York Council's Taxi Licensing Policy, in addition to our earlier support for local taxi drivers through the first Low Emission Taxi Incentive Scheme, has resulted in 18.9% of local taxis being upgraded to petrol hybrid or		

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									electric vehicles (figure correct as of 2nd Jan 2020).		
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	CYC	CYC	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 has increased from 1,733 in 2014, to 20,355 in 2019. Planning applications for the new ultra rapid charge units at Poppleton and Monks Cross Park and Ride sites were approved in November 2019. The applications were for the erection of a canopy shelter for the installation of 8 ultra-rapid charging hubs and 5 fast dual charge units for electric vehicles (at each site). The planning applications also included provision for a solar voltaic (PV) module mounted on the canopies at each site. On 19th March 2020, City of York Council's Executive approved a new EV Charging Strategy which outlines an equitable approach to	ongoing	The new EV Charging Strategy explains the rationale for choosing the number and location of charging, sets out the principles of tariff setting to ensure the network is self-financing through user payments and explains the approach to determining appropriate infrastructure by matching charging power to dwell times. The Strategy also sets CYC's approach to providing charging for residents living in terraced streets without off road parking. The two ultra-rapid charge 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-

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									charging infrastructure that will support improved air quality, climate change objectives, 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		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.
AQAP3 (9a)	Reducing CYC 'grey fleet' trips	Alternatives to private vehicle use	Car clubs	2015	CYC	CYC	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	ongoing	CYC membership of car club has significantly reduced the number of people using their own private vehicles on CYC business.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									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	CYC	CYC	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 and a business demonstrator (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. Officers will also continue to explore the options for vehicles over 3.5 tonnes to move away from fossil fuels. City of York Council has already undertaken soft market testing with leading alternative fuel vehicle providers such as Toyota, Ford and LDV to ensure that the Council understand the market place for lower emission vehicles; further trials of vehicles are planned for 2020. The introduction of further electric fleet vehicles is expected over the next 12-18	ongoing	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.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									months, to align with the council's ambition to reduce carbon emissions to zero by 2030. City of York Council has trialled a number of electric vehicles over the last 12 months.		
AQAP3 (9c)	CYC Eco-driver training and vehicle emission controls	Vehicle Fleet Efficiency	Driver training and Eco aids	2015	CYC	CYC	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	-
AQAP3 (10)	Marketing and Communication Strategy	Public Information	Via the Internet	Comprehensive upgrade to JorAir website 2016/17, Kick the Habit campaign launched 2019	CYC	CYC / DEFRA Grant	Number of visitors on upgraded JorAir website per annum / Idling time saved	Between June 2019 and January 2020, 69 drivers were specifically approached regarding unnecessary idling in their vehicles, with over 6 hours idling time saved.	Ad-hoc public communication work ongoing, including ongoing updates to City of York Council's dedicated air quality website JorAir (www.jorair.co.uk) A new 'Kick the Habit' anti-idling awareness raising campaign was launched in mid-2019, approximately 6 weeks prior to the introduction of anti-idling enforcement patrols, which took place around Clean Air Day 2019. 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. The campaign is now being rolled out in other areas, including	ongoing	The highly successful 'Kick the Habit' anti-idling 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. The campaign also engaged over 3000 Twitter and Facebook users on Clean Air Day alone. Further information about the campaign can be found at: https://www.york.gov.uk/engineoff Clean Air Day 2020 will include further promotional work around the subject of anti-idling.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									across Selby District Council's area. A softer, secondary campaign has been developed specifically for active community groups, schools children and parents. CYCs involvement in Clean Air Day (2019) involved a city-wide programme of anti-idling initiatives. Kick the Habit campaign posters were 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. City of York Council have undertaken regular daytime and night-time anti-idling enforcement patrols. Authorised council officers can now issue fixed penalty notices of £20 to drivers who refuse to switch off their engines after being observed idling on the public highway for more than two minutes, rising to £40 if they don't pay the fine within 28 days. Enforcement of idling legislation is delivered by staff in Public Protection, with support from Civil Enforcement Officers.		

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
AQAP3 (11a)	Local incentives for low emission vehicles and alternative fuel use – EV chargers and business demonstrators	Promoting Low Emission Transport	Company Vehicle Procurement – Prioritising the uptake of low emission vehicles	2016	CYC	CYC / DEFRA Grant	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 and leased an electric demonstrator vehicle.	ongoing	-
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	CYC	CYC	Number of low emission permits issued	-	A total of 2110 Low Emission Permits were issued during the 2019 calendar year (including 1408 Household Low Emission Vehicle Permits)	ongoing	The 2019 figure represents an increase of 58 compared with 2018, where 2052 Low Emission Permits were issued (including 1350 Household Low Emission Vehicle Permits)
AQAP3 (12)	Attracting Low Emission industries, businesses and jobs to York	Policy guidance and development control	Other policy	-	CYC	CYC	To be determined	Not quantifiable	Provided advice to business on low emission technologies/solutions as required	ongoing	Will support wider air quality improvement measures across the city
AQAP3 (13a)	Modal shift and network improvement	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	iTravel campaign introduced 2011, with various	CYC	DfT / Local Sustainable Transport	% mode split or walking/cycling/bus vs conventional	Hard to precisely quantify but target to increase	Ongoing delivery and funding of i-Travel York sustainable travel programme - see https://www.itravelyork.info/ for further details and current	ongoing	The i-Travel York programme was established following a successful bid for funding from the

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
	measures (i-Travel York campaign)			iTravel events undertaken on an annual basis		Fund	car drivers and car passengers % trips into city centre	modal shift away from conventional car	updates A variety of electric cars and bikes were showcased at a Switched On event (14th September 2019) organised by City of York Council's iTravel team as part of a month-long programme of activities aimed at raising awareness of the benefits of sustainable forms of transport. The Switched On event was just one of a series of activities delivered as part of the team's iTravel Savvy campaign. In mid-August, 16 workplaces from across the city were represented at a free networking breakfast event, where they were able to access information and advice on promoting sustainable travel to and from the workplace. There have also been a series of volunteer-led, clean-up events to tidy up York's key walking and cycling routes. A total of 71 York-based workplaces took part in the Cycle September global bike challenge, clocking up 122,460 miles between them. More than 1,000 individuals who live or work in York took part in Cycle September by signing up at www.lovetoride.net and logging in excess of 15,200 cycling journeys between them. 80 of those who took		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	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									part were completely new to cycling. More than half of York's primary schools took part in Walk to School Week 2019. The national, awareness-raising event is staged annually and aims to encourage children and their families to walk, cycle or scoot to and from school, rather than travelling by car. Locally, more than 8000 students from 28 different schools were involved in the day's activities.		
AQAP3 (13b)	Modal shift and network improvement measures (Bus Improvements)	Transport planning and infrastructure	Public transport improvements interchanges, stations and services	Various improvements made since AQAP3 publication in 2015	CYC	CYC / DfT	National Annual Passenger satisfaction survey	Aim to increase uptake of public transport	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	2020	John Lewis & Partners was one of three major employers across the city that took part in a Bus Challenge as part of a month-long iTravel Savvy campaign organised by City of York Council's iTravel team during March 2019. The three businesses were asked to encourage their employees to travel to work by bus, rather than in their cars, and keep a tally of their bus commutes for the full month. At the end of March, their tally sheets were submitted to the iTravel team for analysis and it was

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									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. In 2018/2019 further improvements to the network have been progressing including improved bus interchanges at Stonebow and Rougier Street. CYC was awarded £3.3m from DfT's Low Emission Bus Scheme to support delivery of high capacity, fully electric buses and to support charging infrastructure at York's P&R sites. The first bus was deployed in York in February 2020. Once all buses are in operation, York will be home to one of the largest fleets of double decker electric buses outside London (ultimately, 21 new vehicles will join the existing fleet of 12 electric single deck vehicles, that have been operating in the city for the last 6 years).		found that the organisation with the highest proportion of its employees travelling to work by bus was John Lewis & Partners.
AQAP3 (13c)	Modal shift and network improvement	Transport planning and infrastructure	Other	Various improvements made since AQAP3	CYC	CYC / West Yorkshire Plus Transport	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	ongoing	CYC's third Local Transport Plan (LTP3), covering the period to 2031, sets out the transport

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
	measures (Other LTP measures)			publication in 2015		Fund / DfT			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.		policies and measures that will contribute to the city's economic prosperity over the next 20 years, 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

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
											underpasses at the roundabout junctions and an orbital route for walking and cycling parallel to the A1237, linking communities to the 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	Ongoing / Annual inspections	CYC	CYC	Number of scheduled inspections completed per annum	-	Enforcement of relevant air quality legislation is currently undertaken by Public Protection (Regulatory Support and Advice team)	ongoing	Scheduled inspections undertaken by CYC Public Protection staff.
AQAP3 (15)	Provide more green infrastructure	Policy Guidance and Development Control	Other policy	Green Infrastructure Forum held in November 2014 / Stakeholder workshop sessions in January 2015	CYC	CYC	To be determined	-	Updates published here when available: https://www.york.gov.uk/info/20051/planning_policy/637/green_infrastructure_gi_strategy	ongoing	The Strategy will support policies in the Local Plan and the Council Plan, whilst being a focus for partnership working across York. The Strategy will establish a long term vision for the planning and management of Green Infrastructure across York, identifying where the protection and enhancement of green spaces and natural elements can be achieved, improvements in connectivity between

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
											places realised, and focal points for community and business involvement established.
16	Further conversion of diesel double decker tour buses to electric	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	First bus conversion completed in 2014. Three further bus conversions completed by 2016	CYC	DfT Clean Bus Technology Fund	Number of buses converted to electric	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.	CYC made a bid to DfT's 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	Trial ended 2019	The CAZ for York means that it will not be possible to continue to use the current mix of electric and diesel buses on the City Sightseeing Tour service, because after 31/01/21 the buses will need to be Euro VI diesel or better to achieve compliance with the CAZ. In the absence of either a reliable retro-fit vehicle, or affordable open-top fully electric vehicles, the service will need to be converted to either electric buses or Euro VI diesel buses.

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									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. The trial has also informed		

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
									CYC's intention to become a fully electric bus city.		
17	Retrofitting of school buses	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2016	CYC	DfT Clean Bus Technology Fund	Number of retrofitted school buses	-	In the 2019 ASR it was reported that the retrofit work had experienced some delays due to withdrawal of Clean Vehicle Retrofit Accreditation Scheme (CVRAS) certification for the primary vehicle retrofit manufacturer. A new manufacturer has now been found and CYC are awaiting York Pullman's agreement to proceed with the remaining retrofit programme.	End 2020	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	In progress	CYC	European Regional Development Fund (ERDF)	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.	End 2020	This project is funded through the European Regional Development Fund (ERDF)

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
19	Hyper Hubs	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	In progress	CYC	OLEV	Number of charging episodes at hyper hubs	-	Planning applications for the new ultra rapid charge units at Poppleton and Monks Cross Park and Ride sites were approved in November 2019. The applications were for the erection of a canopy shelter for the installation of 8 ultra-rapid charging hubs and 5 fast dual charge units for electric vehicles (at each site). The planning applications also included provision for a solar voltaic (PV) module mounted on the canopies at each site. These two 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.	2020	Further information about this project can be found at: https://democracy.york.gov.uk/documents/s130950/HyperHubsExecutiveReportFinal.pdf

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. The impact of public exposure to particulate matter alone has been estimated to reduce average life expectancy in the UK by around six months and imposes a cost to public health of over £16 billion a year.

Air Pollution and Health in York

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 (see http://www.phoutcomes.info/) 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 2018 and are 4.4%. This figure is slightly less than the figure reported for the wider Yorkshire and Humber region (4.5%) and less than the average figure reported for England in 2018 (5.2%).

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 is currently developing 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 (www.jorair.co.uk) 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 2019, during which time we launched our hard-hitting 'Kick the habit' anti-idling campaign. Further information is available at www.york.gov.uk/engineoff.
- **Low Emission Vehicle Upgrades *[AQAP3 Measures 16 & 17]*** - Following the launch of the world's first retrofitted electric-drive double-decker bus, City of York Council has worked in partnership with Transdev to convert additional sightseeing buses to electric drive. York has also 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. CYC was awarded £3.3m in 2017 from DfT's Low Emission Bus Scheme to support delivery of high capacity, fully electric buses and to support charging infrastructure at York's P&R sites.

- **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). 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 has been 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 around 18.9% (figure correct as of 2nd January 2020). 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, the latest being the 'Switched On' event held in September 2019, which showcased a variety of electric cars and bikes. Following on from the success of these events, the city has aspirations to eventually open a publically accessible electric vehicle demonstration centre in the city (subject to funding). City of York Council has previously leased a demonstration electric vehicle to showcase the latest vehicles technologies to interested local businesses (this ended in May 2019).
- **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 undertaking an awareness raising campaign in relation to the use of wood burning stoves. City of York Council will keep abreast of national legislation and ensure any new measures to reduce $PM_{2.5}$ emissions are adequately resourced and implemented in York.

Future Opportunities for $PM_{2.5}$ measures

Links between CYC Public Protection and Public Health continue to evolve and 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.

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

3.1 Summary of Monitoring Undertaken

Since 1999, real-time monitoring of nitrogen dioxide and other pollutants has been undertaken at a total of 14 locations across York. Details regarding these sites have been documented in previous air quality reports submitted to DEFRA and the details of current monitoring are provided in Appendix A.

In addition to real time monitoring, City of York Council has also historically undertaken nitrogen dioxide diffusion tube monitoring at up to 340 locations in the city. Results from this diffusion tube monitoring programme were last reported in the Annual Status Report (June 2019)[13]. City of York Council currently undertakes diffusion tube monitoring at 233 sites in the city.

There have been no significant changes to City of York Council's overall monitoring strategy in the last 12 months.

3.1.1 Automatic Monitoring Sites

This section of the Annual Status Report sets out what monitoring has taken place and how it compares with health based objectives.

City of York Council undertook automatic (continuous) monitoring at 9 sites during 2019. Table A.1 in Appendix A shows the details of the 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. National monitoring results are available online at http://uk-air.defra.gov.uk/data/.

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

3.1.2 Non-Automatic Monitoring Sites

City of York Council undertook non-automatic (passive) monitoring of NO_2 at 233 sites during 2019. Table A.2 in Appendix A shows the details of the sites.

[13] Annual Status Report (2019) available online at http://jorair.co.uk/data-downloads/reports/

Maps showing the locations of the diffusion tube monitoring sites are provided online at http://www.jorair.co.uk/data-downloads/air-quality-data/. 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 and distance (to nearest relevant location). Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40µg/m^3. Note that the concentration data presented in Table A.3 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 2019 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.4 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past 5 years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year. The only breaches of the hourly limit value in the last 5 years ocurred at Lawrence Street in 2015 and 2018 (where 2 and 1 breach of the 200µg/m^3 limit were recorded respectively).

Annual mean NO_2 concentrations monitored at all roadside real-time monitoring stations remained similar (within 0.6µg/m^3) in 2019, compared with levels monitored in 2018. Changes in annual mean NO_2 at Bootham Hospital (an urban background monitoring site) between 2018 and 2019 were slightly more pronounced at +1.1µg/m^3. Figure A.1 in Appendix A shows trends in the annual mean NO_2 concentrations as monitored at continuous monitoring sites over the last 8 years. There has been a general downward trend in NO_2 concentrations monitored across

the city since 2012, although year on year improvements have been less pronounced over the last 2-3 years.

With respect to the City Centre AQMA, exceedances of the health based annual mean NO_2 objective (40µg/m^3) were monitored in the Gillygate, Holgate / Blossom Street and Rougier Street/George Hudson Street technical breach areas in 2019. Whilst maximum annual mean concentrations of NO_2 monitored at relevant locations in the Nunnery Lane, Lawrence Street, Fishergate and Coppergate technical breach areas were below the objective at 37.4µg/m^3, 38.9µg/m^3, 37.8µg/m^3 and 38.2µg/m^3 respectively, they are still considered elevated and upper confidence limits (calculated on the basis of the precision of the monitoring techniques used) are all within approximately 1µg/m^3 of the annual mean objective. It is therefore not considered appropriate to reduce the size of the city centre AQMA at this time. This will be reviewed again as part of City of York Council's next Annual Status Report (due June 2021).

Whilst CYC has monitored concentrations above the annual mean objective for nitrogen dioxide, values are currently below the level that would be indicative of breaches of the hourly mean objective (60µg/m^3).

Concentrations of NO_2 monitored in the Fulford Road AQMA in 2019 were well below the annual mean objecitve of 40µg/m^3. The highest recorded levels of NO_2 were monitored on Fulford Main Street and were 33.1µg/m^3. This further supports the decision to revoke the Fulford Road AQMA, as discussed in City of York Council's last Annual Status Report, and implemented in February 2020.

Concentrations of NO_2 monitored in the former Salisbury Terrace AQMA in 2019 were all well below the annual mean objective of 40µg/m^3. Monitoring results indicate that the health based annual mean nitrogen dioxide objective continues to be met in this area and 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 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.

Concentrations of NO_2 monitored along Coppergate in 2019 were lower than those monitored in 2018, with the highest concentration in 2019 observed at site D56 (Three Tuns Pub, 12 Coppergate). This site recorded an annual mean NO_2 concentration of 38.2µg/m^3 (upper confidence limit of 39.4µg/m^3) which is just below the annual mean objective for this pollutant.

The latest monitoring results for Coppergate are summarised in table 3.1 below.

Table 3.1: Monitoring on Coppergate

Tube reference	Location	Bias Corrected Annual Mean NO_2 (µg/m^3) (Upper Confidence Limit (µg/m^3) shaded below where applicable)						
		2013	2014	2015	2016	2017	2018	2019
D50	Drainpipe at side of card shop, Coppergate	**42.8**	**44.3**	**41.9**	**40.3**	37.7	37.9	34.7
		44.5	**46.6**	**43.6**	**42.2**	39.1	39.1	35.8
D56	Three Tuns Pub, 12 Coppergate	-	-	**51.7** (estimate)	**47.4**	**42.1**	**42.3**	38.2
		-	-	**-**	**49.7**	**43.6**	**43.7**	39.4
D57	Lamppost 4, Pedestrian Crossing, Coppergate	-	-	37.1 (estimate)	35.7 (estimate)	30.3 (estimate)	33.8	29.4
		-	-	-	-	-	34.9	30.3
D58	Traffic lights, opposite Duttons, Coppergate	-	-	**44.0** (estimate)	38.9	38.7	36.8	34.6
		-	-		**40.8**	**40.2**	37.9	35.7

The Three Tuns Pub (on which tube D56 is located) is considered to be a relevant location as there is living accomodation at first floor and above. The tube is located on a drainpipe on the pub facade between ground and first floor level and continues to indicate a potential exceedence of the annual mean NO_2 objective (upper confidence limit within 0.6µg/m^3 of objective). Monitoring data for Coppergate will be carefully observed throughout 2020, but current indications are that concentrations of nitrogen dioxide are falling in this area. During the daytime, access to Coppergate is restricted to buses and taxis. It is expected that cleaner buses associated with the implementation of the York CAZ and further incentives to reduce taxi emissions will help to further improve air quality on Coppergate over the coming year. Further commentary on monitoring in this area will be provided in City of York Council's next Annual Status Report, due June 2021.

3.2.2 Particulate Matter (PM_{10})

Table A.5 in Appendix A compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past 5 years with the air quality objective of 40µg/m^3. Trends in annual mean PM_{10} concentrations are shown in Figure A.2. PM_{10} concentrations increased at all roadside locations (Fishergate, Holgate Road and Plantation Drive) between 2018 and 2019 (by ~19%, ~12% and ~15% respectively). Annual mean concentrations of PM_{10} monitored at the Bootham background site also increased between 2018 and 2019, although this was much less pronounced (~1%). Based on PM_{10} monitoring data over the last 8 years, there does not appear to be any clear trend in PM_{10} concentrations. The general downward trend in PM_{10} concentrations observed at roadside monitoring sites up to 2017 has not continued through 2018 and 2019.

Table A.6 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past 5 years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year. Trends in the number of exceedences since 2012 are shown in Figure A.3.

Tables A.5 and A.6 demonstrate that there were no exceedances of the annual mean or daily mean PM_{10} objectives in York during 2018. This has been the case since monitoring of PM_{10} was established in the city.

3.2.3 Particulate Matter ($PM_{2.5}$)

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 $PM_{2.5}$.

Table A.7 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past 5 years. Figure A.4, also in Appendix A,

demonstrates trends in annual mean $PM_{2.5}$ concentrations since 2012. Trend analysis over the last 8 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 background site has been more variable and increased between 2017 and 2019. Background $PM_{2.5}$ concentrations are broadly comparable to those monitored in 2013. No exceedances of the annual mean $PM_{2.5}$ objective have been recorded to date since monitoring of $PM_{2.5}$ was established.

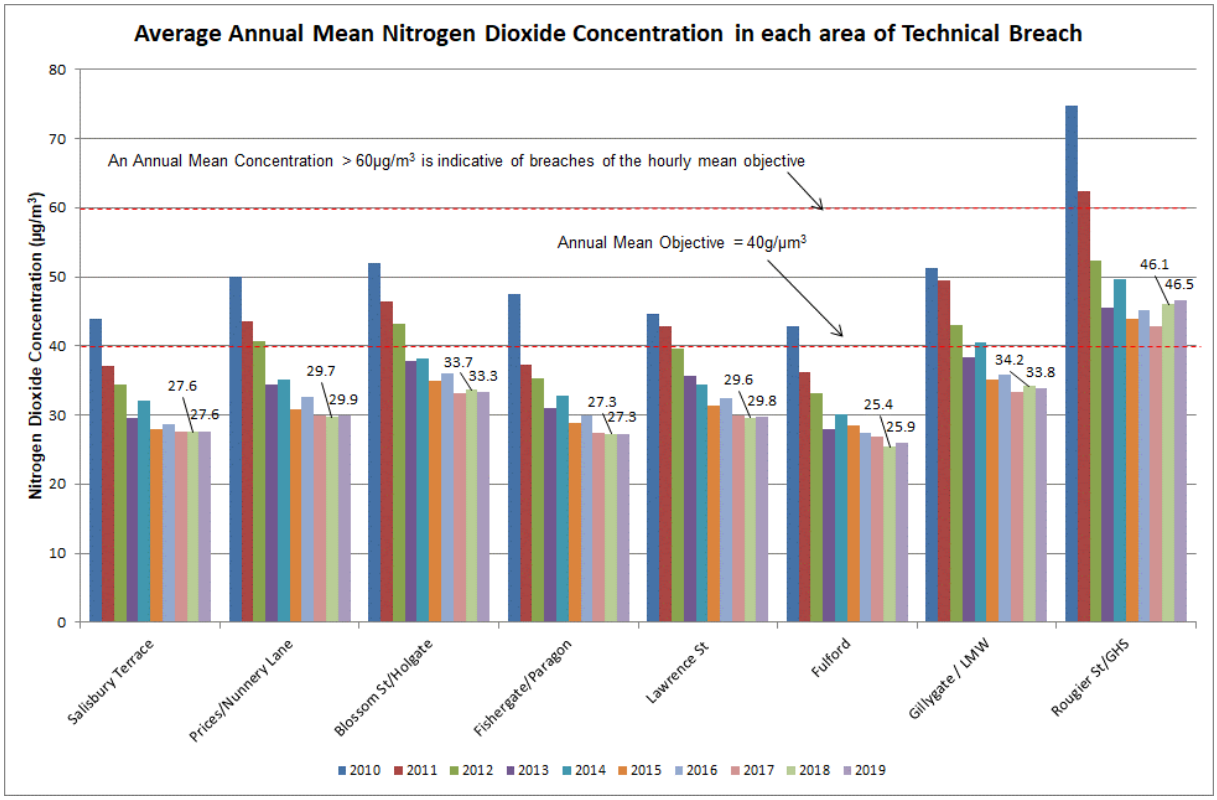
3.3 Air Quality Indicators

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 in recent years are shown in figure 3.1 below.

Figure 3.1: Indicator CAN027 – Trends in average annual mean nitrogen dioxide concentration in each area of technical breach



Average concentrations of NO_2 monitored in the majority of technical breach areas were very similar in 2019 compared to 2018, with changes varying between +0.6µg/m^3 (representing a 2% increase in average NO_2 concentration in the Fulford

Road area) and -0.4µg/m^3 (representing a 1% decrease in average NO_2 concentrations in the Gillygate area). With the exception of the Fulford Road area, the majority of technical breach areas exhibited changes in average NO_2 concentration of within +/-1%. Indicator CAN027 continues to suggest a steady downward trend in nitrogen dioxide concentrations over the last 10 years.

CAN028 - *Maximum Nitrogen Dioxide Concentration (at relevant location) in each area of Technical Breach.* This indicator provides a maximum recorded annual mean nitrogen dioxide concentration in each area of technical breach (historical areas of technical breach, such as Salisbury Terrace, are also shown for information). This only considers monitoring at relevant locations and is therefore useful to look at the validity of existing AQMA boundaries year to year.

Figure 3.2: Indicator CAN028 – Maximum nitrogen dioxide concentration (at relevant location) in each area of technical breach

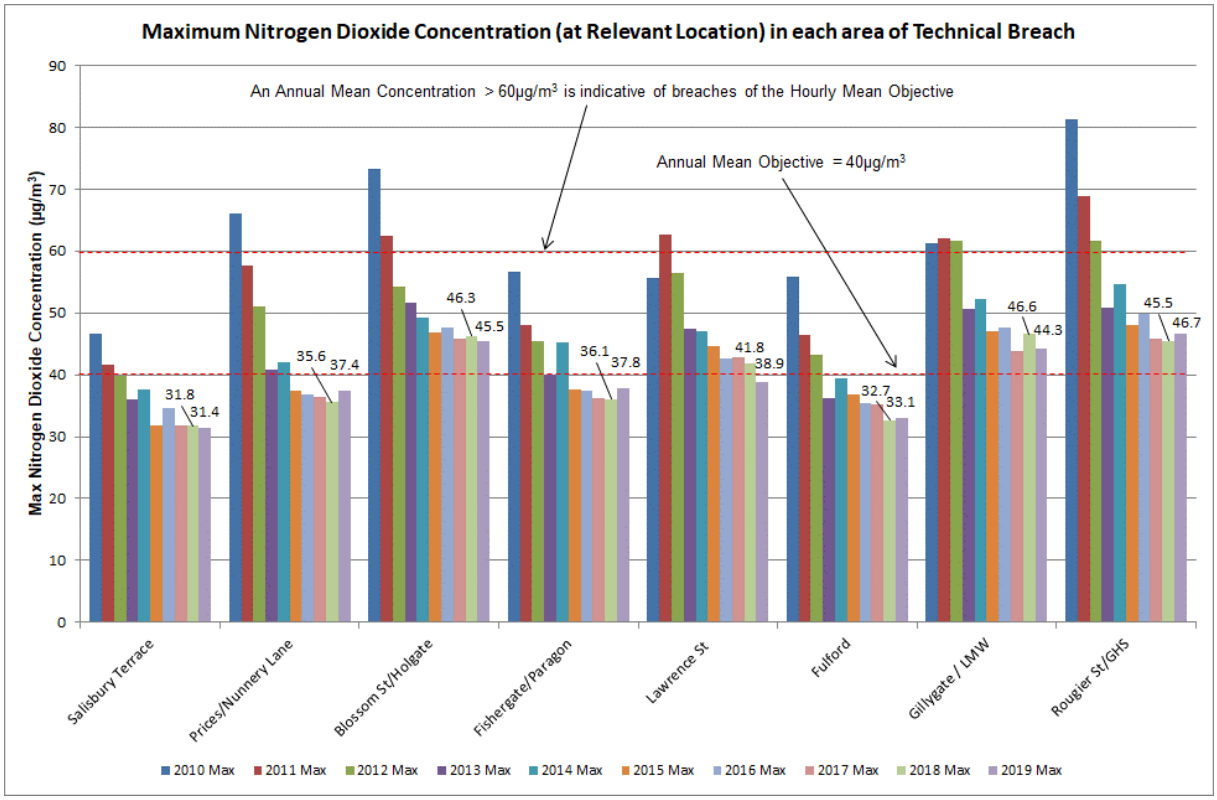


Figure 3.2 above demonstrates that the maximum annual mean nitrogen dioxide concentration at a relevant location was below the annual mean objective of 40µg/m^3 at 5 of the 8 areas of shown *(note: the Salisbury Terrace AQMA and Fulford Road AQMAs have now been revoked).* Maximum concentrations of NO_2 monitored at a relevant location within the Holgate Road/Blossom Street, Gillygate/Lord Mayors

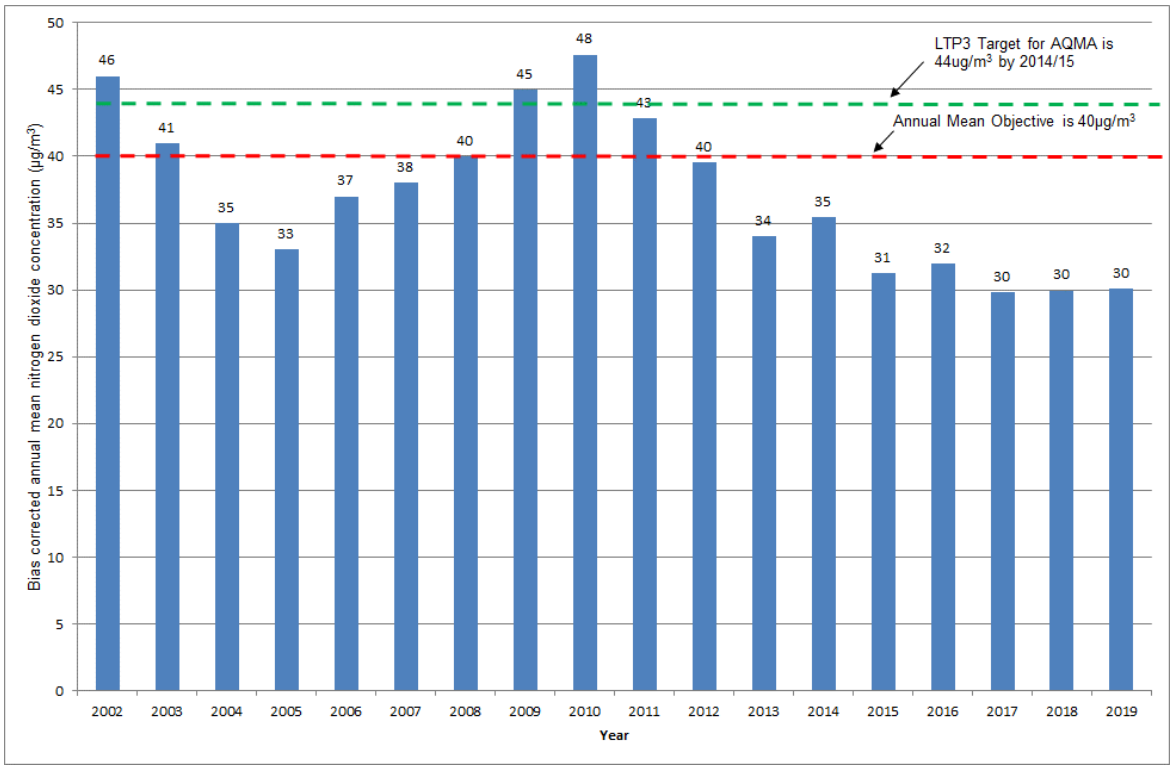
Walk, and Rougier St/George Hudson Street are all currently well above the annual mean NO_2 objective. Whilst maximum concentrations of NO_2 monitored within the Prices/Nunnery Lane, Fishergate/Paragon Street and Lawrence Street are below the objective at 37.4µg/m^3, 37.8µg/m^3 and 38.9µg/m^3 respectively, based on precision analysis carried out on the monitoring results (and upper confidence limits) and consideration of results from previous years, it is not considered appropriate to remove these areas from the current city centre AQMA boundary.

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 (maximum concentrations are 31.4µg/m^3 and 33.1µg/m^3 respectively) and that it was appropriate to revoke these AQMAs in 2017 and 2020 respectively.

3.3.2 Local Transport Plan

For the purpose of monitoring the impact of York's Local Transport Plan (LTP) 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. Figure 3.3 below shows the results from this indicator for the period 2002 to 2019. As can be seen from figure 3.3, 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). The figure of 30µg/m^3 recorded from 2017 - 2019 is the lowest recorded value since the indicator was established in 2002.

Figure 3.3: Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites



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 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 2019. 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 table 4.1 below.

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: https://planningaccess.york.gov.uk/online-applications/

Table 4.1: Planning Applications Considered during 2019
[N.B. Comments provided relating to application status reflect the position as of end March 2020]

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.	**2020 Update** Extension of time agreement for determination by 24th July 2020
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.	**2020 Update** Extension of time agreement for determination by 24th July 2020
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	**2020 Update** Awaiting determination
12/01749/REMM	Reserved matters application for Germany Beck Site, East Of Fordlands Road, York	Reserved Matters	Review of updated Environmental Statement (updated from 2012 Environmental Statement). Comments made in relation to emissions assessment and	**2020 Update** Awaiting determination

Planning Reference	Description	Type	Comments	Status
			electric vehicle recharging provision on the site	
14/02979/FULM	Residential development of 266 dwellings with associated access, public open space, landscaping and infrastructure. Former Civil Service Club And Agricultural Land To The North Boroughbridge Road, York	Full Application	Facilities sought for recharging electric vehicles at all dwellings with off-street parking	**2020 Update** Allowed on Appeal (25/10/19) Conditions attached relating to electric vehicle charge points
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.	**2020 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)	**2020 Update** Extension of time agreement for determination by 29th May 2020

Planning Reference	Description	Type	Comments	Status
18/01011/OUTM	Outline planning application with all matters reserved except for means of access for a mix of uses including 425 dwellings, offices, retail, a creche and community uses with associated car parking, landscaping, highways infrastructure and other ancillary works. Land At Cocoa West, Wigginton Road, York	Outline Application	Public Protection requested conditions relating to electric vehicle recharging points and the preparation of a Construction Environmental Management Plan (CEMP). Emission mitigation measures agreed for the development.	**2020 Update** Approved 18/2/2020
18/02687/OUTM	Up to 516 residential units (Class C3) with local centre (use Classes A1-A4, B1a, C3, D1) public open space with pavilion and associated infrastructure and full application for demolition of existing buildings and structures and creation of ecological protection and enhancement zone. Moor Lane, Acomb, York	Outline Application	Public Protection highlighted the need for the provision of electric vehicle charging facilities and the preparation of a Construction Environmental Management Plan (CEMP). Whilst an emissions assessment and damage cost calculation has been carried out, a mitigation statement had not been prepared in line with CYC's draft guidance and therefore this was also conditioned. Public Protection also highlighted that any proposals for solid fuel combustion would require additional air quality assessment.	**2020 Update** Refused 12/7/2019

Planning Reference	Description	Type	Comments	Status
18/01884/OUTM	York Central	Outline Application	York Central is the large brownfield site to the west of the city's railway station, and is a unique opportunity for housing and economic growth in the centre of York. It lies between the A19 and A59 road corridors, and is contained by operational rail lines. The area contains existing buildings which will be retained which include the National Railway Museum, private housing and businesses. The rest of the site is largely underused, having historically been occupied by the rail industry	**Approved** (24/12/2019) Conditions were attached regarding the provision of a Construction Environmental Management Plan, a strategy for the provision of electric vehicle recharging facilities for each phase / sub-phase of the development and the provision of an emission mitigation statement, outlining the emissions mitigation measures proposed for the site (to include timeframes and phasing)
19/00009/FUL	Construction of a temporary access junction and track off the A19 in association with flood alleviation	Full Application	Public Protection recommended that prior to commencement, a Construction Environmental	**Approved** (27/7/2019)

Planning Reference	Description	Type	Comments	Status
	works. Clifton Ings Flood Alleviation Barrier To The South Of Shipton Road, Rawcliffe, York, YO30 5RY		Management Plan (CEMP) for minimising the creation of noise, vibration and dust during the site preparation and construction phases should be submitted and approved by the Local Planning Authority.	
19/00087/FUL	Erection of two storey side extension to existing office building with associated parking. 1 Omega Monks Cross Drive, Huntington, York, YO32 9GZ	Full Application	Public Protection requested a condition regarding the provision of facilities for charging electric vehicles	**Approved** (5/4/2019) A condition was attached to the approval requiring the provision of one electric vehicle recharge point and a 5 year maintenance plan.
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.	Extension of time agreement for determination by 22nd May 2020

Planning Reference	Description	Type	Comments	Status
			Public Protection requested that 2% of the parking spaces on the site should include facilities for 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.	**Awaiting Decision**

Planning Reference	Description	Type	Comments	Status
19/00346/FUL	Change of use from veterinary practice (Use Class D1) to residential dwelling (Use Class C3) to include single storey rear extension, replacement of front door with window, erection of boundary wall to side and associated parking. George Blades And Son, 2 Common Road, Dunnington, York, YO19 5NG	Full Application	Public Protection requested that an electric vehicle charge point be provided within the curtilage of the development	**Approved** (29/4/2019) Proposed condition not attached to approval by CYC planning
19/00524/FUL	Change of use from financial services (Use Class A2) to 1no. dwellinghouse (Use Class C3) with external alterations to front elevation. Redmayne And Bentley Stockbrokers, 20 Bootham, York, YO30 7BL	Full Application	It was recommended that a mechanical ventilation strategy should be designed for the building and that the window openings to all habitable rooms (living areas, bedrooms) facing Bootham should be non-opening, unless it can be demonstrated through site specific air quality monitoring that concentrations of nitrogen dioxide at the property facade are below health based objectives.	**Approved** (10/7/2019) A condition was attached requiring all windows to habitable rooms facing onto Bootham to be non-opening, with ventilation provided through continuous mechanical supply and extract to the rear of the building

Planning Reference	Description	Type	Comments	Status
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	**Awaiting Decision**
19/00664/FUL	Change of use of existing letting bedroom block to 4 no. one bedroom residential units and 1 no. two bedroom residential unit with external alterations, siting of 5 no. holiday lodges with associated car parking and landscaping. The Windmill, Hull Road, Dunnington, York, YO19 5LP	Full Application	Public Protection requested that each holiday lodge and residential unit should incorporate facilities to allow charging of an electric vehicle.	**Approved** (5/6/2019) A condition was attached regarding the provision of a external socket suitable for charging electric vehicles
19/00680/FUL	Erection of 3no. dwellings and extension to existing dwelling through barn conversion with associated works. 1 Church Street, Dunnington, York, YO19 5PP	Full Application	Public Protection requested that each dwelling should incorporate facilities to allow charging of an electric vehicle.	**Application Withdrawn** (11/12/2019)

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 was also requested to control dust emissions during construction phases	**Awaiting Decision**
19/00836/FULM	Conversion of first, second floor and third floors and roof level extension to create 17no. serviced apartments, change of use of 23 and 25 Tanner Row ground floor and basement to A3 with ancillary accommodation along with ground floor and basement to 31 George Hudson Street to Amenity Space for serviced apartments above (revised scheme). Club Salvation, George Hudson Street, York, YO1 6JL	Full Application	To minimise ingress of pollutants into the building and potential exposure of occupants of the accommodation to poor air quality, Public Protection requested that all windows to habitable rooms facing George Hudson Street and Tanner Row (up to and including second floor) should be non-opening, with ventilation provided through continuous mechanical supply and extract to the rear of the building.	**Approved** (29/5/2019) Public Protection's recommended condition regarding non-opening windows and a ventilation strategy was attached to the 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	**Awaiting Decision**

Planning Reference	Description	Type	Comments	Status
			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.	
19/01041/FUL	Single storey extensions front and rear, enlarged car park. Woodlands Respite Care Centre, 120 Thief Lane, York, YO10 3HU	Full Application	Public Protection requested the provision of 2 electric vehicle recharge points in a position and to a specification be agreed.	**Approved** (26/7/2019) Public Protection's recommended condition regarding the provision of 2 electric vehicle recharge points was attached to the approval.
19/01208/FUL	Change of use of land for the siting of 3no. Shepherd Huts as holiday lets. New Farm House, Cinder Lane, Nether Poppleton, York, YO26 6HU	Full Application	Public Protection requested the provision of electric vehicle recharge points in a position and to a specification to be agreed.	**Approved** (30/8/2019) Public Protection's recommended condition regarding the provision electric vehicle recharge points was attached to the approval.

Planning Reference	Description	Type	Comments	Status
19/01319/FUL	Change of use from hotel (use class C1) to student accommodation (use class C2). Bishops Hotel, 135 Holgate Road, York, YO24 4DF	Full Application	Public Protection requested a condition regarding passive provision for electric vehicle recharge points	**Approved** (21/8/2019) Public Protection's recommended condition regarding the provision of electric vehicle recharge points was not attached to the 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.	**Awaiting Decision**
19/01015/FUL	Erection of a single storey modular office building following the demolition of the existing building. Certas Energy UK Ltd Shell Direct 3 Derwent Valley Industrial Estate, Dunnington, York, YO19 5PD	Full Application	Public Protection requested a condition regarding the provision of 1 electric vehicle recharge point	**Approved** (21/8/2019) Public Protection's recommended condition regarding the provision of an electric vehicle recharge point was attached to the

Planning Reference	Description	Type	Comments	Status
				approval
19/00583/FULM	Erection of no.5 one bedroom and no.2 two apartments and no.2 two bedroom semi-detached bungalows following demolition of existing bungalow. 61A Gale Lane, York, YO24 3AD	Full Application	Public Protection requested a condition regarding the provision of an electric vehicle recharge point in one of shared visitor spaces	**Approved** (2/8/2019) A condition was attached to the approval regarding the provision of an electric vehicle charge point for each parking space
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.	**Awaiting Decision**
19/01260/OUTM	Outline application for planning permission for a business park up to 25,084sq.m (Use Class B1) and an Innovation Centre up to 6,503 sq.m (Use Class B1/B2), with ancillary pavilion units up to 836 sq.m (Use Classes A1, A3, A4, D1 and D2), associated car parking, a park and ride facility, including park and ride	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	**Awaiting Decision**

Planning Reference	Description	Type	Comments	Status
	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		with any on-site combustion, and the provision of a strategy for the provision of electric vehicle charging facilities across the site.	
19/01394/FUL	Change of use from dwellinghouse (Use Class C3) to care home (Use Class C2). 56 Heworth Green, York, YO31 7TQ	Full Application	Public Protection requested a condition requiring the provision of electric vehicle charging facilities on the site.	**Approved** (8/11/2019) A condition was attached to the approval regarding the provision of an electric vehicle charge point
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.	**Awaiting Decision**

Planning Reference	Description	Type	Comments	Status
19/01509/FULM	Variation of condition 2 of permitted application 17/00284/FULM to make the following changes - increase the number of dwellings from 258 to 279; change the mix of dwellings; changes to the external appearance of the building; changes to parking and landscaping. The Cocoa Works Haxby Road York YO31 8TA	Full Application	Public Protection suggested that facilities for charging electric vehicles should be increased to 5% of total parking provision (an increase on the 2% previously requested). This was in line with changes to City of York Council's Low Emission Planning Guidance note.	**Approved** (3/3/2020)
19/02011/FULM	Change of use of former research centre (Use Class B1) to non-residential institution for academic use (Use Class D1) with associated external works, Smith And Nephew Plc Research Centre, Innovation Way, Heslington, York, YO10 5DF	Full Application	Public Protection requested the provision of electric vehicle recharge points (8 active charge points and 8 bays with passive provision).	**Approved** (22/1/2020) Condition attached to the approval regarding provision of 8 electric vehicle charging points
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	**Awaiting Decision**

Planning Reference	Description	Type	Comments	Status
			additional electric vehicle charge points). A Construction Environmental Management plan was also requested.	
19/01777/FUL	Change of use from retail unit (Class A1) to 24 hour gymnasium (Class D2) with installation of mezzanine floor space and associated external alterations. Office World Foss Islands Road, York, YO31 7UP	Full Application	Public Protection requested that a minimum of 3 parking spaces were provided with facilities for charging electric vehicles (with an additional 3 bays identified for the future installation of additional electric vehicle charge points).	**Approved** (17/12/2019) Condition attached to the approval regarding provision of 3 electric vehicle charging points
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).	**Awaiting Decision**

Planning Reference	Description	Type	Comments	Status
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).	**Awaiting Decision**
19/02037/FUL	Change of use of former research centre (Use Class B1) to non-residential institution for academic use (Use Class D1) with associated internal alterations. Yorktest Group Genesis, 3 Innovation Way, Heslington, York, YO10 5DQ	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).	**Approved** (4/12/2019) Condition attached to the approval regarding provision of an electric vehicle charging point
19/02050/FUL	Extension and refurbishment of existing office building. Inspire 2 Independence (I2i) Ltd Independence House, Millfield Lane, Nether Poppleton, York, YO26 6PH	Full Application	Public Protection requested that a minimum of 3 parking spaces were provided with facilities for charging electric vehicles (with an additional 3 bays identified for the future installation of additional electric vehicle charge points).	**Approved** (6/12/2019) Proposed condition not attached to approval

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.	**Awaiting Decision**
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 that a minimum of 3 parking spaces were provided with facilities for charging electric vehicles (with an additional 3 bays identified for the future installation of additional electric vehicle charge points).	**Refused** (24/12/2019) Refused on basis that the development would be conflict with national policy to promote sustainable travel.

Planning Reference	Description	Type	Comments	Status
19/02054/FUL	Proposed change of use from general industrial (use class B2) to studio gym (use class D2). Corby (No.1) Unit Trust 21 - 22 Auster Road, York, YO30 4XA	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).	**Approved** (19/2/2020) Proposed condition not attached to approval
19/02292/FUL	Change of use of land to form extension to existing haulage yard to provide storage for lorries, trailers and portable buildings and to provide parking for employees. A. Rhodes (Haulage) Ltd, Grange Farm, Hazelbush Lane, York, YO32 9TR	Full Application	Public Protection requested that a minimum of 3 parking spaces were provided with facilities for charging electric vehicles (with an additional 3 bays identified for the future installation of additional electric vehicle charge points).	**Application Withdrawn** (13/1/2020)
19/02402/ORC	Proposed change of use from offices to 58 no. flats (use class C3) under Class O Part 3 Schedule 2 of Article 3 of The Town and Country Planning (General Permitted Development) Order 2015. Northern House, Rougier Street, York	Office to Residential Conversion	Public Protection requested that a minimum of 2 parking spaces were provided with facilities for charging electric vehicles (with an additional 2 bays identified for the future installation of additional electric vehicle charge points). Public Protection were unable to make a formal representation in terms of air quality (due to the type of	**Approved** (3/1/2020) Condition attached to the approval regarding provision of 2 electric vehicle charging points

Planning Reference	Description	Type	Comments	Status
			application) but highlighted to CYC Planning that annual mean concentrations of nitrogen dioxide in this area of the city were exceeding health based standards and that measures to mitigate potential exposure of future residents to poor air quality should be considered if possible (i.e. non-opening windows to habitable rooms and a mechanical ventilation strategy).	
19/02401/ORC	Proposed change of use from offices to 10 no. flats (use class C3) under Class O Part 3 Schedule 2 of Article 3 of The Town and Country Planning (General Permitted Development) Order 2015. Rougier House, 5 Rougier Street, York	Office to Residential Conversion	Public Protection were unable to make a formal representation in terms of air quality (due to the type of application) but highlighted to CYC Planning that annual mean concentrations of nitrogen dioxide in this area of the city were exceeding health based standards and that measures to mitigate potential exposure of future residents to poor air quality should be considered if possible (i.e. non-opening windows to habitable rooms and a mechanical ventilation strategy).	**Approved** (8/1/2020)

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 that a minimum of 2 parking spaces were provided with facilities for charging electric vehicles (with an additional 2 bays identified for the future installation of additional electric vehicle charge points).	**Approved** (10/2/2019) Proposed condition not attached to approval

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?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
CM1	Bootham	Urban Background	460,022	452,777	NO_x, PM_{10}, $PM_{2.5}$	No	C, FDMS	Y (0m)	49.6	3.04
CM2	Fishergate	Roadside	460,746	451,038	NO_x, PM_{10}, $PM_{2.5}$	Yes	C, BAM	Y (10m)	3.2	2.66
CM3	Holgate	Roadside	459,512	451,282	NO_x, PM_{10}	Yes	C, FDMS	Y (12m)	2.5	1.65
CM4	Nunnery Lane	Roadside	460,068	451,199	NO_x	Yes	C	Y (4m)	1.7	1.65
CM5	Gillygate	Roadside	460,147	452,345	NO_x, $PM_{2.5}$	Yes	C, TEOM	Y (3m)	2.1	2.5
CM6	Lawrence Street	Roadside	461,256	451,340	NO_x	Yes	C	Y (5m)	3.2	1.65
CM7	Heworth Green	Roadside	461,126	452,602	NO_x	No	C	Y (3m)	1.2	1.53
CM8	Plantation Drive	Roadside	457,428	452,620	PM_{10}	No	TEOM	Y (17m)	1.0	1.65
CM9	Fulford Road	Roadside	460,937	449,464	NO_x	Yes	C	Y(19m)	5.0	1.65

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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
5	Lamp post 15 Forge Close, Jockey Lane	Roadside	462040	454883	NO_2	NO	16.9	1.9	N	~2.75
6	Lamp post top of Nunnery Lane Car Park	Roadside	459777	451406	NO_2	YES	7.7	2.8	N	~2.75
7	Gillygate opposite Portland Street	Roadside	460217	452421	NO_2	YES	2.3	0.3	N	~2.75
8	Portland Street - triplicate	Urban Background	460163	452468	NO_2	NO	3.7	1.8	N	~2.75
9	Portland Street - triplicate	Urban Background	460163	452468	NO_2	NO	3.7	1.8	N	~2.75
11	Holly Bank	Urban Background	458846	450946	NO_2	NO	7.7	0.7	N	~2.75
13	Papillion hotel, Gillygate	Roadside	460176	452377	NO_2	YES	0.1	1.5	N	~2.75
14	Gillygate Surgery	Roadside	460167	452347	NO_2	YES	0.2	2.3	N	~2.75
15	Foss Islands Rd	Roadside	461105	451458	NO_2	YES	1.9	1.9	N	~2.75
16	Prices Lane	Roadside	460160	451152	NO_2	YES	2.5	1.2	N	~2.75
17	Drainpipe of house 18 Queen St	Roadside	459646	451500	NO_2	YES	0.2	1.3	N	~2.75
18	Lamp post 4 Haxby Road	Roadside	460457	452903	NO_2	YES	3.3	1.9	N	~2.75
25	Heworth Road – Lamp post 6	Roadside	461721	452709	NO_2	NO	7.2	1.4	N	~2.75
26	Haleys Terrace (previously Longwood Road)	Roadside	460829	453524	NO_2	NO	8.5	0.4	N	~2.75
33	Haxby Road (nr Whitecross Rd)	Roadside	460598	453227	NO_2	NO	14.5	1.7	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
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
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	Roadside	459746	455897	NO_2	NO	15	0.5	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
	the ring road roundabout									
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 Salisbury Terrace - triplicate	Roadside	458703	452429	NO_2	NO	0.1	1.4	N	~2.75
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	Roadside	459873	451684	NO_2	NO	1	2.3	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
	Toft Green									
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
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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
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
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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
A20b	224 Sailsbury Terrace - triplicate	Roadside	458760	452404	NO_2	NO	0.2	1.1	N	~2.75
A21	Kingsland Terrace	Urban Background	458806	452326	NO_2	NO	0.2	1.4	N	~2.75
A22	Kingsland Terrace	Urban Background	458792	452242	NO_2	NO	0.2	23.8	N	~2.75
A25	Garfield Terrace	Roadside	458706	452225	NO_2	NO	0.2	1.5	N	~2.75
A29	Low Poppleton Lane	Urban Background	456939	453013	NO_2	NO	23.6	1.1	N	~2.75
A3	WRVS building - Bootham	Roadside	459822	452492	NO_2	YES	0.2	2.6	N	~2.75
A30	Boroughbridge Road	Urban Background	457060	452888	NO_2	NO	8.3	6.2	N	~2.75
A36	Boroughbridge Road	Urban Background	457625	452446	NO_2	NO	0.2	9.4	N	~2.75
A38	Boroughbridge Road	Urban Background	457857	452334	NO_2	NO	0.2	10.3	N	~2.75
A4	St Olaves Road	Urban Background	459699	452638	NO_2	YES	5.8	0.7	N	~2.75
A40	Poppleton Road School	Urban Background	458109	452196	NO_2	NO	0.2	7.9	N	~2.75
A41	140 Poppleton Road	Roadside	458172	452108	NO_2	NO	0.2	5.3	N	~2.75
A45	Grantham Drive	Urban Background	458384	451817	NO_2	NO	0.2	10.5	N	~2.75
A98	8 Poppleton Road	Roadside	458666	451468	NO_2	NO	0.2	4.9	N	~2.75
A50	Outside Fox pub - Holgate Rd	Roadside	458732	451393	NO_2	YES	16.1	0.3	N	~2.75
A51	Thrall entrance	Urban Background	458827	451348	NO_2	YES	18	2.2	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
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	Lamppost outside Charlie Browns	Roadside	460030	452327	NO_2	YES	2.4	0.6	N	~2.75
A66	70 Shipton Road	Urban Background	458672	453685	NO_2	NO	0.2	18.4	N	~2.75
A69	6 South Cottages	Urban Background	458375	453958	NO_2	NO	0.2	10	N	~2.75
A7	51 Clifton	Roadside	459441	452892	NO_2	YES	3.3	2.1	N	~2.75
A70	120 Shipton Road	Urban Background	458299	454070	NO_2	NO	0.2	13	N	~2.75
A71	154 Shipton road	Urban Background	458121	454254	NO_2	NO	0.2	9.6	N	~2.75
A74	176 Shipton Road	Urban Background	458041	454371	NO_2	NO	0.2	7.1	N	~2.75
A77	Lamp post outside 206 Shipton Road	Urban Background	457929	454537	NO_2	NO	6.1	1.7	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
A81	Lamp post outside 276 Shipton Rd	Urban Background	457733	454805	NO_2	NO	0.2	8.4	N	~2.75
A85	Drainpipe front of Greenside guest house	Urban Background	459364	453009	NO_2	NO	0.2	11.5	N	~2.75
A88	111 Boroughbridge Road, Drainpipe nearest Garage at side of the door	Urban Background	457470	452550	NO_2	NO	0.2	12.9	N	~2.75
A9	Lime Tree House	Roadside	459295	453067	NO_2	YES	12.6	1.7	N	~2.75
A90	Lamp post 25 Shipton Rd	Roadside	459238	453157	NO_2	YES	8.2	1.9	N	~2.75
A94	5 Salisbury Road	Roadside	458651	452426	NO_2	NO	0.2	13.7	N	~2.75
A96	Ousecliffe Gardens signpost, outside 31 Water End	Roadside	459038	452850	NO_2	NO	10	0.6	N	~2.75
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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
B29	Eastern Terrace	Roadside	461453	452750	NO_2	NO	0.3	1	N	~2.75
B3	Lamp post 11 Huntington Road outside no 70	Roadside	460952	452826	NO_2	NO	2.9	1.4	N	~2.75
B36	Lamp post 60 Malton Road - triplicate	Urban Background	462565	454194	NO_2	NO	16.9	0.6	N	~2.75
B37	Lamp post 60 Malton Road - triplicate	Urban Background	462565	454194	NO_2	NO	16.9	0.6	N	~2.75
B37a	Lamp post 60 Malton Road - triplicate	Urban Background	462565	454194	NO_2	NO	16.9	0.6	N	~2.75
B38	482 Malton Road	Urban Background	463757	455155	NO_2	NO	0.2	11.7	N	~2.75
B41	76 Lawrence Street	Urban Background	461326	451330	NO_2	YES	0.2	6.5	N	~2.75
B42	83 Lawrence Street	Urban Background	461430	451348	NO_2	YES	0.2	7.2	N	~2.75
B43	117 Lawrence Street	Urban Background	461557	451343	NO_2	YES	0.2	7.9	N	~2.75
B44	Outside nursing home, Lawrence Street	Roadside	461643	451343	NO_2	YES	8.6	1.9	N	~2.75
B45	Pedestrian crossing Traffic Light Melrosegate Crossroads	Roadside	461849	451284	NO_2	YES	17.3	0.5	N	~2.75
B47	47 Hull Road	Urban Background	462019	451289	NO_2	NO	0.2	12.2	N	~2.75
B48	61 Hull Road	Urban Background	462122	451289	NO_2	NO	0.2	12.8	N	~2.75
B50	134 Hull Road	Roadside	462291	451269	NO_2	NO	0.2	3.7	N	~2.75
B51	117 Hull Road	Urban Background	462384	451298	NO_2	NO	0.2	13.2	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
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
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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
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
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
C31	2 Selby Rd	Urban Background	461193	448473	NO_2	NO	0.2	14.1	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
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
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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
C54	Escrick St	Roadside	460762	451069	NO_2	YES	1.7	3.2	N	~2.75
C56	Pedestrian crossing on junction of Scarcroft Road/The Mount	Roadside	459484	451141	NO_2	YES	25.1	1.3	N	~2.75
C57	Lamp post 1 Nelson's Lane	Urban Background	458912	450111	NO_2	NO	5.9	1.3	N	~2.75
C58	Drainpipe of 4 Main Street Fulford	Roadside	460926	449429	NO_2	NO	0.2	3.6	N	~2.75
C59	Drainpipe of 34 Tadcaster Road	Roadside	458735	449713	NO_2	NO	0.2	3.6	N	~2.75
C62	East Mount Road	Roadside	459579	451251	NO_2	YES	0.1	1	N	~2.75
C63	1 St Edwards Close	Roadside	458790	449740	NO_2	NO	0.1	15.6	N	~2.75
C7	Slingsby Grove	Roadside	458611	449477	NO_2	NO	1.4	2.6	N	~2.75
D10	Daisy Taylors Card Shop, Kings Square	Urban Background	460443	451927	NO_2	NO	0.2	0.9	N	~2.75
D12	On signpost outside 26 Fossgate	Roadside	460567	451740	NO_2	YES	0.2	1.6	N	~2.75
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	Roadside	460038	451626	NO_2	YES	1.7	0.2	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
	Junction									
D20	Low Ousegate / Clifford St junction, outside Waterstones	Roadside	460323	451685	NO_2	YES	13	0.5	N	~2.75
D22	Outside Museum Gardens	Roadside	460035	452010	NO_2	YES	7.9	2.1	N	~2.75
D24	Priory St sign Micklegate	Roadside	459805	451543	NO_2	NO	3.4	0.5	N	~2.75
D25	Bus Stop E outside Royal York Hotel	Roadside	459693	451750	NO_2	YES	169.3	0.4	N	~2.75
D26	Lamp post 14 Piccadilly (near Travellodge)	Roadside	460671	451400	NO_2	YES	15.5	2.1	N	~2.75
D27	Lamp post 2 St Deny's Road - outside hotel	Roadside	460734	451563	NO_2	NO	11.7	1.5	N	~2.75
D28	Lamp post 4 outside The Garden 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
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	Roadside	460135	450884	NO_2	YES	6.1	0.2	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
	Charlton St									
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
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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
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	90	N	~2.75
D53	58 Nunnery Lane	Roadside	460115	451146	NO_2	YES	0.1	3.6	N	~2.75
D54	76 Nunnery Lane	Roadside	460146	451116	NO_2	YES	0.1	5.5	N	~2.75
D55	Museum Street - Opposite Thomas's Pub	Roadside	460087	452065	NO_2	YES	1.8	2.2	N	~2.75
D6	Margaret Phillipson Court, Aldwalk	Urban Background	460570	452177	NO_2	NO	0.2	2.6	N	~2.75
D8	Lamp post 2, The Stonebow - Jorvick café	Roadside	460553	451843	NO_2	NO	27.3	0.5	N	~2.75
D9	Lamp post 8, Lord Mayor's Walk outside no 34	Roadside	460483	452357	NO_2	YES	1.8	0.1	N	~2.75
D56	Three Tuns Pub, 12 Coppergate	Roadside	460400	451685	NO_2	YES	0.1	1.6	N	~2.75
D57	Lamp post 4, Pedestrian Crossing, Coppergate	Roadside	460416	451708	NO_2	YES	11.9	2.4	N	~2.75
D58	Traffic lights, opposite Duttons, Coppergate	Roadside	460435	451732	NO_2	YES	8	0.1	N	~2.75
D59	Bus Stop outside 8/9 SLP	Roadside	460087	452156	NO_2	YES	1.8	2.7	N	~2.75
D60	No entry sign outside 'Schuh' Shoe Shop	Roadside	460294	451883	NO_2	NO	N	1.7	N	~2.75
130	Outside 81 Low Mill Close	Roadside	463663	451054	NO_2	NO	13.6	1.1	N	~2.75
115	Inside Bus Stop (opposite side of road from tube 114) Rougier	Roadside	459962	451771	NO_2	YES	47	1.5	N	~2.75

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube collocated with a Continuous Analyser?	Height (m)
	Street									

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO_2 Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	NO_2 Annual Mean Concentration (µg/m^3) (3)(4)				
							2015	2016	2017	2018	2019
Bootham	460022	452777	Urban Background	Automatic	99	99	15.8	17.8	14.9	15.2	16.3 (provisional data from Oct - Dec 2019)
Fishergate	460746	451038	Roadside	Automatic	98	98	27.4	27.2	27.7	26.1	26.1 (provisional data from Oct-Dec 2019)
Holgate	459512	451282	Roadside	Automatic	91	91	30.7	29.4	24.8	24.8	25.2
Nunnery Lane	460068	451199	Roadside	Automatic	93	93	28.4	31.4	25.9	23.4	22.9
Gillygate	460147	452345	Roadside	Automatic	99	99	27.8	27.3	25.2	27.1	27.3
Lawrence Street	461256	451340	Roadside	Automatic	95	95	34.1	33	29.3	27.3	26.9
Heworth Green	461126	452602	Roadside	Automatic	87	87	28	28.3	26.5	26.2	25.6
Fulford Road	460937	449464	Roadside	Automatic	83	83	25	25.2	23	22.2	22.3
5	462040	454883	Roadside	Diffusion Tube	100	100	16.2	16.7	16.0	15.2	16.2
6	459777	451406	Roadside	Diffusion Tube	100	100	37.4	**40.6**	37.3	37.1	37.3
7	460217	452421	Roadside	Diffusion Tube	92	92	**44.9**	**46.6**	**42.4**	**45.3**	**45.4**
8	460163	452468	Urban Background	Diffusion Tube	100	100	16.3	17.6	15.7	15.5	18.1
9	460163	452468	Urban Background	Diffusion Tube	92	92	15.3	18.1	15.7	15.7	17.6
11	458846	450946	Urban	Diffusion	100	100	15.8	19.3	14.7	15.6	17.9

			Background	Tube							
13	460176	452377	Roadside	Diffusion Tube	100	100	**45.5**	**44.9**	**42.5**	**42.6**	**40.7**
14	460167	452347	Roadside	Diffusion Tube	92	92	**47.1**	**47.5**	**43.6**	**46.6**	**44.3**
15	461105	451458	Roadside	Diffusion Tube	100	100	37.4	38.1	35.9	36.0	34.7
16	460160	451152	Roadside	Diffusion Tube	100	100	37.5	36.2	36.0	35.6	35.9
17	459646	451500	Roadside	Diffusion Tube	100	100	32.2	33.5	30.9	32.2	31.4
18	460457	452903	Roadside	Diffusion Tube	100	100	29.9	31.7	28.9	29.4	29.9
25	461721	452709	Roadside	Diffusion Tube	100	100	26.1	25.2	20.9	20.0	22.4
26	460829	453524	Roadside	Diffusion Tube	100	100	24.1	25.7	28.3	26.0	26.7
33	460598	453227	Roadside	Diffusion Tube	100	100	26.9	25.8	26.0	23.7	23.5
35	457603	451492	Roadside	Diffusion Tube	100	100	24.9	24.7	24.4	24.3	23.5
37	459522	451187	Roadside	Diffusion Tube	100	100	33.2	31.9	33.3 (estimate)	31.1	29.6
44	460679	452326	Roadside	Diffusion Tube	100	100	25.7	24.3	22.4	22.9	22.3
45	460319	452754	Roadside	Diffusion Tube	100	100	31.1	32.0	29.5	31.6	31.4
47	462009	456996	Roadside	Diffusion Tube	100	100	27.6	28.3	28.4	26.9	26.8
50	N/A	N/A	BLANK	Diffusion Tube	75	75	Blank	Blank	Blank	Blank	Blank
60	461017	451781	Roadside	Diffusion Tube	75	75	21.3	21.2	22.5	19.8	22.9
78	460149	452342	Roadside	Diffusion Tube	92	92	29.0	29.2	28.3	30.3	28.6
79	460149	452342	Roadside	Diffusion	92	92	29.4	29.5	28.7	29.6	29.4

				Tube							
80	460149	452342	Roadside	Diffusion Tube	92	92	28.6	30.1	28.2	29.4	29.8
83	461597	452830	Urban Background	Diffusion Tube	100	100	18.3	20.9	22.6	20.2	19.9
88	463354	451972	Urban Background	Diffusion Tube	67	67	12.8	13.2	13.1	11.9	13.8 (estimate)
90	459997	450109	Roadside	Diffusion Tube	100	100	16.0	17.6	15.6	15.7	15.7
96	460978	449452	Roadside	Diffusion Tube	100	100	23.3	22.8	20.9	20.5	20.9
100	456228	453312	Roadside	Diffusion Tube	100	100	19.5	20.5	18.7	17.7	18.3
101	459746	455897	Roadside	Diffusion Tube	100	100	33.8	32.7	32.2	29.1	31.2
102	458703	452429	Roadside	Diffusion Tube	100	100	31.9	32.1	29.8	31.5	30.8
103	458703	452429	Roadside	Diffusion Tube	100	100	31.1	32.7	30.9	31.8	30.5
104	458703	452429	Roadside	Diffusion Tube	100	100	31.0	32.9	31.7	31.2	31.4
107	458779	452387	Roadside	Diffusion Tube	100	100	18.9	21.0	18.1	18.8	18.7
108	458814	452373	Roadside	Diffusion Tube	100	100	23.5	19.2	22.2	21.6	22.3
109	459924	451833	Roadside	Diffusion Tube	100	100	**46.4**	**45.4**	**43.3**	**45.1**	**46.7**
110	459985	451727	Roadside	Diffusion Tube	100	100	**46.6**	**46.4**	**45.8**	**43.6**	**45.3**
111	459917	451728	Roadside	Diffusion Tube	100	100	25.1	26.3	25.9	25.6	28.0
112	459873	451684	Roadside	Diffusion Tube	100	100	23.3	22.3	22.6	22.5	23.3
114	459981	451778	Roadside	Diffusion Tube	100	100	39.3	**41.7**	39.8	38.0	38.5
116	458212	452037	Roadside	Diffusion	100	100	28.0	28.0	27.7	26.1	25.9

				Tube							
125	463194	451967	Roadside	Diffusion Tube	100	100	15.8	14.5	14.7	14.2	14.2
126	463482	451896	Roadside	Diffusion Tube	100	100	16.0	16.5	16.1	16.3	16.0
127	461108	452313	Roadside	Diffusion Tube	100	100	23.0	24.0	22.8	19.3	19.5
128	458686	452369	Roadside	Diffusion Tube	100	100	18.6	19.2	18.6	19.1	19.1
129	455968	453397	Roadside	Diffusion Tube	92	92	17.4	16.9	17.2	15.9	16.7
2a	460746	451034	Roadside	Diffusion Tube	100	100	28.6	28.6	25.3	24.5	24.1
2b	460746	451034	Roadside	Diffusion Tube	100	100	26.5	28.4	25.5	25.5	24.8
2c	460746	451034	Roadside	Diffusion Tube	100	100	26.3	27.2	24.8	24.8	23.4
3a	460024	452767	Urban Background	Diffusion Tube	100	100	14.4	16.1	14.5	14.8	16.4
3b	460024	452767	Urban Background	Diffusion Tube	100	100	15.1	17.1	15.5	15.3	16.8
3c	460024	452767	Urban Background	Diffusion Tube	100	100	16.0	19.7	15.6	15.1	16.8
95a	460938	449465	Roadside	Diffusion Tube	92	92	24.4	23.1	22.6	21.5	21.9
95b	460938	449465	Roadside	Diffusion Tube	100	100	24.6	24.0	22.5	21.7	22.4
95c	460938	449465	Roadside	Diffusion Tube	100	100	25.0	24.1	23.3	21.5	22.7
9a	460163	452468	Urban Background	Diffusion Tube	100	100	15.5	18.7	16.2	15.0	18.3
A1	460088	452263	Roadside	Diffusion Tube	100	100	**46.0**	**54.3**	**43.9**	**43.5**	**43.0**
A11	459341	453042	Roadside	Diffusion Tube	100	100	33.6	30.9	30.0	31.3	29.8
A12	459251	453008	Roadside	Diffusion	100	100	28.7	29.0	27.7	30.3	27.7

				Tube							
A13	459335	452931	Urban Background	Diffusion Tube	100	100	16.4	18.7	16.0	16.3	17.3
A14	459335	452931	Urban Background	Diffusion Tube	100	100	16.4	19.1	15.1	16.0	17.7
A14a	459335	452931	Urban Background	Diffusion Tube	100	100	15.2	18.8	16.3	17.1	17.8
A17	458578	452472	Roadside	Diffusion Tube	100	100	27.6	29.6	27.6	28.7	27.6
A19	458713	452414	Roadside	Diffusion Tube	100	100	27.7	26.8	27.7	26.4	27.2
A19a	458713	452414	Roadside	Diffusion Tube	100	100	28.8	27.3	28.7	26.4	27.4
A19b	458713	452414	Roadside	Diffusion Tube	100	100	28.6	27.9	28.5	27.3	27.2
A2	459917	452405	Roadside	Diffusion Tube	92	92	31.1	30.6	30.3	27.9	30.0
A20	458760	452404	Roadside	Diffusion Tube	100	100	28.7	34.6	29.1	29.3	30.0
A20a	458760	452404	Roadside	Diffusion Tube	83	83	28.8	30.2	27.4	30.0	29.4
A20b	458760	452404	Roadside	Diffusion Tube	92	92	29.3	31.5	29.5	28.8	29.1
A21	458806	452326	Urban Background	Diffusion Tube	100	100	18.5	20.0	19.3	17.9	21.5
A22	458792	452242	Urban Background	Diffusion Tube	100	100	18.1	21.7	19.1	19.0	21.2
A25	458706	452225	Roadside	Diffusion Tube	100	100	22.6	22.9	21.8	21.6	20.2
A29	456939	453013	Urban Background	Diffusion Tube	100	100	18.3	20.0	18.1	17.3	19.3
A3	459822	452492	Roadside	Diffusion Tube	92	92	29.2	28.2	26.7	26.7	27.4
A30	457060	452888	Urban Background	Diffusion Tube	92	92	17.8	20.7	18.4	17.8	19.7
A36	457625	452446	Urban	Diffusion	42	42	15.2	22.3	15.8	15.8	18.4

			Background	Tube				(estimate)	(estimate)	(estimate)	(estimate)
A38	457857	452334	Urban Background	Diffusion Tube	100	100	15.3	18.3	14.3	15.1	16.3
A4	459699	452638	Urban Background	Diffusion Tube	100	100	18.2	20.5	18.2	18.3	20.0
A40	458109	452196	Urban Background	Diffusion Tube	100	100	17.8	22.7	18.0	19.3	21.2
A41	458172	452108	Roadside	Diffusion Tube	100	100	20.6	23.0	19.9	21.2	20.7
A45	458384	451817	Urban Background	Diffusion Tube	92	92	14.3	16.1	13.3	14.5	16.3
A50	458732	451393	Roadside	Diffusion Tube	100	100	26.2	24.6	26.1	26.4	26.2
A51	458827	451348	Urban Background	Diffusion Tube	100	100	19.9	22.8	20.6	19.5	22.1
A52	458945	451254	Roadside	Diffusion Tube	100	100	31.0	31.9	29.7	31.5	30.7
A53	459066	451239	Roadside	Diffusion Tube	92	92	30.8	30.6 (estimate)	28.8	29.3	30.6
A54	459254	451223	Roadside	Diffusion Tube	83	83	36.9	33.7	33.1	35.2 (estimate)	31.4
A55	459351	451221	Roadside	Diffusion Tube	100	100	31.8	29.5	29.7	29.3	30.1
A56	459470	451268	Urban Background	Diffusion Tube	100	100	26.3	30.0	26.4	25.8	28.1
A57	459533	451280	Roadside	Diffusion Tube	92	92	**46.9**	**47.7**	**43.1**	**45.3**	**45.5**
A6	459536	452811	Roadside	Diffusion Tube	100	100	25.5	24.4	24.2	23.9	23.5
A60	458906	453276	Urban Background	Diffusion Tube	100	100	13.4	14.9	13.2	13.5	14.7
A62	458806	453483	Urban Background	Diffusion Tube	92	92	13.6	14.7	13.8	13.0	15.3
A64	460030	452327	Roadside	Diffusion Tube	100	100	29.3	32.4	28.3	30.0	28.6
A66	458672	453685	Urban	Diffusion	100	100	14.5	16.5	14.7	13.9	16.3

			Background	Tube							
A69	458375	453958	Urban Background	Diffusion Tube	92	92	12.5	15.6	12.6	12.8	14.8
A7	459441	452892	Roadside	Diffusion Tube	92	92	27.5	30.0	26.7	23.3	24.3
A70	458299	454070	Urban Background	Diffusion Tube	100	100	16.4	18.5	17.0	15.8	17.5
A71	458121	454254	Urban Background	Diffusion Tube	100	100	12.3	16.0	13.5	12.6	14.7
A74	458041	454371	Urban Background	Diffusion Tube	100	100	12.6	15.8	13.4	12.6	14.4
A77	457929	454537	Urban Background	Diffusion Tube	100	100	16.6 (estimate)	18.8	17.5	17.5	20.1
A81	457733	454805	Urban Background	Diffusion Tube	83	83	15.2	16.7	14.7	14.2	17.9
A85	459364	453009	Urban Background	Diffusion Tube	100	100	19.3	21.2	19.2	18.6	21.4
A88	457470	452550	Urban Background	Diffusion Tube	100	100	15.7	18.4	15.0	15.4	17.9
A9	459295	453067	Roadside	Diffusion Tube	75	75	30.1	32.3	27.0	30.3 (estimate)	28.8
A90	459238	453157	Roadside	Diffusion Tube	100	100	36.0	34.3	35.9	33.6	32.1
A94	458651	452426	Roadside	Diffusion Tube	100	100	22.0	24.6	22.4	28.7	27.8
A96	459038	452850	Roadside	Diffusion Tube	100	100	28.4	31.7	29.4	28.1	29.9
A97	457431	452616	Roadside	Diffusion Tube	100	100	18.8	21.0	19.3	19.7	18.9
A98	458666	451468	Roadside	Diffusion Tube	100	100	-	-	22.8	21.8	22.8
B1	460848	452582	Roadside	Diffusion Tube	92	92	29.4	27.9	28.5	26.6	28.9
B15	461294	455305	Roadside	Diffusion Tube	100	100	19.2	28.4	18.9	18.1	18.5
B19	461891	455876	Roadside	Diffusion	92	92	19.7	21.1	19.9	18.9	19.3

				Tube							
B2	460924	452697	Roadside	Diffusion Tube	100	100	24.4	24.9	24.2	22.8	24.0
B29	461453	452750	Roadside	Diffusion Tube	100	100	22.2	21.7	20.0	19.5	19.3
B3	460952	452826	Roadside	Diffusion Tube	100	100	21.5	22.0	21.5	21.8	21.5
B36	462565	454194	Urban Background	Diffusion Tube	75	75	13.0	15.9	13.6 (estimate)	13.2	15.4
B37	462565	454194	Urban Background	Diffusion Tube	92	92	14.6	15.9	13.0 (estimate)	13.8	14.5
B37a	462565	454194	Urban Background	Diffusion Tube	83	83	14.6	17.2	14.3 (estimate)	12.9	13.9
B38	463757	455155	Urban Background	Diffusion Tube	100	100	16.3	20.0	15.9	16.1	17.2
B41	461326	451330	Urban Background	Diffusion Tube	100	100	28.1	31.3	28.2	27.4	30.1
B42	461430	451348	Urban Background	Diffusion Tube	100	100	20.8	25.8	22.3	20.8	23.3
B43	461557	451343	Urban Background	Diffusion Tube	100	100	18.6	22.2	19.8	19.2	20.0
B44	461643	451343	Roadside	Diffusion Tube	100	100	31.3	30.3	29.4	28.1	28.9
B45	461849	451284	Roadside	Diffusion Tube	100	100	28.1	27.8	26.5	27.2	26.2
B47	462019	451289	Urban Background	Diffusion Tube	100	100	15.1	16.0	15.0	14.1	15.8
B48	462122	451289	Urban Background	Diffusion Tube	83	83	17.5	19.7	19.8	17.5	19.0
B50	462291	451269	Roadside	Diffusion Tube	92	92	24.3	22.0	22.2	21.5	22.7
B51	462384	451298	Urban Background	Diffusion Tube	92	92	16.5	17.6	16.2	15.6	18.2
B56	462888	451289	Roadside	Diffusion Tube	92	92	31.8	31.7	30.7	28.3	28.6
B58	462970	451300	Urban	Diffusion	100	100	16.9	19.7	17.6	16.8	19.0

			Background	Tube							
B60	463234	451339	Urban Background	Diffusion Tube	100	100	17.8	19.3	18.0	16.7	19.0
B63	462704	451300	Roadside	Diffusion Tube	100	100	29.5	29.1	29.7	27.9	29.2
B72	461122	451374	Roadside	Diffusion Tube	100	100	**44.6**	**42.7**	**42.8**	**41.8**	38.9
B74	461371	452708	Urban Background	Diffusion Tube	100	100	18.9	20.4	17.1	17.8	18.9
B80	461185	452663	Urban Background	Diffusion Tube	100	100	15.2	16.7	15.1	15.0	17.3
B82	460974	452563	Urban Background	Diffusion Tube	100	100	19.4	22.2	21.7	21.5	24.1
B83	461285	452695	Roadside	Diffusion Tube	100	100	27.6	25.3	25.2	25.3	24.6
B84	462654	451293	Urban Background	Diffusion Tube	100	100	20.2	22.2	21.6	19.8	22.3
B85	461227	451368	Roadside	Diffusion Tube	100	100	29.1	31.9	28.4	28.1	28.7
B86	461116	452602	Roadside	Diffusion Tube	100	100	22.9	23.5	23.2	22.5	23.0
B88	462799	451291	Roadside	Diffusion Tube	100	100	28.8	27.8	28.5	25.9	26.8
B89	461170	451357	Roadside	Diffusion Tube	100	100	35.0	34.7	36.8	33.7	32.9
B90	461133	451394	Roadside	Diffusion Tube	100	100	35.5	34.0	34.1	36.8	36.0
C12	458825	449928	Urban Background	Diffusion Tube	100	100	15.9	18.3	15.2	15.9	18.6
C17	459085	450544	Urban Background	Diffusion Tube	100	100	15.5	18.7	16.1	15.2	16.2
C18	459204	450772	Urban Background	Diffusion Tube	100	100	22.3	25.1	22.5	21.8	25.3
C19	459271	450819	Urban Background	Diffusion Tube	100	100	17.0 (estimate)	19.2	15.6	15.9	17.5
C2	458333	448974	Roadside	Diffusion	100	100	32.0	31.5	31.5	29.0	29.8

				Tube							
C20	459280	450923	Urban Background	Diffusion Tube	83	83	16.9	19.8	16.8	17.2	19.3
C21	459410	451040	Roadside	Diffusion Tube	100	100	26.9	26.7	25.8	23.5	24.9
C22	459570	451195	Urban Background	Diffusion Tube	100	100	19.4	24.6	19.6	19.6	21.0
C23	459553	451252	Roadside	Diffusion Tube	100	100	**39.9**	**39.9**	37.0	36.2	35.7
C26	459639	451334	Roadside	Diffusion Tube	92	92	**40.4**	**41.2**	38.1	**41.0**	38.3
C27	459717	451433	Roadside	Diffusion Tube	100	100	**46.7**	**45.8**	**45.9**	**46.3**	**44.0**
C28	461201	448386	Urban Background	Diffusion Tube	100	100	14.2	16.6	14.3	14.4	16.4
C29	461196	448426	Roadside	Diffusion Tube	92	92	28.8	30.0	28.1	26.5	26.8
C30	461185	448462	Roadside	Diffusion Tube	100	100	29.3	30.8	29.0	31.1	30.0
C31	461193	448473	Urban Background	Diffusion Tube	100	100	17.9	18.8	17.8	16.3	18.0
C32	461128	448823	Urban Background	Diffusion Tube	100	100	22.8	24.5	21.6	20.9	22.9
C33	461085	448933	Urban Background	Diffusion Tube	83	83	14.4	17.3	15.2	14.9	16.7
C34	461085	449067	Roadside	Diffusion Tube	100	100	23.7	25.2	22.3	22.8	23.5
C36	461052	449146	Roadside	Diffusion Tube	100	100	29.7	28.5	27.3	25.0	25.3
C37	461045	449223	Urban Background	Diffusion Tube	92	92	20.3	23.4	18.7	20.6	21.2
C38	461038	449225	Roadside	Diffusion Tube	92	92	28.2	28.1	25.6	24.8	25.2
C39	460974	449336	Roadside	Diffusion Tube	100	100	35.1	32.6	34.9	32.7	33.1
C4	458470	449126	Urban	Diffusion	100	100	16.4	19.0	15.9	16.3	18.2

			Background	Tube							
C40	460910	449628	Urban Background	Diffusion Tube	100	100	18.0	19.0	17.6	17.1	18.7
C42	460857	449748	Urban Background	Diffusion Tube	100	100	20.7	22.8	20.0	19.1	21.8
C43	460869	449730	Roadside	Diffusion Tube	92	92	28.7	28.8	28.2	26.7	25.1
C43a	460869	449730	Roadside	Diffusion Tube	100	100	28.8	30.4	28.3	26.5	26.5
C44	460869	449730	Roadside	Diffusion Tube	100	100	26.8	29.0	28.5	26.8	27.0
C49	460860	450530	Urban Background	Diffusion Tube	100	100	18.6	21.6	17.6	17.7	20.0
C51	460871	450727	Roadside	Diffusion Tube	100	100	25.2	26.2	24.4	25.0	25.5
C52	460853	450781	Roadside	Diffusion Tube	100	100	23.1	24.1	23.8	23.0	22.6
C53	460766	450924	Roadside	Diffusion Tube	100	100	22.2	22.8	22.1 (estimate)	20.8	22.0
C54	460762	451069	Roadside	Diffusion Tube	100	100	25.5	28.4	22.8	25.7	24.7
C56	459484	451141	Roadside	Diffusion Tube	100	100	32.1	31.4	28.3	30.8	30.5
C57	458912	450111	Urban Background	Diffusion Tube	92	92	18.1	22.6	18.8	19.1	20.6
C58	460926	449429	Roadside	Diffusion Tube	100	100	36.8	35.5	35.2	32.5	33.0
C59	458735	449713	Roadside	Diffusion Tube	100	100	29.9	29.6	28.3	27.5	27.1
C62	459579	451251	Roadside	Diffusion Tube	100	100	28.4	26.9	27.2	27.0	26.4
C63	458790	449740	Roadside	Diffusion Tube	100	100	19.2	18.8	17.8	16.9	18.1
C7	458611	449477	Roadside	Diffusion Tube	100	100	23.8	19.8	18.0	17.5	19.2
D10	460443	451927	Urban	Diffusion	100	100	16.9	18.4	16.5	16.5	19.1

			Background	Tube							
D12	460567	451740	Roadside	Diffusion Tube	100	100	22.0	20.4	19.8	18.5	19.4
D13	460271	451358	Roadside	Diffusion Tube	100	100	24.5	27.6	24.9	25.3	24.9
D14	461077	451354	Roadside	Diffusion Tube	100	100	39.0	36.2	32.7	37.6	36.6
D16	460708	451231	Roadside	Diffusion Tube	100	100	37.7	37.5	36.2	36.1	37.8
D17	460575	451616	Roadside	Diffusion Tube	92	92	31.8	29.2	26.7	27.9	29.6
D18	460395	451502	Roadside	Diffusion Tube	75	75	26.3	28.7	27.7	29.1	28.7
D19	460038	451626	Roadside	Diffusion Tube	100	100	**48.0**	**49.9**	**44.1**	**45.5**	**45.9**
D20	460323	451685	Roadside	Diffusion Tube	83	83	**40.3**	39.7	**40.6**	39.7	38.9
D22	460035	452010	Roadside	Diffusion Tube	100	100	33.0	34.4	31.8	32.5	31.5
D24	459805	451543	Roadside	Diffusion Tube	100	100	30.3	30.6	28.2	28.9	27.5
D25	459693	451750	Roadside	Diffusion Tube	100	100	35.1	37.6	36.7	36.5	37.4
D26	460671	451400	Roadside	Diffusion Tube	100	100	25.3	26.6	24.9	23.9 (estimate)	25.1
D27	460734	451563	Roadside	Diffusion Tube	92	92	25.9	25.8	23.3	23.6	22.8
D28	460764	451185	Roadside	Diffusion Tube	100	100	34.1	33.3	31.4	31.9	32.4
D30	460834	451252	Roadside	Diffusion Tube	100	100	25.0	24.6	24.7	23.7	24.7
D31	461002	451229	Roadside	Diffusion Tube	100	100	31.8	32.6	29.2	29.5	28.0
D32	460258	451208	Roadside	Diffusion Tube	92	92	34.1	35.1	31.7	33.7	34.6
D33	460075	451174	Roadside	Diffusion	100	100	25.4	30.0	27.5	26.6	26.3

				Tube			(estimate)				
D35	460134	451170	Roadside	Diffusion Tube	100	100	37.3	36.9	36.3	35.2	37.4
D36	460135	450884	Roadside	Diffusion Tube	100	100	34.9	35.3	31.7	33.2	31.6
D37	460157	450988	Roadside	Diffusion Tube	92	92	26.7	30.9	27.0	27.1	27.5
D38	460088	450929	Roadside	Diffusion Tube	100	100	22.5	22.0	21.8	20.9	22.1
D39	460185	451055	Roadside	Diffusion Tube	100	100	29.0	31.4	29.2	30.2	29.5
D4	460560	452300	Roadside	Diffusion Tube	83	83	27.2	25.7	25.3	24.4	25.5
D40	460069	451196	Roadside	Diffusion Tube	100	100	28.1	29.2	25.8	25.6	25.5
D41	460286	452487	Roadside	Diffusion Tube	100	100	37.6	32.9	33.4	34.5	32.8
D43	459920	451834	Roadside	Diffusion Tube	83	83	**40.4**	**42.4**	**41.0**	**44.4**	**43.6**
D45	460673	451869	Roadside	Diffusion Tube	100	100	26.1	28.3	27.9	26.3	23.9
D47	460682	452187	Roadside	Diffusion Tube	83	83	27.2	27.7	25.9	24.8	25.9
D48	460103	452180	Roadside	Diffusion Tube	100	100	33.3	36.1	32.9	34.7	34.3
D49	460656	451269	Roadside	Diffusion Tube	100	100	39.1	36.8	38.0	34.3	35.0
D50	460371	451682	Roadside	Diffusion Tube	92	92	**41.9**	**40.3**	37.7	37.9	34.7
D51	459640	451722	Roadside	Diffusion Tube	100	100	**57.1**	**56.5**	**58.6**	**57.7**	**55.5**
D52	460887	451140	Roadside	Diffusion Tube	100	100	24.1	25.8	23.6	23.4	23.7
D53	460115	451146	Roadside	Diffusion Tube	92	92	27.2 (estimate)	28.7	24.4	25.1	24.3
D54	460146	451116	Roadside	Diffusion	100	100	25.1	27.3	23.8	24.8	23.9

				Tube							
D55	460087	452065	Roadside	Diffusion Tube	100	100	**42.6**	**48.8**	35.1	37.4	38.2
D6	460570	452177	Urban Background	Diffusion Tube	100	100	18.0	20.5	17.9	15.8	19.5
D8	460553	451843	Roadside	Diffusion Tube	92	92	36.3	36.9	31.5	34.1	31.7
D9	460483	452357	Roadside	Diffusion Tube	100	100	31.7	34.1	31.7	32.6	33.6
D56	460400	451685	Roadside	Diffusion Tube	92	92	**51.7 (estimate)**	**47.4**	**42.1**	**42.3**	38.2
D57	460416	451708	Roadside	Diffusion Tube	92	92	37.1 (estimate)	35.7 (estimate)	30.3 (estimate)	33.8	29.4
D58	460435	451732	Roadside	Diffusion Tube	100	100	**44.0 (estimate)**	38.9	38.7	36.8	34.6
D59	460087	452156	Roadside	Diffusion Tube	92	92	**50.7 (estimate)**	**44.7**	**41.2**	39.2	39.7
D60	460294	451883	Roadside	Diffusion Tube	100	100	22.2 (estimate)	21.7	22.3	20.5	21.4
130	463663	451054	Roadside	Diffusion Tube	83	83	14.3 (estimate)	14.7	13.9	13.5 (estimate)	13.3
115	459962	451771	Roadside	Diffusion Tube	100	100	**42.6**	-	-	**59.7 (estimate)**	**59.2**

Diffusion tube data has been bias corrected. Annualisation has been conducted where data capture is <75% (i.e. 8 months or less data)

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 adjustment

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.**

(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%).

(3) Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

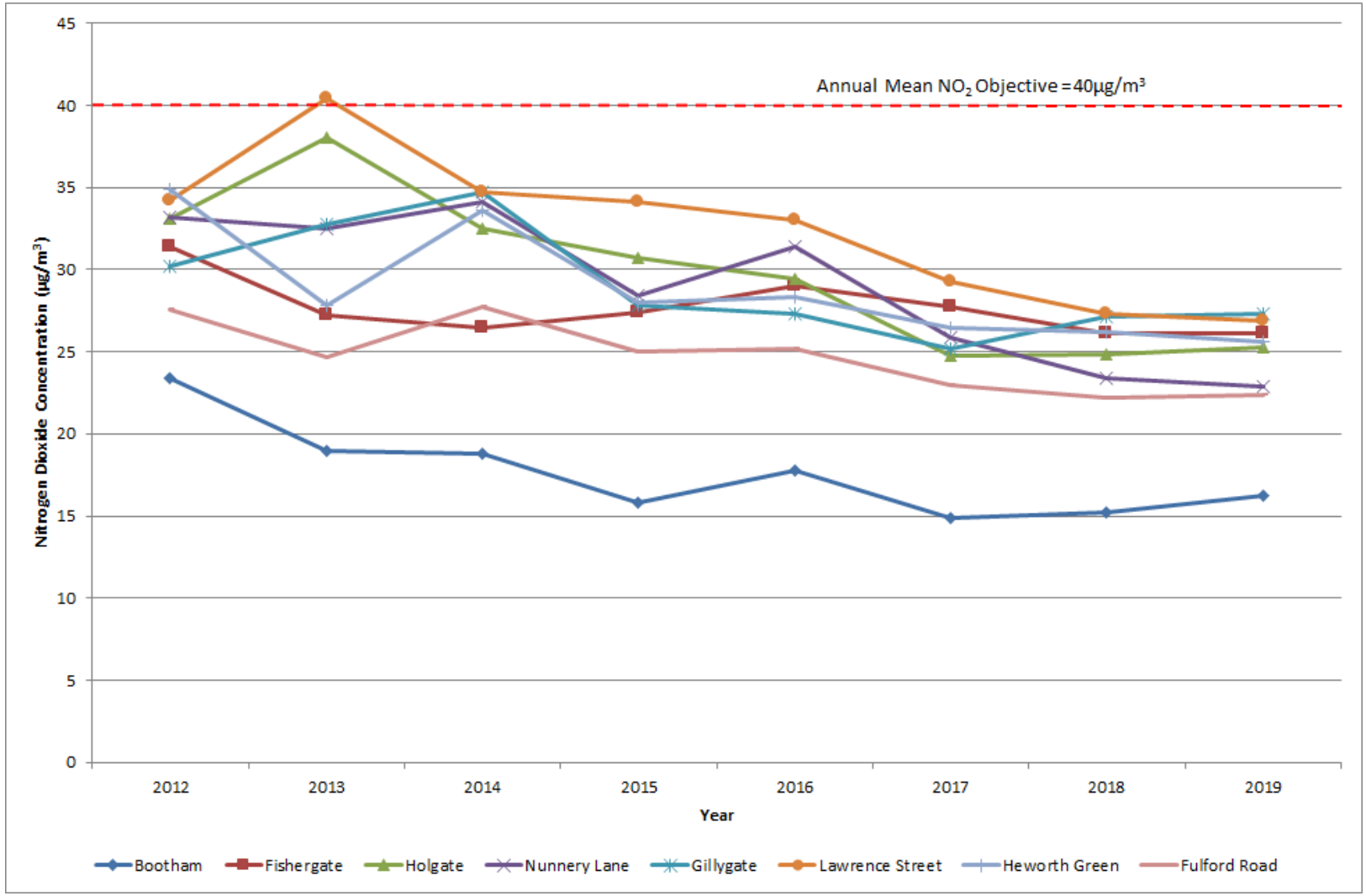


Table A.4 – 1-Hour Mean NO_2 Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	NO_2 1-Hour Means > 200µg/m³ (3)				
							2015	2016	2017	2018	2019
Bootham	460022	452777	Urban Background	Automatic	99	99	0	0	0	0	0
Fishergate	460746	451038	Roadside	Automatic	98	98	0	0	0	0	0
Holgate	459512	451282	Roadside	Automatic	91	91	0	0	0	0	0
Nunnery Lane	460068	451199	Roadside	Automatic	93	93	0	0	0	0	0
Gillygate	460147	452345	Roadside	Automatic	99	99	0	0	0	0	0
Lawrence Street	461256	451340	Roadside	Automatic	95	95	2	0	0	1	0
Heworth Green	461126	452602	Roadside	Automatic	87	87	0	0	0	0	0
Fulford Road	460937	449464	Roadside	Automatic	83	83	0	0	0	0	0 (80.3)

Notes:

Exceedances of the NO_2 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold.**

(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%).

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

Table A.5 – Annual Mean PM_{10} Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	PM_{10} Annual Mean Concentration ($\mu g/m^3$) (3)				
						2015	2016	2017	2018	2019
Bootham (TEOM-FDMS)	460022	452777	Urban Background	95	95	15.3	14.9	13.4	13.8	14.0 (provisional data from Oct - Dec 2019)
Fishergate (BAM)	460746	451038	Roadside	96	96	17.8	16.3	16.3	18.3	21.9 (provisional data from Oct - Dec 2019)
Holgate Road (TEOM-FDMS)	459512	451282	Roadside	57	57	20.9 *(low data capture)*	12.0	10.5	12.4 (non-annualised result is 12.9)	13.9 (non-annualised result is also 13.9)
Plantation Drive (TEOM)	457428	452620	Roadside	97	97	-	15.5	15.6	14.3	16.4

Annualisation has been conducted where data capture is <75%

Notes:

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

(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%).

(3) All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16, valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure A.2 – Trends in Annual Mean PM_{10} Concentrations

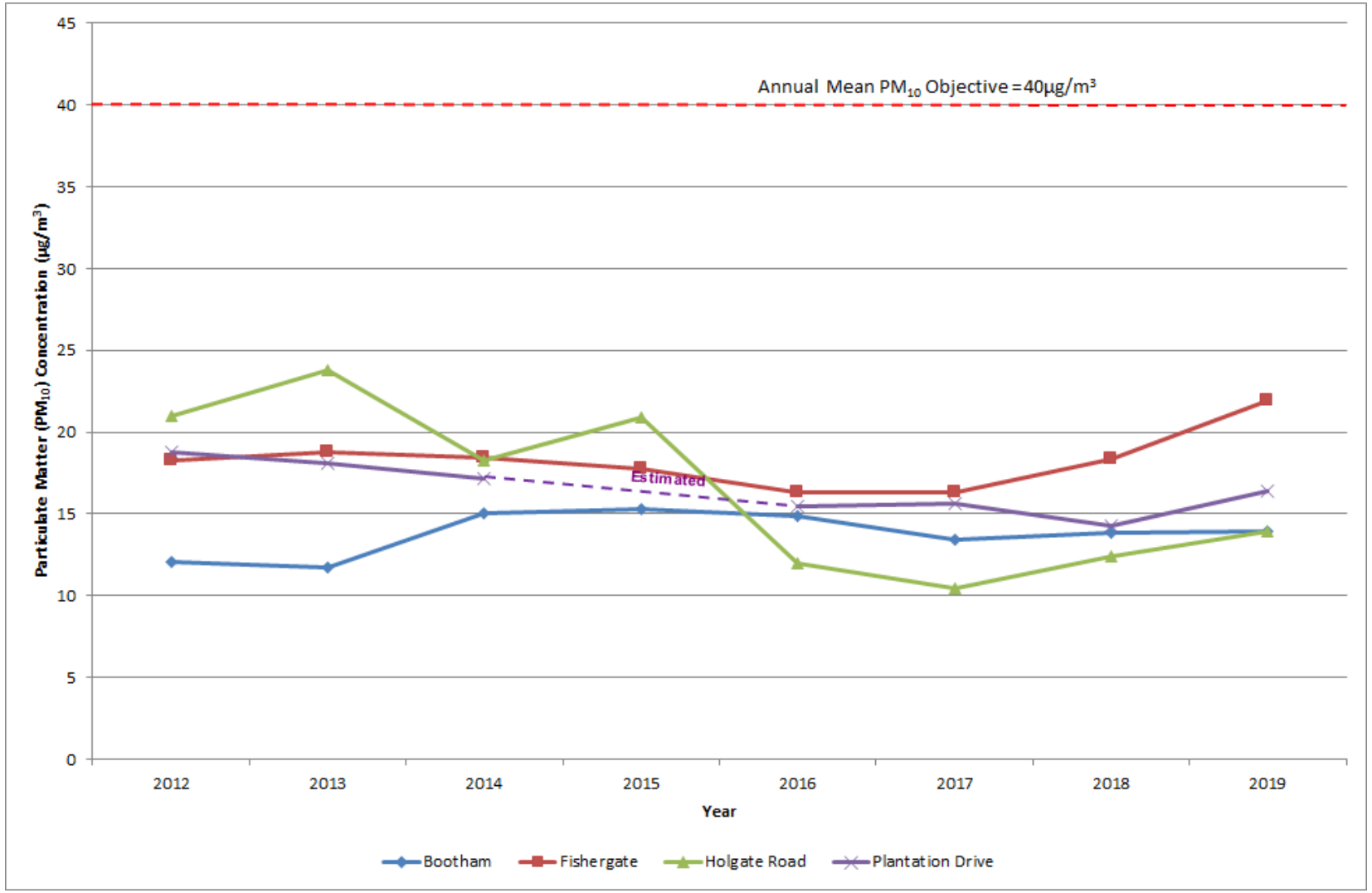


Table A.6 – 24-Hour Mean PM_{10} Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	PM_{10} 24-Hour Means > 50µg/m³ (3)				
						2015	2016	2017	2018	2019
Bootham (TEOM-FDMS)	460022	452777	Urban Background	95	95	6	2	5	3	0
Fishergate (BAM)	460746	451038	Roadside	96	96	8	2	6 (28.8)	4	8
Holgate Road (TEOM-FDMS)	459512	451282	Roadside	57	57	7 (41.1)	2	4	1 (22.8)	0 (24.0)
Plantation Drive (TEOM)	457428	452620	Roadside	97	97	N/A	2	4	0	4

Notes:

Exceedances of the PM_{10} 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold.**

(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%).

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

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

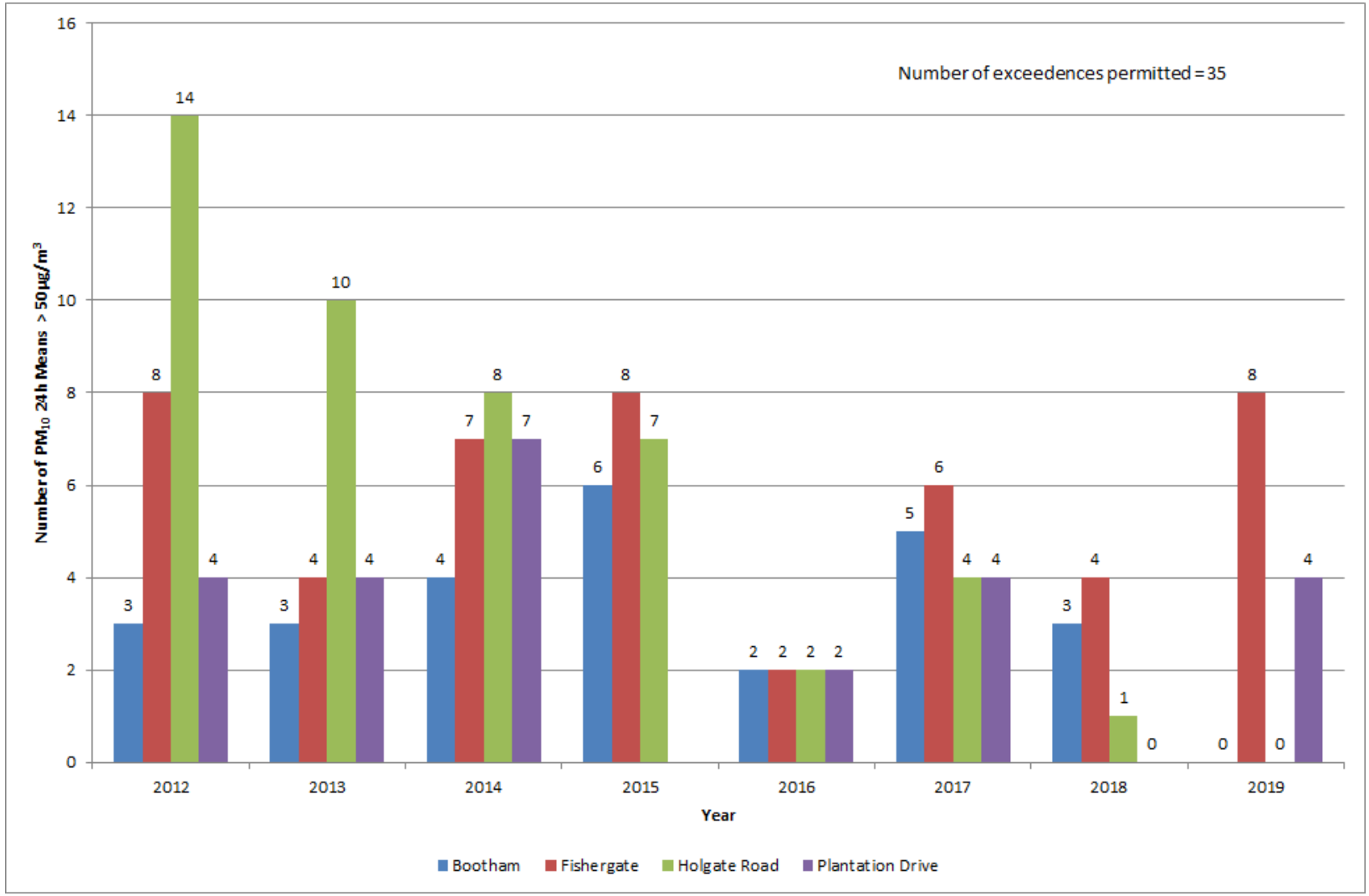


Table A.7 – $PM_{2.5}$ Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2019 (%) [2]	$PM_{2.5}$ Annual Mean Concentration ($\mu g/m^3$) [3]				
						2015	2016	2017	2018	2019
Bootham (TEOM-FDMS)	460022	452777	Urban Background	95	95	10.2	9.8	8.7	10.8	11.1
Fishergate (BAM)	460746	451038	Roadside	79	79	12.0	12.0	11.4	10.5	9.8
Gillygate (TEOM)	460147	452345	Roadside	99	99	9.1	9.0	8.4	8.3	7.6

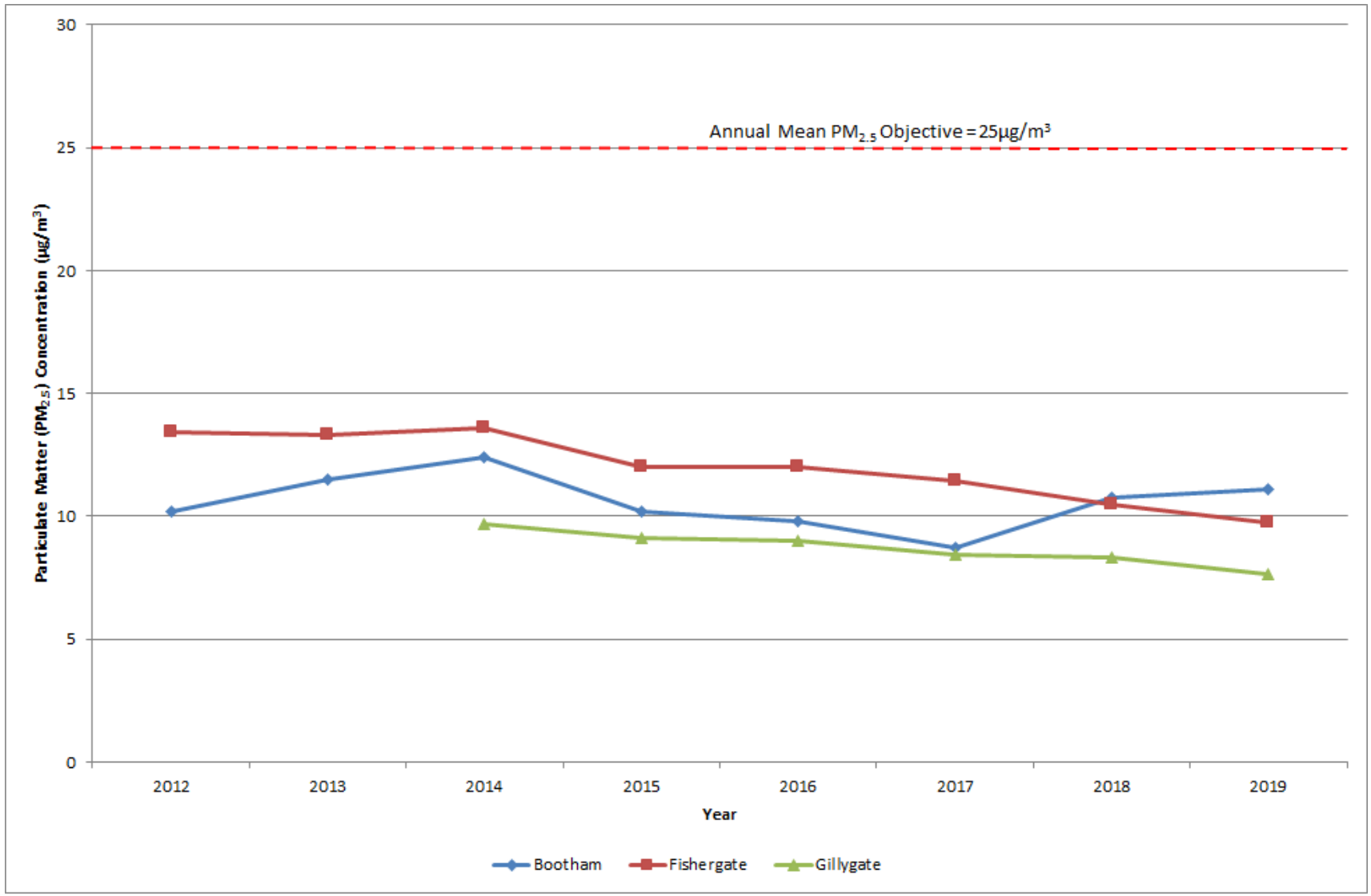
Notes:

(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%).

(3) All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16, if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure A.4 – Trends in Annual Mean $PM_{2.5}$ Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2019

Table B.1 – NO_2 Monthly Diffusion Tube Results – 2019

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	NO_2 Mean Concentrations ($\mu g/m^3$)														
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
															Raw Data	Bias Adjusted (R=0.73497, B=0.75982) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
5	462040	454883	34.3	25.3	20.7	16.6	14.8	13.5	15.3	16.1	19.5	25.4	33.6	28.7	22.0	16.2	16.2
6	459777	451406	63.0	45.7	55.8	43.2	45.6	48.2	44.3	41.3	51.5	55.9	63.5	50.7	50.7	37.3	37.3
7	460217	452421	65.9	61.7		71.3	57.6	56.6	51.4	56.9	61.8	66.3	67.0	62.8	61.8	**45.4**	35.2 (distance corrected)
8	460163	452468	33.3	33.1	22.0	21.3	16.3	17.8	16.0	19.0	20.8	25.5	31.0	30.1	23.9	18.1	18.1
9	460163	452468	33.4	31.1	22.2	17.8	14.8	17.3	15.9	17.9		29.0	24.0	30.8	23.1	17.6	17.6
11	458846	450946	25.1	33.3	19.0	28.1	15.6	17.6	15.4	17.5	20.6	29.1	30.4	31.5	23.6	17.9	17.9
13	460176	452377	52.0	59.8	57.8	41.8	55.1	54.0	49.3	53.8	57.7	60.0	63.2	59.9	55.4	**40.7**	**40.7**
14	460167	452347	64.0	60.2		66.3	56.3	55.4	49.1	55.9	57.5	66.2	64.4	67.7	60.3	**44.3**	**44.3**
15	461105	451458	42.0	60.0	43.6	49.7	39.1	40.0	41.1	42.0	42.9	54.9	57.6	54.1	47.3	34.7	34.7
16	460160	451152	61.6	56.2	49.6	38.2	43.2	44.1	42.5	41.7	45.1	56.2	56.2	51.8	48.9	35.9	35.9
17	459646	451500	54.1	52.7	41.8	40.8	37.9	37.1	37.7	41.1	42.6	46.0	33.0	47.5	42.7	31.4	31.4
18	460457	452903	52.0	46.5	37.2	34.8	38.3	37.1	31.9	35.3	39.3	44.4	47.1	44.9	40.7	29.9	29.9
25	461721	452709	44.4	38.3	30.0	15.6	20.8	22.9	23.4	23.3	27.8	36.6	42.8	40.6	30.5	22.4	22.4
26	460829	453524	48.2	40.8	36.4	32.1	35.3	30.8	25.6	27.8	28.7	39.5	44.1	46.9	36.4	26.7	26.7
33	460598	453227	44.9	20.0	33.6	25.0	25.2	23.8	23.1	29.1	31.0	39.6	41.9	46.7	32.0	23.5	23.5

35	457603	451492	42.1	35.1	33.0	22.9	24.3	25.2	24.4	26.8	31.4	36.6	39.6	41.9	31.9	23.5	23.5
37	459522	451187	43.8	43.4	34.6	37.9	34.2	39.2	40.0	32.9	40.2	43.8	48.7	44.4	40.3	29.6	29.6
44	460679	452326	37.6	36.1	31.0	20.0	24.0	24.2	25.4	26.8	31.6	36.9	32.2	37.5	30.3	22.3	22.3
45	460319	452754	53.9	49.4	41.4	31.9	41.0	38.8	36.4	38.9	39.6	44.7	51.4	45.7	42.8	31.4	31.4
47	462009	456996	42.5	44.2	35.7	28.7	31.0	30.8	29.1	36.9	35.9	34.6	41.7	45.7	36.4	26.8	26.8
50	N/A	N/A	1.2	1.8	1.6	1.9		2.8	1.0	<0.6	1.3	1.3	0.8	<0.5	1.5	BLANK	BLANK
60	461017	451781	39.9	30.0		23.9	20.8	20.6			28.8	37.3	41.4	37.6	31.1	22.9	22.9
78	460149	452342	46.7	45.3		38.4	31.5	37.1	30.0	33.1	36.6	47.0	39.0	42.8	38.9	28.6	28.6
79	460149	452342	43.7	52.1		37.7	34.7	35.0	29.8	35.7	36.0	45.0	44.9	44.9	40.0	29.4	29.4
80	460149	452342	40.4	57.9		37.6	35.8	36.6	30.5	34.7	37.1	44.0	44.0	47.1	40.5	29.8	29.8
83	461597	452830	34.7	29.7	28.0	18.1	20.2	19.6	19.9	23.9	25.9	31.6	27.0	35.6	26.2	19.9	19.9
88	463354	451972	29.8	26.9		12.8	10.9	11.3	11.7		15.9	21.0			17.5	13.8 (annualised)	13.8 (annualised)
90	459997	450109	26.3	26.1	17.5	19.4	16.7	19.5	16.9	14.6	18.7	25.2	29.8	26.1	21.4	15.7	15.7
96	460978	449452	35.2	36.0	26.6	19.5	21.3	21.2	21.4	21.8	27.5	39.1	34.5	37.4	28.5	20.9	20.9
100	456228	453312	29.8	34.2	20.6	24.9	20.3	19.6	19.4	22.5	22.4	29.2	26.4	28.7	24.8	18.3	18.3
101	459746	455897	53.1	58.5	46.8	26.0	37.8	31.9	37.9	40.9	40.7	41.9	41.6	51.7	42.4	31.2	31.2
102	458703	452429	50.7	41.3	37.7	47.7	35.7	38.1	37.7	31.0	38.8	48.7	53.3	42.5	41.9	30.8	30.8
103	458703	452429	45.9	44.4	36.1	49.3	39.2	37.2	34.2	29.7	41.9	45.9	47.5	46.1	41.5	30.5	30.5
104	458703	452429	51.2	50.6	34.7	51.9	39.0	38.4	37.7	30.3	37.9	46.8	50.1	44.7	42.8	31.4	31.4
107	458779	452387	32.7	32.4	21.8	23.4	18.8	19.8	19.1	19.1	23.4	33.1	30.2	31.7	25.5	18.7	18.7
108	458814	452373	39.4	41.4	30.3	21.6	22.4	24.3	23.5	25.5	29.1	35.6	31.5	40.0	30.4	22.3	22.3
109	459924	451833	70.4	61.6	61.5	68.8	59.7	55.3	64.2	61.5	58.2	69.9	66.4	64.3	63.5	**46.7**	**46.7**
110	459985	451727	68.7	64.0	64.4	57.4	61.5	54.6	59.2	57.4	61.3	65.6	64.6	61.6	61.7	**45.3**	**45.3**
111	459917	451728	50.9	39.6	36.6	33.9	33.8	33.5	32.1	27.6	34.8	42.5	52.9	39.2	38.1	28.0	28.0
112	459873	451684	37.3	35.8	29.0	25.0	24.7	26.5	26.5	29.5	31.6	36.9	38.4	38.8	31.7	23.3	23.3
114	459981	451778	67.0	52.3	57.3	42.8	45.0	51.4	51.0	46.0	50.8	55.5	58.9	50.7	52.4	38.5	38.5

115	459962	451771	97.0	96.6	85.0	63.9	76.2	78.5	86.2	82.8	84.3	79.0	73.0	64.0	80.5	**59.2**	**59.2**
116	458212	452037	48.6	45.1	38.5	27.2	29.8	26.2	29.6	28.9	32.6	38.4	39.2	38.9	35.3	25.9	25.9
125	463194	451967	27.6	31.5	17.5	12.1	12.0	12.4	13.7	14.6	17.2	23.0	20.8	30.1	19.4	14.2	14.2
126	463482	451896	32.4	32.9	20.9	14.2	14.5	15.3	14.8	16.4	18.8	24.8	26.6	28.9	21.7	16.0	16.0
127	461108	452313	36.0	36.9	24.7	17.7	18.4	20.4	21.4	25.6	23.2	27.8	28.1	38.3	26.5	19.5	19.5
128	458686	452369	33.2	37.1	21.3	24.2	18.7	20.1	18.9	19.2	22.4	31.4	33.0	32.3	26.0	19.1	19.1
129	455968	453397	27.3	34.7	20.9	17.9	17.8	17.4	16.7	19.3		25.8	23.6	29.0	22.8	16.7	16.7
130	463663	451054	28.4		16.7	15.7		12.5	11.3	11.7	14.5	20.2	25.6	24.2	18.1	13.3	13.3
2a	460746	451034	38.8	33.9	29.3	30.4	28.6	33.9	29.5	24.0	29.3	35.2	44.8	35.5	32.8	24.1	24.1
2b	460746	451034	40.2	30.8	30.4	32.2	30.5	30.8	28.2	26.1	29.2	38.6	46.2	41.5	33.7	24.8	24.8
2c	460746	451034	44.7	38.2	27.7	30.1	28.9	31.4	30.8	24.0	29.3	19.4	45.1	32.4	31.8	23.4	23.4
3a	460024	452767	28.2	28.2	19.0	15.3	13.5	14.3	14.3	17.7	19.4	27.4	29.9	32.4	21.6	16.4	16.4
3b	460024	452767	31.6	29.5	19.2	14.4	12.9	15.6	14.1	16.7	21.1	26.7	31.9	32.3	22.2	16.8	16.8
3c	460024	452767	34.4	31.1	18.8	13.5	13.2	14.6	13.8	19.7	20.0	25.8	29.8	30.4	22.1	16.8	16.8
95a	460938	449465	37.2	31.2		22.2	24.8	26.9	24.3	24.1	31.0	33.4	37.2	35.6	29.8	21.9	21.9
95b	460938	449465	34.4	38.1	32.9	19.8	26.2	25.4	25.6	25.7	30.0	35.8	36.1	36.1	30.5	22.4	22.4
95c	460938	449465	41.6	38.1	31.9	20.1	25.7	26.2	26.6	23.6	31.4	34.2	35.9	35.4	30.9	22.7	22.7
9a	460163	452468	35.8	31.3	23.3	17.9	18.0	15.9	15.8	20.0	22.6	28.5	32.8	26.7	24.1	18.3	18.3
A1	460088	452263	63.7	46.0	59.0	58.8	61.1	59.5	48.7	59.2	58.4	61.2	64.5	61.8	58.5	**43.0**	**43.0**
A11	459341	453042	36.2	54.0	38.1	36.8	32.5	37.9	36.2	39.8	35.5	46.7	47.9	44.9	40.5	29.8	29.8
A12	459251	453008	53.4	47.3	37.8	37.8	28.5	29.1	33.0	28.8	32.8	42.2	49.6	31.5	37.7	27.7	27.7
A13	459335	452931	34.9	31.6	18.3	14.8	15.5	15.8	15.5	16.1	21.1	25.1	33.7	31.1	22.8	17.3	17.3
A14	459335	452931	33.8	32.0	17.9	17.4	16.5	21.8	16.0	15.9	18.7	29.2	31.8	28.8	23.3	17.7	17.7
A14a	459335	452931	35.0	27.6	18.8	17.9	16.5	18.4	15.6	15.7	21.3	29.5	33.5	30.6	23.4	17.8	17.8
A17	458578	452472	47.9	41.8	34.0	34.1	30.6	27.5	25.7	32.2	34.9	45.7	45.5	50.8	37.6	27.6	27.6
A19	458713	452414	46.1	44.6	38.7	30.7	31.4	29.7	29.9	33.1	31.9	41.9	36.8	48.7	37.0	27.2	27.2
A19a	458713	452414	47.3	45.1	40.5	31.8	30.5	30.7	32.1	32.3	32.6	42.6	35.1	47.2	37.3	27.4	27.4

A19b	458713	452414	45.4	44.5	37.3	31.9	31.0	27.4	31.0	34.1	37.0	38.4	39.2	46.3	37.0	27.2	27.2
A2	459917	452405	49.6	47.0	40.2	29.4	32.4	35.8		38.1	40.8	47.6	39.6	49.0	40.9	30.0	30.0
A20	458760	452404	53.3	43.4	36.5	39.3	33.8	36.0	35.4	28.5	38.2	47.6	53.7	43.5	40.8	30.0	30.0
A20a	458760	452404	53.4	45.4	38.9		32.8	33.8	36.0	28.5	38.3	49.3		43.9	40.0	29.4	29.4
A20b	458760	452404	50.7	45.7	36.2	41.0	34.4	35.6	35.4	30.2	37.4	46.2		43.1	39.6	29.1	29.1
A21	458806	452326	36.9	41.1	25.7	20.4	20.6	21.2	19.6	21.8	26.5	32.3	37.5	35.5	28.3	21.5	21.5
A22	458792	452242	36.3	39.9	27.0	18.6	21.6	22.6	21.1	23.7	27.5	34.2	27.9	34.8	27.9	21.2	21.2
A25	458706	452225	34.5	28.2	27.0	31.6	11.1	18.6	24.1	21.6	26.4	35.8	38.7	32.9	27.5	20.2	20.2
A29	456939	453013	35.3	36.6	22.6	17.1	17.6	18.2	19.0	23.6	24.0	29.1	27.3	35.0	25.5	19.3	19.3
A3	459822	452492	43.6	44.4	32.2	30.4		32.6	27.7	30.6	34.0	43.0	47.7	44.1	37.3	27.4	27.4
A30	457060	452888	36.1	32.1	22.3	24.3	20.1	17.8		18.5	24.3	28.3	36.2	25.6	26.0	19.7	19.7
A36	457625	452446		32.9	19.9				15.0	16.8	27.4				22.4	18.4 (annualised)	18.4 (annualised)
A38	457857	452334	30.6	22.0	17.8	19.2	16.8	16.9	15.1	13.7	18.8	26.5	31.4	29.1	21.5	16.3	16.3
A4	459699	452638	34.4	34.4	25.5	20.3	18.4	18.1	20.2	25.4	25.2	29.4	32.5	32.8	26.4	20.0	20.0
A40	458109	452196	33.1	36.5	22.8	31.8	24.1	24.1	22.5	18.8	23.8	30.4	34.4	32.9	27.9	21.2	21.2
A41	458172	452108	34.3	32.6	21.3	31.9	24.8	27.0	24.0	18.2	25.7	32.4	39.3	26.4	28.2	20.7	20.7
A45	458384	451817	30.3	24.9	17.1	19.5	16.2	15.8		14.0	18.7	26.3	28.2	25.7	21.5	16.3	16.3
A50	458732	451393	41.1	38.3	34.5	33.8	30.7	30.6	30.2	30.1	33.0	39.3	44.4	42.1	35.7	26.2	26.2
A51	458827	451348	33.5	36.7	28.9	24.5	22.2	23.8	23.7	28.1	27.9	35.3	27.6	37.4	29.1	22.1	22.1
A52	458945	451254	52.0	40.2	40.7	43.0	28.9	36.4	33.1	34.2	41.4	47.0	54.3	49.7	41.7	30.7	30.7
A53	459066	451239	46.1	43.0	35.7	35.8		35.9	34.7	40.0	40.0	44.9	46.4	55.2	41.6	30.6	30.6
A54	459254	451223			44.2	40.7	44.1	43.2	43.0	41.1	30.4	46.9	52.3	40.8	42.7	31.4	31.4
A55	459351	451221	44.8	45.9	40.6	37.8	35.3	35.0	34.6	37.5	40.1	45.3	44.7	50.4	41.0	30.1	30.1
A56	459470	451268	43.0	39.0	37.1	32.4	33.3	32.8	30.4	30.0	35.2	42.5	44.0	43.9	37.0	28.1	28.1
A57	459533	451280	67.3	65.9	55.2		59.0	63.2	57.1	49.5	57.6	70.9	77.0	58.2	61.9	**45.5**	**45.5**
A6	459536	452811	38.7	38.5	30.9	23.2	23.6	25.7	26.2	32.3	31.8	34.0	38.1	40.2	31.9	23.5	23.5

A60	458906	453276	24.1	23.3	15.8	19.0	15.6	13.5	14.8	12.5	19.0	26.5	26.9	21.9	19.4	14.7	14.7
A62	458806	453483	29.6	32.5	17.9	11.5	12.8	13.6	13.1	15.8		23.0	22.8	28.6	20.1	15.3	15.3
A64	460030	452327	45.7	39.9	32.0	41.3	36.5	34.8	34.7	29.7	37.1	45.0	54.2	36.3	38.9	28.6	28.6
A66	458672	453685	28.9	29.7	18.5	15.5	17.0	17.1	15.6	19.4	20.0	25.1	25.4	25.4	21.5	16.3	16.3
A69	458375	453958	25.5	31.0	14.6	19.8	14.4	14.8	13.4	13.6	17.1		26.6	23.5	19.5	14.8	14.8
A7	459441	452892	44.7		38.4	23.9	20.4	24.8	26.1	27.2	33.5	41.6	41.9	41.5	33.1	24.3	24.3
A70	458299	454070	32.2	28.1	20.4	18.5	17.8	17.5	17.1	18.9	22.2	25.6	29.0	28.6	23.0	17.5	17.5
A71	458121	454254	27.9	28.1	15.3	14.3	12.6	12.5	12.9	14.4	17.5	22.5	26.9	27.0	19.3	14.7	14.7
A74	458041	454371	27.3	22.6	17.2	14.5	12.0	13.2	13.1	14.8	16.4	23.0	26.9	26.8	19.0	14.4	14.4
A77	457929	454537	37.8	39.3	21.9	18.8	17.3	16.2	18.1	19.8	22.0	33.0	37.4	36.6	26.5	20.1	20.1
A81	457733	454805	30.9	32.6	20.5		15.3	16.0	15.4		19.5	26.0	28.6	30.6	23.5	17.9	17.9
A85	459364	453009	48.5	32.7	26.1	22.0	19.9	20.5	21.8	26.5	26.4	30.7	29.3	33.4	28.2	21.4	21.4
A88	457470	452550	30.5	31.3	18.5	20.8	17.9	18.1	16.8	16.6	20.8	28.2	32.9	29.7	23.5	17.9	17.9
A9	459295	453067	49.9	50.8	40.4	35.6			31.8	29.1	34.1	39.3		42.1	39.2	28.8	28.8
A90	459238	453157	45.6	53.7	48.1	33.0	38.3	34.4	35.5	39.0	43.4	48.6	51.9	52.5	43.7	32.1	32.1
A94	458651	452426	50.4	40.2	29.6	50.4	32.4	17.8	16.8	15.9	20.7	48.2	82.3	49.4	37.8	27.8	27.8
A96	459038	452850	48.3	46.5	36.3	36.5	34.5	36.8	35.1	33.9	41.0	48.2	46.8	44.6	40.7	29.9	29.9
A97	457431	452616	31.4	34.2	15.2	22.5	16.7	17.3	18.4	20.9	25.4	31.8	35.1	39.5	25.7	18.9	18.9
A98	458666	451468	40.8	35.4	31.2	29.4	25.0	24.0	25.5	23.0	28.3	33.8	37.6	37.9	31.0	22.8	22.8
B1	460848	452582	48.7	49.2		31.7	28.0	27.9	33.4	37.2	37.7	43.7	46.0	48.5	39.3	28.9	28.9
B15	461294	455305	35.7	31.4	23.6	15.4	19.0	20.1	15.7	20.3	24.8	29.6	32.5	33.6	25.1	18.5	18.5
B19	461891	455876	39.3		21.8	18.5	20.7	18.7	20.7	23.4	25.6	31.2	32.1	37.6	26.3	19.3	19.3
B2	460924	452697	45.7	40.1	28.6	28.4	25.0	24.5	24.7	25.0	27.6	36.7	44.0	41.2	32.6	24.0	24.0
B29	461453	452750	38.8	31.6	23.2	19.7	20.4	20.6	21.2	19.9	22.7	29.3	35.1	32.7	26.3	19.3	19.3
B3	460952	452826	41.0	40.1	24.9	20.6	21.1	22.3	21.2	23.9	25.7	34.7	35.8	39.0	29.2	21.5	21.5
B36	462565	454194		26.9	22.2			13.9	14.5	13.9	15.3	22.4	28.2	25.1	20.3	15.4	15.4
B37	462565	454194	30.9	23.2		12.3	14.5	13.6	14.2	14.0	17.5	20.6	23.0	25.4	19.0	14.5	14.5

B37a	462565	454194		12.9	21.6	12.6		14.2	15.5	13.7	18.0	22.4	26.5	26.1	18.4	13.9	13.9
B38	463757	455155	30.5	27.2	21.7	20.8	17.3	20.1	16.1	18.5	20.3	26.4	27.8	25.2	22.7	17.2	17.2
B41	461326	451330	52.7	42.4	44.3	34.5	33.3	35.8	33.9	35.7	32.6	39.7	46.4	44.0	39.6	30.1	30.1
B42	461430	451348	40.0	32.5	29.7	32.5	28.2	27.4	24.9	22.3	29.2	33.7	38.5	29.4	30.7	23.3	23.3
B43	461557	451343	33.3	28.2	24.4	22.4	23.2	23.8	22.0	20.0	22.5	31.5	36.7	27.4	26.3	20.0	20.0
B44	461643	451343	56.4	41.5	41.6	30.3	32.5	28.9	33.1	30.1	37.2	45.8	51.0	43.2	39.3	28.9	28.9
B45	461849	451284	51.8	40.5	37.2	33.3	30.4	34.0	30.2	26.8	32.2	39.4	36.9	35.8	35.7	26.2	26.2
B47	462019	451289	25.2	24.6	21.6	18.5	15.1	14.8	14.9	16.7	20.0	23.9	27.7	26.3	20.8	15.8	15.8
B48	462122	451289	32.6			25.1	19.7	19.1	19.7	19.0	21.6	30.1	32.9	30.9	25.1	19.0	19.0
B50	462291	451269	40.0	39.8	29.2	32.2	21.2	24.2	24.7	25.1		31.3	36.6	35.7	30.9	22.7	22.7
B51	462384	451298	34.5	31.9		19.3	18.0	16.5	17.0	17.4	20.8	28.0	29.3	30.4	23.9	18.2	18.2
B56	462888	451289	46.1	43.6	35.0		34.2	31.9	31.6	32.6	35.2	43.6	48.0	45.5	38.8	28.6	28.6
B58	462970	451300	35.0	31.6	24.5	19.2	18.9	19.0	18.7	20.9	22.0	28.1	32.2	29.2	24.9	19.0	19.0
B60	463234	451339	35.5	31.9	26.8	17.9	17.3	15.5	18.0	20.9	22.2	30.1	32.5	31.5	25.0	19.0	19.0
B63	462704	451300	49.6	46.5	36.6	33.4	33.9	31.8	33.9	38.4	37.6	43.8	43.8	47.4	39.7	29.2	29.2
B72	461122	451374	62.2	65.2	51.7	44.2	47.9	45.0	48.2	54.5	51.7	57.3	44.9	62.6	53.0	38.9	38.9
B74	461371	452708	38.0	32.6	17.9	17.1	17.9	19.6	17.7	19.5	23.0	28.9	34.0	31.7	24.8	18.9	18.9
B80	461185	452663	31.0	30.9	19.1	18.0	15.9	15.3	13.5	18.8	21.1	26.9	30.0	32.1	22.7	17.3	17.3
B82	460974	452563	38.4	40.4	29.9	24.9	25.7	23.2	21.9	31.5	29.4	37.2	37.1	41.5	31.8	24.1	24.1
B83	461285	452695	42.0	36.6	31.6	29.6	25.8	27.4	27.0	27.2	31.1	37.8	43.3	42.0	33.5	24.6	24.6
B84	462654	451293	35.2	35.7	28.0	25.1	25.2	25.1	24.3	27.1	26.7	33.3	29.2	36.6	29.3	22.3	22.3
B85	461227	451368	49.3	41.8	41.4	34.0	34.3	36.3	33.6	29.7	35.7	45.0	46.5	40.2	39.0	28.7	28.7
B86	461116	452602	45.3	32.8	31.7	24.6	23.7	23.6	24.0	26.7	28.7	34.9	38.6	40.4	31.3	23.0	23.0
B88	462799	451291	50.5	50.3	33.5	29.7	26.0	26.7	28.7	27.2	30.9	41.0	48.0	45.8	36.5	26.8	26.8
B89	461170	451357	55.0	40.9	53.9	36.2	42.2	36.9	40.8	41.4	41.8	50.2	49.8	48.8	44.8	32.9	32.9
B90	461133	451394	62.9	47.7	55.0	43.2	45.6	43.6	38.6	33.3	40.1	57.5	68.1	51.4	48.9	36.0	36.0
C12	458825	449928	29.8	34.3	19.5	23.6	18.0	19.1	17.1	19.0	22.0	28.7	32.3	30.8	24.5	18.6	18.6

C17	459085	450544	27.9	27.8	19.7	21.5	17.3	17.5	16.6	17.1	19.1	20.0	26.9	25.0	21.4	16.2	16.2
C18	459204	450772	39.1	50.5	35.3	23.5	25.9	27.1	24.7	27.9	33.5	34.9	40.0	37.2	33.3	25.3	25.3
C19	459271	450819	28.4	28.0	22.8	17.3	19.3	19.0	18.4	19.3	23.5	24.4	30.8	24.4	23.0	17.5	17.5
C2	458333	448974	54.3	55.0	37.8	35.9	36.4	36.4	37.2	41.0	43.9	22.0	36.5	49.4	40.5	29.8	29.8
C20	459280	450923	34.1	27.3	21.4	18.9		18.9	18.7		23.7	29.4	34.1	27.0	25.4	19.3	19.3
C21	459410	451040	43.7	36.8	34.1	25.1	29.4	25.8	29.8	28.7	33.9	37.6	45.5	35.4	33.8	24.9	24.9
C22	459570	451195	40.3	30.4	30.1	19.2	22.0	24.2	21.1	18.6	25.6	30.2	39.2	31.3	27.7	21.0	21.0
C23	459553	451252	57.6	49.3	39.2	41.3	48.4	48.7	48.7	48.8	50.3	49.0	47.7	53.9	48.6	35.7	35.7
C26	459639	451334	61.6	48.0	53.2	49.0	51.2	46.7		44.2	47.7	56.3	62.0	53.6	52.1	38.3	38.3
C27	459717	451433	70.4	63.9	69.8	54.4	59.8	57.7	54.3	49.9	53.4	59.9	62.5	62.1	59.8	**44.0**	**44.0**
C28	461201	448386	27.6	30.5	15.6	17.8	16.1	17.1	15.5	17.1	20.3	26.9	28.7	25.4	21.6	16.4	16.4
C29	461196	448426	41.4	49.2	29.1	29.7	28.9	31.2	26.1		30.3	43.0	42.8	48.8	36.4	26.8	26.8
C30	461185	448462	53.7	42.3	32.9	37.1	37.5	33.6	34.6	32.6	36.7	51.1	46.5	52.0	40.9	30.0	30.0
C31	461193	448473	34.4	24.5	22.2	19.5	18.9	19.0	17.7	21.6	19.6	28.1	26.9	32.4	23.7	18.0	18.0
C32	461128	448823	41.1	27.5	31.1	19.2	23.6	24.8	23.9	27.5	29.8	35.7	36.1	41.5	30.2	22.9	22.9
C33	461085	448933	30.0	25.1	21.6	18.1	18.8	18.1	15.5	16.3			26.9	29.1	22.0	16.7	16.7
C34	461085	449067	36.4	37.7	23.6	36.7	28.7	30.4	25.0	22.0	27.7	36.2	41.7	37.4	32.0	23.5	23.5
C36	461052	449146	45.4	32.6	37.6	26.0	30.4	26.7	29.0	31.3	35.1	38.8	39.8	40.7	34.5	25.3	25.3
C37	461045	449223		35.7	18.8	28.6	23.4	23.9	22.7	20.4	30.3	30.8	38.2	34.3	27.9	21.2	21.2
C38	461038	449225	43.3	42.1	27.0	34.6	27.9		26.0	22.9	29.7	35.2	45.7	42.5	34.3	25.2	25.2
C39	460974	449336	58.6	55.1	44.6	29.9	40.5	37.6	38.6	37.8	42.1	49.9	49.8	55.2	45.0	33.1	33.1
C4	458470	449126	32.9	34.0	23.1	20.6	15.9	17.3	15.7	19.1	22.1	26.9	29.9	29.3	23.9	18.2	18.2
C40	460910	449628	27.4	33.9	19.6	21.5	20.9	19.8	19.4	19.5	25.8	29.5	29.2	29.1	24.6	18.7	18.7
C42	460857	449748	39.4	37.6	30.9	18.1	22.3	24.6	24.5	23.9	28.3	30.0	31.3	33.7	28.7	21.8	21.8
C43	460869	449730	35.3	37.7	38.1	25.7	30.1	29.3	32.0	27.2	35.5	41.9	42.2		34.1	25.1	25.1
C43a	460869	449730	50.0	39.9	36.5	26.6	31.8	31.2	31.6	30.9	35.1	38.9	39.8	40.6	36.1	26.5	26.5
C44	460869	449730	44.9	48.6	36.9	23.8	31.8	28.2	32.9	30.4	35.8	41.3	43.1	42.9	36.7	27.0	27.0

C49	460860	450530	35.9	30.4	21.0	20.1	20.3	21.2	18.0	18.0	21.7	32.8	41.8	34.3	26.3	20.0	20.0
C51	460871	450727	43.0	40.7	28.1	31.4	28.2	29.6	25.3	26.3	32.8	43.5	45.0	43.0	34.7	25.5	25.5
C52	460853	450781	45.3	38.8	24.8	23.6	21.3	22.3	22.3	23.5	25.1	40.4	36.7	44.9	30.8	22.6	22.6
C53	460766	450924	37.8	38.2	25.7	39.8	21.8	24.7	18.6	18.4	28.4	32.5	41.3	32.6	30.0	22.0	22.0
C54	460762	451069	48.4	29.8	30.5	27.8	29.5	29.1	26.8	22.4	32.6	38.9	46.8	41.2	33.7	24.7	24.7
C56	459484	451141	52.7	49.1	42.4	40.9	38.8	33.5	33.2	36.7	37.2	39.2	49.8	44.8	41.5	30.5	30.5
C57	458912	450111		34.3	25.6	27.7	21.0	22.1	21.1	24.4	25.3	29.0	37.2	31.1	27.2	20.6	20.6
C58	460926	449429	52.2	49.1	49.2	31.9	41.8	39.6	38.3	41.7	44.2	48.2	49.7	53.2	44.9	33.0	33.0
C59	458735	449713	45.4	46.5	38.2	30.1	34.0	30.0	31.5	30.2	32.2	38.2	40.6	44.9	36.8	27.1	27.1
C62	459579	451251	44.0	42.5	35.3	26.2	31.8	31.5	28.8	31.1	34.3	38.7	44.4	41.7	35.9	26.4	26.4
C63	458790	449740	34.6	30.6	28.2	17.1	18.3	20.5	18.5	19.8	22.8	25.8	29.6	29.0	24.6	18.1	18.1
C7	458611	449477	34.6	35.5	19.8	23.8	19.2	20.9	19.9	21.8	24.8	31.2	32.4	30.1	26.2	19.2	19.2
D10	460443	451927	36.5	29.2	22.2	20.1	18.8	18.0	17.2	19.0	22.5	30.7	34.4	32.5	25.1	19.1	19.1
D12	460567	451740	34.2	39.2	27.5	16.4	19.7	19.4	20.5	19.9	24.2	29.4	34.5	32.0	26.4	19.4	19.4
D13	460271	451358	43.8	40.0	30.4	28.7	27.1	21.5	29.0	27.9	36.1	39.7	42.2	40.2	33.9	24.9	24.9
D14	461077	451354	57.7	48.3	50.3	54.0	47.1	42.2	45.1	41.6	48.6	53.7	58.4	50.2	49.8	36.6	36.6
D16	460708	451231	58.5	45.1	46.5	61.2	47.0	50.9	47.7	39.4	50.1	57.9	62.7	49.8	51.4	37.8	37.8
D17	460575	451616	45.3	48.6	41.3		30.0	30.7	33.0	38.1	39.4	48.7	38.6	49.2	40.3	29.6	29.6
D18	460395	451502	53.3	16.7	40.4	27.9	34.1				40.9	47.3	49.1	41.3	39.0	28.7	28.7
D19	460038	451626	64.5	64.0	57.8	70.7	62.9	58.8	60.8	55.1	63.7	58.9	69.4	62.9	62.5	**45.9**	35.8 (distance corrected)
D20	460323	451685	60.8	50.0	52.3	53.6		51.0	47.6	49.8		56.9	53.9	53.6	53.0	38.9	38.9
D22	460035	452010	49.9	43.9	40.4	35.0	40.4	40.6	39.0	37.6	42.7	45.3	53.8	46.4	42.9	31.5	31.5
D24	459805	451543	49.3	38.9	38.4	26.0	30.8	30.6	30.2	34.1	36.8	43.0	47.2	43.5	37.4	27.5	27.5
D25	459693	451750	60.5	48.8	52.4	42.4	46.9	45.5	50.7	49.5	50.6	55.4	57.8	50.4	50.9	37.4	37.4
D26	460671	451400	41.0	36.9	33.2	29.3	25.5	26.7	28.5	30.1	32.9	41.5	41.6	41.8	34.1	25.1	25.1
D27	460734	451563	34.7	37.5	29.8	30.4	27.0	25.1	30.3	23.4	28.6	36.5	38.0		31.0	22.8	22.8

D28	460764	451185	55.3	49.3	50.0	32.7	38.2	39.1	37.6	41.4	42.8	46.7	48.1	47.9	44.1	32.4	32.4
D30	460834	451252	41.1	40.5	33.8	28.5	28.2	27.5	27.7	24.8	31.8	38.9	42.5	37.9	33.6	24.7	24.7
D31	461002	451229	45.1	40.2	33.1	26.5	34.9	32.8	32.0	30.6	39.1	47.5	51.8	43.2	38.1	28.0	28.0
D32	460258	451208	56.7	49.6	45.3	41.3	44.2	43.0	41.5		44.8	54.2	54.5	43.3	47.1	34.6	34.6
D33	460075	451174	46.5	33.0	35.1	32.2	29.8	32.1	23.5	29.2	36.0	43.7	45.5	42.2	35.7	26.3	26.3
D35	460134	451170	67.6	55.9	47.7	35.7	63.1	48.6	44.4	42.2	45.4	57.0	54.9	48.4	50.9	37.4	37.4
D36	460135	450884	58.9	47.4	44.6	33.2	38.4	36.9	39.5	35.7	35.5	46.5	51.0	47.7	42.9	31.6	31.6
D37	460157	450988	48.7	39.9	30.4	40.9	35.8	30.7	30.9	30.1	33.5	46.3		43.8	37.4	27.5	27.5
D38	460088	450929	41.3	35.4	25.6	25.6	21.4	23.1	21.2	21.0	31.7	37.1	41.9	35.3	30.1	22.1	22.1
D39	460185	451055	52.1	42.1	35.2	35.2	33.9	35.1	32.6	32.9	38.3	47.6	52.5	43.7	40.1	29.5	29.5
D4	460560	452300	46.7	51.8	32.9	25.5	26.0	22.0	26.0		34.5	38.4		43.0	34.7	25.5	25.5
D40	460069	451196	43.4	38.1	28.3	35.7	27.4	30.1	27.4	23.0	33.3	39.7	50.9	39.6	34.7	25.5	25.5
D41	460286	452487	51.0	51.4	46.8	36.4	40.7	44.0	42.1	49.0	46.9	49.0	51.8	25.9	44.6	32.8	32.8
D43	459920	451834	68.6	69.8	58.5	60.3			56.5	53.9	52.6	59.5	57.0	56.6	59.3	**43.6**	33.0 (distance corrected)
D45	460673	451869	51.5	35.1	28.4	28.0	26.7	27.1	25.6	27.5	30.1	35.5	37.6	36.9	32.5	23.9	23.9
D47	460682	452187	43.3	37.6	29.2	27.9	27.3	24.6			34.4	42.1	45.3	41.0	35.3	25.9	25.9
D48	460103	452180	44.9	50.8	41.2	47.4	45.5	45.6	40.8	43.2	45.3	51.2	54.1	49.3	46.6	34.3	34.3
D49	460656	451269	63.4	51.7	44.3	45.8	43.4	42.6	43.4	42.2	49.9	57.3	37.9	49.9	47.7	35.0	35.0
D50	460371	451682	49.8		47.7	50.2	49.2	49.4	49.0	39.9	42.1	44.8	47.3	50.4	47.3	34.7	34.7
D51	459640	451722	78.5	79.1	85.4	62.5	78.1	73.8	80.1	76.4	71.1	77.4	74.6	68.4	75.5	**55.5**	**55.5**
D52	460887	451140	40.1	36.6	30.2	31.8	27.7	21.5	24.6	24.7	30.9	39.2	45.0	34.3	32.2	23.7	23.7
D53	460115	451146	39.5	27.7		37.1	30.8	31.8	27.4	22.0	31.7	38.0	43.3	34.0	33.0	24.3	24.3
D54	460146	451116	36.0	33.7	28.1	34.0	30.6	31.6	28.7	23.2	30.7	36.6	43.6	33.4	32.5	23.9	23.9
D55	460087	452065	51.1	58.9	48.3	44.9	47.0	50.7	49.9	49.9	54.5	54.9	60.3	52.5	51.9	38.2	38.2
D56	460400	451685	59.1	50.5	39.0		54.5	50.6	52.6	50.4	47.9	54.5	52.6	59.6	51.9	38.2	38.2
D57	460416	451708	45.9	39.5		28.8	40.8	41.5	37.1	39.5	38.2	39.5	42.4	46.8	40.0	29.4	29.4

D58	460435	451732	57.6	49.9	39.6	41.9	46.2	42.3	48.2	49.1	39.4	47.1	50.1	54.2	47.1	34.6	34.6
D59	460087	452156	63.0	65.3		38.1	51.2	47.3	51.9	56.7	52.8	59.2	47.2	62.0	54.1	39.7	39.7
D6	460570	452177	32.5	34.5	24.8	17.9	19.1	17.8	17.8	19.8	23.8	30.5	35.2	33.6	25.6	19.5	19.5
D60	460294	451883	43.1	35.1	30.0	21.9	22.6	20.9	20.6	23.6	25.0	31.9	39.0	35.3	29.1	21.4	21.4
D8	460553	451843	54.8	37.8	32.9	47.3	42.0	40.0		34.5	43.0	44.3	48.2	49.2	43.1	31.7	31.7
D9	460483	452357	49.0	47.7	38.5	51.2	44.2	41.1	40.3	36.2	45.2	54.7	57.0	43.5	45.7	33.6	33.6

Local bias adjustment factor used

Annualisation has been conducted where data capture is <75%

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

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.**

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest point of relevant public exposure.

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

C1: QA/QC on monitoring data

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.

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 at: http://www.airqualityengland.co.uk/. The latest round of station audits were carried out in January 2020 by Ricardo-AEA.

For the purpose of this report, all TEOM particulate (PM_{10}) data collected during 2019 has been corrected using the Volatile Correction Model (VCM) as made available by DEFRA at www.volatile-correction-model.info/Default.aspx (note that $PM_{2.5}$ 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 TEOM-FDMS or BAM data presented in this report.

C2: Bias adjustment and precision analysis of diffusion tubes

Introduction

Diffusion tubes used by City of York Council in 2019 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.

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 2019 period, the percentage of results submitted by SOCTEC/ESG that were deemed to be satisfactory was 87.5% (round AR030), 100% (round AR031), 100% (round AR033) and 100% (round AR034). Further information is available here: https://laqm.defra.gov.uk/assets/laqmno2performancedatauptonovember2019v1.pdf

As part of the Second and Third Stage Review and Assessment of Air Quality in York, a detailed discussion of the accuracy and precision of diffusion tubes was included in Technical Annex 2: Air Quality Monitoring in York. This included a detailed description of how to calculate accuracy and precision factors for diffusion tubes.

For the purpose of this Annual Status Report, new accuracy and precision factors have been calculated for the nitrogen dioxide diffusion tubes for 2019. These factors are based on readings obtained in the 2019 calendar year. The method used to calculate these factors is the same as that outlined in Technical Annex 2 of the Second and Third Stage Review and Assessment of Air Quality in York and the reader should refer to that document for further information.

Calculation of Accuracy Factors

The accuracy factors are calculated from the results obtained from diffusion tubes co-located with real time chemiluminescence analysers. To calculate the bias of the diffusion tubes scatter plots of chemiluminescence data versus diffusion tube data for roadside and background monitoring sites were plotted. For each scatter plot a *y=mx* line of best fit was applied. In each case the gradient of the line, m, was taken as the bias factor.

Background diffusion tube monitoring

The bias factor for the tubes located at the urban background monitoring site was found to be 0.7598, demonstrating that in general the diffusion tubes overestimated the nitrogen dioxide concentrations at the urban background sites. For the purpose of this report bias corrected averages for background sites have been calculated by multiplying the raw tube result by 0.7598.

Roadside diffusion tube monitoring

The bias factor for the tubes located the roadside monitoring locations was found to be 0.7350, demonstrating that in general the diffusion tubes overestimated the nitrogen dioxide concentration at the roadside. For the purpose of this report bias corrected averages for roadside and kerbside sites have been calculated by multiplying the raw tube result by 0.7350.

Comparison of locally derived bias correction factors and factors from national diffusion tube bias adjustment factor spreadsheet

The overall 2019 bias correction factor from the national diffusion tube bias adjustment factor spreadsheet for SOCOTEC Didcot *[preparation method 50% TEA in acetone]* from 24 studies was 0.75. 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 of 0.7598 and 0.7350 for background and roadside sites respectively were 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.

If the national bias correction factor of 0.75 had been applied to all diffusion tubes, this would have resulted in a breach of the annual mean objective at one additional

site (that did not indicate a breach in 2019 using the local bias factors). This was site D59 *(Bus stop outside 8/9 St Leonards Place)*. This tube is already located within City of York Council's existing AQMA boundary.

Applying the national bias factor of 0.75 would also cause tube 115 *(Inside bus stop canopy, Rougier Street)* to be 60µg/m^3 (using the local bias factor results in a figure of 59µg/m^3), which is potentially indicative of potential breaches of the short-term hourly NO_2 objective, although this is very much borderline. The AQMA in this area of the city has previously been declared on the basis of both the annual mean and the hourly mean NO_2 objective, but on 17th December 2018 the AQMA was amended to remove the reference to breaches of the short-term hourly objective along George Hudson Street / Rougier Street / Bridge Street based on the latest monitoring results for the area. City of York Council does not currently propose to make any changes to the current AQMA designation on the basis of this result, however, this site will be carefully monitored over the next 12 months.

Calculation of Precision Factors

The precision factors are calculated from the results obtained from diffusion tubes co-located side by side. A measurement of the precision of the diffusion tubes has been made by calculating the Relative Standard Deviation (RSD) of the Variance of the results obtained from each of the duplicate sites[14] in York using Equations 1 and 2.

Equation 1: $\text{Variance} = \text{Sum} \{(X_a - X_{a+1}/X_m)^2\}$

Where: X_a = result 1 for month X

X_{a+1} = result 2 for month X

X_m = mean of X_a and X_{a+1}

Equation 2: $\text{RSD of Variance \%} = (\text{Variance}/n)^{1/2} \times 100$

Where: n = total number of duplicate tube results

2019 data

The Relative Standard Deviation of Variance for a single month at a single site was found to be 5.06%. This is equivalent to +/- 10.12% at 95% confidence limit.

The annual mean nitrogen dioxide concentrations in most cases have been calculated by taking the mean of 12 monthly readings. The precision of the annual mean at a 95% confidence level was calculated for each site using Equation 3.

Equation 3: $\textit{Precision of annual mean} = \dfrac{10.12}{(n-1)^{1/2}}$

Where n = number of readings used to calculate the annual mean at a particular site.

- In most cases n = 12, hence the precision of the majority of the annual averages is +/- 3.05%.
- For sites where only 11 tubes were retrieved the precision of the annual averages is +/- 3.20%.
- For sites where only 10 tubes were retrieved the precision of the annual averages is +/- 3.37%.
- For sites where only 9 tubes were retrieved the precision of the annual averages is +/- 3.58%.

[14] Where diffusion tubes were exposed in triplicate (i.e. A, B, and C), the tubes have been expressed as 3 duplicate sets for the purposes of the precision calculations (i.e. AB, AC, and BC).

C3a: Annualising diffusion tube data (period to annual correction)

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 2019. Of these sites, 51 diffusion tubes had 12 months data available and have been used to derive the period to annual ratios required for the annualisation. 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 51 background diffusion tube locations. Use these two figures to calculate the period mean to annual mean ratio for each of the 51 diffusion tube sites.
- **Step 3** – Calculate the average ratio across the 51 background monitoring sites (i.e. n = 51)
- **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.

A summary of the annualisation is provided in Table C.1 below.

Table C.1a: Annualisation Summary

Site	Location	Valid Months	Period Mean (tube) in µg/m^3	Average Ratio	Annual Tube Mean Estimate in µg/m^3	Bias Correction Factor	Bias Corrected Annual Mean in µg/m^3
88	B	8	17.5	1.033	18.1	0.7598	13.8
A36	B	5	22.4	1.081	24.2	0.7598	18.4

As can be seen from the table above, both the annualised diffusion tube results are well below the annual mean objective for nitrogen dioxide.

C3b: Annualising Holgate PM_{10} Data

As data capture for Holgate PM_{10} was only 57% in 2019, annualisation has been performed in line with guidance in LAQM.TG16 using two nearby background AURN monitoring sites. Details are provided in the table below:

Table C.1b: Annualisation Summary for Holgate PM_{10}

Site	2019 Annual Mean PM_{10} ($\mu g/m^3$)	Period Mean PM_{10} ($\mu g/m^3$)	Ratio
York Bootham	13.96	14.01	0.996
Leeds Centre	16.37	16.27	1.006
			Av ratio = 1.001

The Holgate PM_{10} period mean of 13.91$\mu g/m^3$ has been multiplied by the average ratio of 1.001 calculated above to give a figure of 13.92$\mu g/m^3$. This is an estimate of the 2019 annual mean PM_{10} concentration monitored at this site.

C4: Distance Correction

Distance correction has been carried out in line with paragraphs 7.77 – 7.79 of LAQM.TG (16). Local annual mean background NO_2 concentrations have been taken from the Bootham background continuous monitoring station. In 2019, the NO_2 concentration monitored at this site was 16.3$\mu g/m^3$. This value has been used as an input to the fall-off with distance calculator.

Following discussions with the LAQM Helpdesk in 2017 for a previous Annual Status Report[15] it was agreed that due to the number of diffusion tubes operated by City of York Council, only those in excess of the annual mean objective of 40$\mu g/m^3$ should be distance corrected. Table C.2 below provides commentary on each of these tubes and shows the information used to distance correct the diffusion tube data. Where a distance correction has not been undertaken, commentary has been provided in the table to explain the reason for this decision. In some instances, diffusion tubes are not strictly in relevant locations but are located at the same distance from the road as nearby properties that would be considered relevant locations. In such instances, tubes are reported as being in relevant locations. All

[15] Previous email correspondence with Max Nancarrow of LAQM Helpdesk 28/4/2017

tubes shown in the table are already contained within the Air Quality Management Area boundary (with the exception of tube D51 which is not located at a relevant location for the purposes of LAQM).

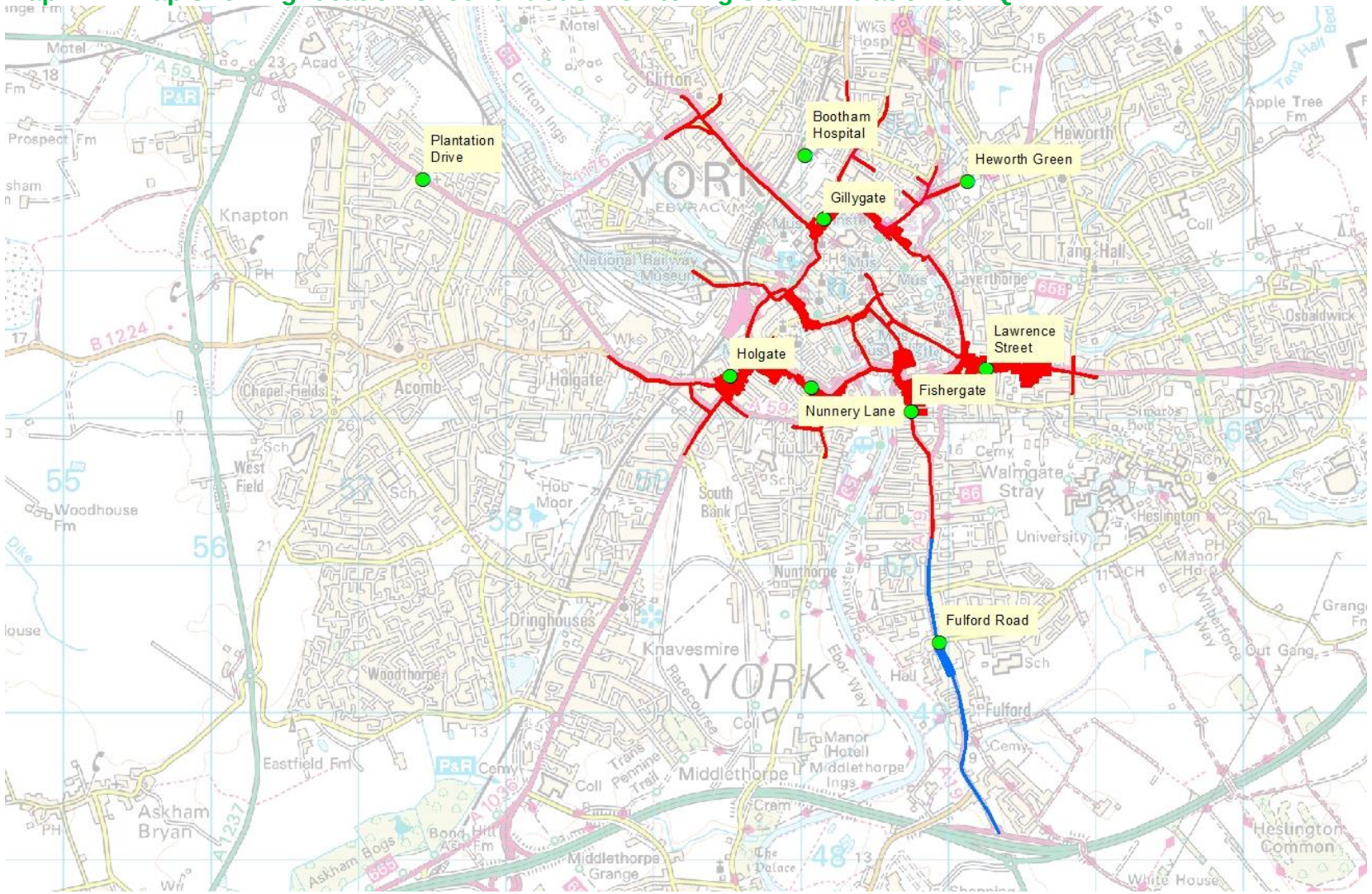
Table C.2: Distance Correction of Annual Means that were over the Annual Mean Objective of 40µg/m^3

Site ID	Description	Comments	Distance to nearest point of relevant exposure (m)	Distance from monitor to kerb of nearest road (m)	Distance between kerb and receptor (m)	Raw annual mean NO_2 (µg/m^3)	Bias corrected measured NO_2 annual mean (µg/m^3)	Distance corrected annual mean (µg/m^3)
7	Gillygate opposite Portland Street	Requires distance correction	2.3	0.3	2.6	61.8	**45.4**	35.2
13	Papillion hotel - Gillygate	Location considered relevant without correction as mounted on a drainpipe attached to facade of building	-	-	-	55.4	**40.7**	**40.7**
14	Former Gillygate Surgery	Location considered relevant without correction as mounted on a drainpipe attached to facade of building	-	-	-	60.3	**44.3**	**44.3**
109	Signpost outside 16 Rougier Street	Location considered relevant without correction as mounted on a drainpipe attached to facade of building	-	-	-	63.5	**46.7**	**46.7**
110	Signpost inbetween Club Salvation & 31 George Hudson Street	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Relevant exposure at first floor level.	-	-	-	61.7	**45.3**	**45.3**
115	Inside Bus Stop opposite side of road from tube 114	Not relevant location with respect to annual mean as located at a bus stop. Relevant with respect to hourly NO_2 objective, but currently under 60ug/m3	-	-	-	80.5	**59.2**	**59.2**

Site ID	Description	Comments	Distance to nearest point of relevant exposure (m)	Distance from monitor to kerb of nearest road (m)	Distance between kerb and receptor (m)	Raw annual mean NO_2 ($\mu g/m^3$)	Bias corrected measured NO_2 annual mean ($\mu g/m^3$)	Distance corrected annual mean ($\mu g/m^3$)
A1	Bootham traffic light outside dance shop	Location considered relevant without correction as mounted on a drainpipe attached to facade of building	-	-	-	58.5	**43.0**	**43.0**
A57	Hairdressers Holgate Road	Location considered relevant without correction as mounted on a drainpipe attached to facade of building. Relevant exposure at first floor level.	-	-	-	61.9	**45.5**	**45.5**
C27	Windmill Pub	Location considered relevant without correction as mounted on a drainpipe attached to facade of building	-	-	-	59.8	**44.0**	**44.0**
D19	Bridge St/ Micklegate Junction	Requires distance correction	1.7	0.2	1.9	62.5	**45.9**	35.8
D43	Rougier Street Signpost 1, has “Except for Access” sign on it.	Requires distance correction	3	0.3	3.3	59.3	**43.6**	33.0
D51	Taxi Rank at York Railway Station Main Entrance	Not at relevant location (tube installed for non-LAQM project)	-	-	-	75.5	**55.5**	**55.5**

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

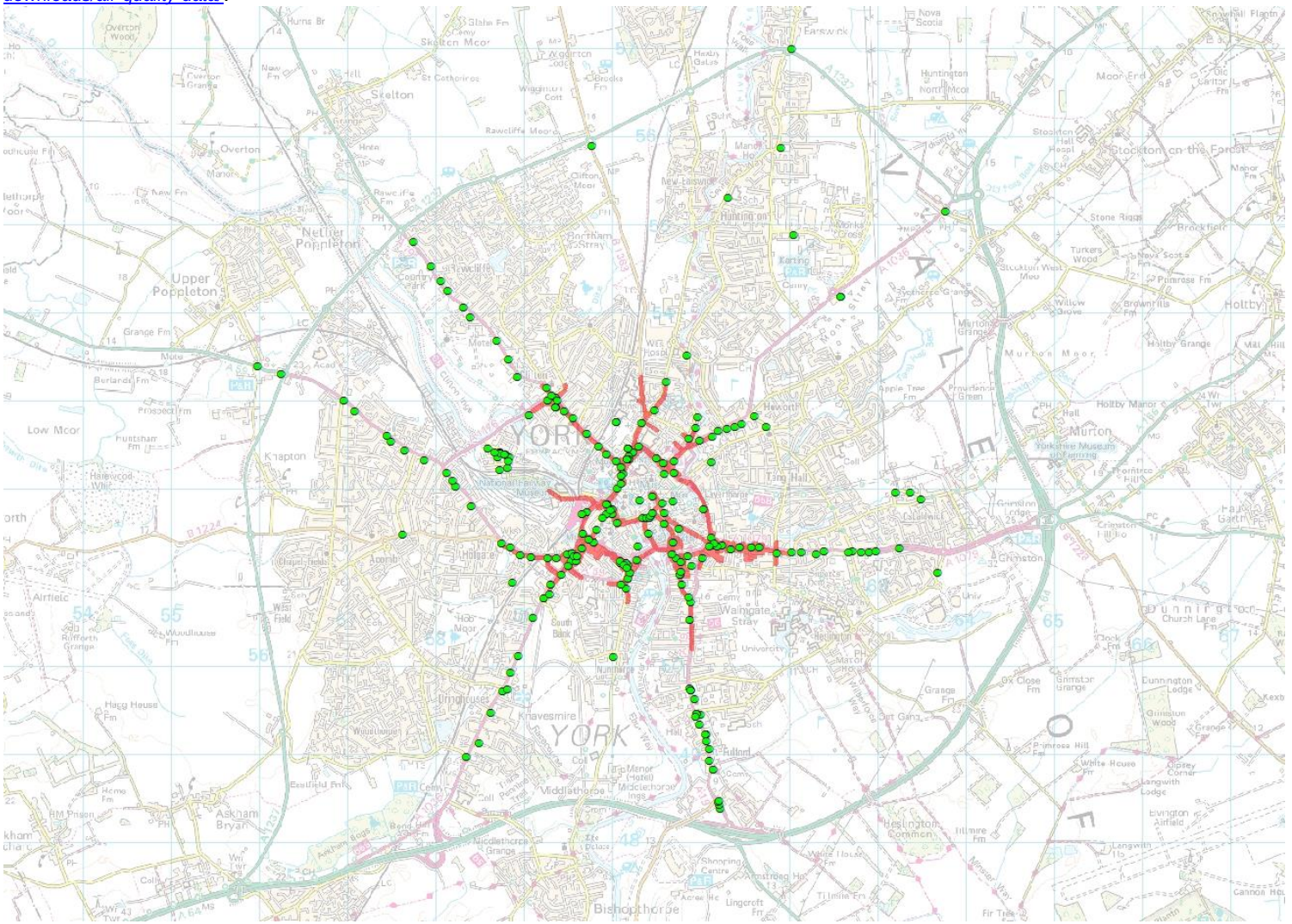
Map D.1 - Map showing location of continuous monitoring sites in relation to AQMA



Air Quality Management Area (AQMAs) shown in red. Note that the Fulford Road AQMA was revoked on 14/2/2020 and is shown in blue for information

Map D.2 - Map showing location of diffusion tubes in relation to AQMA

Due to the number of tubes and difficulty labelling the map below, an interactive diffusion tube map showing tube reference numbers is has been made available online at: http://jorair.co.uk/data-downloads/air-quality-data/.



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[16]	
	Concentration	Measured as
Nitrogen Dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m^3	Annual mean
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Air Quality 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 (micrometres or microns) 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
$\mu g/m^3$	Microgrammes of pollutant per cubic metre

References

- All City of York Council's previous Review and Assessment reports can be found online at http://www.jorair.co.uk/data-downloads/reports/
- DEFRA Technical Guidance LAQM.TG(16) is available online at: https://consult.defra.gov.uk/communications/laqm_changes/supporting_documents/LAQM%20Technical%20Guidance%202016.pdf
- DEFRA Policy Guidance LAQM.PG(16) is available online at: https://consult.defra.gov.uk/communications/laqm_changes/supporting_documents/LAQM%20Policy%20Guidance%202016.pdf