2024 Air Quality Annual Status Report (ASR)

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

Date: June, 2024

Information	Exeter City Council Details
Local Authority Officer	Alex Bulleid
Department	Environmental Health & Community Safety
Address	Civic Centre, Paris Street, Exeter, EX1 1 RQ
Telephone	01392 265147
E-mail	Environmental.Health@exeter.gov.uk
Report Reference Number	ASR 2023
Date	June 2024

Executive Summary: Air Quality in Our Area

Air Quality in Exeter

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

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution[2].

Table ES 1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from.

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

---

[1] UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

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

Exeter's Air Quality Management Area (AQMA) was declared in 2011 because levels of nitrogen dioxide exceeded both the annual average and the short-term objectives for that pollutant. A map of the area can be found in Appendix D. The Air Quality Action Plan (AQAP) contains measures to reduce pollution levels in the AQMA. The current AQAP covers the period 2019-2024. It was published following a significant consultation and engagement process which reached nearly 3000 people. The plan is available online at this link.

Exeter City Council has a monitoring network that is designed to identify the areas with the highest levels of nitrogen dioxide, at the locations where the objectives apply. Most of the monitoring sites are therefore on residential properties in close proximity to the busiest roads and junctions in the city. The results of the monitoring conducted by the City Council is not generally representative of typical or average conditions across the city. Instead it is indicative of the worst case locations.

Prior to 2020 the annual average objective was regularly exceeded at a number of places in the city. These were at Alphington Street and along the Heavitree corridor into the city. The highest levels measured have typically been on the Heavitree corridor, at East Wonford Hill. Here levels historically were close to or above the level which indicates an exceedance of the hourly objective.

The measured results for 2023 can be found in Table A.3 of this report. Trends in annual nitrogen dioxide concentrations can also be seen in Figure A.1. These show that in 2023 levels of nitrogen dioxide were below the objective at every site except East Wonford Hill. The significant fall seen in 2020 as a result of a reduction in traffic flows during COVID-19 rebounded in 2021 but not back to pre-pandemic levels. There was then a further fall in concentrations seen at most sites in 2022, with concentrations roughly stable since then. The improvement since 2019 is likely to have been caused by a combination of traffic flows still being slightly below those seen before Covid, the ongoing improvement in vehicle emissions technologies and measures taken by the City Council and partners to implement the Air Quality Action Plan.

No sites had levels in 2023 between 35 and 40 μg/m^3 (i.e. close to but not above the objective level of 40). Most locations along the busy routes into and around the city had concentrations of nitrogen dioxide in the range between 25 and 35 μg/m^3 during last year.

As you move away from busy roads, levels fall below 25 μg/m^3. In 2023, levels in these areas were typically between 10 and 15 μg/m^3 for purely suburban streets and between 15

and 20 $\mu g/m^3$ for local through routes. The majority of the population of Exeter therefore live in locations with concentrations of nitrogen dioxide well below the objective, but a very small number are still exposed to levels above the objective outside their homes. No schools in Exeter experience levels above the objective.

In September 2023 temporary changes were made to prohibit through traffic in the Heavitree residential area. In June 2024 the HaTOC committee voted to end the trial scheme. This only affected part of the 2023 monitoring year reported so any changes in traffic flows or nitrogen dioxide levels as a result would not be as significant as if the change had co-incided with the calendar year. There will also be other factors which affect pollution levels on a year-to-year basis, so identifying the impact of the highway changes will never be straightforward. Figure 3.1 shows 2023 concentrations plotted against those from 2022. This is not a formal assessment of the temporary scheme, but it suggests that no impact of the highway changes can be seen in the 2023 data set for the monitoring sites that could be expected to have been impacted. This will be reported on further in the next Annual Status Report in 2025.

The data shows that no locations measured an exceedence of the proxy for the hourly nitrogen dioxide objective in 2023 (an annual average of 60µg/m^3).

2020 was exceptional, in terms of the change in traffic flows, so the Council had no plans to amend the AQMA as a result of the changes to NO_2 concentrations seen in that year. The last Annual Status Report (published in 2023) also recommended that longer term trends were monitored to confirm which exceedences have indeed been permanently resolved. There will also always be natural variation between years as a result of local small changes in traffic flows (road works etc) and weather patterns. This makes identifying any trend difficult over short periods of time even where other factors are stable. For this reason, DEFRA recommend that three years of data are used to confirm that an exceedence of the objective has indeed been resolved.

It seems highly likely that previous exceedences at the Blackboy Road / Pinhoe Road junction (DT42 and DT43) have been permanently resolved given that they had fallen below 40 µg/m^3 in 2018 and therefore have been below the objective for more than 5 years. Other sites (Alphington Street DT19, Livery Dole DT52, Satutary Mount DT54, Fore Street Heavitree inbound DT56 and Honiton Road DT58) were above the objective in 2019 but have not been since. This means that there have now been four years of results at these sites which are below the objective level although two of these were affected by Covid and lockdowns.

The Council therefore intends to follow the approach in the statutory guidance and amend the AQMA order to reduce the AQMA to just the area of exceedance on East Wonford Hill. This would co-incide with the expiry of the current AQAP at the end of 2024, with the subsequent publication of a new AQAP focussing on the new AQMA. The proposed timetable for this process is as follows:

Date	Actions
June 2024	Submit ASR, announcing need for amendment of AQMA (with proposed new boundary) as well as timetable for consultation and publication of new AQAP
From June 2024	Start of process to consider AQAP measures
September committee (date TBC)	ASR presented to committee for approval and start of consultation period on new AQMA order
11 weeks after committee	Consultation closes, and draft AQMA order submitted to DEFRA
From January 2025	Evaluation of potential AQAP measures
By end March 2025	New AQMA order signed and 18 month deadline for AQAP issue starts
June 2025	Submit ASR with update on progress and timetable
From June 2025	Draft AQAP
September 2025 committee (date TBC)	ASR presented to committee for approval and start of consultation period on new AQAP
8 to 12 weeks after committee	End of consultation (exact date TBC)
By end March 2026	Consideration of consultation responses and final AQAP produced
	AQAP sent to DEFRA for approval
June 2026	Submit ASR
September 2026 committee (date TBC)	ASR presented to committee for approval and adoption of AQAP

This timetable was provided to the LAQM helpdesk on 26 September 2023. Their response was 'The timetable appears to be reasonable. Please ensure this is communicated in your next ASR, so this can be considered during the appraisal process'.

Whilst it would be desirable to publish a new AQAP immediately after the expiry of the old plan at the end of 2024 this is not possible with the timetable above. The need to first review the AQMA boundary forces the production of the new AQAP to be delayed. The AQMA boundary can only be reviewed this year because there is only now at least three years of data showing that many of the former areas of exceedance have been resolved. Once the new AQMA order has been signed work can formally begin on the new AQAP. However it is anticipated that officers will start to discuss the new plan before this. Full

public consultation will be undertaken as part of the production of the plan, so those affected will have the opportunity to comment on it.

The proposed new AQMA boundary and an explanation of how this has been derived is included in Appendix F.

In the interim period between the expiry of the current plan and the publication of a new plan, Exeter City Council will continue to implement measures, with partners such as the Devon County Council Highways team, neighbouring authorities and Sport England to improve air quality. These will be listed in the Annual Status Reports, with updates on progress.

Public Health England's Public Health Outcomes Framework tool shows that in Exeter in 2022 the fraction of mortality attributable to particulate air pollution was 3.1%. This is below the regional figure for the south west (4.6%) and the national level of 5.8%. Exeter therefore has levels of particulate matter which are causing harm, but this problem is less severe than in the majority of the country. The data is available at this link. The modelling on which this is based suggests that average $PM_{2.5}$ concentrations in Exeter in 2021 (the latest year for which data is available) were 6.6 $\mu g/m^3$. This is below the south west level of 6.8 and the national figure of 7.4 $\mu g/m^3$.

The Annual Status Report also summarises the results of particulate pollution measurements (PM_{10} and $PM_{2.5}$). No areas in the city are thought to exceed the current objectives for this type of air pollution.

The annual average EU limit value for $PM_{2.5}$ is 25 $\mu g/m^3$ and there is no suggestion that this level is being exceeded in Exeter. The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 introduce a target for national government of 10 µg/m³ as an annual mean, to be achieved by 2040. Plans to achieve this will be brought forward by DEFRA on behalf of HM Government. The Regulations also introduce a population exposure reduction target for national government; that there is at least a 35% reduction in population exposure by the end of 31st December 2040, as compared with the average population exposure in the three-year period from 1st January 2016 to 31st December 2018.

There were no measured exceedences of the PM_{10} air quality objectives in Exeter in 2023. Annual average concentrations rose slightly in 2023 compared to the previous four years. The longer-term trend in annual concentrations is a decline since 2005 or 2006. The data will be monitored over the coming years to identify whether this recent increase is part of

an emerging trend or caused by expected inter-annual variability as a result of weather patterns etc.

Actions to Improve Air Quality

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

The Environmental Improvement Plan[3] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter ($PM_{2.5}$), the pollutant of most harmful to human health. The Air Quality Strategy[4] provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero[5] details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Exeter City Council has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Further details are provided later in the report but key completed measures include:

1. Exeter City Council has continued to implement its Physical Activity Strategy. The strategy focusses on getting the least active members of the community moving more (including active travel) with a key focus being to normalise and increase active travel in everyday life. It also prioritises development projects for the Wonford Health & Wellbeing Centre to include a cycling hub on Exeter's Green Circle and family activity trails around the Ludwell valley. It will also implement walking / cycling improvements as part of Newtown Neighbourhood enhancements,

---

[3] Defra. Environmental Improvement Plan 2023, January 2023

[4] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

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

strengthening active travel connections with city centre and rest of the cycle network.

2. The Sport England Local Delivery Pilot team has developed and tested the governance and application structure for communities to be able to implement localised, regular closures of roads within their neighbourhoods. For specific periods this will provide sections of roads where the priority will be given to activity (play) rather than travel. The SELDP team was also involved in the school streets projects discussed below.

3. The large solar array with battery storage at Water Lane installed by Exeter City Council is operational. It powers the first three of an intended fleet of electric refuse collection vehicles.

4. Scrutiny of planning applications for air quality impacts has continued, including making objections to developments on air quality grounds where this is justified and the negotiation of mitigation in accordance with Council and national planning policy.

5. From 1st Jan 2020 adopted policy required the Hackney carriage fleet to be 50% Euro 6 wheelchair accessible vehicles and 50% ULEV saloon cars with a stated emission level of 75g km CO_2 or below. This policy continues to be implemented.

6. A reduction in NOx emissions from buildings as a result of a variety of measures intended primarily to address fuel poverty and carbon emissions. These include building the next phase of PassivHaus standard homes by Exeter City Council, completion of an Extra Care facility and a leisure centre and swimming pool both meeting the PassivHaus standard and continued implementation of district heating schemes to provide heating and hot water to 2800 homes at Monkerton, Tithebarn, Mosshayne, Pinn Court, Park Farm, and Exeter Science Park. The Council is also working with number of other city public sector partners to create a new District Heat Network across the city centre.

7. A new city centre bus station has been delivered providing improved facilities for public transport users in the city.

8. The City Council were partners with Devon County Council and Co Delivery in a scheme which secured an £80,000 grant from the Department for Transport Energy Saving Trust to expand the capabilities of e-cargo bikes for business travel. Nine electric cargo bikes were secured for use within the partner organisations, Devon

County Council, Exeter City Council, University of Exeter and Royal Devon & Exeter NHS Foundation Trust (RD&E). These are now operational including at the City Council where three bikes are used to replace vehicle trips. This pilot project seeks to encourage the transition to carbon neutral modes of business travel.

9. Devon County Council continues to implement the 2020 Transport Strategy. This has three themes: Greater Connectivity, Greater Places for People and Greater Innovation. Key targets within the strategy include:

    - 50% of trips by foot or cycle within the city;

    - Removal of air quality exceedances in the city.

10. Devon County Council have adopted their Exeter Local Cycling and Walking Infrastructure Plan in January 2024

11. DCC have continued their Travel Planning service provided to new residential developments.

12. A new station opened at Marsh Barton in July 2023, and provides easy rail access to Marsh Barton (Exeter's largest industrial estate) as well as Exeter Canal/ Riverside Valley Park and it is the closest station to the new developments in South West Exeter. It is located on the line between Paignton and Exmouth, with half-hourly services at peak times.

13. The Okehampton railway line has reopened to hourly services on a daily basis. This provides a valuable alternative to car travel for people coming into the city from the area north of Dartmoor and increased service frequency from Crediton. Design work is underway to deliver the Okehampton Interchange, which is a 'Parkway style' station, funded through DfT Levelling Up Funds. It will serve the wider rural catchment of west Devon, Torridge and north Cornwall.

14. Pop up measures to facilitate social distancing and active travel were introduced in 2020. The changes included the introduction of a new 5km cross city route (E9 Newcourt/Pynes Hill to City centre), supplemented with new crossings (eg at Russell Way). Some of these pop-up measures have since been made permanent, such as the road closures and modal filters on Ludwell Lane, Dryden Road, Wonford Road and Magdalen Road. Devon County Council have also introduced modal filters on the E3 route which include Homefield Road and Chard Road.

15. Circa 700m of segregated cycle route on Rifford Road has been approved, which forms part of E12 ('north-south') route and would link the Sweetbrier Lane section

through the Wonford area with options to connect into the E9 route or beyond towards the valley park / Exe Estuary. Construction work will commence in 2024 for completion in early 2025.

16. Permament school streets have been introduced at Whipton Barton School and Ladysmith School. The school streets are community led schemes that restrict traffic outside schools at pick up / drop off times to create a calmer, safer, and more pleasant environment, for families and children to walk, wheel or cycle to school.

17. A series of Modal Filters to form a Low Traffic Neighbourhood were introduced in the Heavitree area on a trial basis in August 2023. In June 2024, the Exeter Highways and Traffic Order Committee agreed to suspend the Experimental Traffic order associated with the trial.

18. A new Park and Change site at the Science Park has been opened. It is currently being used as a Park and Ride for the Nightingale Hospital.

19. Improved 'green lane' cycle linkages from 'urban fringe settlements' into the Exeter cycle network including from Woodbury (connecting to Exe Estuary Trail), from Cranbrook and the Science Park via Langaton Lane and from Ide via Balls Farm Road.

20. The reallocation of road space on Queen Street has been made permanent, delivering widened pedestrian areas and removing northbound vehicular traffic except for buses and cycles. The changes help remove dominance of vehicles from the city centre streets and create a more attractive environment for active travel.

21. Bus patronage has recovered to some extent from the effect of Covid 19 lockdowns. Devon County Council have obtained funding (over 3 years) for its Bus Service Improvement Plan across the County. This includes plans for improving bus priority four key Exeter corridors (the Eastern, Central, Western and Northern corridors). Proposals include improving bus priority using technology, bus lane operation time changes, and physical infrastructure improvements. They have also been successful in a joint bid with Stagecoach to provide electric ('Zebra') buses on routes 4, A, and the Green Park and Ride.

22. Pinhoe Station interchange has been delivered, with a shuttle bus alongside bike lockers, electric vehicle chargers and a new car park to provide an integrated rail hub, linking passengers arriving at Pinhoe to the Science Park, SkyPark, Exeter Gateway logistics park and Exeter Airport.

Exeter City worked to implement these measures in partnership with the following stakeholders during 2023:

- Neighbouring authorities

- Devon County Council (Highways and Public Health)

- Sport England

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

- DEFRA grant funding has been obtained for a project to develop a model of pollution concentrations in the Heavitree corridor which will provide better spatial and temporal resolution than the current monitoring. This will be overlaid with health information, enabling more informed choices by the travelling public. Work on the project is progressing according to the project plan, with the air quality sensors installed just before the end of the 2023 reporting year. Further information on the project is available at this link.

- Further refinement of the net zero plan for Exeter. Executive & Council have agreed for the City Council to take on the leadership role for city wide net zero. A programme manager will be recruited in 2024. This new role will support businesses / communities / residents to reduce their carbon emissions.

- Implementation of the Transport Strategy and LCWIP by DCC, in conjunction with the Active and Healthy People Programme team.

- Sport England Project work will continue; including on the Wonford Health and Wellbeing Centre, Newtown active neighbourhood, enabling road closures for play streets and community events, community builders and social prescribing.

- Work to enable the delivery of a Water Lane low traffic neighbourhood through redevelopment of brownfield land.

- All new vehicles entering the Council's fleet are likely to be electric (unless there is no availability of vehicles meeting the specific operational requirements on the market).

- DCC will continue to monitor traffic within the Heavitree and Whipton area following the Heavitree and Whipton Active Streets Trial filtered permeability project.

- Further improvements will take place to cycle routes. In addition to constructing the bi-directional route along Rifford Road, further design work is underway to link this to Burnthouse Lane/ Dryden Road and two crossings are being designed to join the route to other existing cycle infrastructure along the E12 route. This will make it safer and easier to travel by bike.

- £14m of funding (over 3yrs) has been received by Devon County Council for its Bus Service Improvement Plan across the County. Additional funding will deliver a fleet of electric buses to operate on the 4, A and Green Park &Ride routes.

- The Council have received a grant to replace gas boilers with heat pumps at the RAMM and the Riverside leisure centre in a two year project to be completed by April 2025. This will reduce NOx emissions from the old boilers.

- 2024 car park charges are set to increase by 5%, with implementation in October 2024. Mary Arches surface and MSCP are expected to be sold during 2024, so total parking provision in the city centre will reduce. As part of the work to deliver the Exeter Plan, a number of other city car parks are likely to be repurposed, to allow for housing to be built on brown field land. Work on these plans will continue in 2024.

The principal challenges and barriers to implementation that Exeter City Council anticipates facing are further funding constraints within Local Government and available officer time. There are also challenges in achieving behavioural change, balancing the needs of all groups and allowing local communities to take ownership of initiatives. The Active Streets scheme in Heavitree and Whipton was trialled for over 9 months. The results of that show a significant level of opposition to the trial. Whilst there have been some positives, the trial has been suspended by Devon County Council due to the adverse impacts that have been identified for those people with protected characteristics.

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

- Changes to the proposed planning policy framework because the Greater Exeter Strategic (GESP) Plan is no longer being progressed. The Exeter Plan will shape the future of Exeter for the next 20 years, to 2040, and will be the basis for how the

city continues to evolve and meet the needs of the community. The Exeter Plan is the new name for the Local Plan. It will be the main planning document for Exeter, setting out where development should take place and providing the policies which will be used in making decisions on planning applications.

- Bus patronage has not fully recovered to pre pandemic levels. There was already a downward trend prior to Covid because this was accelerated by lockdowns. The future of public transport and the measures needed to encourage passengers back safely will be considered in 2024 and beyond in Devon County Council's Bus Service Improvement Plan.

- The company delivering the car club and co-bikes schemes has gone into administration. Devon County Council are currently looking to procure an alternative provider.

Conclusions and Priorities

Nitrogen dioxide levels in Exeter in 2023 were generally similar to those in 2022, below those measured in 2021 and well below pre-pandemic concentrations. There is now sufficient data to be confident that only one location remains above the objective (East Wonford Hill). It is proposed to reduce the AQMA boundary as described in Appendix F so that it only includes the area of exceedance and allows a new, focussed Action Plan to be produced. A timetable for these changes is shown above.

No areas in the city are thought to exceed the objectives for particulate air pollution. Measured $PM_{2.5}$ concentrations are below the current objective level and PM_{10} concentrations have shown a general decline since 2006.

As well as the changes to the AQMA and AQAP, the priorities and challenges for 2024 are:

- To implement the DEFRA Air Quality Grant project
- To support the delivery of the Physical Activity Strategy, Transport Strategy, Local Cycling and Walking Implementation Plan (LCWIP)
- To deliver robust planning policy

- To continue to support DCC in reviewing the impact of the experimental traffic orders in the Heavitree area.

- In the interim period between the expiry of the current plan and the publication of a new plan, Exeter City Council will continue to take the actions listed in Table 2.2, with partners, to improve air quality. If it appears that additional measures are likely to be required, these will be described fully in the next Annual Status Report.

These will be delivered in the face of challenging and uncertain conditions within Local Government.

Local Engagement and How to get Involved

Local air pollution currently has a high profile within the city. For example nearly 3000 people were involved in the consultation on the current AQAP and Devon County Council have committed in their Transportation Strategy to resolve exceedances of the objective.

The Wellbeing Exeter Community Builders are actively engaging with local communities to increase active travel, social inclusion, improve the public realm for walking and cycling and to benefit air quality.

Further enquiries about pollution levels and actions to improve air quality should be made to environmental.health@exeter.gov.uk.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health & Community Safety Department of Exeter City Council with the support and agreement of the following officers and departments:

Exeter City Council - City Development

Exeter City Council – Active and Healthy People Programme

Devon County Council - Highways

This ASR has been approved by:

Service Lead (Environmental Health & Community Safety). Once the report has been checked by DEFRA it will be presented to members at committee.

This ASR has been signed off by the Devon County Council Director of Public Health, who commented, "…we welcome the continued measures to improve air quality and population exposure, with cobenefits for the environment, and health, including in relation to increased activity through active travel, and other initiatives."

If you have any comments on this ASR please send them for the attention of Alex Bulleid:

Exeter City Council

Environmental Health and Community Safety

Civic Centre

Paris Street

Exeter

EX1 1 RQ

01392 265147

Table of Contents

Figures

Tables

1   Local Air Quality Management

This report provides an overview of air quality in Exeter during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

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

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained, and provide dates by which measures will be carried out.

A summary of AQMAs declared by Exeter City Council can be found in Table 2.1. The table presents a description of the one AQMA that is currently designated within Exeter. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objectives pertinent to the current AQMA designation are as follows:

- NO_2 annual mean;

- NO_2 hourly mean.

We propose to amend the Exeter AQMA to significantly reduce the area included and to remove the NO_2 hourly mean objective which is no longer exceeded within Exeter. Full details are available in Appendix F.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
Exeter AQMA 1	Declared 2007, Amended 2011	NO2 Annual Mean	An area encompassing the radial routes into the city and other major routes.	NO	70 µg/m3	40.5	N/A	Exeter AQAP 2019-2024	www.exeter.gov.uk/airpollution
Exeter AQMA 1	Declared 2007, Amended 2011	NO2 1 Hour Mean	An area encompassing the radial routes into the city and other major routes.	NO	65 µg/m3	N/A	5 years	Exeter AQAP 2019-2024	www.exeter.gov.uk/airpollution

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

☒ **Exeter City Council confirm that all current AQAPs have been submitted to Defra.**

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

Defra's appraisal of last year's ASR concluded "The report is well structured, detailed, and provides the information specified in the Guidance".

Exeter City Council has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Seventeen measures are included within Table 2.2, with the type of measure and the progress Exeter City Council have made during the reporting year of 2023 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in Air Quality Action Plan, Physical Activity Strategy, Local Walking and Cycling Infrastructure Plan and Transportation Strategy. Key completed measures are:

1. Exeter City Council has continued to implement its Physical Activity Strategy. The strategy focusses on getting the least active members of the community moving more (including active travel) with a key focus being to normalise and increase active travel in everyday life. It also prioritises development projects for the Wonford Health & Wellbeing Centre to include a cycling hub on Exeter's Green Circle and family activity trails around the Ludwell valley. It will also implement walking / cycling improvements as part of Newtown Neighbourhood enhancements, strengthening active travel connections with city centre and rest of the cycle network.

2. The Sport England Local Delivery Pilot team has developed and tested the governance and application structure for communities to be able to implement localised, regular closures of roads within their neighbourhoods. For specific periods this will provide sections of roads where the priority will be given to activity (play) rather than travel. The SELDP team was also involved in the school streets projects discussed below.

3. The large solar array with battery storage at Water Lane installed by Exeter City Council is operational. It powers the first three of an intended fleet of electric refuse collection vehicles.

4. Scrutiny of planning applications for air quality impacts has continued, including making objections to developments on air quality grounds where this is justified and the negotiation of mitigation in accordance with Council and national planning policy.

5. From 1st Jan 2020 adopted policy required the Hackney carriage fleet to be 50% Euro 6 wheelchair accessible vehicles and 50% ULEV saloon cars with a stated emission level of 75g km CO_2 or below. This policy continues to be implemented.

6. A reduction in NOx emissions from buildings as a result of a variety of measures intended primarily to address fuel poverty and carbon emissions. These include building the next phase of PassivHaus standard homes by Exeter City Council, completion of an Extra Care facility and a leisure centre and swimming pool both meeting the PassivHaus standard and continued implementation of district heating schemes to provide heating and hot water to 2800 homes at Monkerton, Tithebarn, Mosshayne, Pinn Court, Park Farm, and Exeter Science Park. The Council is also working with number of other city public sector partners to create a new District Heat Network across the city centre.

7. A new city centre bus station has been delivered providing improved facilities for public transport users in the city.

8. The City Council were partners with Devon County Council and Co Delivery in a scheme which secured an £80,000 grant from the Department for Transport Energy Saving Trust to expand the capabilities of e-cargo bikes for business travel. Nine electric cargo bikes were secured for use within the partner organisations, Devon County Council, Exeter City Council, University of Exeter and Royal Devon & Exeter NHS Foundation Trust (RD&E). These are now operational including at the City Council where three bikes are used to replace vehicle trips. This pilot project seeks to encourage the transition to carbon neutral modes of business travel.

9. Devon County Council continues to implement the 2020 Transport Strategy. This has three themes: Greater Connectivity, Greater Places for People and Greater Innovation. Key targets within the strategy include:

   - 50% of trips by foot or cycle within the city;

   - Removal of air quality exceedances in the city.

10. Devon County Council have adopted their Exeter Local Cycling and Walking Infrastructure Plan in January 2024

11. DCC have continued their Travel Planning service provided to new residential developments.

12. A new station opened at Marsh Barton in July 2023, and provides easy rail access to Marsh Barton (Exeter's largest industrial estate) as well as Exeter Canal/ Riverside Valley Park and it is the closest station to the new developments in South West Exeter. It is located on the line between Paignton and Exmouth, with half-hourly services at peak times.

13. The Okehampton railway line has reopened to hourly services on a daily basis. This provides a valuable alternative to car travel for people coming into the city from the area north of Dartmoor and increased service frequency from Crediton. Design work is underway to deliver the Okehampton Interchange, which is a 'Parkway style' station, funded through DfT Levelling Up Funds. It will serve the wider rural catchment of west Devon, Torridge and north Cornwall.

14. Pop up measures to facilitate social distancing and active travel were introduced in 2020. The changes included the introduction of a new 5km cross city route (E9 Newcourt/Pynes Hill to City centre), supplemented with new crossings (eg at Russell Way). Some of these pop-up measures have since been made permanent, such as the road closures and modal filters on Ludwell Lane, Dryden Road, Wonford Road and Magdalen Road. Devon County Council have also introduced modal filters on the E3 route which include Homefield Road and Chard Road.

15. Circa 700m of segregated cycle route on Rifford Road has been approved, which forms part of E12 ('north-south') route and would link the Sweetbrier Lane section through the Wonford area with options to connect into the E9 route or beyond towards the valley park / Exe Estuary. Construction work will commence in 2024 for completion in early 2025.

16. Permament school streets have been introduced at Whipton Barton School and Ladysmith School. The school streets are community led schemes that restrict traffic outside schools at pick up / drop off times to create a calmer, safer, and more pleasant environment, for families and children to walk, wheel or cycle to school.

17. A series of Modal Filters to form a Low Traffic Neighbourhood were introduced in the Heavitree area on a trial basis in August 2023. In June 2024, the Exeter Highways and Traffic Order Committee agreed to suspend the Experimental Traffic order associated with the trial.

18. A new Park and Change site at the Science Park has been opened. It is currently being used as a Park and Ride for the Nightingale Hospital.

19. Improved 'green lane' cycle linkages from 'urban fringe settlements' into the Exeter cycle network including from Woodbury (connecting to Exe Estuary Trail), from Cranbrook and the Science Park via Langaton Lane and from Ide via Balls Farm Road.

20. The reallocation of road space on Queen Street has been made permanent, delivering widened pedestrian areas and removing northbound vehicular traffic except for buses and cycles. The changes help remove dominance of vehicles from the city centre streets and create a more attractive environment for active travel.

21. Bus patronage has recovered to some extent from the effect of Covid 19 lockdowns. Devon County Council have obtained funding (over 3 years) for its Bus Service Improvement Plan across the County. This includes plans for improving bus priority four key Exeter corridors (the Eastern, Central, Western and Northern corridors). Proposals include improving bus priority using technology, bus lane operation time changes, and physical infrastructure improvements. They have also been successful in a joint bid with Stagecoach to provide electric ('Zebra') buses on routes 4, A, and the Green Park and Ride.

22. Pinhoe Station interchange has been delivered, with a shuttle bus alongside bike lockers, electric vehicle chargers and a new car park to provide an integrated rail hub, linking passengers arriving at Pinhoe to the Science Park, SkyPark, Exeter Gateway logistics park and Exeter Airport.

Exeter City worked to implement these measures in partnership with the following stakeholders during 2023:

- Neighbouring authorities

- Devon County Council

- Sport England

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

- Changes to the proposed planning policy framework because the Greater Exeter Strategic (GESP) Plan is no longer being progressed. The Exeter Plan will shape

the future of Exeter for the next 20 years, to 2040, and will be the basis for how the city continues to evolve and meet the needs of the community. The Exeter Plan is the new name for the Local Plan. It will be the main planning document for Exeter, setting out where development should take place and providing the policies which will be used in making decisions on planning applications.

- Bus patronage has not fully recovered to pre pandemic levels. There was already a downward trend prior to Covid because this was accelerated by lockdowns. The future of public transport and the measures needed to encourage passengers back safely will be considered in 2024 and beyond in Devon County Council's Bus Service Improvement Plan.

- The company delivering the car club and co-bikes schemes has gone into administration. Devon County Council is reviewing the options to re-procure these services.

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

- DEFRA grant funding has been obtained for a project to develop a model of pollution concentrations in the Heavitree corridor which will provide better spatial and temporal resolution than the current monitoring. This will be overlaid with health information, enabling more informed choices by the travelling public. Work on the project is progressing according to the project plan, with the air quality sensors installed just before the end of the 2023 reporting year. Further information on the project is available at this link.

- Further refinement of the net zero plan for Exeter. Executive & Council have agreed for the City Council to take on the leadership role for city wide net zero. A programme manager will be recruited in 2024. This new role will support businesses / communities / residents to reduce their carbon emissions.

- Implementation of the Transport Strategy and LCWIP by DCC, in conjunction with the Active and Healthy People Programme team.

- Sport England Project work will continue; including on the Wonford Health and Wellbeing Centre, Newtown active neighbourhood, enabling road closures for play streets and community events, community builders and social prescribing.

- Work to enable the delivery of a Water Lane low traffic neighbourhood through redevelopment of brownfield land.

- All new vehicles entering the Council's fleet are likely to be electric (unless there is no availability of vehicles meeting the specific operational requirements on the market).

- DCC will continue to monitor traffic within the Heavitree and Whipton area following the Heavitree and Whipton Active Streets Trial filtered permeability project.

- Further improvements will take place to cycle routes. In addition to constructing the bi-directional route along Rifford Road, further design work is underway to link this to Burnthouse Lane/ Dryden Road and two crossings are being designed to join the route to other existing cycle infrastructure along the E12 route. This will make it safer and easier to travel by bike.

- £14m of funding (over 3yrs) has been received by Devon County Council for its Bus Service Improvement Plan across the County. Additional funding will deliver a fleet of electric buses to operate on the 4, A and Green Park &Ride routes.

- The Council have received a grant to replace gas boilers with heat pumps at the RAMM and the Riverside leisure centre in a two year project to be completed by April 2025. This will reduce NOx emissions from the old boilers.

- 2024 car park charges are set to increase by 5%, with implementation in October 2024. Mary Arches surface and MSCP are expected to be sold during 2024, so total parking provision in the city centre will reduce. As part of the work to deliver the Exeter Plan, a number of other city car parks are likely to be repurposed, to allow for housing to be built on brown field land. Work on these plans will continue in 2024.

Exeter City Council's priorities for the coming year are:

- To implement the DEFRA Air Quality Grant project
- To support the delivery of the Physical Activity Strategy, Transport Strategy, Local Cycling and Walking Implementation Plan (LCWIP)
- To deliver robust planning policy
- To continue to support DCC in reviewing the impact of the experimental traffic orders in the Heavitree area.

Exeter City Council's NO_2 monitoring data shows that during the period of the current AQAP concentrations have fallen significantly, such that only one small area now exceeds the relevant objective. A timetable is proposed in this report for the amendment of a new, smaller AQMA boundary and the publication of an AQAP for the new area. In the interim period between the expiry of the current plan and the publication of a new plan, Exeter City Council will continue to take action, with partners, to improve air quality (including the measures listed in this document). These will be described in the next Annual Status Report, with an update on progress. If it appears that additional measures are likely to be required, these will be described fully in the next Annual Status Report.

The principal challenges and barriers to implementation that Exeter City Council anticipates facing are further funding constraints within Local Government and available officer time. There are also challenges in achieving behavioural change, balancing the needs of all groups and allowing local communities to take ownership of initiatives. The Active Streets scheme in Heavitree and Whipton was trialled for over 9 months. The results of that show a significant level of opposition to the trial. Whilst there have been some positives, the trial has been suspended by Devon County Council due to the adverse impacts that have been identified for those people with protected characteristics.

In summary, the measures stated above and in Table 2.2 will help to contribute towards compliance. Exeter City Council will identify whether further additional measures not yet prescribed will be required in subsequent years to achieve compliance and discus these in the next Annual Status Report prior to publication of a new AQAP.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1 (green measure)	Filtered permeability projects to be considered for the city with an initial focus on the Heavitree corridor area and including a feasibility study for corridor improvements	Policy Guidance and Development Control	Other policy	2019	2024	DCC via Transport Strategy and Exeter City Futures, Sport England Local Delivery Pilot	SELDP, DCC, Developer Contributions, Grant Funding where available and ECC	NO	Partially Funded	£50k - £100k	Implementation	The target for design of permanent changes to the Heavitree corridor area will be to eliminate exceedences. Details will be finalised as the design emerges, but it is currently expected that a reduction in emissions of between 39 and 78% will be required	Implementation of scheme(s)	Pop up measures introduced in 2020, including a new 5km cross city route (E9 Newcourt/Pynes Hill to City centre) have been made permanent with road closures and modal filters on Ludwell Lane, Dryden Road, Wonford Road and Magdalen Road. School streets introduced at Whipton Barton School and Ladysmith School. Heavitree and Whipton Active Streets Trial commenced September 2023. HATOC members decided to suspend the trial in June 2024. A wider package of measures, including play streets is being developed by the Sport England team.	Plans need community ownership to be successful

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
2 (amber measure)	Consider access restrictions which will reduce the dominance of private cars, including in the city centre	Policy Guidance and Development Control	Other policy	2019	2024	DCC via Transport Strategy and Exeter City Futures	DCC, grant funding as available and developer contributions	NO	Partially Funded	£100k - £500k	Planning	4% reduction in emissions at East Wonford Hill (shared across all measures which will in combination achieve the targeted reduction in private car commutes)	Implementation of scheme(s)	Traffic reduction scheme for Bartholomew Street West, one way system for Queen Street (allowing for the footway to be widened). Roadside interviews in the city centre undertaken to inform a city centre traffic strategy. Liveable Exeter vision for the city published, which includes development on car parks, and a reduction in road space for cars. Quay to City route improvements made (Quay Hill two way cycling allowed, a plant box introduced at Commercial Road to prevent cars blocking walking and cycling access and a contra-flow cycle lane provided at West Street). Local Walking and Cycling Implementation Plan adopted January 2024.	Consultation and obtaining relevant permissions, consents and traffic orders as well as bringing together necessary funding.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
3 (amber measure)	New transport links and Park & Change facilities to make it easier for those living outside the city to choose active and sustainable travel modes	Transport Planning and Infrastructure	Other	2019	Ongoing Programme	DCC via Transport Strategy	DCC, grant funding as available and developer contributions	NO	Partially Funded	£100k - £500k	Implementation	4% reduction in emissions at East Wonford Hill (shared across all measures which will in combination achieve the targeted reduction in private car commutes)	Implementation of schemes	Pinhoe and Science Park Park and Change sites delivered. Okehampton line reopened for hourly, daily travel and new station delivered at Marsh Barton. Improved walking and cycling infrastructure delivered on Rydon Lane connecting Woodbury to the Exe Estuary Trail. Further consultation held to close the lane to motorised traffic. Modal filter on Langaton Lane constructed, delivering quiet lane link between Pinhoe area, Exeter Science Park and wider East Devon strategic employment sites. Balls Farm Road modal filter near Alphington constructed to improve quiet lane linkages between Ide and Exeter. Plans being developed for improving bus priority to reduce journey times and improve reliability. Funding obtained for electric buses on routes 4, A and Green P&R.	Consultation and obtaining relevant permissions, consents and traffic orders as well as bringing together necessary funding

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
4 (yellow measure)	Changes to parking charges to discourage car travel in peak times, encourage longer stays in the city centre and support other measures in this plan, such as active travel	Traffic Management	Other	2019	2024	ECC via Local Plan	ECC	NO	Not Funded	£100k - £500k	Planning	<1% reduction in emissions. This measure is expected to have an indirect effect on emissions, such that it is not possible to reliably quantify the impact of this measure alone.	Implementation of changes	Parking charges across Exeter are designed to balance the need for parking against the harm that private car travel into the city centre can cause, especially at peak times.	The need to balance action against any real or perceived impact on local businesses.
5	Maximise efficiency of existing highway network	Transport Planning and Infrastructure	Other	2019	2024	DCC via Transport Strategy and Exeter City Futures	DCC, ECC, grant funding as available and developer contributions	NO	Partially Funded	£500k - £1 million	Planning	TBC, based on predicted changes to traffic parameters provided by DCC as plans for specific locations emerge and are consulted upon	Implementation of scheme(s)	In planning phase	Consultation and obtaining relevant permissions, consents and traffic orders as well as bringing together necessary funding
6 (amber measure)	Access Fund and cycle/walking network, Local Walking and Cycling Infrastructure Plan (LCWIP)	Transport Planning and Infrastructure	Other	2019	2024	DCC via Transport Strategy	Access Fund	NO	Partially Funded	£1 million - £10 million	Planning	4% reduction in emissions at East Wonford Hill (shared across all measures which will in combination achieve the targeted reduction in private car commutes)	Adoption of LCWIP	Modal filters introduced under emergency active travel fund made permanent to deliver sections of the E9 route between Pynes Hill and City centre via the RD&E. E12 route on Rifford Road under construction. Bi-directional route on Sweetbrier Lane delivered. The LCWIP was adopted in January 2024	Consultation and obtaining relevant permissions, consents and traffic orders as well as bringing together necessary funding

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
7 (amber measure)	Expand school and community projects, car free events and events promoting active travel, building on the success of the Heavitree pilot	Promoting Travel Alternatives	Other	2019	2024	ECC via Sport England Local Delivery Pilot & Exeter City Futures	Sport England funding	NO	Partially Funded	£50k - £100k	Implementation	4% reduction in emissions at East Wonford Hill (shared across all measures which will in combination achieve the targeted reduction in private car commutes)	School Streets introduced	Trials at three primary schools in 2020, two made permanent (Whipton Barton and Ladysmith). Community Builders and new SELDP local Physical Activity Organisers delivered play street 'non car events'	Plans will be developed in individual areas with local communities.
8 (amber measure)	Use social prescribing and community building to help individuals get and stay active	Public Information	Other	2019	2024	ECC via Sport England Local Delivery Pilot and local Health Service providers	Sport England funding	NO	Partially Funded	£100k - £500k	Implementation	4% reduction in emissions at East Wonford Hill (shared across all measures which will in combination achieve the targeted reduction in private car commutes)	Implementation of scheme	Behaviour change training delivered for all Community Builders and Community Connectors to provide support to people to lead active lifestyles. New social prescribing posts recruited to support health & wellbeing of Children and Young Families.	
9 (amber measure)	High quality parks, play areas, sport and leisure facilities	Promoting Travel Alternatives	Other	2019	2024	ECC via Physical Activity Strategy, Sport England Local Delivery Pilot & Local Plan	Sport England funding	NO	Partially Funded	£50k - £100k	Planning	4% reduction in emissions at East Wonford Hill (shared across all measures which will in combination achieve the targeted reduction in private car commutes)	Implementation of scheme(s)	Physical Activity Strategy published and flagship programmes in development - Wonford Health & Wellbeing Centre to be delivered first. Focus on sites becoming more accessible for sustainable transport and increased active travel infrastructure	Obtaining necessary permissions and consents, and funding

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
10 (yellow measure)	Communications plan, to support measures that will achieve modal shift	Public Information	Other	2019	2024	ECC via Sport England Local Delivery Pilot & Exeter City Futures	ECC via existing internal budgets, Sport England Local Delivery Pilot & Exeter City Futures	YES	Partially Funded	£10k - 50k	Implementation	<1% reduction in emissions. The purpose of this measure is to enable the Council to explain why it is taking action. The measure itself is unlikely to have significant impact on its own.	Completion of DEFRA grant project for Heavitree area	DEFRA grant funding obtained for project to develop air quality information and communications specific to the Heavitree area. Communications strategy developed through SELDP - 'Let's Move'. Focus on small steps for 'least active' residents and communities to move more in their local neighbourhoods. Walking & Cycling central to this communications strategy	
11 (yellow measure)	Promote and expand Co-Bikes network, and support the roll out of electric car club vehicles to more locations	Promoting Travel Alternatives	Other	2019	2024	DCC, ECC via Transport Strategy, Sport England Local Delivery Pilot & Exeter City Futures	Ongoing programme, dependent on funding availability	NO	Partially Funded	£100k - £500k	Implementation	<1% reduction in emissions. This measure will have indirect benefits for air quality by facilitating active travel and supporting a change in car ownership patterns. It is not possible to reliably model the impact of this measure alone on emissions	Implementation of expansions to schemes, as funding is obtained	A substantial network of bikes and cars was created	Devon County Council considering the procurement of a new provider

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
12 (amber measure)	An improved multi-modal public transport network, incorporating cleaner bus technologies	Transport Planning and Infrastructure	Other	2019	2024	DCC via GESP, Transport Strategy and Exeter City Futures	TBC	NO	Partially Funded	> £10 million	Planning	4% reduction in emissions at East Wonford Hill (shared across all measures which will in combination achieve the targeted reduction in private car commutes). As an example, 33% bus electrification would achieve 5% fall in emissions at East Wonford Hill and 66% electrification would achieve 10% reduction.	Implementation of agreed plans	14 Euro 6 busses have entered the fleet and significant new additions to the city's bus network. Devon County Council's Bus Service Improvement Plan will deliver improved services and access across the County. Funding obtained for electric buses on routes 4, A and Green Park and Ride	Dependent on funding availability and future demand for public transport.
13	Developers to mitigate the effects of their development on air quality	Policy Guidance and Development Control	Other policy	2019	2024	ECC via the Exeter Plan	Within existing ECC resources	NO	Funded	£50k - £100k	Planning	The purpose of this measure is to limit the impact of new development. It is not intended to reduce emissions on the current baseline (although some reduction may be achieved as a result in practice)	Developments delivered	Until the Exeter Plan is published, officers will be implementing current policy in a robust manner eg when considering retail park applications and new housing.	The AQAP originally envisaged that this would be delivered by the GESP. However the GESP is no longer being progressed. Instead, the Exeter Plan will shape the future of Exeter for the next 20 years. The Exeter Plan is the new name for the Local Plan. It will be the main planning document for Exeter, setting out where development should take place and providing the policies which will be used in making decisions on planning applications.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
14	Policies deliver development where private car use is not the only realistic travel choice	Policy Guidance and Development Control	Other policy	2019	2024	ECC via the Exeter Plan	Within existing ECC resources	NO	Funded	£50k - £100k	Planning	The purpose of this measure is to limit the impact of new development. It is not intended to reduce emissions on the current baseline (although some reduction may be achieved as a result in practice)	Developments delivered	Liveable Exeter vision for development in the city which is not reliant on car travel. Until the Exeter Plan is published, officers will be implementing current policy in a robust manner eg when considering retail park applications and new housing.	Work on the Liveable Exeter project continues alongside the Exeter Plan (this has replaced the GESP which may have resulted in some delay from when the AQAP was published). (see measure 13).
15 (yellow measure)	More things to see/do in the City Centre, encouraging longer stays and supporting events which promote sustainable travel, active and healthy lifestyles.	Policy Guidance and Development Control	Other policy	2019	2024	ECC, BID, DCC and developers	TBC once strategy adopted	NO	Partially Funded		Planning	<1% reduction in emissions. This measure will not have a significant direct impact on emissions but will support the step change in behaviour which will be required to meet the City Council's aspirations for active and healthy travel.	Completion of Strategy and then implementation	St Sidwells Point leisure centre open. South Street plan completed and awaiting funding to deliver. Consultants are reviewing City Centre Strategy	
16	Better information to raise awareness and improve the level of understanding of air pollution and transport issues within communities	Public Information	Other	2019	2024	ECC	Internal ECC budgets	YES	Partially Funded	£10k - 50k	Planning	Enable the Council to explain why it is taking action. Measure itself is unlikely to have significant impact on its own.	Completion of DEFRA grant funded project	DEFRA grant funding obtained for project to develop air quality information and communications specific to the Heavitree area. Baseline evidence report completed subject to annual review following publication of each year's measurement data and any new research, national guidance etc.	

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
17	An air pollution monitoring network that supports the measures in this action plan	Public Information	Other	2019	2024	ECC	Internal ECC budgets or grant funding if available	YES	Funded	< £10k	Implementation	This measure would not in itself deliver reductions in emissions, but would support the other measures in this plan	monitoring equipment operational	Diffusion tube monitoring network remains under review. DEFRA grant funding obtained for project to develop air quality information and communications specific to the Heavitree area which includes use of new sensor technologies.	

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[6], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter (PM$_{2.5}$)). There is clear evidence that PM$_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Public Health England's Public Health Outcomes Framework tool shows that in Exeter in 2022 the fraction of mortality attributable to particulate air pollution was 3.1%. This is below the regional figure for the south west (4.6%) and the national level of 5.8%. Exeter therefore has levels of particulate matter which are causing harm, but this problem is less severe than in the majority of the country. The data is available at this link. The modelling on which this is based suggests that average PM$_{2.5}$ concentrations in Exeter in 2021 (the latest year for which data is available) were 6.6 μg/m^3. This is below the south west level of 6.8 and the national figure of 7.4 μg/m^3.

There is now a capacity for direct monitoring of PM$_{2.5}$ in Exeter, since August 2018, at two roadside sites. This showed PM$_{2.5}$ concentrations of 13.2 μg/m^3 at RAMM and 8.8 μg/m^3 at Alphington Street in 2023. National modelling by PHE (available via the website above) suggests that for 2021 (the most recent data available), the average figure for the city as a whole was 6.6 μg/m^3. The annual average EU limit value for PM$_{2.5}$ is 25 μg/m^3 so there is no suggestion that this level is being exceeded in Exeter. The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 introduce a target for national government of 10 μg/m³ as an annual mean, to be achieved by 2040. Plans to achieve this will be brought forward by DEFRA on behalf of HM Government. The Regulations also introduce a population exposure reduction target for national government; that there is at least a 35% reduction in population exposure by the end of 31st December 2040, as compared with the average population exposure in the three-year period from 1st January 2016 to 31st December 2018.

---

[6] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

Despite these being targets for central government, Exeter City Council still has a duty to reduce emissions of and exposure to this pollutant. During 2023, Exeter City Council will be taking the measures described in Table 2.2 that will address $PM_{2.5}$ as well as NO_2.

Approximately 60% of Exeter is designated as Smoke Control Areas. Controls on solid fuel combustion appliances and fuels are likely to have restricted $PM_{2.5}$ emissions in these areas to some extent.

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

This section sets out the monitoring undertaken within 2023 by Exeter City Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2019 and 2023 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Exeter City Council undertook automatic (continuous) monitoring at 2 sites during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites. NB. Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. This page presents automatic monitoring results for Exeter, with automatic monitoring results also available through the UK-Air website.

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

3.1.2 Non-Automatic Monitoring Sites

Exeter City Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 84 sites during 2023. Table A.2 in Appendix A presents the details of the non-automatic sites.

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

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO₂)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

The national bias adjustment figure (0.81, from the March spreadsheet) has been used this year because data capture at the Exeter Roadside (CM1) continuous analyser was below 90% (this is because scaffolding for urgent, essential roof repairs at the RAMM has made the data unreliable).

The data shows that no locations measured an exceedence of the proxy for the hourly objective in 2023 (an annual average of 60µg/m³).

Only one site exceeded the objective for annual average concentrations. This was East Wonford Hill (DT57) where concentrations were slightly above the limit (40.5 µg/m³ against an objective of 40). This is within the Exeter AQMA. The general trend in the data for all the monitoring sites is a significant fall in concentrations between 2019 and 2020 with a partial rebound in 2021 and levels since then being roughly stable (see Figure A.1 and the data in Table A.4). This can be attributed to changes in traffic flows as a result of COVID-19 and new travel & working behaviours (see table 3.1) as well as ongoing improvements in vehicle emission technologies and the impact of measures in the Air Quality Action

Plan. Some inter-annual variability is also expected as a result of road works, weather patterns etc.

Table 3.1 – Traffic Flow Data (24 hour average)

Site Name	2015	2020	2023	% change from 2015 to 2020	% change from 2015 to 2023
Pinhoe Road (Whipton)	20830	16538	18,222	-21%	-13%
Heavitree Road	17507	14832	19,027	-15%	9%
Honiton Road	26832	22789	25,312	-15%	-6%
Topsham Road (King George)	26057	20702	24,705	-21%	-5%
Alphington St	28799	22012	24,588	-24%	-15%
Cowick St	14840	10913	12,106	-26%	-18%
Total	**134865**	**107786**	**123,960**	**-20%**	**-8%**

Table notes:

This table shows only average WORKDAY flows, weekend flows have been excluded. This will mean that the results cannot be compared with other published 7-day traffic flows. Similarly, this report is only assessing flows and changes at these six selected locations, if different sites were chosen, different trends could appear.

In September 2023 temporary changes were made to prohibit through traffic in the Heavitree residential area. In June 2024 the HaTOC committee voted to end the trial. This only affected part of the 2023 monitoring year reported so any changes in traffic flows or nitrogen dioxide levels as a result would not be as significant as if the change had co-incided with the calendar year. Figure 3.1 below shows 2023 concentrations plotted against those from 2022, with the monitoring locations that are close to Heavitree area labelled and coloured blue. Those distant from the Heavitree area are coloured green. This is not a formal assessment of the scheme, but there does not appear to be a different trend between the two sets of data. This suggests that no impact of the highway changes can be seen in the 2023 data set for the monitoring sites that could be expected to have been impacted. There will also be other factors which affect pollution levels on a year-to-year basis, so identifying the impact of the highway changes will never be straightforward. This will be reported on further in the next Annual Status Report in 2025.

Figure 3.1 – A Comparison of 2022 and 2023 Concentrations, with Monitoring Sites Close to Heavitree Identified
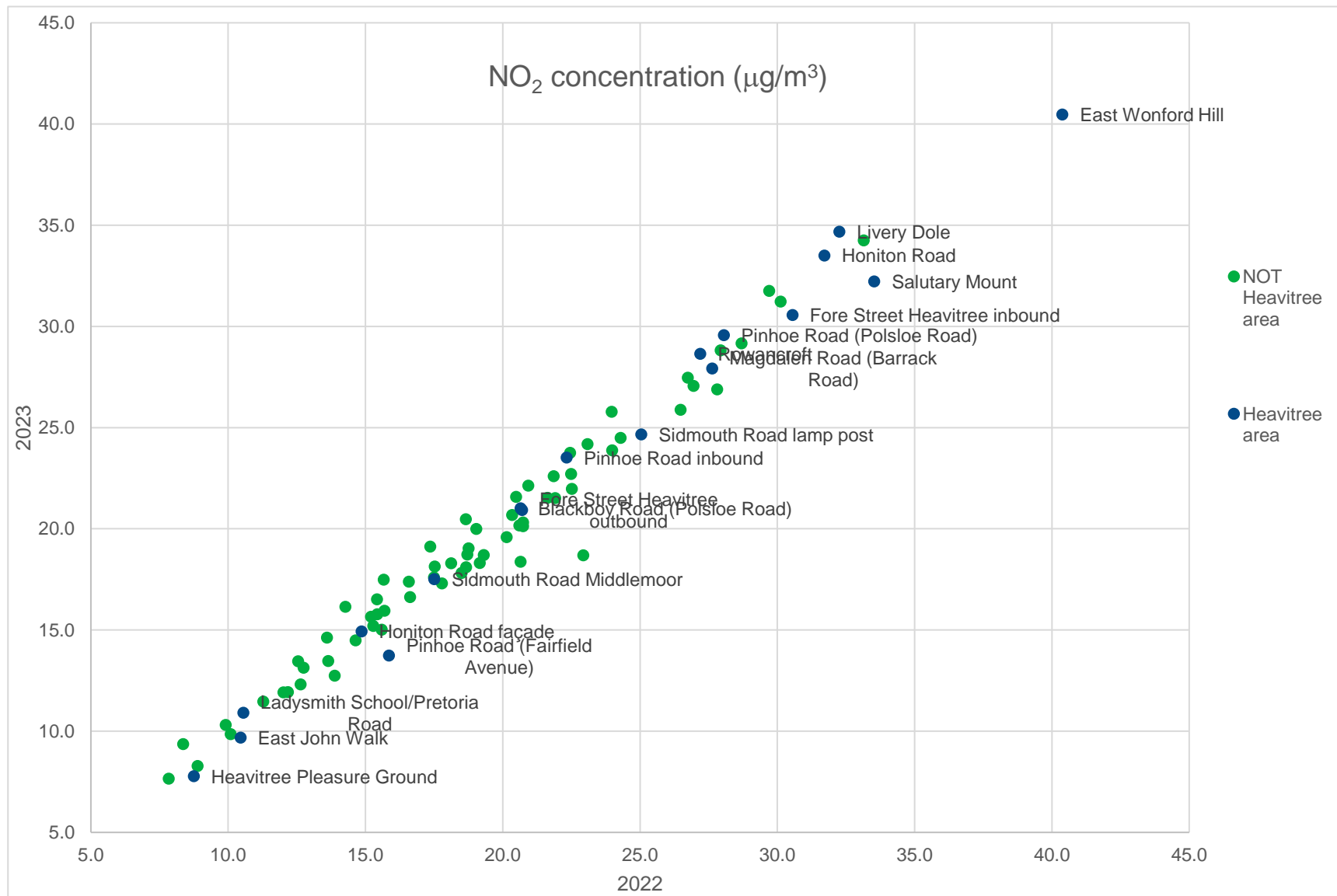
2020 was exceptional, in terms of the change in traffic flows, so the Council had no plans to amend the AQMA as a result of changes to NO_2 concentrations seen in that year. The last Annual Status Report (published in 2023) recommended that longer term trends were monitored to confirm which exceedences have indeed been permanently resolved. There will also always be natural variation between years as a result of local small changes in traffic flows (road works etc) and weather patterns which make identifying any trend difficult over short periods of time even where other factors are stable.

It seems highly likely that previous exceedences at the Blackboy Road / Pinhoe Road junction (DT42 and DT43) have been permanently resolved given that they had fallen below 40 $\mu g/m^3$ in 2018 and therefore have been below the objective for more than 5 years. Other sites (Alphington Street DT19, Livery Dole DT52, Satutary Mount DT54, Fore Street Heavitree inbound DT56 and Honiton Road DT58) were above the objective in 2019 but have not been since. This means that there have now been four years of results that are below the objective level, two of which were affected by Covid and lockdowns.

The Council intends to amend the AQMA order and AQMA boundary as a result of these results and to co-incide with the expiry of the current AQAP at the end of 2024. The proposed timetable for this process is as follows:

Date	Actions
June 2024	Submit ASR, announcing need for amendment of AQMA (with proposed new boundary) as well as timetable for consultation and publication of new AQAP
From June 2024	Start of process to consider AQAP measures
September committee (date TBC)	ASR presented to committee for approval and start of consultation period on new AQMA order
11 weeks after committee	Consultation closes, and draft AQMA order submitted to DEFRA
From January 2025	Evaluation of potential AQAP measures
By end March 2025	New AQMA order signed and 18 month deadline for AQAP issue starts
June 2025	Submit ASR with update on progress and timetable
From June 2025	Draft AQAP
September 2025 committee (date TBC)	ASR presented to committee for approval and start of 8 week consultation period on new AQAP
8-12 weeks after committee	End of consultation (dates TBC)
By end March 2026	Consideration of consultation responses and final AQAP produced
	AQAP sent to DEFRA for approval
June 2026	Submit ASR
September 2026 committee (date TBC)	ASR presented to committee for approval and adoption of AQAP

This timetable was provided to the LAQM helpdesk on 26 September 2023. Their response was 'The timetable appears to be reasonable. Please ensure this is communicated in your next ASR, so this can be considered during the appraisal process'.

Whilst it would be desirable to publish a new AQAP immediately after the expiry of the old plan at the end of 2024 this is not possible with the timetable above. The need to first review the AQMA boundary forces the production of the new AQAP to be delayed. The AQMA boundary can only be reviewed this year because there is now at least three years of data showing that many of the former areas of exceedance have been resolved. Only once the new AQMA order has been signed can work formally begin on the new AQAP. However it is anticipated that officers will start to discuss the new plan before this. Full public consultation will be undertaken as part of the production of the plan, so those affected will have the opportunity to comment on it. An Equalities Impact Assessment is included in Appendix G.

The proposed new AQMA boundary and an explanation of how this has been derived is included in Appendix F.

There were no changes to the monitoring network in 2023. The following changes have been made for the start of 2024:

- Removal of the diffusion tube on Pinn Lane. The existing site at Pinhoe Station is more representative of worst case conditions along this road, making the Pinn Lane site redundant.

- Removal of the Northernhay Gardens diffusion tube. Data capture was historically very low here and as this was located in a city centre park some distance from relevant receptors it has not been replaced.

- Addition of two diffusion tubes close to the junction of Magdalen Street, Holloway Street, South Street and Western Way. Significant development, including changes to the road layout are proposed in this area so additional monitoring would be beneficial (although it is not anticipated that any exceedences of the objective will be identified).

The Council considers that it has good coverage of all areas where exceedences might occur at a relevant location as well as any areas which might be expected to see significant traffic growth (as a result of new development etc). Monitoring is focused at expected hot spots and relevant worst-case locations. No further revision to the monitoring network is therefore currently proposed in order to identify suspected exceedences,

although regular review of the network will continue to ensure that monitoring is taking place at all areas of potential exceedance at locations of relevant exposure.

3.2.2 Particulate Matter (PM$_{10}$)

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

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

There were no measured exceedences of the PM$_{10}$ air quality objectives in Exeter in 2023. Data capture at CM1 (RAMM) was below 75% (because of equipment breakdowns) and therefore annualisation was required. Annual average concentrations rose in 2022 and 2023 compared to the previous three years. The longer-term trend in annual concentrations is a decline since 2005 or 2006. The data will be monitored over the coming years to identify whether this recent increase is part of an emerging trend or caused by expected inter-annual variability as a result of weather patterns etc.

There were no exceedences of an hourly mean of 50µg/m^3 in 2023 at either monitoring site. The 90.4th percentile of hourly results has also been calculated for RAMM (CM1) because of the low data capture. This is below 50 µg/m^3.

3.2.3 Particulate Matter (PM$_{2.5}$)

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

There were no measured exceedences of the PM$_{2.5}$ air quality objectives in Exeter in 2023. Data capture at CM1 (RAMM) was below 75% and therefore annualisation was required. There is no obvious trend in concentrations over the period when data has been collected.

3.2.4 Ozone (O3)

Table A.9 in Appendix A compares the ratified continuous monitored O_3 8-hour mean concentrations for the past 5 years with the air quality objective of 100µg/m^3, not to be exceeded more than 10 times per year.

Although not a local air pollutant, Exeter City Council has the facility to measure ozone (O_3) levels. Table A.9 in Appendix A compares the ratified continuous monitored O_3 concentrations for 2023 with the nationally applied air quality objective for this pollutant. In 2020, the number of occasions when there was an 8 hour running mean of >100 micrograms per cubic meter increased significantly. This could have been caused by the interaction between NOx and ozone in the atmosphere. With lower concentrations of NO being emitted during lockdowns, less ozone would be converted to oxygen (O_2). There were 8 exceedances during the part of 2023 for which monitoring data was collected. Data capture at this site was low, because of equipment replacement during the year. The relevant percentile of results has also therefore been calculated and is below 100 micrograms per cubic meter. Ozone is not a local air pollutant so Exeter City Council is not responsible for reporting on, or mitigating, exceedances of this objective. This is the responsibility of DEFRA.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Inlet Height (m)
CM1	Exeter Roadside	Kerbside	291939	92830	PM10; PM2.5; NO2; O3	YES. AQMA 1	Chemiluminescent; UVA; Optical Light Scattering	0	1	1.7
CM2	Alphington Street	Roadside	291670	91773	PM10; PM2.5	YES. AQMA 1	Optical Light Scattering	12	3	1.7

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT1	High Street /Castle Street	Kerbside	292199	92814	NO2	YES, Exeter AQMA	50.0	0.5	No	2.0
DT2	Longbrook Street	Kerbside	292315	93016	NO2	NO	0.0	1.0	No	1.7
DT3	New North Road	Kerbside	292185	93049	NO2	YES, Exeter AQMA	0.0	1.0	No	2.0
DT4	Queen Street	Roadside	291779	93011	NO2	YES, Exeter AQMA	0.0	1.5	No	2.0
DT5, DT6	RAMM 2	Kerbside	291984	92626	NO2	YES, Exeter AQMA	0.0	1.0	Yes	1.7
DT7	High Street Guildhall	Roadside	291895	92569	NO2	YES, Exeter AQMA	0.0	2.0	No	2.0
DT8	North Street	Kerbside	291943	92511	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT9	South Street	Roadside	291833	92433	NO2	YES, Exeter AQMA	4.0	2.5	No	2.0
DT10	Market Street	Kerbside	292291	92292	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT11	Magdalen Street	Roadside	292422	92320	NO2	YES, Exeter AQMA	6.0	2.0	No	1.7
DT12	Magdalen Street façade	Kerbside	292590	92743	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT13	Archibald Road	Roadside	292832	92731	NO2	NO	0.0	1.5	No	1.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT14	Heavitree Road inbound	Roadside	292703	92807	NO2	YES, Exeter AQMA	0.0	10.0	No	2.0
DT15	Heavitree Road outbound	Kerbside	292378	92039	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT16	Holloway Street	Kerbside	291699	92091	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT17	Carder's Court, Shilhay	Roadside	291657	91973	NO2	NO	0.0	15.0	No	1.7
DT18	Rear of Gervase Avenue	Roadside	291669	91812	NO2	YES, Exeter AQMA	5.0	18.0	No	2.0
DT19	Alphington Street	Kerbside	291532	91349	NO2	YES, Exeter AQMA	0.0	1.0	No	2.0
DT20	Alphington Road inbound	Roadside	291460	91390	NO2	YES, Exeter AQMA	0.0	2.0	No	1.7
DT21	Queen's Road	Urban Background	291509	91151	NO2	NO	8.0	2.0	No	1.7
DT22	Alphington Road outbound	Roadside	291518	90813	NO2	YES, Exeter AQMA	0.0	8.0	No	1.7
DT23	Alphington Road outer	Roadside	291691	90425	NO2	YES, Exeter AQMA	15.0	2.0	No	1.7
DT24	Church Road Alphington	Roadside	291767	90160	NO2	YES, Exeter AQMA	0.0	1.5	No	1.7
DT25	Church Road II	Kerbside	291520	90531	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT26	Alphington Cross	Roadside	290864	91725	NO2	YES, Exeter AQMA	0.0	1.8	No	1.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT27	Cowick Street (Cowick Lane)	Kerbside	291249	91874	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT28	Cowick Street (inbound)	Roadside	291376	91944	NO2	YES, Exeter AQMA	0.0	4.0	No	1.7
DT29	Cowick Street (outbound)	Roadside	291500	92055	NO2	YES, Exeter AQMA	0.0	1.5	No	1.7
DT30	Cowick Street (Exe Bridges)	Roadside	291351	92169	NO2	YES, Exeter AQMA	0.0	2.0	No	1.7
DT31	Okehampton Street	Roadside	290826	93598	NO2	YES, Exeter AQMA	0.0	4.0	No	1.7
DT32	Station Road	Roadside	291253	93299	NO2	NO	0.0	2.1	No	1.7
DT33	Bonhay Road (St Clements Lane)	Roadside	291242	93483	NO2	YES, Exeter AQMA	0.0	2.0	No	2.0
DT34	Red Cow Village	Kerbside	291272	93468	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT35	Red Cow II	Kerbside	291054	94399	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT36	Cowley Bridge Road	Roadside	292391	93291	NO2	YES, Exeter AQMA	0.0	4.0	No	1.7
DT37	Pennsylvania Road	Kerbside	292469	93245	NO2	NO	0.0	1.0	No	1.7
DT38	York Road School	Roadside	292579	93146	NO2	NO	3.5	2.5	No	1.7
DT39	York Road	Kerbside	293047	93877	NO2	NO	1.5	0.1	No	1.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT40	Union Road	Roadside	293405	93395	NO2	NO	0.0	1.0	No	1.7
DT41	Pinhoe Road inbound	Roadside	293251	93375	NO2	YES, Exeter AQMA	0.0	3.0	No	1.7
DT42	Pinhoe Road (Polsloe Road)	Kerbside	293227	93356	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT43	Blackboy Road (Polsloe Road)	Roadside	295068	94487	NO2	YES, Exeter AQMA	0.0	2.0	No	1.7
DT44	Beacon Heath	Kerbside	295888	94101	NO2	NO	10.0	1.0	No	1.7
DT45	Venny Bridge	Kerbside	296418	94470	NO2	NO	8.0	1.0	No	1.7
DT46	Pinhoe	Kerbside	296984	94327	NO2	NO	20.0	0.1	No	1.7
DT47	Langaton Lane	Urban Background	296494	93782	NO2	NO	12.0	0.5	No	1.7
DT48	Pinn Lane	Roadside	295413	93689	NO2	NO	9.5	1.0	No	2.0
DT49	Pinhoe Road (Fairfield Avenue)	Roadside	293091	92825	NO2	YES, Exeter AQMA	0.0	5.0	No	1.7
DT50	East John Walk	Urban Background	293448	92419	NO2	NO	1.5	N/A	No	1.7
DT51	Magdalen Road (Barrack Road)	Kerbside	293418	92497	NO2	YES, Exeter AQMA	0.0	1.0	No	1.7
DT52	Livery Dole	Roadside	293533	92473	NO2	YES, Exeter AQMA	0.0	1.5	No	1.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT53	Rowancroft	Kerbside	293738	92396	NO2	YES, Exeter AQMA	0.0	0.2	No	2.0
DT54	Salutary Mount	Roadside	293781	92409	NO2	YES, Exeter AQMA	4.5	1.5	No	1.7
DT55	Fore Street Heavitree outbound	Roadside	294043	92359	NO2	YES, Exeter AQMA	6.0	4.0	No	1.7
DT56	Fore Street Heavitree inbound	Roadside	294410	92310	NO2	YES, Exeter AQMA	0.0	2.0	No	1.7
DT57	East Wonford Hill	Roadside	295203	92378	NO2	YES, Exeter AQMA	0.0	2.0	No	1.7
DT58	Honiton Road	Roadside	295191	92395	NO2	YES, Exeter AQMA	20.0	1.5	No	2.0
DT59	Honiton Road façade	Roadside	295466	92365	NO2	NO	0.0	15.0	No	1.7
DT60	Sidmouth Road lamp post	Roadside	295636	92232	NO2	YES, Exeter AQMA	7.0	2.0	No	2.0
DT61	Sidmouth Road Middlemoor	Roadside	295710	90571	NO2	YES, Exeter AQMA	0.0	10.0	No	1.7
DT62	Newcourt Way	Roadside	294694	90001	NO2	NO	17.0	2.0	No	2.0
DT63	Topsham Road (Countess Wear)	Roadside	294652	89974	NO2	YES, Exeter AQMA	0.0	5.0	No	2.0
DT64	Bridge Road (Countess Wear)	Roadside	296415	88477	NO2	NO	0.0	15.0	No	1.7
DT65	High Street Topsham	Kerbside	294227	90435	NO2	NO	0.0	1.0	No	1.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT66	Topsham Road (Tollards Road)	Roadside	293213	91245	NO2	YES, Exeter AQMA	0.0	1.5	No	1.7
DT67	Topsham Road (Barrack Road)	Roadside	292291	91678	NO2	YES, Exeter AQMA	0.0	10.0	No	1.7
DT68	Riverside Valley Park	Urban Background	291016	91304	NO2	NO	n/a	N/A	No	2.0
DT69	Cowick Barton Playing Fields	Urban Background	291298	92593	NO2	NO	n/a	N/A	No	1.7
DT70	Exwick Playing Fields	Urban Background	294387	92611	NO2	NO	n/a	N/A	No	2.0
DT71	Heavitree Pleasure Ground	Urban Background	293617	93090	NO2	NO	n/a	N/A	No	2.0
DT72	Ladysmith School/Pretoria Road	Roadside	293052	94185	NO2	NO	1.5	1.5	No	1.7
DT73	Pennsylvania	Urban Background	292056	93043	NO2	NO	6.0	2.0	No	2.0
DT74	Northernhay Gardens	Urban Background	291721	89727	NO2	NO	n/a	N/A	No	2.0
DT75	Chudleigh Road	Roadside	291555	90449	NO2	YES, Exeter AQMA	0.0	4.0	No	2.0
DT76	Mill Lane	Urban Background	292553	93082	NO2	NO	8.5	1.0	No	2.0
DT77	Sidwell Street	Kerbside	296415	94165	NO2	YES, Exeter AQMA	6.0	1.0	No	2.0
DT78	Station Road Pinhoe	Other	296827	93886	NO2	NO	1.5	1.5	No	1.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT79	Tithebarn Link Road	Roadside	295967	88876	NO2	NO	2.0	2.0	No	2.0
DT80	Exeter Road	Roadside	292637	91991	NO2	NO	14.5	3.0	No	2.0
DT81	St. Leonards Road	Roadside	292847	92911	NO2	NO	0.0	2.0	No	1.7
DT82	Newtown	Urban Background	291655	92258	NO2	NO	0.0	3.5	No	2.0
DT83	New Bridge St	Roadside	291897	92217	NO2	YES, Exeter AQMA	0.0	2.0	No	2.0
DT84	Lower Coombe St	Roadside	291375	92935	NO2	NO	2.0	10.0	No	1.7
DT85	Bonhay Road bridge	Roadside	291375	92935	NO2	YES, Exeter AQMA	3.0	2.0	No	1.7

Notes:

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

(2) N/A if not applicable (nb sites DT68-71 and DT74 are located in public open space, intentionally distant from roads but also distant from relevant receptors, DT50 is located on a traffic free residential street)

Table A.3 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
CM1	291939	92830	Kerbside		76	29	18.8	19.2	17.9	16.4 (16.4)

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22 (the annualised result is shown in brackets)**

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

☒ **Where exceedances of the NO₂ annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2023**

Notes:

The annual mean concentrations are presented as µg/m³.

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

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Table A.4 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT1	292199	92814	Kerbside		100.0	26.5	17.0	20.9	15.7	17.5
DT2	292315	93016	Kerbside		100.0	26.4	17.5	21.4	19.0	20.0
DT3	292185	93049	Kerbside		92.3	27.8	18.8	22.6	20.1	19.6
DT4	291779	93011	Roadside		90.4	23.8	16.2	19.0	16.6	17.4
DT5, DT6	291984	92626	Kerbside		100.0	27.5	18.5	21.3	17.8	17.3
DT7	291895	92569	Roadside		100.0	22.6	15.7	20.4	18.1	18.3
DT8	291943	92511	Kerbside		82.7	35.7	22.6	27.9	24.0	23.9
DT9	291833	92433	Roadside		100.0	28.5	18.7	24.2	20.6	20.2
DT10	292291	92292	Kerbside		100.0	29.5	18.6	23.4	20.7	20.1
DT11	292422	92320	Roadside		100.0	28.9	19.5	24.7	22.5	22.0
DT12	292590	92743	Kerbside		100.0	29.3	20.0	23.8	22.9	18.7
DT13	292832	92731	Roadside		90.4	19.6	13.2	16.8	15.2	15.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT14	292703	92807	Roadside		100.0	19.0	13.2	16.5	14.6	14.5
DT15	292378	92039	Kerbside		100.0	31.4	22.3	28.0	24.0	25.8
DT16	291699	92091	Kerbside		100.0	29.3	21.3	26.6	21.9	21.5
DT17	291657	91973	Roadside		100.0	21.4	15.5	18.3	15.7	15.9
DT18	291669	91812	Roadside		92.3	22.7	15.8	19.2	17.5	17.6
DT19	291532	91349	Kerbside		100.0	**42.0**	28.5	35.7	33.1	34.3
DT20	291460	91390	Roadside		100.0	31.3	22.4	27.4	24.3	24.5
DT21	291509	91151	Urban Background		100.0	12.7	9.1	11.7	10.1	9.9
DT22	291518	90813	Roadside		100.0	26.2	17.7	21.2	20.6	18.4
DT23	291691	90425	Roadside		92.3	23.4	15.3	20.6	18.7	18.1
DT24	291767	90160	Roadside		100.0	23.4	18.3	24.3	18.5	17.8
DT25	291520	90531	Kerbside		92.3	23.5	16.2	19.8	20.9	22.1
DT26	290864	91725	Roadside		100.0	30.2	20.4	25.6	22.5	23.8
DT27	291249	91874	Kerbside		100.0	38.7	26.8	31.6	30.1	31.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT28	291376	91944	Roadside		92.3	21.1	15.6	19.9	17.5	18.1
DT29	291500	92055	Roadside		100.0	34.4	24.3	29.8	28.7	29.2
DT30	291351	92169	Roadside		90.4	30.1	22.1	28.2	26.7	27.5
DT31	290826	93598	Roadside		100.0	24.3	17.3	20.6	18.7	19.0
DT32	291253	93299	Roadside		100.0	25.4	17.7	21.2	20.3	20.7
DT33	291242	93483	Roadside		100.0	26.8	19.2	24.7	21.8	22.6
DT34	291272	93468	Kerbside		100.0	36.0	26.5	32.1	29.7	31.7
DT35	291054	94399	Kerbside		92.9	31.1	21.5	26.0	23.1	24.2
DT36	292391	93291	Roadside		100.0	32.5	22.9	27.5	26.5	25.9
DT37	292469	93245	Kerbside		100.0	28.4	18.3	23.2	21.6	21.5
DT38	292579	93146	Roadside		100.0	27.7	18.1	23.0	20.7	20.3
DT39	293047	93877	Kerbside		100.0	36.2	23.3	31.2	27.8	26.9
DT40	293405	93395	Roadside		100.0	26.4	16.7	21.0	19.3	18.7
DT41	293251	93375	Roadside		100.0	29.8	20.9	24.0	22.3	23.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT42	293227	93356	Kerbside		100.0	35.9	25.6	30.6	28.0	29.6
DT43	295068	94487	Roadside		100.0	25.7	19.2	23.5	20.6	21.0
DT44	295888	94101	Kerbside		100.0	17.8	13.6	15.1	13.6	14.6
DT45	296418	94470	Kerbside		90.4	18.0	14.2	16.6	15.3	15.2
DT46	296984	94327	Kerbside		100.0	23.1	18.4	21.8	18.6	20.5
DT47	296494	93782	Urban Background		92.3	17.9	13.3	15.1	12.7	13.1
DT48	295413	93689	Roadside		100.0	17.6	12.8	15.5	14.3	16.2
DT49	293091	92825	Roadside		100.0	17.9	12.6	15.8	15.9	13.7
DT50	293448	92419	Urban Background		100.0	14.0	9.7	11.6	10.4	9.7
DT51	293418	92497	Kerbside		100.0	35.5	24.3	29.4	27.6	27.9
DT52	293533	92473	Roadside		100.0	**42.6**	31.1	34.9	32.3	34.7
DT53	293738	92396	Kerbside		100.0	38.5	27.4	32.1	27.2	28.6
DT54	293781	92409	Roadside		100.0	**43.4**	32.7	37.3	33.5	32.2
DT55	294043	92359	Roadside		100.0	26.7	19.8	23.4	20.7	20.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT56	294410	92310	Roadside		100.0	**40.3**	29.0	32.2	30.5	30.6
DT57	295203	92378	Roadside		100.0	**53.5**	38.2	**42.2**	**40.4**	**40.5**
DT58	295191	92395	Roadside		100.0	**47.3**	33.2	35.4	31.7	33.5
DT59	295466	92365	Roadside		100.0	20.4	14.8	16.0	14.9	14.9
DT60	295636	92232	Roadside		100.0	30.7	23.5	26.8	25.0	24.7
DT61	295710	90571	Roadside		92.3	21.8	15.5	19.2	17.5	17.5
DT62	294694	90001	Roadside		100.0	16.3	11.5	14.7	13.6	13.5
DT63	294652	89974	Roadside		100.0	25.4	18.1	20.7	17.4	19.1
DT64	296415	88477	Roadside		75.0	20.6	17.8	16.9	15.6	15.0
DT65	294227	90435	Kerbside		100.0	24.4	17.2	22.1	18.7	18.7
DT66	293213	91245	Roadside		100.0	36.4	25.0	30.0	27.9	28.8
DT67	292291	91678	Roadside		100.0	21.5	15.9	19.1	19.2	18.3
DT68	291016	91304	Urban Background		84.6	13.8	9.4	11.7	9.9	10.3
DT69	291298	92593	Urban Background		92.3	11.2	7.6	9.3	8.9	8.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT70	294387	92611	Urban Background		84.6	16.1	12.3	15.9	13.9	12.7
DT71	293617	93090	Urban Background		100.0	10.5	7.6	9.1	8.7	7.8
DT72	293052	94185	Roadside		100.0	14.2	10.6	12.2	10.5	10.9
DT73	292056	93043	Urban Background		100.0	10.2	7.5	8.3	7.8	7.6
DT74	291721	89727	Urban Background		84.1	11.4	8.3	10.7	8.4	9.4
DT75	291555	90449	Roadside		100.0	15.8	11.1	13.7	12.6	12.3
DT76	292553	93082	Urban Background		100.0	14.7	9.6	12.3	11.3	11.5
DT77	296415	94165	Kerbside		100.0	31.1	18.6	23.8	20.5	21.6
DT78	296827	93886	Other		90.4	15.1	10.6	13.4	12.5	13.5
DT79	295967	88876	Roadside		100.0	19.5	14.5	17.3	15.4	15.8
DT80	292637	91991	Roadside		100.0	19.8	14.3	16.4	16.6	16.6
DT81	292847	92911	Roadside		100.0	15.6	11.2	13.9	12.2	11.9
DT82	291655	92258	Urban Background		100.0		10.8	12.6	12.0	11.9
DT83	291897	92217	Roadside		80.8		19.5	24.0	22.5	22.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
DT84	291375	92935	Roadside		90.4		15.5	18.6	15.4	16.5
DT85	291375	92935	Roadside		100.0				26.9	27.1

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

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

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

Notes:

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

Exceedances of the NO_2 annual mean objective of $40\mu g/m^3$ are shown in **bold**.

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

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.2 – Trends in Annual Mean NO₂ Concentrations
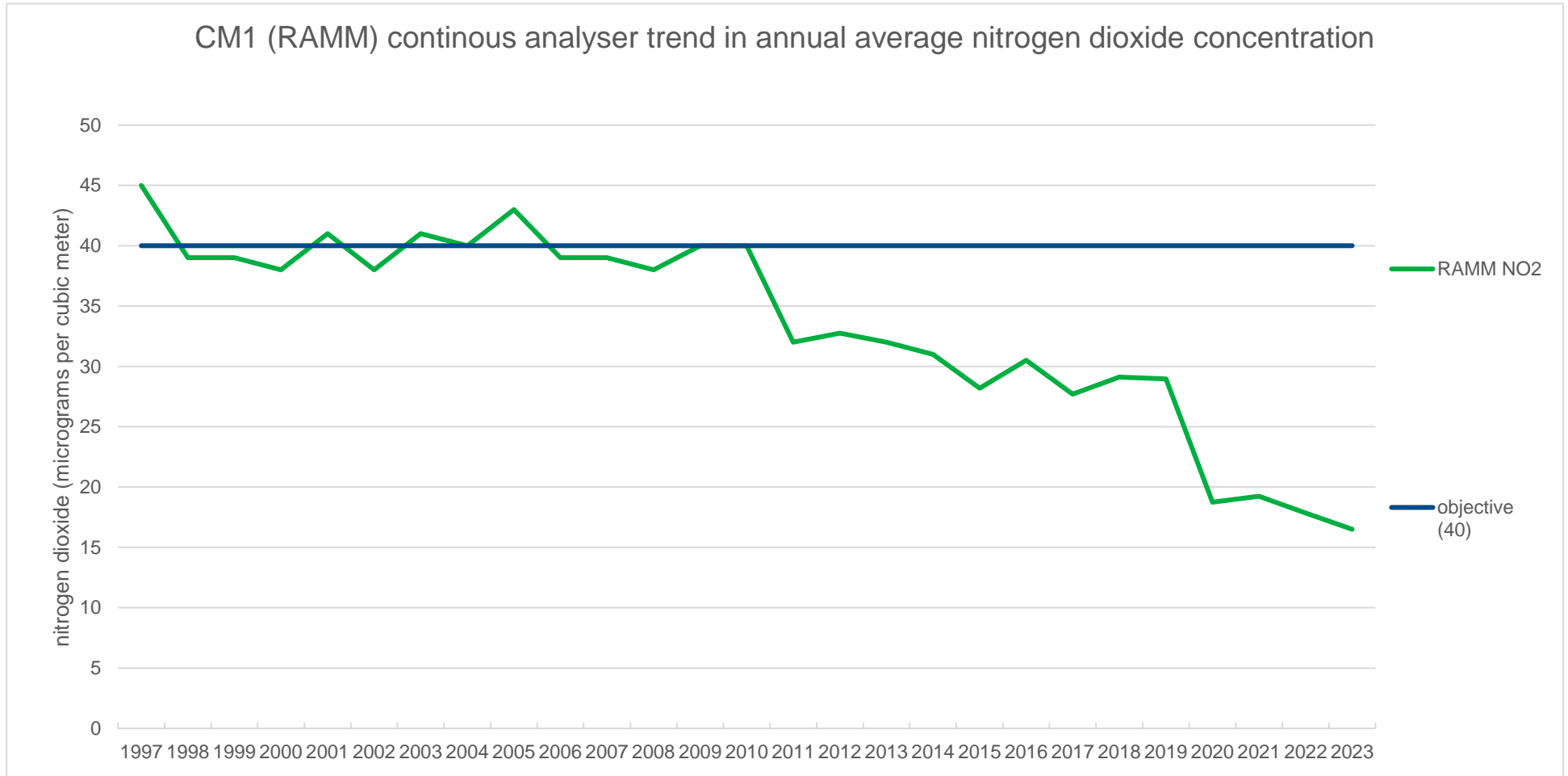
This figure presents NO₂ annual mean concentrations at the RAMM continuous monitoring site between years 1997 and 2023. There are no exceedances of the annual mean objective in 2023. There is a general trend of reduction since 2010.

Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites in City Centre Area
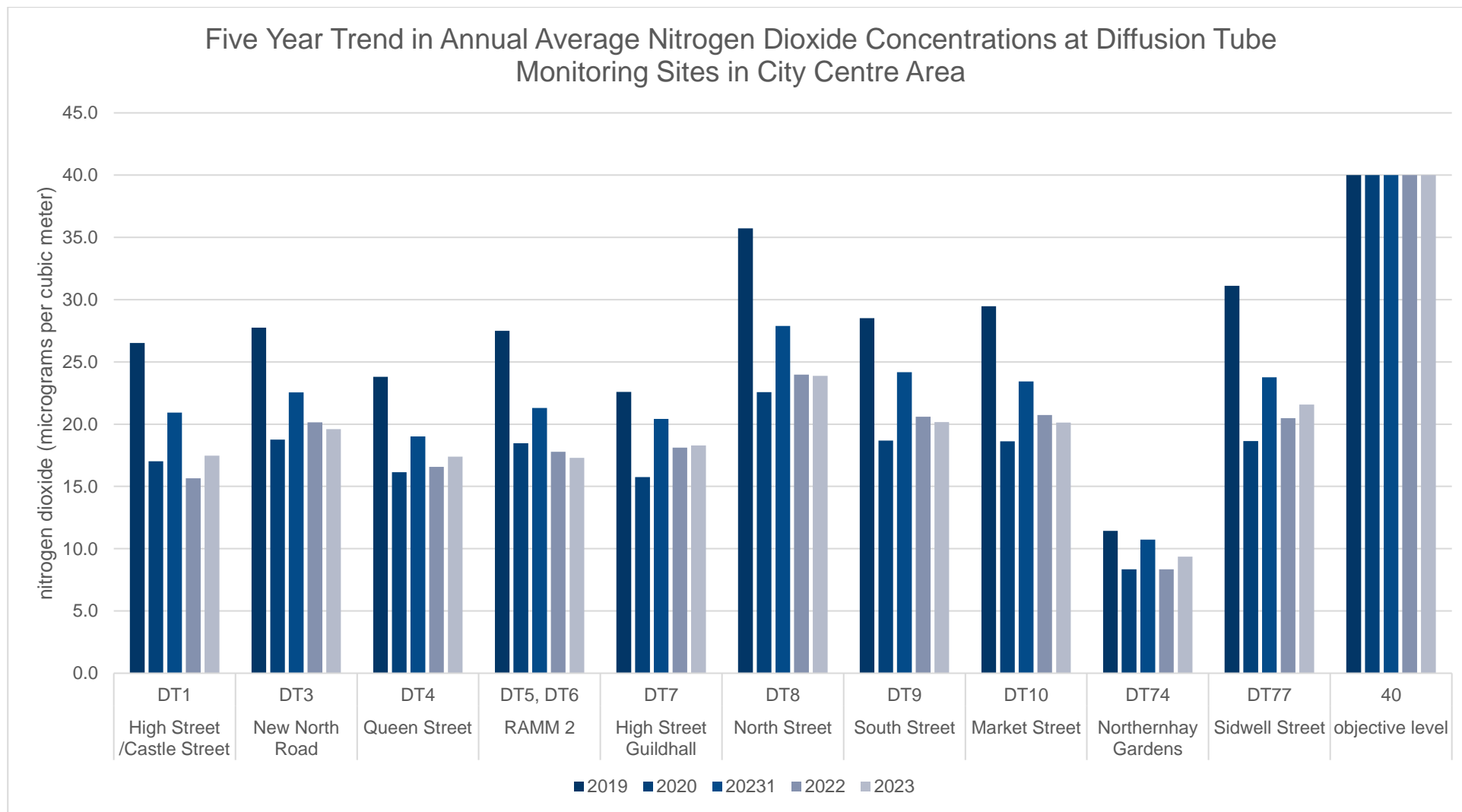
This figure presents NO₂ annual mean concentrations for sites in the city centre between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.

Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites along the Topsham Road Corridor
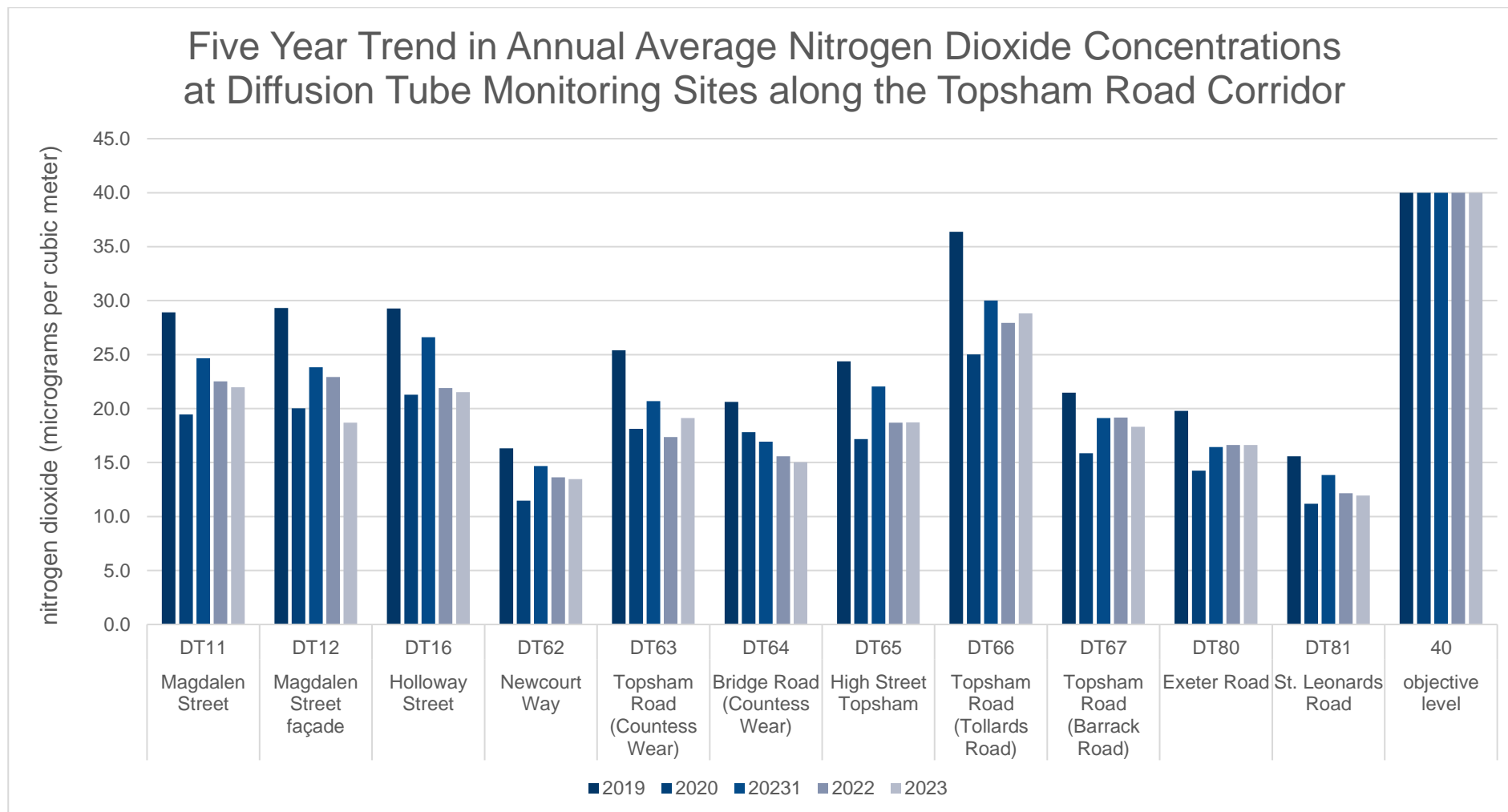
This figure presents NO$_2$ annual mean concentrations for sites along the Topsham Road corridor between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.

Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites along the Heavitree Corridor
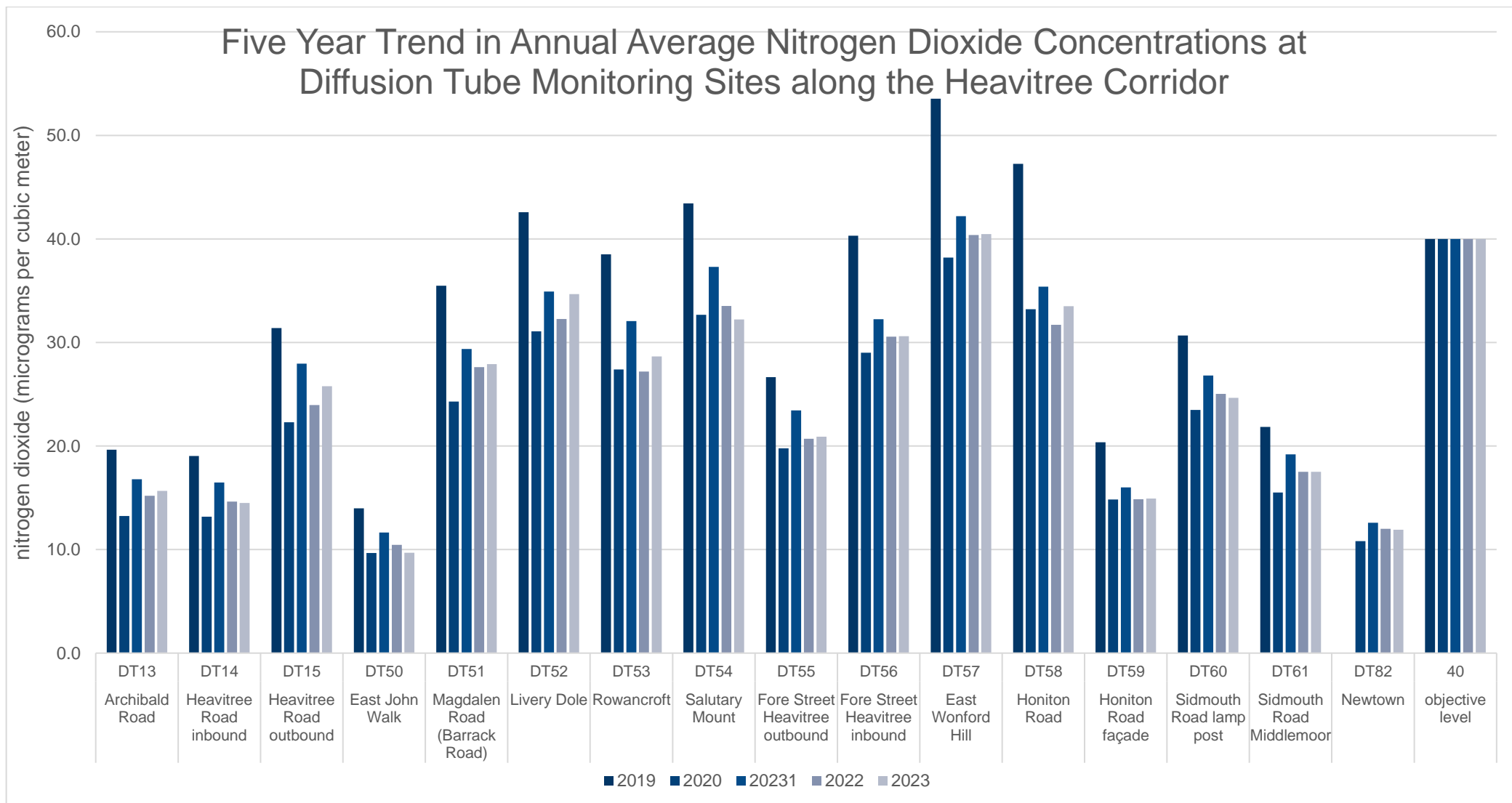
This figure presents NO₂ annual mean concentrations for sites along the Heavitree corridor between years 2019 to 2023. There is one exceedances of the annual mean objective in 2023 at DT57 (East Wonford Hill) and there is a general trend of reduction across the sites.

Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites along the Alphington Corridor

This figure presents NO$_2$ annual mean concentrations for sites along the Alphington corridor between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.

Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites along the Cowick Street Corridor

This figure presents NO₂ annual mean concentrations for sites along the Cowick Street corridor between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.

Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites in St David's Station Area
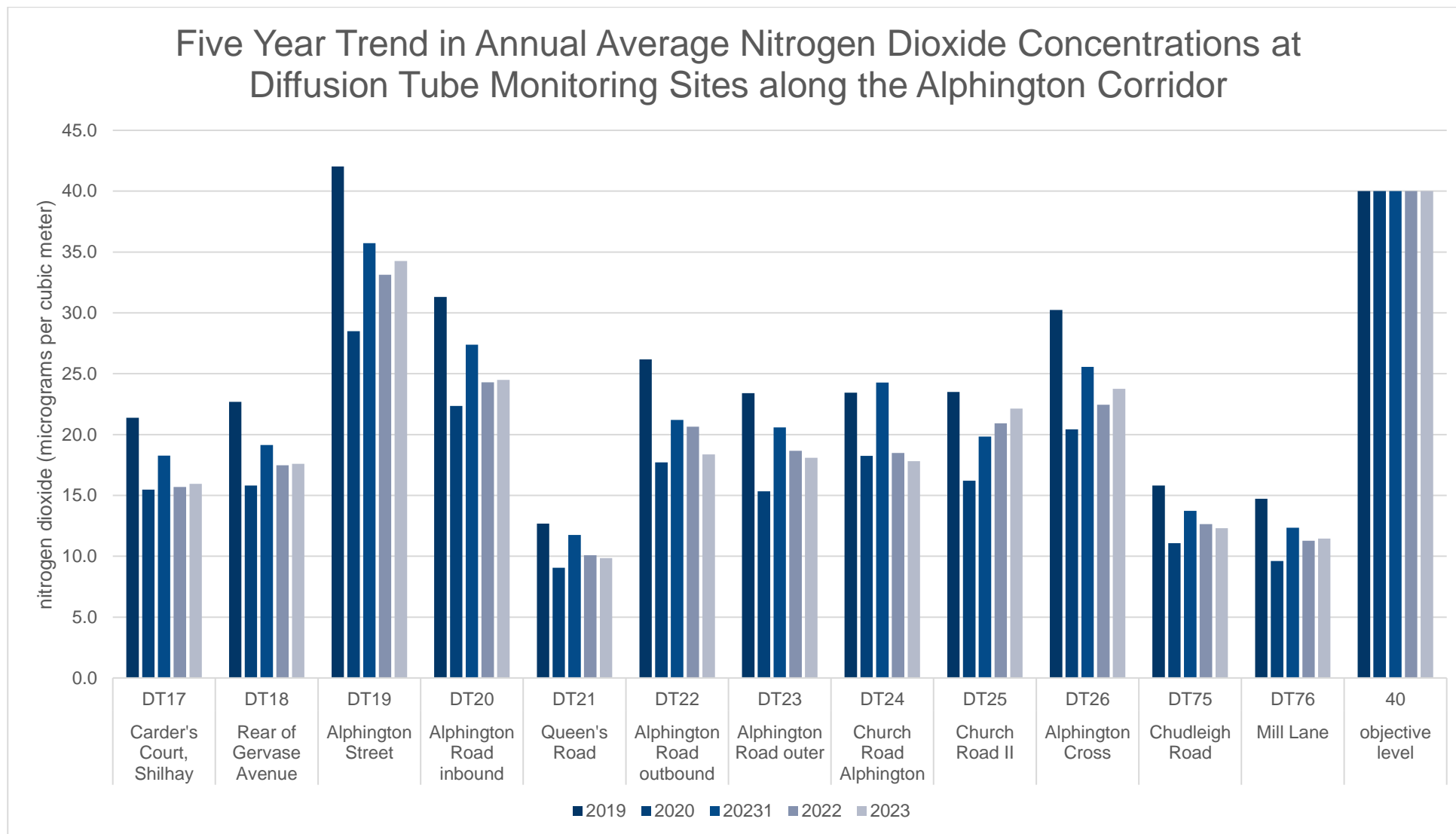
This figure presents NO₂ annual mean concentrations for sites in the St David's area between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.
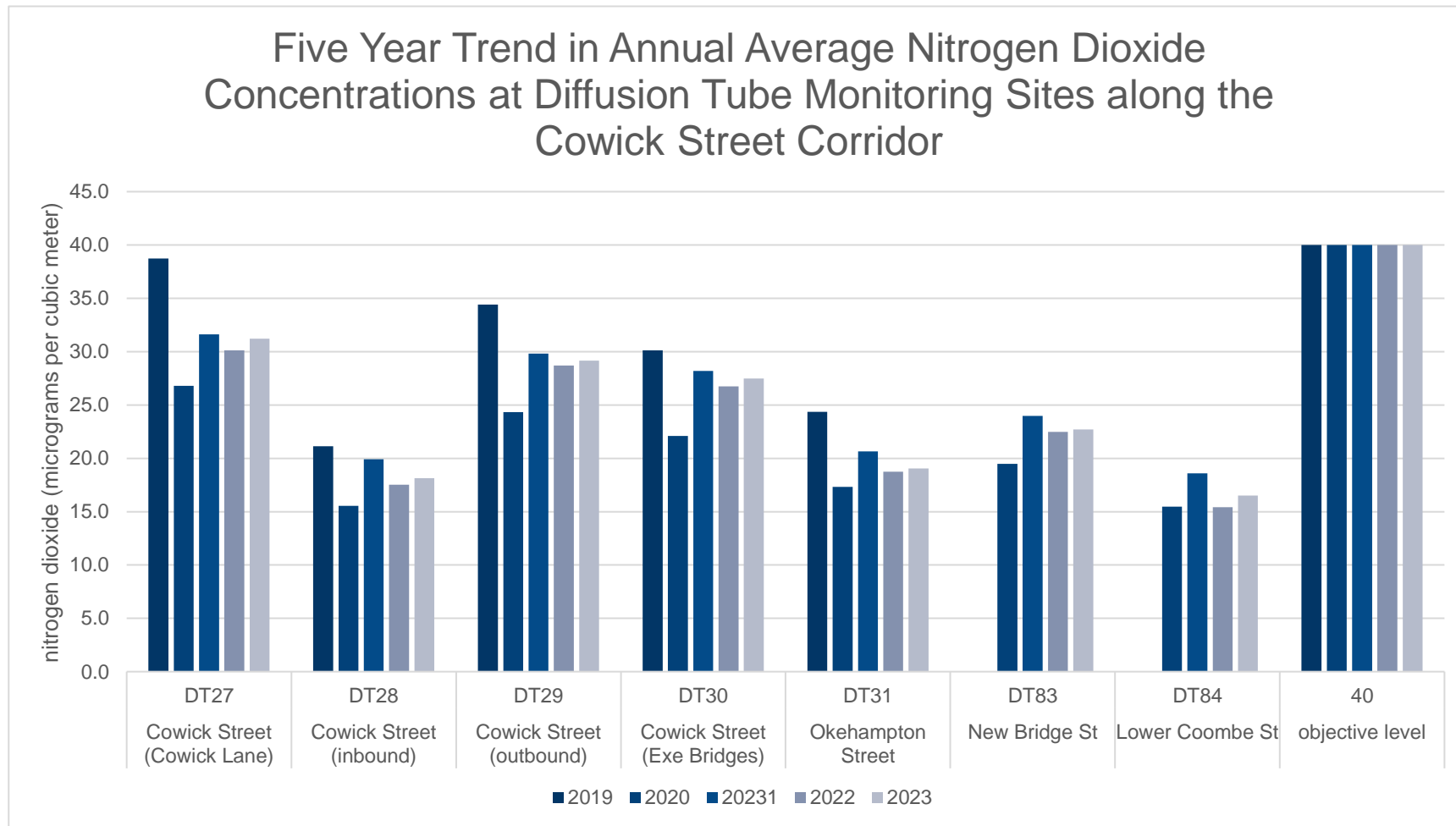
Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites along Pennsylvania Corridor

This figure presents NO₂ annual mean concentrations for sites in the Pennsylvania area between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.
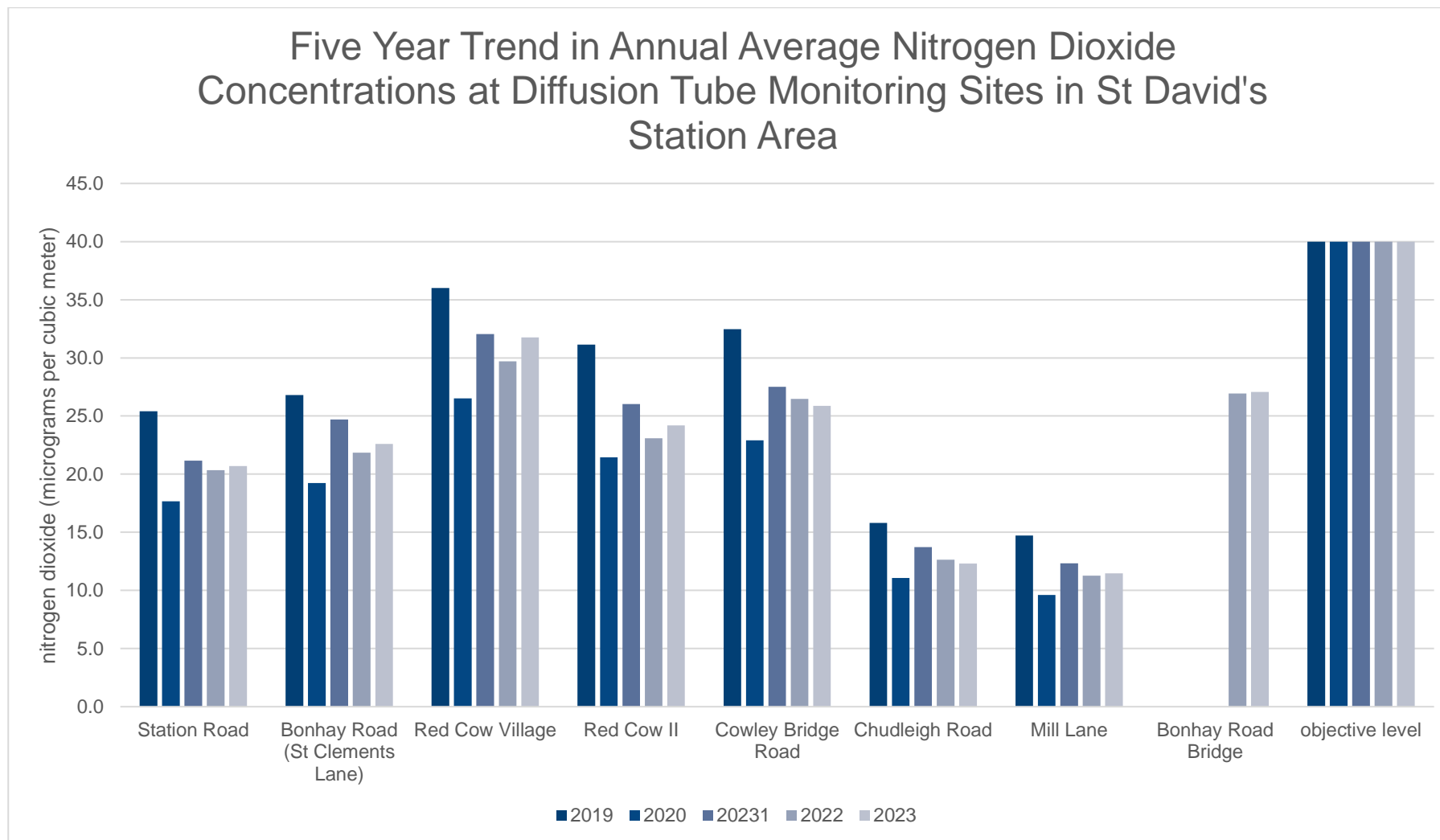
Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites along Pinhoe Corridor
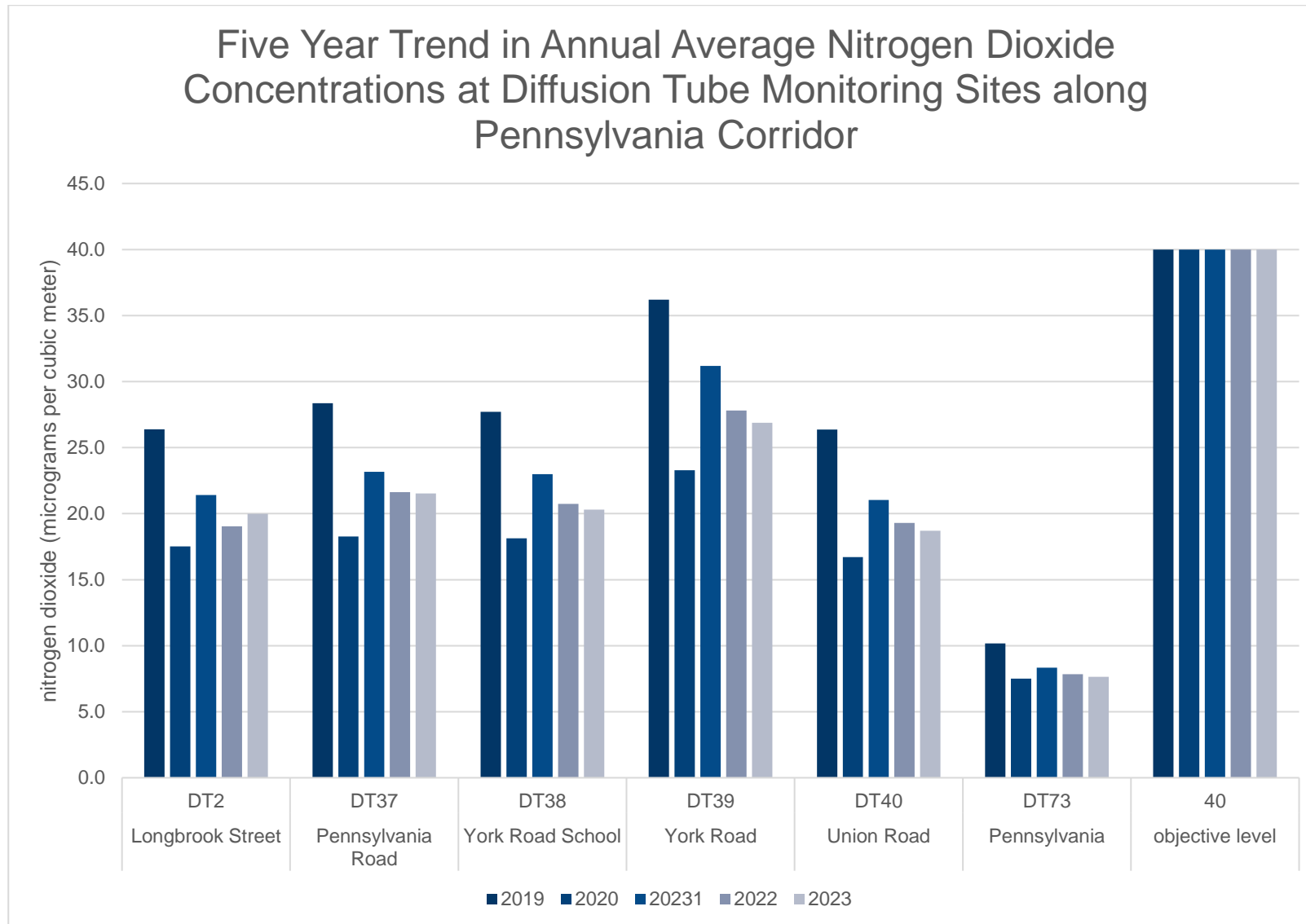
This figure presents NO$_2$ annual mean concentrations for sites along the Pinhoe corridor between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.

Five Year Trend in Annual Average Nitrogen Dioxide Concentrations at Diffusion Tube Monitoring Sites in Public Open Space

This figure presents NO₂ annual mean concentrations for sites in public open space between years 2019 to 2023. There are no exceedances of the annual mean objective in 2023 and there is a general trend of reduction experienced across the sites.
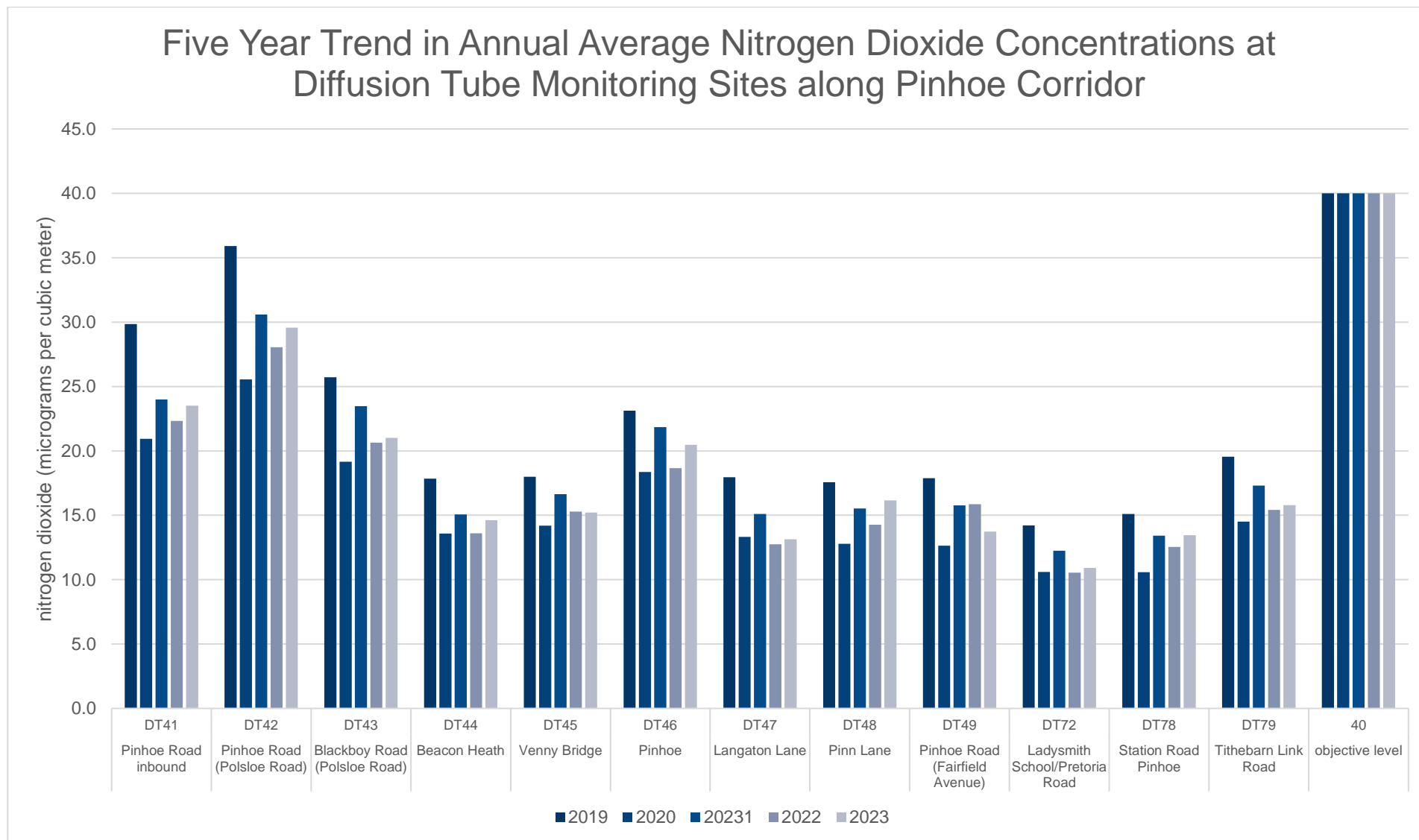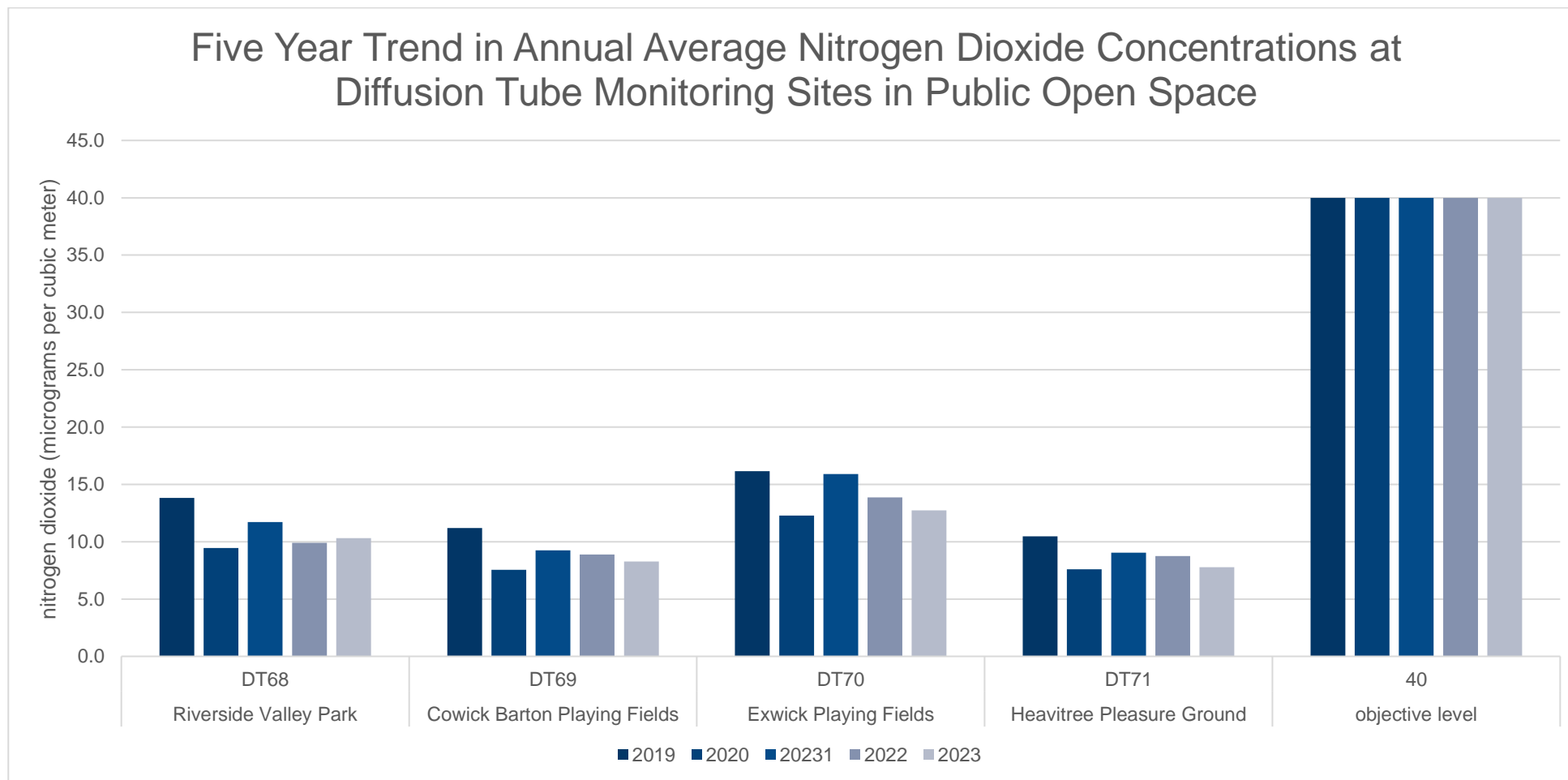
Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
CM1	291939	92830	Kerbside		76	0	0	0	0	0 (63.3)

Notes:

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

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold**.

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

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

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

Table A.6 – Annual Mean PM$_{10}$ Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
CM1	29193	92830	Kerbside		45.5	15.8	14.1	13.9	17.1 (19.22)	18.8 (20.1)
CM2	291670	91773	Roadside		100	15.1	11.5	12	14.7	15.2

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

Notes:

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

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

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.(annualised results are shown in brackets)

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

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

Figure A.3 – Trends in Annual Mean PM$_{10}$ Concentrations
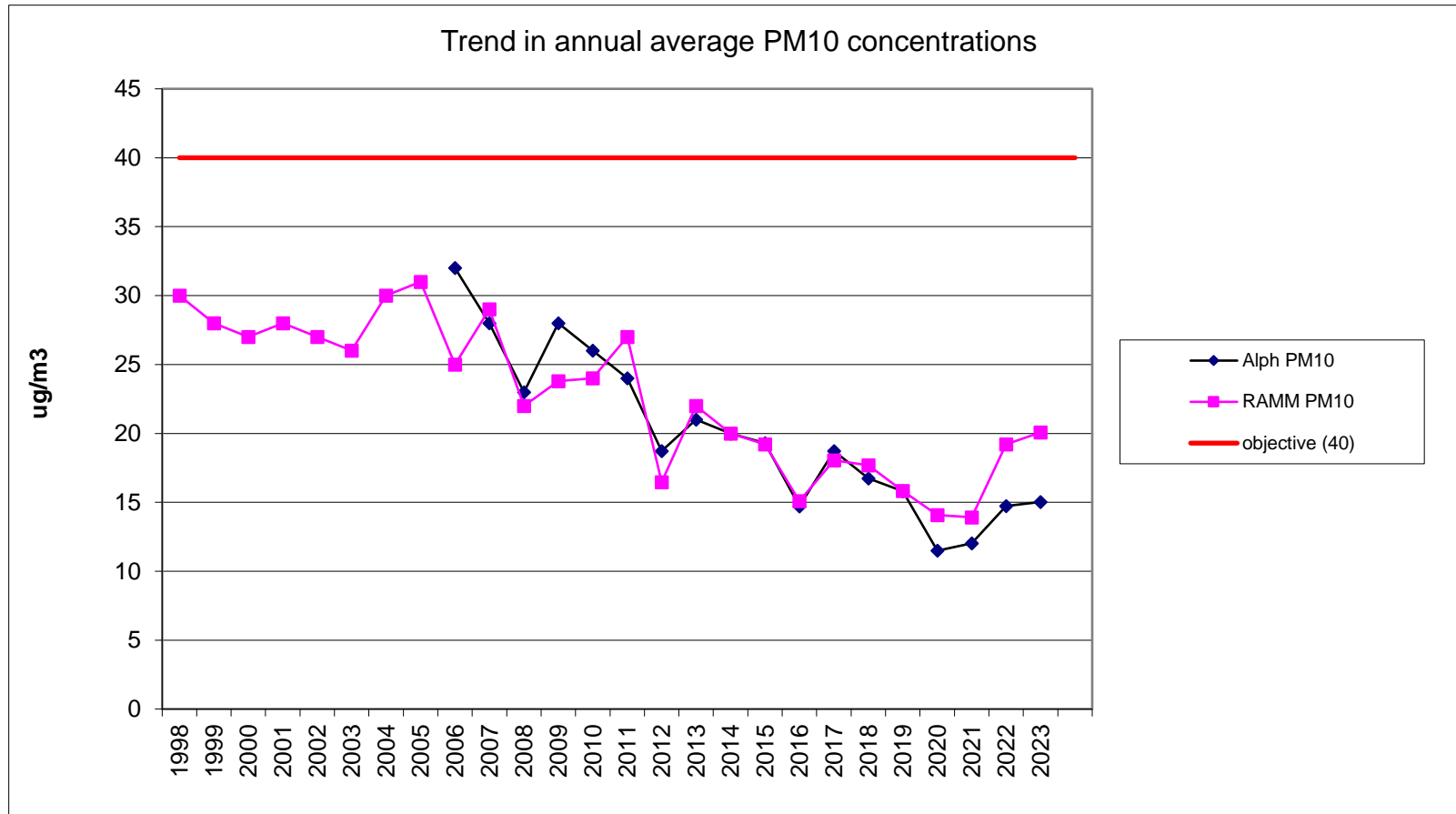
This figure presents PM$_{10}$ annual mean concentrations for the two monitoring sites in Exeter between years 1998 and 2023. There are no exceedances of the annual mean objective in 2023 although concentrations have increased since 2021. Otherwise there is a general trend of reduction experienced across both sites.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
CM1	29193	92830	Kerbside		45.5	0 (21.2)	1	1	2 (29.9)	0 (30.3)
CM2	291670	91773	Roadside		100	4	0 (19.2)	0	1	0

Notes:

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

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

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

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

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

Table A.8 – Annual Mean PM₂.₅ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023
CM1	29193	92830	Kerbside		45.5	10	8.6	8.4	11.1 (12.69)	13.2
CM2	291670	91773	Roadside		99.9	9.5	6.8	7.5	9	8.8

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

Notes:

The annual mean concentrations are presented as µg/m³.

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details. (annualised results have been shown in brackets)

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

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

Figure A.4 – Trends in Annual Mean PM₂.₅ Concentrations

Trend in annual average PM2.5 concentrations
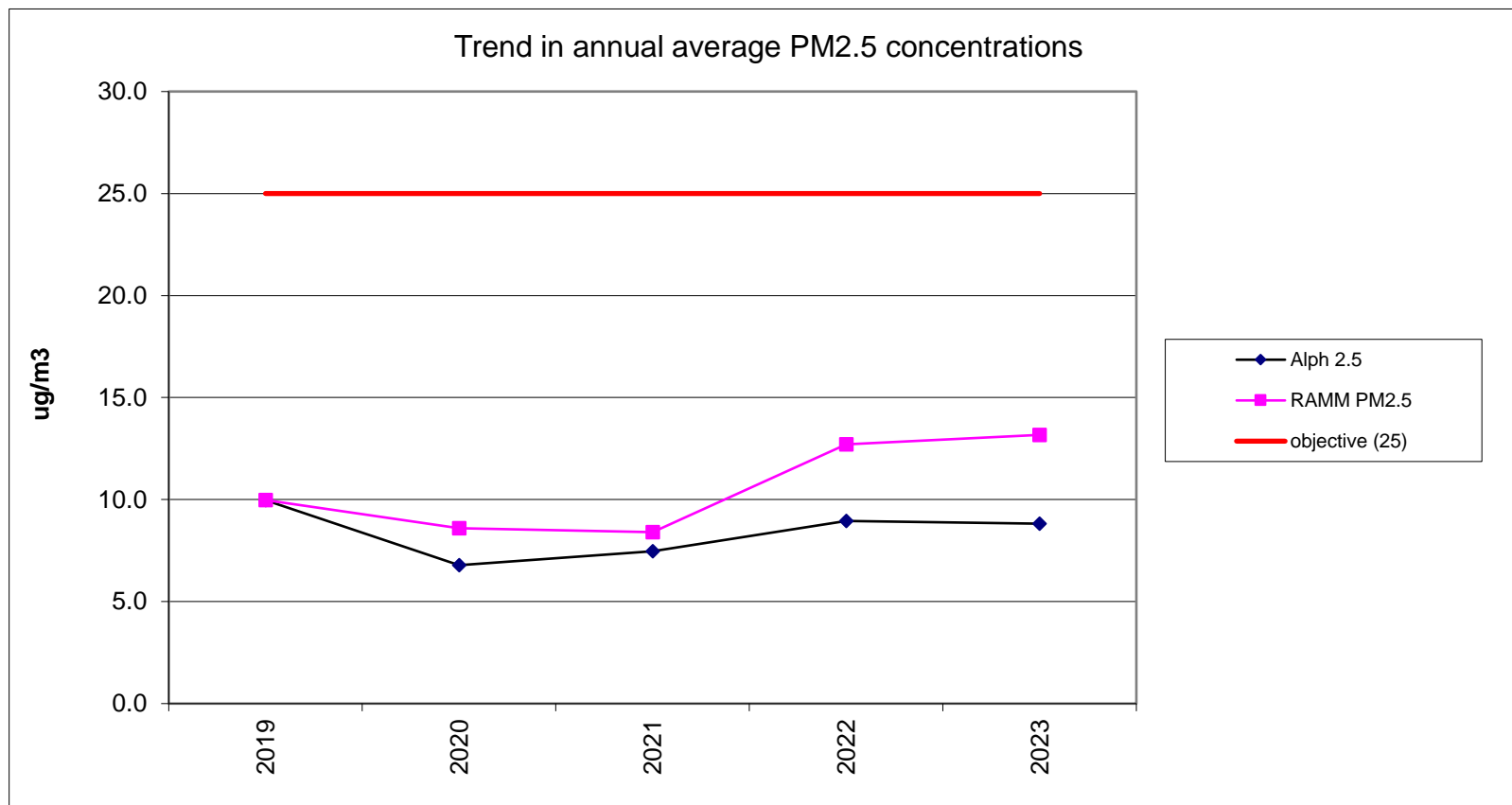
This figure presents PM₂.₅ annual mean concentrations for the two monitoring sites in Exeter between years 2019 and 2023. There are no exceedances of the annual mean objective in 2023 although concentrations have increased since 2021. There is no clear trend over the five year period.

Table A.9 – O₃ 2023 Monitoring Results, Number of Relevant Instances

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019 O₃ 8-hour mean > 100 (µg/m³)	2020 O₃ 8-hour mean > 100 (µg/m³)	2021 O₃ 8-hour mean > 100 (µg/m³)	2022 O₃ 8-hour mean > 100 (µg/m³)	2023 O₃ 8-hour mean > 100 (µg/m³)
CM1	291939	92830	Kerbside		60	11	87	0	0	8 (74.6)

Notes:

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

Exceedances of the SO₂ objectives are shown in **bold** (8-hour mean > 100 µg/m³ = 10 allowed a year).

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

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

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

Figure A.5 – Trends in Annual Mean O₃ Concentrations

Trend in annual average ozone concentration
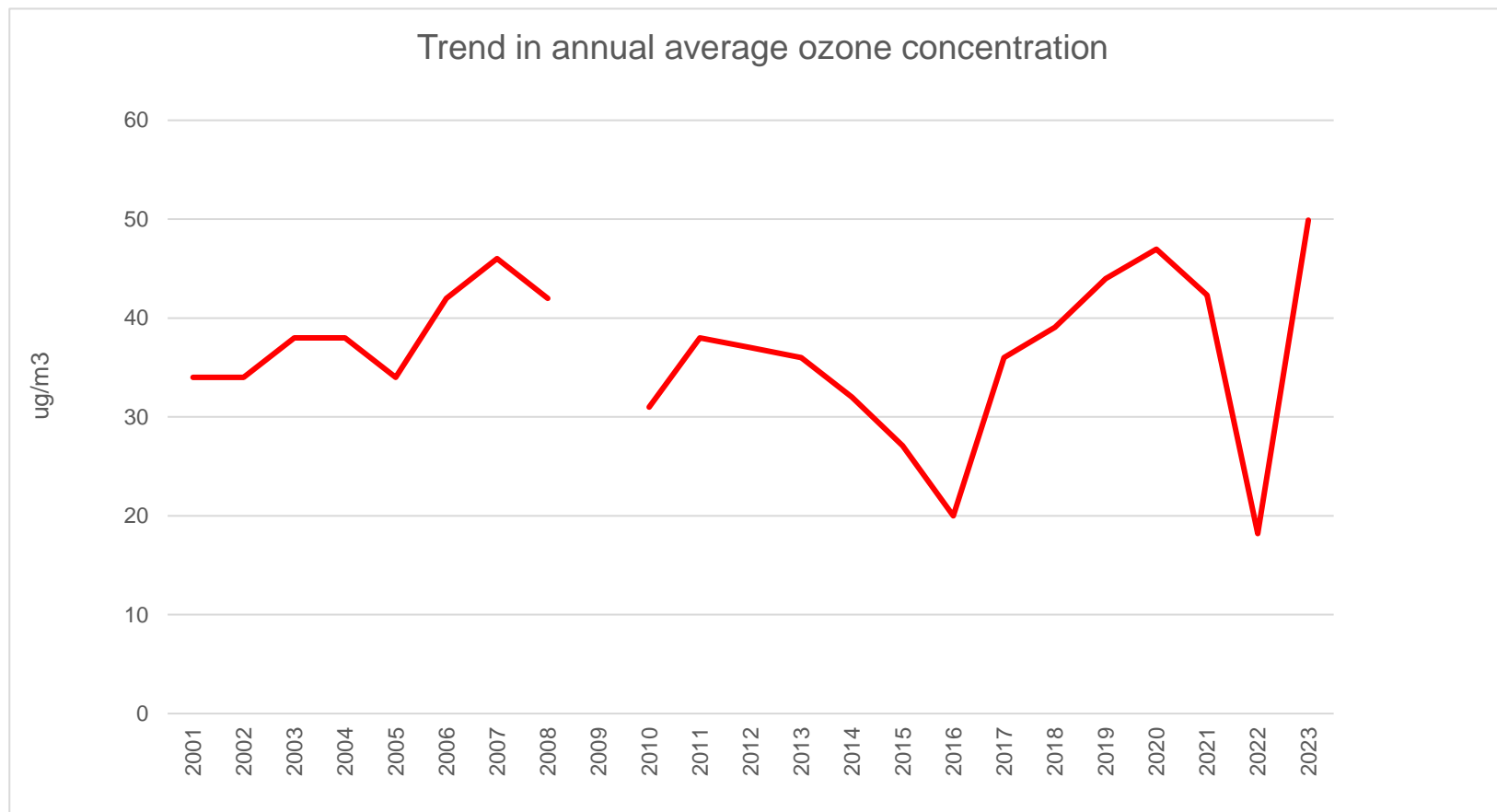
This figure presents O₃ annual mean concentrations between years 2001 and 2023. (Note that there is no local air quality objective for annual mean O₃ concentrations so this data is presented for information only). There is no clear trend over the entire period.

Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO₂ 2023 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT1	292199	92814	25.6	29.6	23.4	23.1	20.0	19.1	14.1	16.2	21.9	24.0	23.5	18.4	21.6	17.5	-	
DT2	292315	93016	30.8	30.9	25.6	22.5	16.4	19.0	18.9	20.4	25.9	30.0	28.5	27.1	24.7	20.0	-	
DT3	292185	93049	25.2	28.3	27.5	23.4	17.4	19.4		21.1	28.1	27.5	24.5	23.5	24.2	19.6	-	
DT4	291779	93011	24.3	28.4	23.4	20.7	16.2		13.7	17.2	24.1	27.7	23.2	17.2	21.5	17.4	-	
DT5	291944	92826	22.8	27.8	21.4	20.5	22.1	18.8	13.0	17.2	21.3	25.7	25.3	18.2	-	-	-	Duplicate Site with DT5 and DT6 - Annual data provided for DT6 only
DT6	291984	92626	26.4	27.7	20.6	21.3	22.4	19.5	12.8	18.6	22.8	25.3	23.7	17.6	21.4	17.3	-	Duplicate Site with DT5 and DT6 - Annual data provided for DT6 only
DT7	291895	92569	24.3	27.3	25.3	21.8	16.7	19.0	18.7	18.6	25.6	29.7	23.2	21.0	22.6	18.3	-	
DT8	291943	92511	32.5	34.3	29.3	27.2	24.8	25.3	26.7	27.0	32.7	34.9			29.5	23.9	-	
DT9	291833	92433	29.0	31.1	24.4	21.6	21.8	19.6	20.0	21.9	26.5	28.2	29.9	24.8	24.9	20.2	-	
DT10	292291	92292	27.2	32.6	25.9	24.2	19.1	19.3	19.1	21.3	28.7	31.2	27.1	22.5	24.9	20.1	-	
DT11	292422	92320	33.8	35.3	27.4	25.5	22.0	22.6	18.0	22.1	29.3	31.6	32.1	25.9	27.1	22.0	-	
DT12	292590	92743	23.1	37.1	17.6	23.9	24.6	24.4	18.5	22.0	21.4	28.7	20.8	14.7	23.1	18.7	-	
DT13	292832	92731	25.6	26.6	19.3	18.2	16.2		11.4	13.7	20.3	22.9	21.6	16.9	19.3	15.7	-	
DT14	292703	92807	24.7	27.1	18.1	18.6	14.7	13.2	10.0	13.3	17.6	22.1	21.4	13.9	17.9	14.5	-	
DT15	292378	92039	36.6	43.1	33.3	35.0	31.5	30.0	20.9	25.4	32.6	36.9	33.1	23.5	31.8	25.8	-	
DT16	291699	92091	34.5	37.8	26.3	26.9	23.7	22.2	15.6	21.0	27.0	30.3	30.7	22.7	26.6	21.5	-	
DT17	291657	91973	26.2	26.2	18.8	16.2	15.9	14.9	15.2	15.8	21.3	21.9	25.1	18.7	19.7	15.9	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT18	291669	91812	28.9	28.3	21.9	19.1	18.6	17.3	17.9	19.0		25.2	23.9	18.8	21.7	17.6	-	
DT19	291532	91349	44.7	55.2	42.5	45.2	48.0	47.2	28.7	34.8	43.4	47.1	40.9	29.7	42.3	34.3	-	
DT20	291460	91390	38.7	35.3	30.2	29.0	27.4	27.4	25.5	26.0	30.5	33.1	33.5	26.1	30.2	24.5	-	
DT21	291509	91151	16.5	20.2	13.0	12.5	9.4	9.7	4.7	9.2	13.4	16.0	13.6	7.8	12.2	9.9	-	
DT22	291518	90813	17.3	32.3	16.3	29.7	20.6	26.6	15.7	21.0	28.5	33.3	21.8	9.2	22.7	18.4	-	
DT23	291691	90425	23.6	29.9	27.0	21.9	29.4	24.2	16.3	18.9		29.3	8.6	16.5	22.3	18.1	-	
DT24	291767	90160	30.1	31.0	23.2	21.7	19.6	18.5	14.8	17.2	22.8	25.1	24.4	15.7	22.0	17.8	-	
DT25	291520	90531	33.3	33.5	28.0	26.7	19.5	24.3	23.3	23.6	29.3	29.4	29.5		27.3	22.1	-	
DT26	290864	91725	37.4	35.4	28.7	29.5	23.2	25.0	27.3	24.5	26.8	32.8	33.3	27.9	29.3	23.8	-	
DT27	291249	91874	42.0	42.4	42.1	39.6	29.1	37.0	34.5	31.2	44.7	45.9	37.7	36.3	38.5	31.2	-	
DT28	291376	91944	26.9	31.1	23.5	22.1		19.3	14.9	17.3	22.6	27.1	24.4	17.2	22.4	18.1	-	
DT29	291500	92055	36.6	42.3	38.2	40.9	32.0	35.9	27.5	31.6	37.6	48.2	34.1	27.3	36.0	29.2	-	
DT30	291351	92169	39.3	40.3	32.5	32.4	30.0		26.9	29.6	34.7	38.2	38.9	30.2	33.9	27.5	-	
DT31	290826	93598	29.0	28.8	23.2	23.0	19.5	21.5	18.2	20.2	25.6	27.1	25.6	20.3	23.5	19.0	-	
DT32	291253	93299	29.3	29.5	27.3	24.9	20.9	24.2	19.6	21.4	28.5	30.6	26.4	23.9	25.5	20.7	-	
DT33	291242	93483	32.4	37.8	28.2	27.2	28.2	26.7	19.0	22.3	27.1	29.0	33.2	23.5	27.9	22.6	-	
DT34	291272	93468	43.2	43.4	41.3	41.0	34.6	35.6	33.7	34.0	42.0	43.3	42.0	36.2	39.2	31.7	-	
DT35	291054	94399	33.5		33.3	30.4	25.8	26.7	25.3	24.1	33.8	32.9	34.3	28.4	29.9	24.2	-	
DT36	292391	93291	36.4	37.2	38.5	34.1	13.5	27.7	27.7	26.6	34.2	41.5	34.6	31.5	32.0	25.9	-	
DT37	292469	93245	26.9	32.3	28.9	27.6	22.5	24.1	19.0	21.2	30.8	34.9	27.4	23.3	26.6	21.5	-	
DT38	292579	93146	30.0	33.6	26.3	25.0	20.4	21.9	17.5	19.4	27.4	28.3	28.0	23.0	25.1	20.3	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT39	293047	93877	35.5	42.3	36.2	35.8	35.4	31.4	22.2	26.4	34.7	38.0	35.2	25.2	33.2	26.9	-	
DT40	293405	93395	25.1	28.6	25.3	24.0	17.4	20.6	15.6	17.4	27.8	31.0	25.0	19.4	23.1	18.7	-	
DT41	293251	93375	33.8	33.5	29.1	24.4	17.8	25.4	24.9	23.3	36.7	38.1	33.0	28.5	29.0	23.5	-	
DT42	293227	93356	39.2	44.4	37.7	36.3	26.2	32.6	29.3	30.9	43.5	45.1	40.7	32.2	36.5	29.6	-	
DT43	295068	94487	35.2	32.3	25.8	22.9	21.0	21.4	20.1	22.1	26.0	28.6	30.9	24.9	25.9	21.0	-	
DT44	295888	94101	24.5	25.2	19.7	17.8	15.4	13.8	12.4	12.3	18.8	19.6	20.5	16.5	18.0	14.6	-	
DT45	296418	94470	20.5	20.4	18.7	15.6	12.4		15.6	15.4	22.7	24.2	21.9	19.0	18.8	15.2	-	
DT46	296984	94327	32.9	30.4	24.1	21.7	19.2	21.0	19.5	19.4	25.7	28.5	31.6	29.4	25.3	20.5	-	
DT47	296494	93782	18.2	20.7	17.0	15.7	12.7	14.7	11.2	12.1	18.5	21.4	16.2		16.2	13.1	-	
DT48	295413	93689	30.0	28.1	22.0	19.6	16.5	12.8	12.4	14.0	21.4	23.8	22.0	16.7	19.9	16.2	-	
DT49	293091	92825	21.0	24.5	17.4	16.9	14.9	14.6	9.8	13.0	17.3	19.5	20.4	14.3	17.0	13.7	-	
DT50	293448	92419	16.8	18.1	13.2	11.7	7.8	8.1	7.8	9.0	13.5	15.4	15.4	6.6	11.9	9.7	-	
DT51	293418	92497	36.7	46.3	39.4	37.8	34.2	28.9	20.6	26.4	34.4	40.9	40.6	27.6	34.5	27.9	-	
DT52	293533	92473	48.3	51.9	45.6	42.4	34.5	35.3	35.2	35.3	45.2	46.2	50.4	43.3	42.8	34.7	-	
DT53	293738	92396	41.3	42.7	33.0	38.7	32.6	34.7	30.0	31.4	34.0	40.3	37.3	28.5	35.4	28.6	-	
DT54	293781	92409	43.9	44.0	40.0	38.2	30.4	38.1	35.6	34.1	44.0	47.0	41.9	40.0	39.8	32.2	-	
DT55	294043	92359	34.0	31.8	27.8	27.3	24.0	22.5	19.0	22.2	25.7	29.7	22.2	23.8	25.8	20.9	-	
DT56	294410	92310	44.9	43.8	40.3	39.7	22.4	32.0	33.1	31.2	41.7	44.3	40.3	38.9	37.7	30.6	-	
DT57	295203	92378	53.2	55.0	54.0	54.4	35.9	46.9	43.4	42.8	53.7	55.1	55.3	49.9	50.0	**40.5**	-	
DT58	295191	92395	47.7	51.0	38.7	41.5	35.5	36.3	32.7	34.0	43.2	49.3	47.9	38.7	41.4	33.5	-	
DT59	295466	92365	24.1	26.5	18.3	17.6	13.8	13.6	11.5	14.4	20.8	22.6	21.7	16.2	18.4	14.9	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT60	295636	92232	37.4	42.7	31.6	30.8	29.4	30.1	19.6	23.0	31.7	33.6	31.5	24.0	30.4	24.7	-	
DT61	295710	90571	25.7	28.2	22.4	19.8		17.4	15.7	18.1	24.6	25.5	22.4	18.0	21.6	17.5	-	
DT62	294694	90001	24.1	24.4	15.7	15.8	15.2	13.3	10.7	12.7	17.7	19.7	16.9	13.3	16.6	13.5	-	
DT63	294652	89974	30.6	29.7	23.7	21.5	18.5	20.1	21.2	20.4	24.2	25.1	24.7	23.5	23.6	19.1	-	
DT64	296415	88477	25.4	27.6	19.1	16.7	16.9	14.8	12.6	14.8	19.1				18.5	15.0	-	
DT65	294227	90435	26.6	32.5	24.4	26.4	23.8	24.2	14.8	20.2	24.6	23.2	21.8	15.0	23.1	18.7	-	
DT66	293213	91245	40.4	40.5	35.1	35.4	29.8	32.4	30.1	31.1	41.6	42.8	37.2	30.5	35.6	28.8	-	
DT67	292291	91678	25.0	27.7	23.1	22.8	19.1	21.6	16.0	18.9	27.4	30.2	22.9	16.6	22.6	18.3	-	
DT68	291016	91304	18.7	19.0	12.5	10.4	9.0	7.9		9.2	12.6	14.5	13.5		12.7	10.3	-	
DT69	291298	92593	15.0	17.5	10.7	10.1	6.8	7.0	5.3	7.6		13.3	12.3	6.9	10.2	8.3	-	
DT70	294387	92611	21.3	25.0	16.2	16.3	15.4	13.3	9.3	13.0			20.5	6.9	15.7	12.7	-	
DT71	293617	93090	14.8	15.1	9.8	8.8	5.3	5.9	6.0	6.8	10.6	12.3	11.4	8.4	9.6	7.8	-	
DT72	293052	94185	21.1	20.0	13.7	12.6	9.8	9.6	9.1	8.8	13.4	15.1	16.5	11.9	13.5	10.9	-	
DT73	292056	93043	12.5	13.4	10.4	9.2	5.3	6.2	5.5	6.4	10.5	13.8	11.5	8.6	9.4	7.6	-	
DT74	291721	89727		17.6	11.3	11.0	10.2	8.1	7.1	8.8	12.3	15.0	14.2		11.6	9.4	-	
DT75	291555	90449	20.7	22.8	15.0	14.2	11.7	12.0	9.5	12.3	15.5	19.8	17.6	11.2	15.2	12.3	-	
DT76	292553	93082	19.9	21.7	12.3	13.2	11.1	11.6	8.7	11.1	14.9	17.2	17.5	10.6	14.1	11.5	-	
DT77	296415	94165	32.4	34.2	30.0	25.6	24.4	23.8	19.8	21.1	26.8	29.9	28.0	23.5	26.6	21.6	-	
DT78	296827	93886	22.2	22.3		17.0	13.3	13.0	11.4	12.5	18.6	19.5	18.5	14.3	16.6	13.5	-	
DT79	295967	88876	22.8	26.7	20.0	20.9	17.4	19.0	11.5	14.3	21.4	24.9	20.2	14.4	19.5	15.8	-	
DT80	292637	91991	28.2	27.7	20.0	19.6	17.6	17.4	14.1	17.3	22.1	21.5	23.1	17.7	20.5	16.6	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT81	292847	92911	21.1	22.1	15.7	13.5	9.9	10.3	8.8	10.7	16.2	17.9	18.2	12.4	14.7	11.9	-	
DT82	291655	92258	21.6	22.3	15.8	13.0	9.0	9.5	8.8	10.6	14.5	17.2	18.6	15.6	14.7	11.9	-	
DT83	291897	92217	31.7	37.1		25.0	25.2		21.8	22.8	28.4	31.2	31.2	25.9	28.0	22.7	-	
DT84	291375	92935	23.6	26.2		17.5	20.8	16.2	13.6	17.3	20.8	22.2	27.3	18.8	20.4	16.5	-	
DT85	291375	92935	40.9	40.7	35.0	32.8	31.7	30.8	25.3	27.8	27.1	38.2	38.8	31.9	33.4	27.1	-	

☒ **All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1.**

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

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **Exeter City Council confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

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

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Exeter During 2023

Exeter City Council has not identified any new sources relating to air quality within the reporting year of 2023.

Additional Air Quality Works Undertaken by Exeter City Council During 2023

Appendix F contains the details of how the proposed new AQMA boundary has been determined.

QA/QC of Diffusion Tube Monitoring

Exeter City Council uses Gradko diffusion tubes (20% TEA in water). Gradko laboratories (GRADKO International Ltd., St. Martins House, 77 Wales Street, Winchester, Hants. SO23 0RH) hold UKAS accreditation, follow the procedures set out in the Harmonisation Practical Guidance and their performance was satisfactory in the centralised AIR NO_2 PT scheme for quality assurance and quality control.

The tube exposure period used generally follows the Diffusion Tube Monitoring Calendar provided by the Air Quality Support Helpdesk, i.e. an exposure time of 4 or 5 weeks, with an allowed variation in exposure time of $\pm$ 2 days. During 2023, the monitoring was completed in adherence with the 2023 Diffusion Tube Monitoring Calendar.

The tubes are stored in a fridge before they are exposed. Location sites and fixings follow the recommendations in the DEFRA practical guidance on the use of diffusion tubes for NO_2 monitoring, published in 2008. Two tubes are collocated with the continuous analyser at the Royal Albert Memorial Museum (RAMM), Queen Street (Exeter Roadside).

Data from the tubes are ratified and suspect data rejected by Exeter City Council, following the procedure in the DEFRA practical guidance. Random checks of the data in the reporting spreadsheet are also undertaken to ensure that no mistakes were made when inputting the data. Analysis of the data from the two tubes that are co-located with the continuous analyser shows that these have overall good precision.

Diffusion Tube Annualisation

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

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within this ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Exeter City Council have applied a national bias adjustment factor of 0.81 to the 2023 monitoring data (from the March 2023 national bias adjustment spreadsheet). This factor was chosen because the data collection at the RAMM (CM1) continuous analyser was low. It is based on 23 studies. A summary of bias adjustment factors used by Exeter over the past five years is presented in Table C.1.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.81
2022	Local	-	0.77
2021	National	03/22	0.84
2020	Local	-	0.74
2019	Local	-	0.89

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure

has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

No diffusion tube NO_2 monitoring locations within Exeter required distance correction during 2023.

QA/QC of Automatic Monitoring

Neither of the two PM analysers are part of the national network, however recommended QA/QC procedures from the AURN Local Site Operator's manual are followed. ET also service each analyser every six months. The analyser at RAMM (CM1) was not available for much of the year, because of a long-running fault.

Live PM10 and PM2.5 data is available at this page.

The PM data is collected, validated and ratified by Exeter City Council. Validation involves checking the data daily for instrumentation errors etc. and then visually screening the data on a weekly basis to mark any obviously spurious or unusual measurements. The Council also undertakes data ratification on an approximately three monthly basis as well as following site services. This involves:

- o Comparison of data with other pollutants and other appropriate AURN network sites (roadside sites and other sites in the south west),
- o Final checking and deletion of data marked as possibly erroneous,
- o Removal of data from unrepresentative periods of operation (e.g. road works in immediate vicinity of site etc. where data is shown or believed to have been affected),
- o Adjustment for issues identified during services etc.

The NO_2 data from Exeter Roadside is collected and ratified by the AURN. Network data from the site can be found at this link. It is ratified every 3 months by NETCEN, and is reported in the QA / QC Data Ratification Report for the Automatic Urban Network. Data capture from the NO_2 analyser was 76% in 2023 (scaffold erected for repairs at the RAMM site has meant that the data for the last part of the year cannot be used).
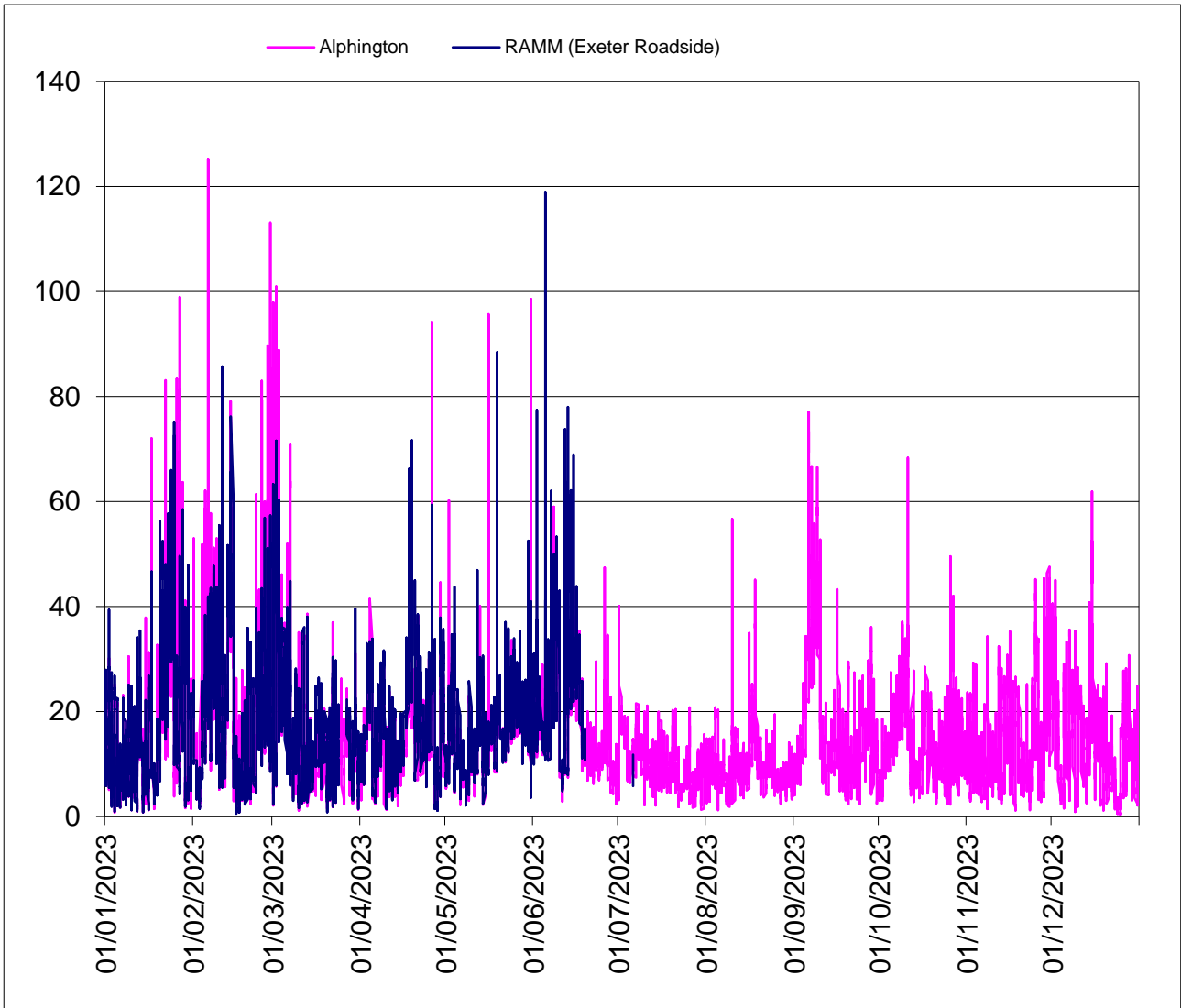
Plots of hourly average values for nitrogen dioxide, PM_{10} and $PM_{2.5}$ are shown below in figures C.1, C.2 and C.3.

**Figure C.6 – Hourly NO₂ data from Exeter Roadside (RAMM) (µg/m³)**
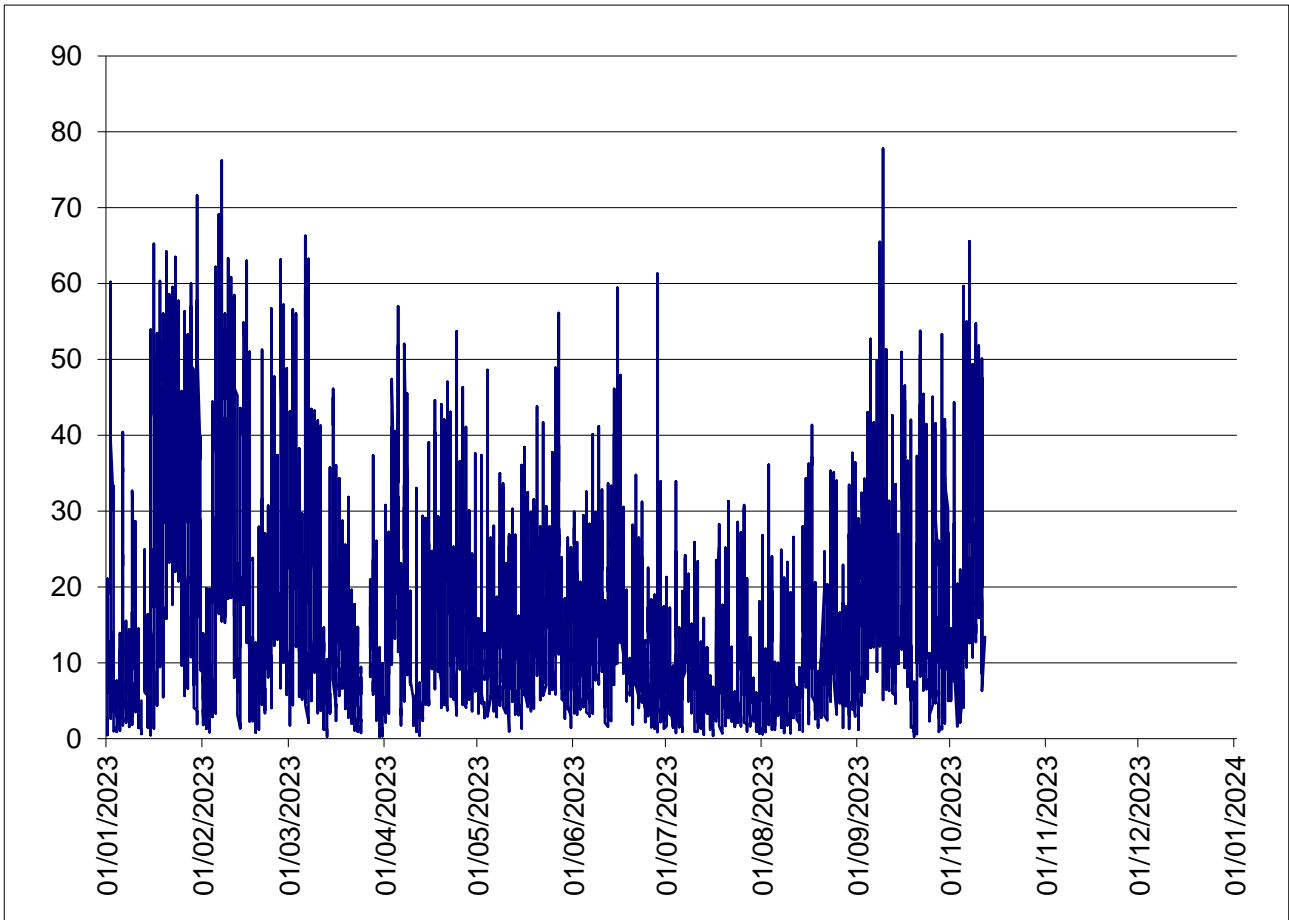
This graph shows the hourly NO₂ data from the RAMM continuous analyser.

Figure C.7 – Hourly PM$_{10}$ data from Exeter Roadside (RAMM) and Alphington (μg/m^3)

This graph shows the hourly PM$_{10}$ data from the RAMM and Alphington Street continuous analysers.

Figure C.8 – Hourly PM₂.₅ data from Exeter Roadside (RAMM) and Alphington (µg/m³)
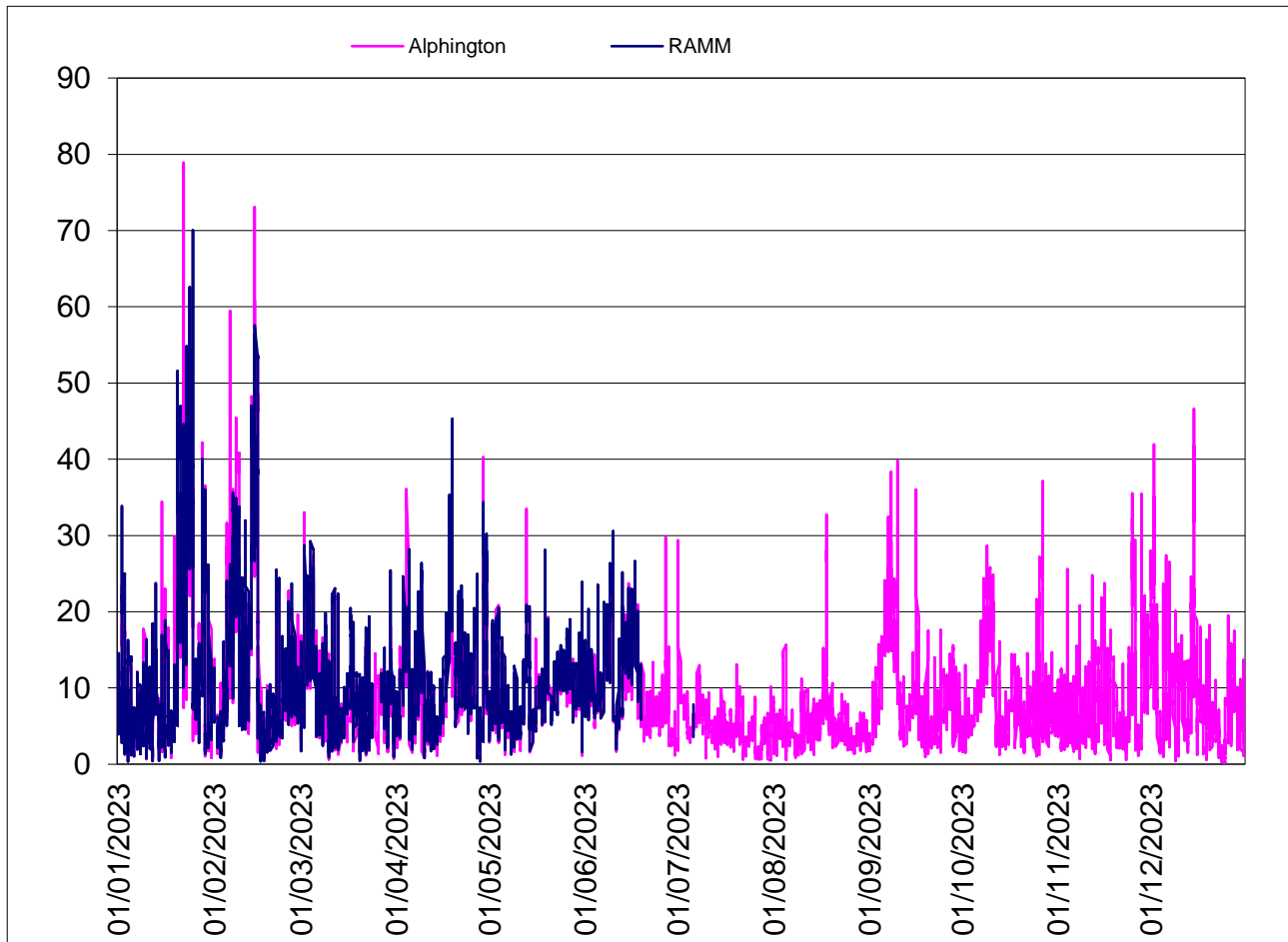
This graph shows the hourly PM₂.₅ data from the RAMM and Alphington Street continuous analysers.

PM₁₀ and PM₂.₅ Monitoring Adjustment

The type of PM₁₀/PM₂.₅ monitors utilised within Exeter City Council do not require the application of a correction factor.

Automatic Monitoring Annualisation

Data capture from the PM10 and PM2.5, NO₂ and O₃ continuous analysers at RAMM (Exeter Roadside CM1) were below 75% so these have been annualised using the method described in the Technical Guidance. Annualisation factors were gained using data from nearby (<50 miles) AURN urban or rural background sites which have data

capture of over 75%. The annualisation factors for each pollutant are fairly similar for all the sites used, especially for NO₂ and O₃. Details of the calculation method undertaken are provided in Tables C.4 to C.7.

Table C.4 – PM10 Annualisation Summary (concentrations presented in µg/m³)

Site ID	Annualisation Factor Plymouth Centre	Annualisation Factor Honiton	Annualisation Factor Yarner Wood	Annualisation Factor Site 4 Charlton Mackerell	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
CM1	1.03	1.12	1.06	1.12	1.08	18.6	20.07

Table C.5 – PM2.5 Annualisation Summary (concentrations presented in µg/m³)

Site ID	Annualisation Factor Plymouth Centre	Annualisation Factor Honiton	Annualisation Factor Yarner Wood	Annualisation Factor Charlton Mackerell	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
CM1	1.08	1.21	1.16	1.23	1.17	11.3	13.17

Table C.6 – NO₂ Annualisation Summary (concentrations presented in µg/m³)

Site ID	Annualisation Factor Plymouth Centre	Annualisation Factor Yarner Wood	Annualisation Factor Charlton Mackerell	Annualisation Factor 4	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
CM1	1.01	1	1	-	1	16.47	16.47

Table C.7 – O₃ Annualisation Summary (concentrations presented in µg/m³)

Site ID	Annualisation Factor Plymouth Centre	Annualisation Factor Yarner Wood	Annualisation Factor Charleton Mackerell	Annualisation Factor 4	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
CM1	0.96	0.96	0.98	-	0.97	48.5	46.94

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the NO₂ fall-off with distance calculator available on the LAQM

Support website. Where appropriate, automatic annual mean NO_2 concentrations corrected for distance are presented in Table A.3.
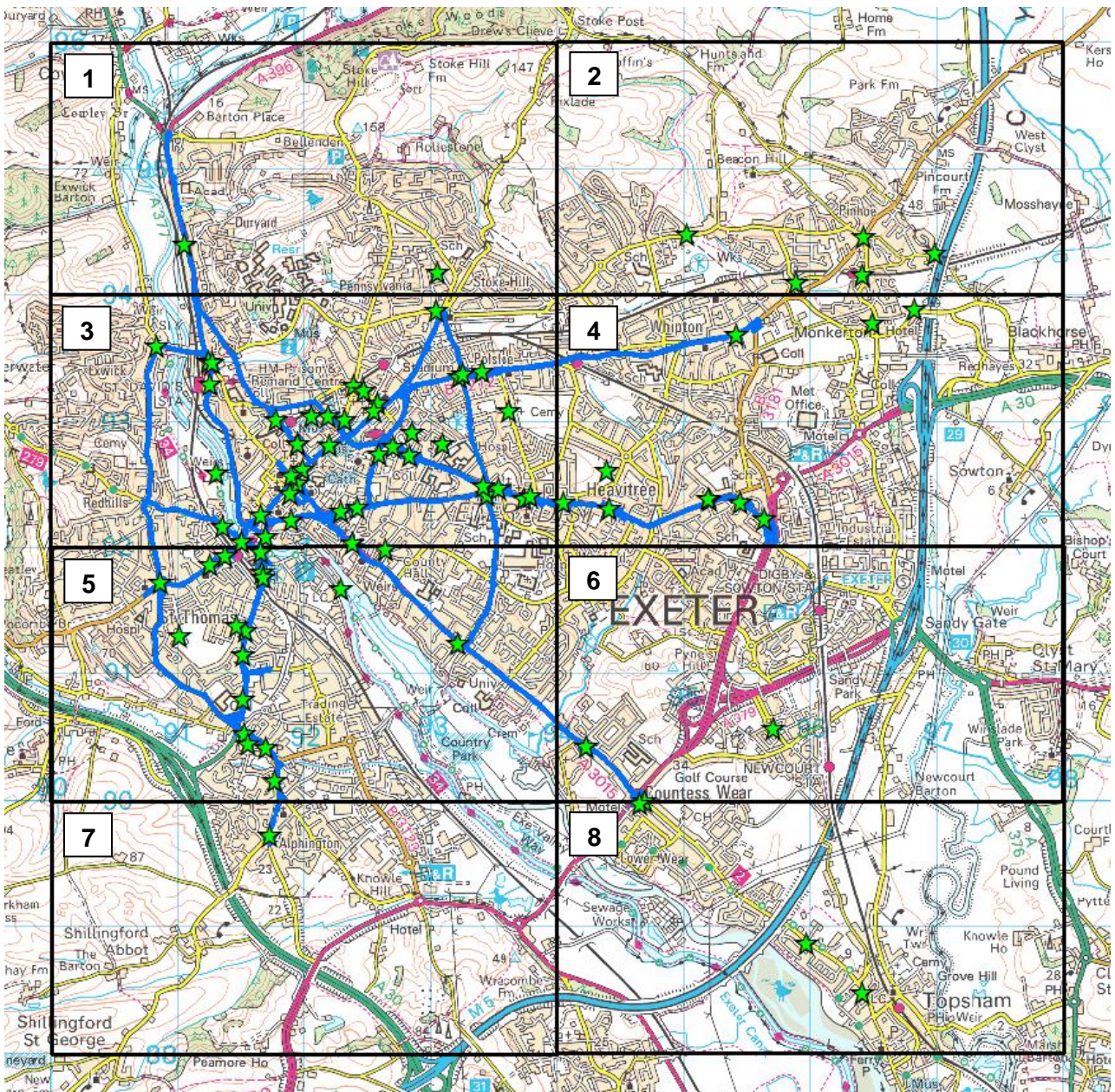
No automatic NO_2 monitoring locations within Exeter required distance correction during 2023.
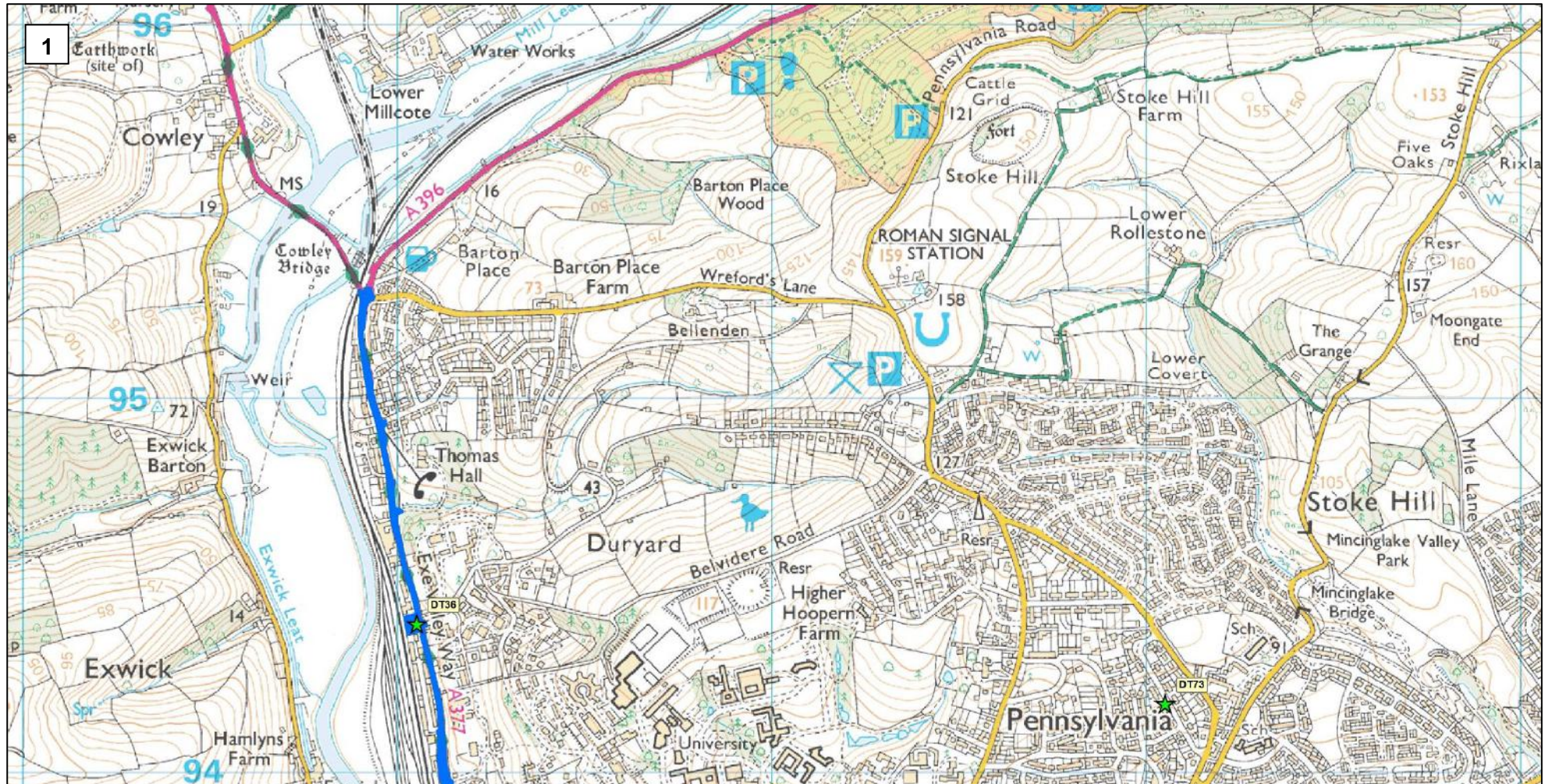
Appendix D: Map(s) of Monitoring Locations and AQMAs

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

The monitoring locations and 2023 data can also be viewed using an online map here.
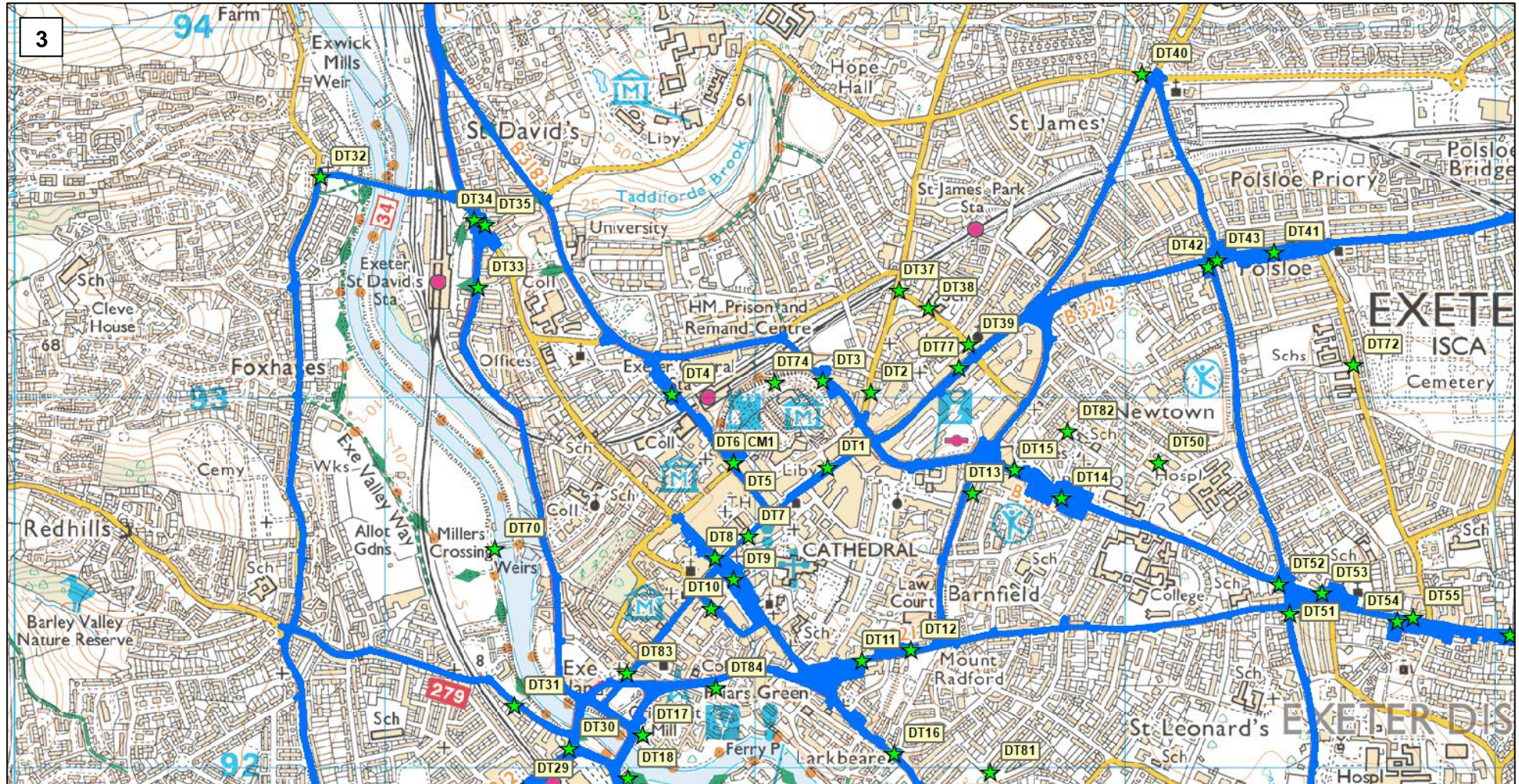
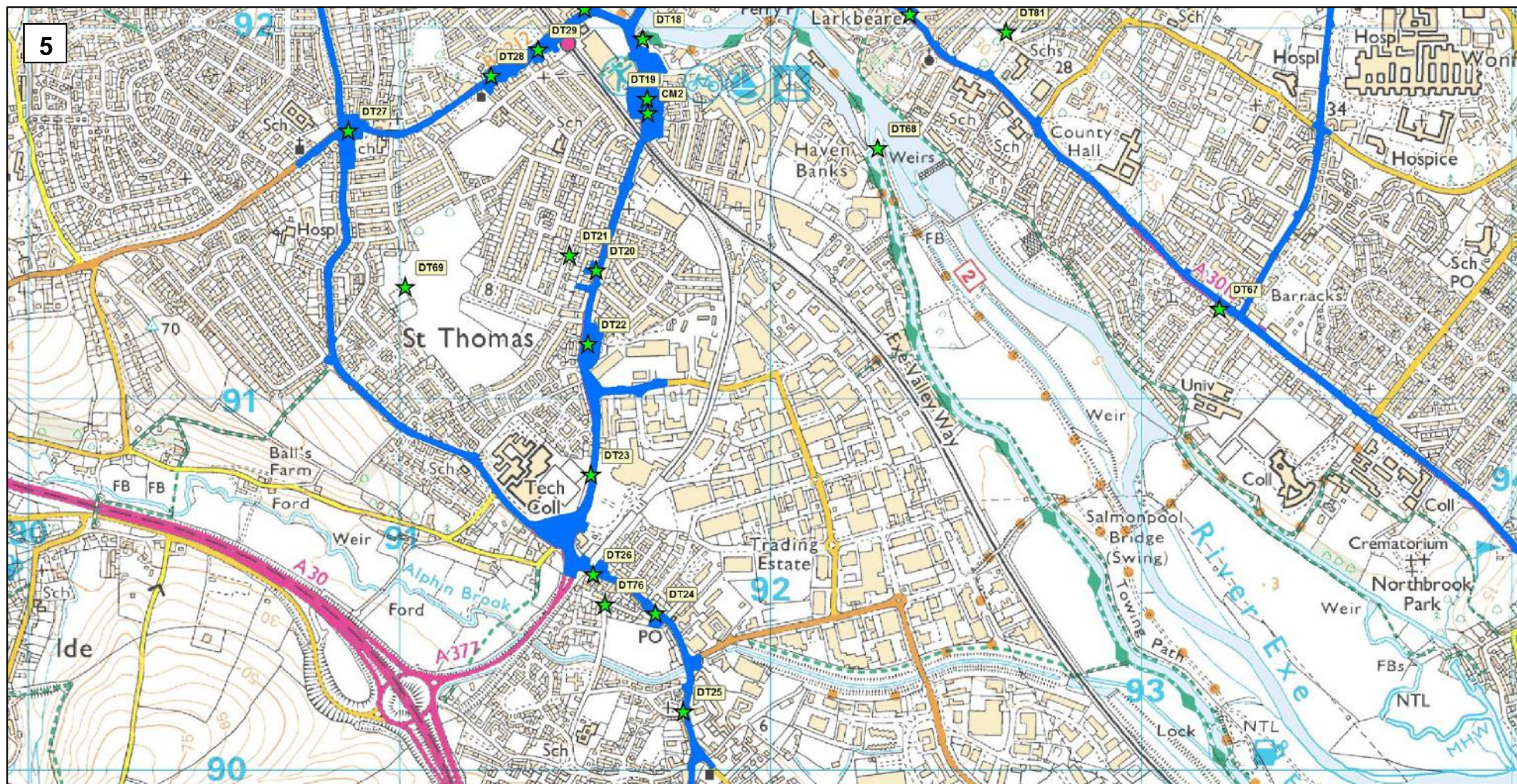Monitoring location = ⭐
AQMA = ▬▬

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020
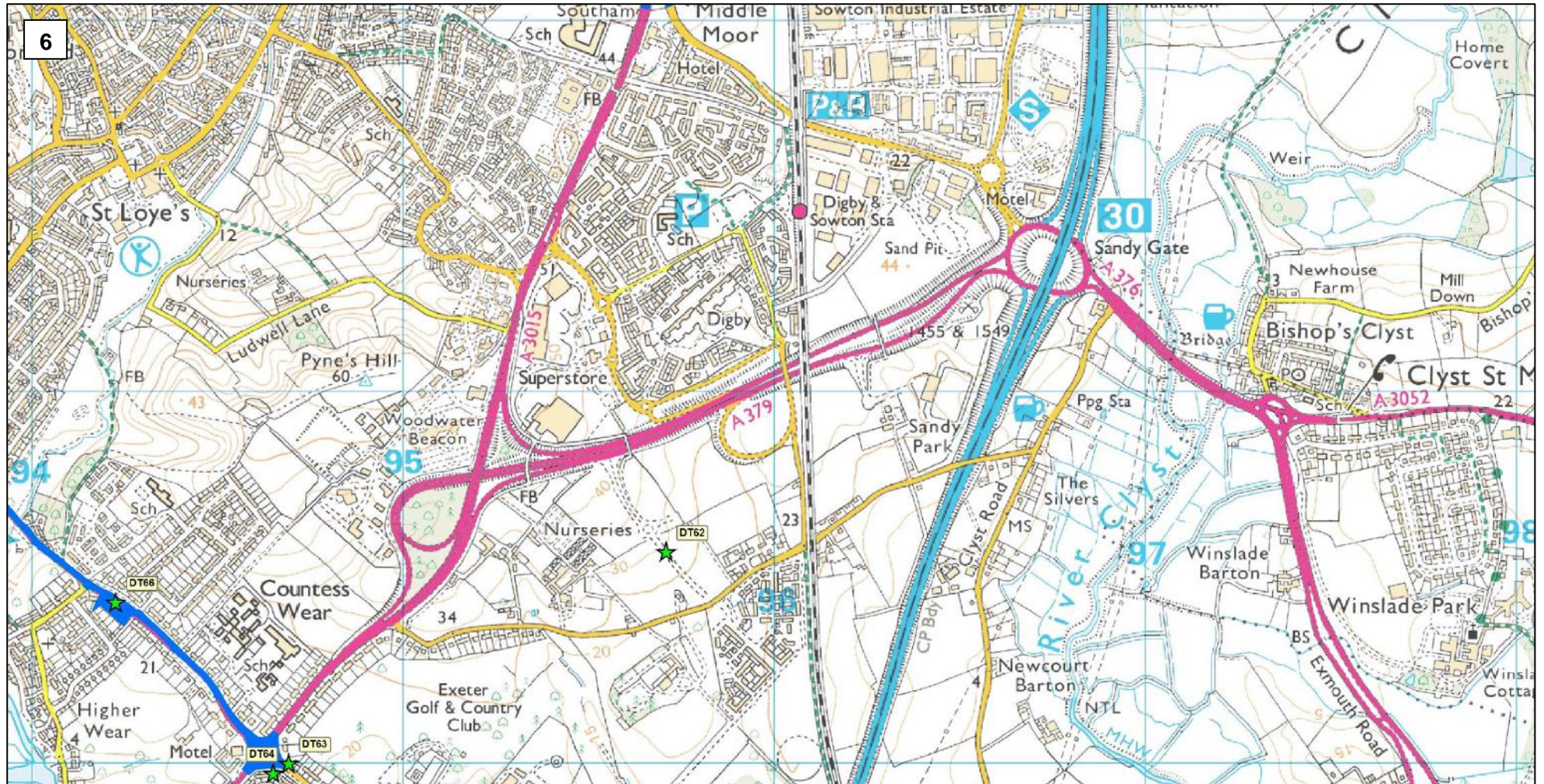
This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020
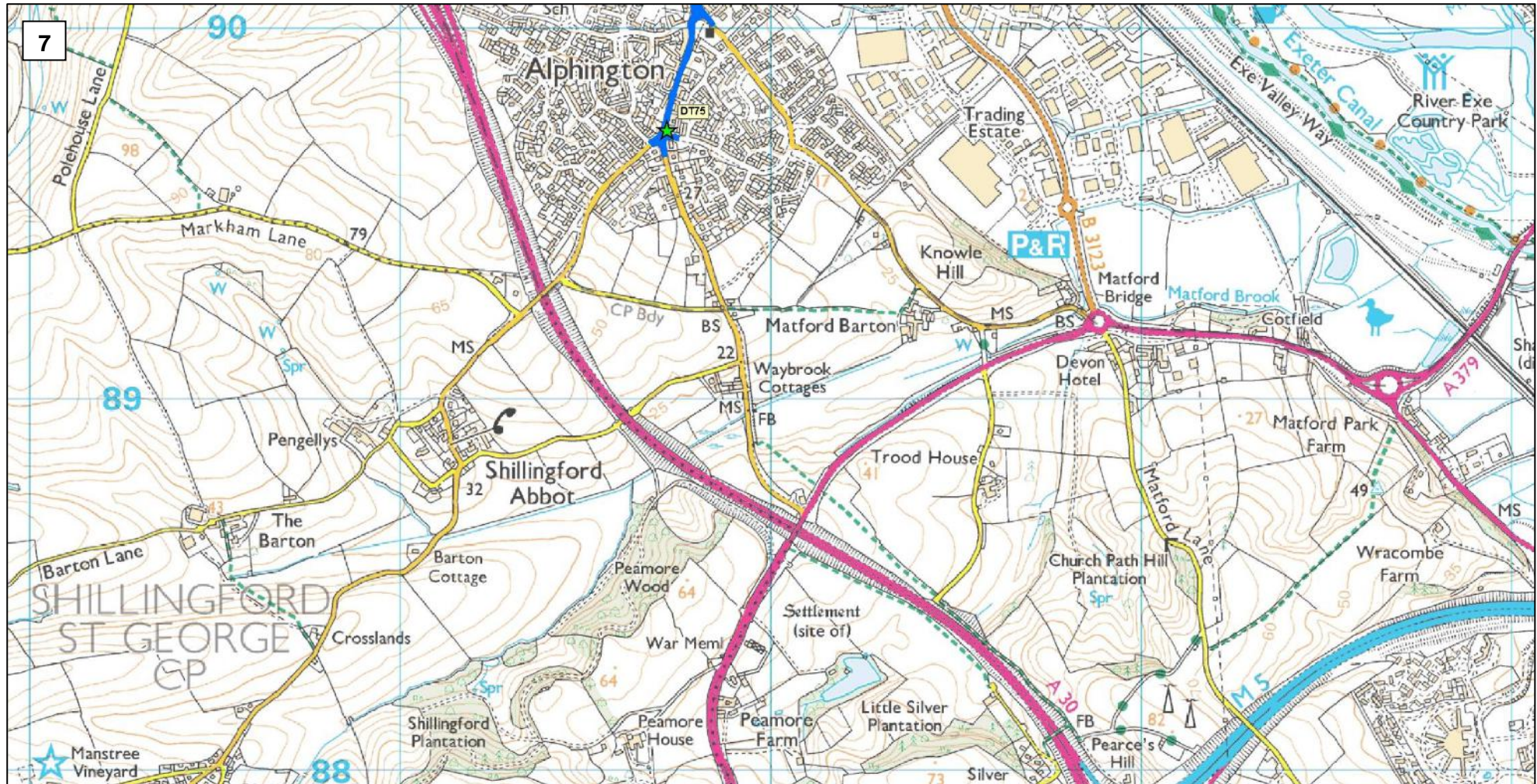
This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2020

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[7]

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

[7] The units are in microgrammes of pollutant per cubic metre of air ($\mu g/m^3$).

Appendix F: Review of AQMA Boundary

There are two steps involved in the process. Firstly, the Council needs to have confidence that it has identified all locations for which the air quality objectives are exceeded. Secondly, it then needs to identify an AQMA boundary which includes these locations. The AQMA boundary can be larger than the area of exceedance although the current intent is for a smaller, more specific 'hot spot' AQMA which provides a clearer focus for AQAP measures.

The policy and technical guidance does not specify how councils should identify the limits to the areas of exceedance, only saying that the authority should have broad confidence in the monitoring data and/or modelling, be aware of the uncertainties and show in their annual report what steps they have taken to minimise these. However the guidance goes on to warn local authorities against expending significant resources narrowing down the parameters of an AQMA to the detriment of identifying measures and taking action. DEFRA suggest that where normal annual monitoring and local intelligence shows a persistent exceedance (or risk of exceedance) the local authority consider moving immediately to declaring and establishing (or extending) an AQMA and hence to the development of AQAP measures to remediate the problem. Only local authorities who, until now, have had few air quality problems, or have sufficient doubts, should consider the necessity of obtaining further supporting information.

This paragraph above suggests that provided the uncertainties can be minimised there is no absolute requirement for modelling of the extent of an exceedance. The question is therefore whether the monitoring that is currently undertaken by the Council is sufficient to allow us to determine the extent of the exceedance.

The 2023 data presented in this report shows that only the East Wonford Hill diffusion tube (DT57) is showing an exceedance. Furthermore, it is possible to say the following:

- The monitoring meets the DEFRA guidance for QA/QC, so uncertainties are reasonably well understood and controlled.
- The western (inner) extent of the exceedance is likely to be at or before the junction with Butts Road, because the diffusion tube beyond this junction (Fore Street inbound, DT56) is below the objective. This location is shown as the western red line on the map in Figure F.10 below.

- The eastern (outer) extent of the exceedance is likely to be at or before the junction with Rifford Road, because the diffusion tubes beyond this location (Honiton Road, DT58 and Honiton Road façade, DT59) are both below the objective. This location is shown as the eastern red line on the map in Figure F.10 below.
- The area of exceedance will be no larger than the existing AQMA, given that concentrations at all monitoring sites have reduced since that AQMA was declared.

The other question to be considered is whether both sides of this section of road are affected, or only the southern side (where the houses are closer to the roadside and where the diffusion tube is located). Currently the AQMA boundary includes the houses on both sides of the road, based on dispersion modelling undertaken prior to declaration, as shown in the map below. There is no suggestion that the extent of the exceedance will be greater than it was at that stage, given that monitored concentrations have fallen. There are two possible approaches:

1) Use the attenuation with distance calculator to predict the likely concentration at the façade of the houses on the north side. Using the 2023 data this shows a level of 35.2 mg/m^3 at the closest house to the road. This suggests that only the south side is exceeding the limit. The background concentration for this calculation has been taken from the Heavitree Pleasure Ground diffusion tube (DT71), which is shown on the map in Figure F.10 below.

Figure F.9 – Attenuation with Distance Calculation

		Enter data into the pink cells	
Step 1	How far from the KERB was your measurement made (in metres)?	2	metres
Step 2	How far from the KERB is your receptor (in metres)?	4	metres
Step 3	What is the local annual mean background NO$_2$ concentration (in µg/m^3)?	7.8	µg/m^3
Step 4	What is your measured annual mean NO$_2$ concentration (in µg/m^3)?	40.5	µg/m^3
Result	The predicted annual mean NO$_2$ concentration (in µg/m^3) at your receptor	35.2	µg/m^3

2) Include both sides of the road even though there is no evidence that both are affected. This takes into account the uncertainty in the process described above, is

precautionary and also avoids making just a very small number of properties the subject of the AQAP. Including both sides of the road in this way would not 'dilute' the impact of the AQAP because it would still only include just a short stretch of one road.

It is proposed to adopt option 2 and the draft AQMA order, including the new boundary, is shown below. The new area includes 225m of road and 47 residential addresses.

This approach was sent to the LAQM helpdesk in May 2024 and the following response was received: We have reviewed the below and agree with your approach. Adopting option 2 seems to be this most robust approach and your reasoning is welcomed.

The Council will undertake an 11 week consultation on the proposed new boundary. The following consultees will be asked for their views:

- Residents within the new AQMA boundary (by means of a letter)
- The public, by means of information on the City Council website.
- Councillors on the Scrutiny and Executive committees, by means of the annual report
- Neighbouring District Councils and the County Council, by letter
- Director of Public Health, by letter
- Highways England, by letter
- Environment Agency, by letter
- Natural England, by letter

The draft consultation plan is included below.

1. Title of consultation	
Consultation on the revision of the Air Quality Management Area boundary.	
2. Responsible officers	
Director	David Bartram
Service lead	Simon Lane
Consultation lead officer	Alex Bulleid
3. Purpose of the consultation	

Explain why the council is consulting on this issue. Where the council has a preferred option, state this and explain how and why that preference was chosen. Where specific options have been rejected, explain why we do not consider them practical. Where options are offered, they should be realistic and deliverable.

It is necessary to amend the boundary of the current Air Quality Management Area to reflect the significantly improved levels of nitrogen dioxide in the city. There is a legal requirement to reduce the size of the current Area to reflect this change.

Exeter City Council's proposed new boundary, and the justification for this, are described in the Air Quality Annual Status Report for 2024.

4. Timing, duration and key milestones

Set out when will the consultation take place and for how long (6-8 weeks minimum)

The consultation will commence when the Annual Status Report is presented to scrutiny committee on the 12 September 2024. It will end on 30 November 2024. The consultation period is 11 weeks.

Set out other key milestones e.g. date of report to committee, data analysis schedule and date of publication of results and feedback

Once the consultation period has ended, the responses will be evaluated and the final order then submitted to DEFRA before Christmas 2024 for their approval. The new order will be adopted and signed by the end of March 2025. (Anticipated Executive 4 February and Full Council 18 February 2025).

5. Equality Impact Assessment

Confirm that a EQIA has been completed and date

The EQIA is included within the Annual Status Report.

6. Consultees and how they will be consulted (survey, public meeting, exhibition, focus group)

Consultee	Method
Those most affected by the proposal (Those living in the revised Area)	Direct letter to households
Exeter residents	Consultation advertised on City Council website
General public	Consultation advertised on City Council website
Members (ECC and DCC)	Consultation starts after report is taken to scrutiny committee

Partners and other statutory stakeholders	Statutory consultees will be written to directly (see list in Annual Status report)
Other stakeholders	

7. Public Sector Equality Duty

Set out any special provisions that are required to ensure that people with protected characteristics are able to partake in the consultation.

Characteristic	Special provision
Age	Consultees will have the opportunity to respond by electronic communication, telephone or a personal visit (in the case of residents within the Area only)
Disability(includes mobility, sensory, learning and mental health)	Consultees will have the opportunity to respond by electronic communication, telephone or a personal visit (in the case of residents within the Area)
Race/ethnicity(includes Gypsies and Travellers),	No special provisions required
Sex and gender	No special provisions required
Gender identity	No special provisions required
Religion and belief	No special provisions required
Sexual orientation	No special provisions required
Pregnant women, new and breastfeeding mothers,	No special provisions required
Marriage and civil partnership	No special provisions required

8. Supporting information

What background information will be provided for consultees and in what format?

The Annual Status Report, and a summary of it, will be available on the Council's website. A copy of the summary will be included with the letters to the households within the area.

9. Publicity

How will consultees be made aware of the consultation and the results?

Please see section 6. The final report will be to Executive and Full Council with the decision being published on the Council's website (with minutes of the meetings).

10. Accessibility

How will you ensure that consultation material meets accessibility and readability standards? (See intranet)

The accessibility and readability standards will be adhered to.

11. Demographics

What demographic data, if any, will be collected on consultees?

None

12. GDPR

If personal data is being collected, confirm that this has been agreed with the Data Protection Officer and that an appropriate privacy statement is included in any surveys.

None

13. Resource implications

Set out which internal resources will support this consultation or provide details of external resource requirements and means of funding.

The consultation will be undertaken within existing resources.

## 14. Carbon Footprint (Environmental) Implications:

How are carbon/environmental impacts arising from the consultation being addressed?

The subject of the consultation has been brought about as a result of improving levels of traffic pollution.

15. Approval

	Service Lead		*Corporate Manager (Executive Support)*	
Name		Name		
Signature		Signature		
Date		Date		

Figure F.10 – Map Showing Relevant Diffusion Tube Locations
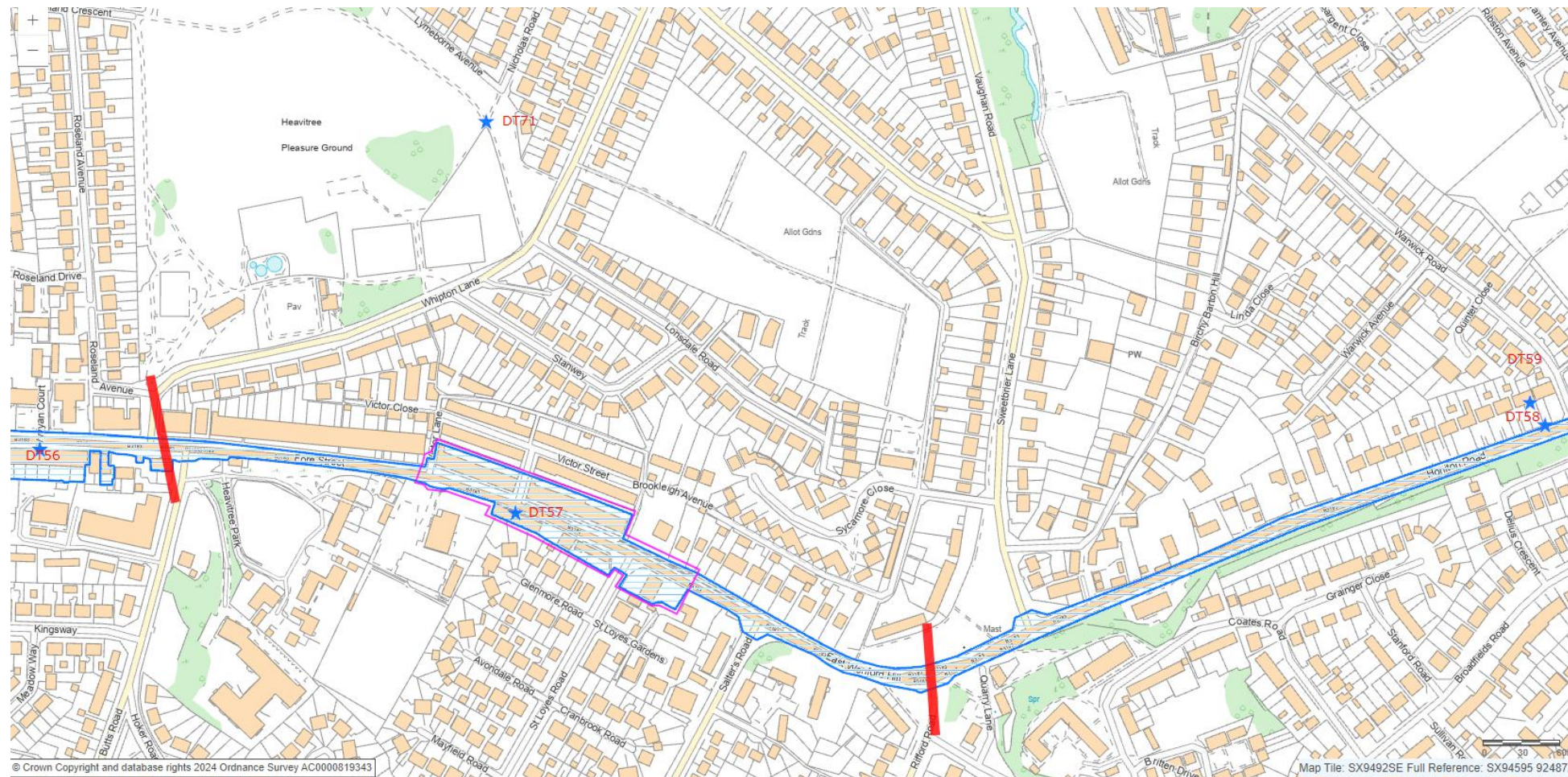
The existing AQMA boundary is shown in blue, with the proposed new boundary drafted in purple.

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2024

Proposed New AQMA Order

Environment Act 1995 Part IV Section 83(1)

The Exeter Air Quality Management Area Order 2025

Exeter City Council, in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order:

1. This Order may be cited/referred to as the Exeter Air Quality Management Area Order 2025 and shall come into effect on [date TBC].

2. The area shown on the attached map in red is to be designated as an air quality management area (the designated area), incorporating a section of East Wonford Hill. The map may be viewed at the Council Offices. This Area is designated in relation to a likely breach of the nitrogen dioxide annual mean objective as specified in the Air Quality Regulations 2000.

3. This Order shall remain in force until it is varied or revoked by a subsequent order.

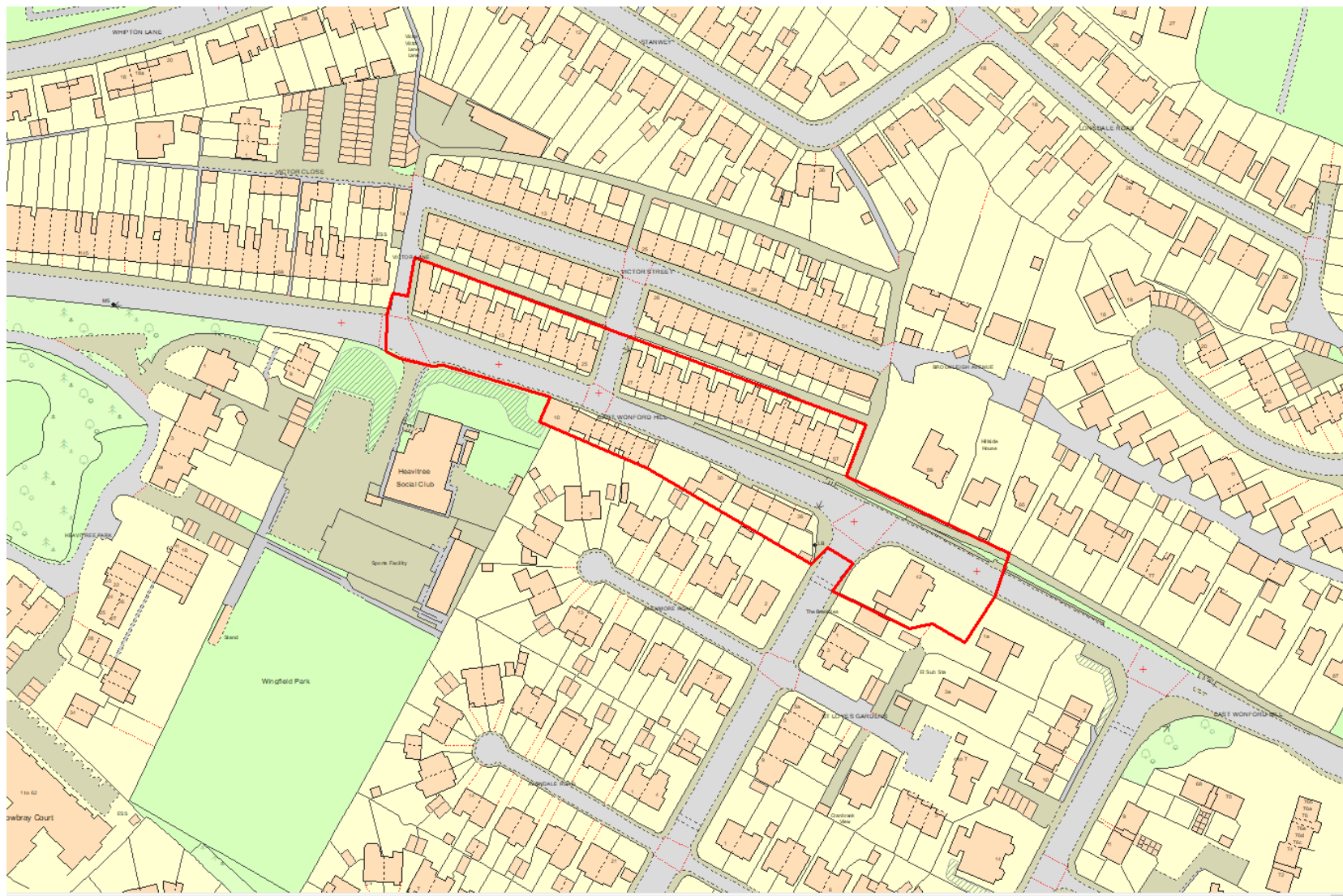4. The Exeter Air Quality Management Area 2010 shall be varied accordingly.

Dated the [date]

The Common Seal of Exeter City Council was hereunto affixed in the presence of:

A duly authorised signatory

Seal no.

The Exeter Air Quality Management Area

This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Exeter City Council 10025345, 2024

Appendix F: Equalities Impact Assessment for the Annual Status Report, including proposed variation of the AQMA Order

The Equality Act 2010 includes a general duty which requires public authorities, in the exercise of their functions, to have due regard to the need to:

- **Eliminate discrimination**, harassment and victimisation and any other conduct that is prohibited by or under the Act.

- **Advance equality of opportunity** between people who share a relevant protected characteristic and people who do not share it.

- **Foster good relations** between people who share a relevant protected characteristic and those who do not

In order to comply with the general duty authorities must assess the impact on equality of decisions, policies and practices. These duties do not prevent the authority from reducing services where necessary, but they offer a way of developing proposals that consider the impacts on all members of the community.

Authorities which fail to carry out equality impact assessments risk making poor and unfair decisions which may discriminate against particular groups and worsen inequality.

Committee name and date	Report Title	Decisions being recommended	People with protected characteristics potentially impacted by the decisions to be made
This report will form part of a report to Scrutiny and Executive Committees after submission to DEFRA. It is anticipated that this will be in September and October 2024.	Annual Status Report 2024	To amend the Air Quality Management Area (AQMA) Order so that it includes a significantly reduced area and so that the exceedance of the short term nitrogen dioxide objective is no longer included	No negative impacts identified

Factors to consider in the assessment: For each of the groups below, an assessment has been made on whether the proposed decision will have a **positive, negative or neutral impact.** This is must be noted in the table below alongside brief details of why this conclusion has been reached and notes of any mitigation proposed. Where the impact is negative, a **high, medium or low assessment** is given. The assessment rates the impact of the policy based on the current situation (i.e. disregarding any actions planned to be carried out in future).

High impact – a significant potential impact, risk of exposure, history of complaints, no mitigating measures in place etc.

Medium impact –some potential impact exists, some mitigating measures are in place, poor evidence

Low impact – almost no relevancy to the process, e.g. an area that is very much legislation led and where the Council has very little discretion

Protected characteristic/ area of interest	Positive or Negative Impact	High, Medium or Low Impact	Reason
Race and ethnicity (including Gypsies and Travellers; migrant workers; asylum seekers).	Positive / No Impact		This change can occur because of a reduction in nitrogen dioxide concentrations such that a far smaller area of the city is above the health-based objectives for this type of pollution. This means that the health effects of nitrogen dioxide will be reduced. It also means that a more focussed new Air Quality Action Plan (AQAP) can subsequently be produced. This will bring about further improvements in air quality and subsequently health. Any necessary restrictions or changes in the new plan can be limited to the region of the much smaller new AQMA if appropriate. (The new Action Plan will be subject to a further EQIA during its development).
Disability: as defined by the Equality Act – a person has a disability if they have a physical or mental impairment that has a substantial and long-term adverse impact on their ability to carry out normal day-to-day activities.	Positive		Poor air quality has a greater effect on vulnerable persons, such as the very young, the very old and those with pre-existing health conditions.

Protected characteristic/ area of interest	Positive or Negative Impact	High, Medium or Low Impact	Reason
Sex/Gender	Positive / No Impact		As above
Gender reassignment	Positive / No Impact		As above
Religion and belief (includes no belief, some philosophical beliefs such as Buddhism and sects within religions).	Positive / No Impact		As above
Sexual orientation (including heterosexual, lesbian, gay, bisexual).	Positive / No Impact		As above

Protected characteristic/ area of interest	Positive or Negative Impact	High, Medium or Low Impact	Reason
Age (children and young people aged 0-24; adults aged 25-50; younger older people aged 51-75/80; older people 81+; frail older people; people living with age related conditions. The age categories are for illustration only as overriding consideration should be given to needs).	Positive		Poor air quality has a greater effect on vulnerable persons, such as the very young, the very old and those with pre-existing health conditions.
Pregnancy and maternity including new and breast feeding mothers	Positive		Poor air quality has a greater effect on vulnerable persons, such as the very young, the very old and those with pre-existing health conditions.
Marriage and civil partnership status	Positive / No Impact		As above

Actions identified that will mitigate any negative impacts and/or promote inclusion

- None required

Officer: Alex Bulleid

Date: June 2024

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide
O_3	Ozone
DCC	Devon County Council
ECC	Exeter City Council
GESP	Greater Exeter Strategic Plan
ECF	Exeter City Futures
SELDP	Sport England Local Delivery Pilot

References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.
- Exeter City Council 2019. Exeter Air Quality Action Plan 2019-2023.
- Exeter City Council 2023. Exeter Air Quality Annual Status Report.
- Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance for Laboratories and Users 2008
- National bias adjustment factor spreadsheet.
- Devon Local Transport Plans.