



2022 Air Quality Annual Status Report (ASR)

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

Date: 5th September 2022

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Executive Summary: Air Quality in Our Area

Air Quality in Cambridge City Council

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas^{1,2}. Air pollution is harmful for human health at all levels, including below the legal limits, so it is important to do what we can to continue to improve air quality.

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴. The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion⁵.

What is the air quality like in Cambridge?

This is a question that we are often asked, and the answer is that “it varies”. Air quality tends to be better in the suburbs and away from busy roads than in the busy, narrow city centre streets, inner ring roads and on roads with high traffic levels. The centre of Cambridge has been within a statutory Air Quality Management Area since 2004 due to exceedances of nitrogen dioxide (NO₂). The main source of nitrogen dioxide in Cambridge is from vehicle emissions.

Air quality has been slowly improving in most parts of Cambridge in recent years, but there are parts of the city, including the busy central streets, where levels of NO₂ continued to be

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

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

³ Defra. Air quality appraisal: damage cost guidance, July 2021

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

⁵ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

high prior to the COVID-19 pandemic. Measured levels of nitrogen dioxide reduced significantly in 2020 compared to previous years in response to the pandemic and the impact of lockdown and subsequent restrictions; particularly those associated with the reduction in vehicle movements across the district.

Our air quality improvement work focuses on ways to reduce vehicle emissions, as well as reducing other sources of air pollution. We are striving to maintain and improve air quality despite continuing population increases and extensive development across the district and in surrounding villages.

In addition to legal limits for nitrogen dioxide there are also legal limits for small particles, known as PM₁₀ (particulate matter of diameter less than or equal to 10 micrometres or microns). We also monitor PM_{2.5} (particulate matter of diameter less than or equal to 2.5 micrometres or microns) at two locations and whilst there is currently no legal limits there are recommended standards.

Whilst levels of Particulate Matter (PM₁₀ and PM_{2.5}) saw a reduction during the pandemic this was much less marked as emission sources for particulate matter are much more diverse and transient often originating from outside our district. The levels of PM₁₀ in Cambridge are below the legal limits. The levels of PM_{2.5} are close to the World Health Organisation (WHO) standards.

Public Health data indicates that in 2020, 48 deaths in Cambridge could be attributed to Particulate Air Pollution.

Air Quality in 2021

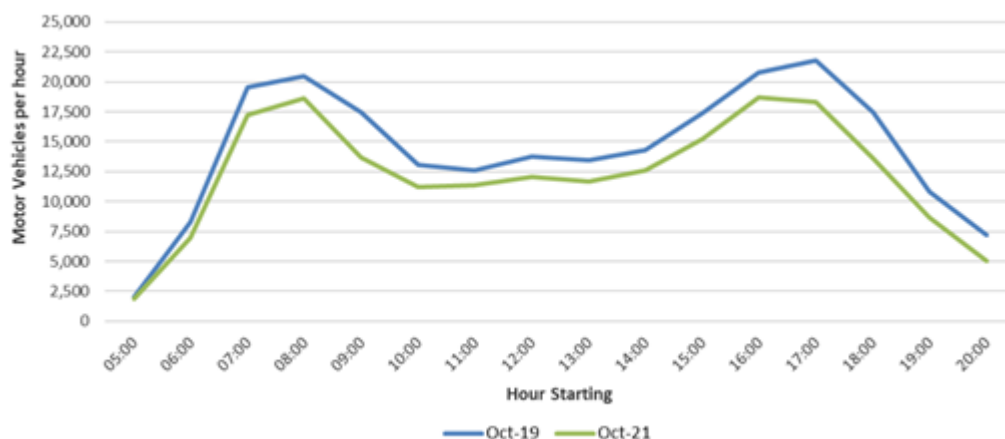
The reduced levels of air pollution recorded in 2020 in response to the pandemic continued into 2021; when compared with 2019 pre pandemic levels. This was expected given the lockdown at the start of the year and then slow return to 'normal life' as COVID-19 restrictions began to be lifted.

Whilst the traffic counts recorded by Cambridgeshire County Council were up in 2021 compared with 2020; they remain lower than in 2019 confirming that the number of vehicles entering the city remains lower than it was prior to the pandemic.

The [Traffic Monitoring Report](#) for 2021 reports confirms motorised vehicles crossing the city boundary levels were relatively stable between 2014-2019, reducing by approximately 20% in 2020 compared with levels in 2019 and remaining at approximately 14% below 2019

levels in 2021. Contrary to 2020 the profile across the day is similar to 2019 as people began to return to work with morning and evening peaks albeit lower than in 2019.

Figure 1: Cambridge Radial Motorised Traffic by time of day, October 2019 Vs October 2021 (Traffic Monitoring Report 2021, Cambridgeshire County Council)



Levels of nitrogen dioxide remained broadly stable compared with 2020 with slight increases in busy areas such as around the train and bus stations. All monitoring sites remained well below 2019 levels. Given that poor air quality is attributed predominantly to vehicle emissions in Cambridge this continued reduction compared with pre pandemic levels is to be expected. At this time it is not possible to establish the impact that the pandemic has had on working patterns and whether levels will return to those recorded pre pandemic.

Recorded levels of particulate matter remained stable in 2021 at the slightly reduced 2020 levels. Only a small proportion of overall particulate matter in Cambridge air is related to vehicular traffic, so significant drops in traffic levels during lockdown periods had only a small impact on overall particulate pollution levels in the city.

Levels of all measured pollutants are currently below their respective national air quality objectives levels. However, we know that air pollution is harmful for human health at all levels, so we continue to work with our air quality management partners to achieve lower levels.

Once we have a full year of data post pandemic we will get a clearer picture of air quality within the city and whether COVID 19 will have led to a shift in working patterns and behaviour that will see a sustained reduction in future years. In parallel work continues on projects across the city to improve infrastructure enabling a modal shift away from private cars to alternative modes of transport.

Air Quality data for 2021 is provided in Chapter 3 and Appendix A.

Actions to Improve Air Quality

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

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

Locally, planning and action to improve air quality involves working with a range of public sector partners, as different authorities are responsible for different areas of activity.

Cambridge City Council (CCiC) is the local authority with the legal responsibility to improve air quality in Cambridge city. Cambridgeshire County Council (CCC) has been responsible for traffic management, highways, public transport and improving public health and, as such, has a legal responsibility to work with the City Council and to the development and monitoring of actions to improve air quality in the city. Both councils have worked together for more than 15 years to bring in measures to improve the city's air quality. The Greater Cambridge Partnership (GCP) is the local delivery body for a City Deal with central Government, bringing powers and investment worth up to £1 billion over 15 years to deliver vital improvements in infrastructure and support the creation of new jobs, new homes and apprenticeships. The GCP aims to develop a sustainable transport network for the Greater Cambridge area (Cambridge and South Cambridgeshire) that keeps people and businesses physically connected as the area continues to grow. The GCP focusses on improvements to public transport and active travel modes, such as cycling and walking. The Cambridgeshire and Peterborough Combined Authority (CPCA), led by an elected Mayor, has adopted the strategic responsibilities for highways, traffic and public transport. CPCA officers are now fully engaged with the Cambridge Air Quality Action Planning process.

In 2017, we developed an Air Quality Action Plan with Cambridgeshire County Council and the GCP, which sets out how we can reduce polluting emissions in the city, with cleaner air for all residents, visitors and workers in the city.

The new Plan for Cambridge was approved unanimously at the Environment Scrutiny Committee in 2018. This plan sets out the council's priorities, for the next five years, for improving areas of poor air quality, and maintaining areas of good air quality across the city, as Cambridge continues to grow.

The proposed actions fall into three main categories:

1. Reducing local traffic emissions as quickly as possible to meet national objectives.

Proposals in this area include:

- Lowering emissions from taxis, by increasing the number of ultra-low and zero emission taxis through incentives and installation of more electric vehicle charging points;
- Reducing bus and coach emissions, by working with partners to invest in more low emission vehicles;
- Reducing HGV emissions in the city centre, by promoting 'greener' methods for making deliveries of goods, such as by cycle.

2. Maintaining levels of pollutants below national objectives, including by using planning policies to ensure new communities are designed to make it easy for people to use sustainable modes of transport.

3. Improving public health - educating people about the health impacts of poor air quality and encouraging them to make changes to their lifestyles, including by shifting to more active modes of transport like walking and cycling.

We have begun to work on our new AQAP. A draft plan will be prepared during 2022 with the expectation that it will go to committee and out for consultation in the spring of 2023 for adoption later in that year.

Conclusions and Priorities

Measured levels of pollutants remained lower in 2021 when compared with 2019 levels prior to the COVID-19 pandemic. Only very small increases were seen at most locations when compared with 2020 levels as would be expected given the lockdown at the start of 2021 and the continued restrictions throughout the majority of the year. It is only into the second quarter of 2022 that traffic levels have begun to return to pre COVID-19 levels.

Given the uncertainty in pollutant levels as COVID-19 restrictions were lifted and the slow return of people to both the workplace and city centre shopping it is unclear at this time where pollutant levels will settle post COVID-19. Given this uncertainty, no changes to the Air Quality Management Area are proposed at this time.

Priorities for 2022

- **Priority** - Our key priority in 2022 is to continue with the measures already underway that stalled during 2020 and 2021 and begin work on new measures in accordance with our Air Quality Action Plan. Most workstreams were impacted by COVID-19 related delays, whether developing new and secure ways of working, or through absence from work. Many of these workstreams have now resumed or are scheduled to later in the year.
- **Challenge** - Future improvements in air quality are dependent on supporting the switch from internal combustion engine to low emission vehicles for both private and public fleets.
- **Challenge** - Air quality will continue to remain under pressure because of continued significant population, housing and business growth in and around Cambridge.
- **Action** – We will support the Greater Cambridge Shared Planning Service in the development of the new Greater Cambridge Local Plan to ensure it enables the delivery of agreed air quality measures
- **Action** - We will continue to pursue actions to improve air quality in the city, taking advantage of partnership development and external funding opportunities to develop and deliver further measures.
- **Action** - We will continue to work with developers and communities to ensure that new developments minimise harmful impact on air quality.
- **Action** – We will continue to work with the Greater Cambridge Partnership and the Cambridgeshire and Peterborough Combined Authority to support strategic transport planning and infrastructure investment.
- **Action** – We will continue to work with Cambridgeshire County Council on matters relating to the highways and public health.

Local Engagement and How to get Involved

Local Engagement

Regular articles on air quality are included in the Cambridge City Council magazine, Cambridge Matters, which is delivered free of charge to all residents. Information about air quality is provided on the Cambridge City Council [website](#), including data directly from the main monitoring stations; Cambridgeshire County Council includes air quality information on its [Cambridgeshire Insight](#) information website.

Cambridge residents are very engaged with air quality issues and frequently raise questions or make suggestions via our email eqg@cambridge.gov.uk

How everyone can help to improve air quality

Everyone is affected by the quality of the air that we breathe, and everyone has a role to play to help to improve air quality in Cambridge. Here are some examples of what you can do:

- Avoid using your car for short trips (under 2 miles) - short trips are very polluting as modern engines need to reach a very high temperature to work efficiently; on short trips it won't reach that temperature.
- Try using public transport, or try cycling or walking more often.
- Information on [public transport](#) around Cambridge can be found on the Cambridgeshire County Council website, as well as the Cambridgeshire and Peterborough Combined Authority [website](#).
- My [Bus Trip](#) is a useful app for real-time bus information.
- [MotionMap](#) is a journey-planning app for travel by bus, train, walking and cycling; it's available from app stores. [Citymapper](#) includes Cambridge as part of its London mapping area.
- Walking and cycling help you to stay physically and mentally healthy plus save you money in fuel costs.
- When driving, use techniques that help you use less fuel, like driving more slowly and smoothly. You could use 10% less fuel and save money by following the tips on the AA [website](#).

- Switch it off - turn off your engine if you are caught in a traffic jam or have to wait at level crossings; not only will this reduce your emissions, but you will save fuel too.
- Consider using an alternative fuel vehicle – More people than ever are buying electric vehicles. There are charging points at some of our car parks and plans are underway to introduce more to meet demand.
- If you own more than one car, consider if you could sell one and make use of a car club instead? As well as reducing air pollution, for many people this will save them money too. There are two car clubs in Cambridge. [Enterprise](#) has 34 vehicles for short or longer term use in Cambridge and [Zipcar](#) has 12.
- If you only own one car, could you switch more of your journeys to public transport, walking and cycling, and use a car club for those trips where you really need a car?
- Consider working at home as often as possible, or car sharing if you need to drive to work.
- Use less energy at home – wood, coal, oil and gas burning all contribute to air pollution.

If you would like to know more about air quality in Cambridge, please visit our [air quality pages](#), contact us by phone on 01223 457900 or email egg@cambridge.gov.uk.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Cambridge City Council with the support from colleagues within Cambridgeshire County Council and the Greater Cambridgeshire Partnership.

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1 Local Air Quality Management

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

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

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

- **NO₂ annual mean**

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Description Line	Is air quality in the AQMA influenced by roads controlled by National Highways?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
Cambridge	2004	NO ₂ Annual Mean	An area encompassing the inner ring road and all the land within it	NO	Parker St 49 (CM) Emmanuel St 59 (DT) micrograms per cubic metre	Parker St 23 (CM) Emmanuel St 22 (DT) micrograms per cubic metre	Cambridge Air Quality Action Plan, 2018	https://www.cambridge.gov.uk/air-quality-action-plan

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

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

2.2 Progress and Impact of Measures to address Air Quality in Cambridge City Council

Cambridge City Council and its' partners have taken forward several direct measures during the current reporting year of 2021 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Where there have been, or continue to be barriers restricting the implementation of the measure, these are also presented in Table 2.2.

Most of the projects currently in the Air Quality Action Plan are already ongoing, completed, or longer-term projects.

- Many new Active Travel projects installed using Emergency Traffic Regulation Orders (ETRO) were made permanent in 2021. These projects were originally installed as part of the councils' response to the pandemic to allow more space for walking and cycling.
- Histon Road Improvements for buses, cyclists and pedestrians has been completed. This measure should improve journeys for these modes and encourage the switch to active travel modes.
- Chisholm Trail Phase 1: This has been completed allowing cycling routes to connect across Cambridge, improving infrastructure for active travel modes.

Cambridge City Council and partners expect the following measures to be completed over the course of the next reporting year:

- Installation of the remaining OLEV-funded taxi charge points. By end of April 2022, we had 15 charge points operational across 9 sites. A total of 5 charge points were installed at 4 sites in 2021. In 2022 we expect to install another 5 charge points at 4 more sites to make a total of 20 charge points at 13 sites. All new saloon taxis licenced by Cambridge City Council must be ultra-low emission or electric from April 2021.
- Assessment of the Clean Air Zone options and/or any other interventions brought forward for implementation.

Cambridge's City Council's priorities for the coming year

- Continue to work with the GCP on the Clean Air Zone options. A Clean Air Zone of some type will be essential to reduce the emissions in central Cambridge.

- Continue to work with the GCP to ensure the impact on air quality of the proposed GCP interventions and projects is fully understood and considered as part of the review process.
- Work with the Cambridgeshire and Peterborough Combined Authority (CPCA) on all projects that will improve air quality, including the Local Transport Plan refresh.
- Complete the installation of rapid charge points for taxis.
- Continue to work with the County Council and other partners on a range on-street charging projects for residents and non-residents.
- Continue to work with the County Council and other partners on a range of environmental and climate change projects which have an impact on air quality.
- Continue to publicise ways to improve air quality.
- Develop new Air Quality Planning policies for the joint Local Plan. Ensure that requirements for Health Impact Assessments are included.
- Take advantage of any new funding opportunities that arise.

Challenges

The principal challenge to implementation that Cambridge anticipates facing is growth in the city and its surrounding geographical area, known in planning terms as 'Greater Cambridge'. Cambridgeshire has one of the fastest growing economies and populations in Britain, with a 22% increase in population predicted between 2010 and 2031. In the past, much of the growth around Cambridge has been directed to the South Cambridgeshire villages beyond the Green Belt, resulting in a growth of commuting by car to Cambridge (50% of the Cambridge workforce commute into the city), as well as congestion and pollution. The population of Cambridge city has risen significantly in recent years with an approximate increase of 50% over the 40 years from 1981 to 2021. High houses prices within Cambridge City and surrounding villages leads to ongoing demand for vehicular transport as much of the workforce within Cambridge will continue to require vehicle transport options to be able to commute to work as they are unable to afford to "live where they work". Future increases in population are predicted to continue in new communities on the edge and just outside of the city, North East Cambridge (Cambridge Sewage Works site), East Cambridge (Marshall's Airport Site), Northstowe (up to 10,000 dwellings) and Waterbeach (up to 12,000 dwellings) and associated business, retail, community, schools, hotels, leisure and sports uses required in response to increased population. Economic growth continues in the region

with some business/scientific parks sites increasing the number and size of buildings as well as new business and science parks such as Cambridge Biomedical Campus (75,000m²).

The increases in population and business growth will result in an increased demand for travel to/ from/within Cambridge city and thus further challenges to the air quality improvements that have been made in recent years. The GCP agreed powers and funding from Central Government, for public transport and active travel infrastructure improvements to help address these issues (City Deal programme). Even with increased home working in the longer term, almost 60% of jobs in Cambridge cannot be done from home and most businesses are expecting employees to return to the workplace at least part time. The scale of additional growth in jobs in the area means that even with increased home working, we expect traffic levels and congestion to return to and then exceed pre pandemic levels. Continued investment in integrated public transport provision, including rail and low emission bus, will be essential to protect the city from the adverse impacts of commuter growth from these new communities

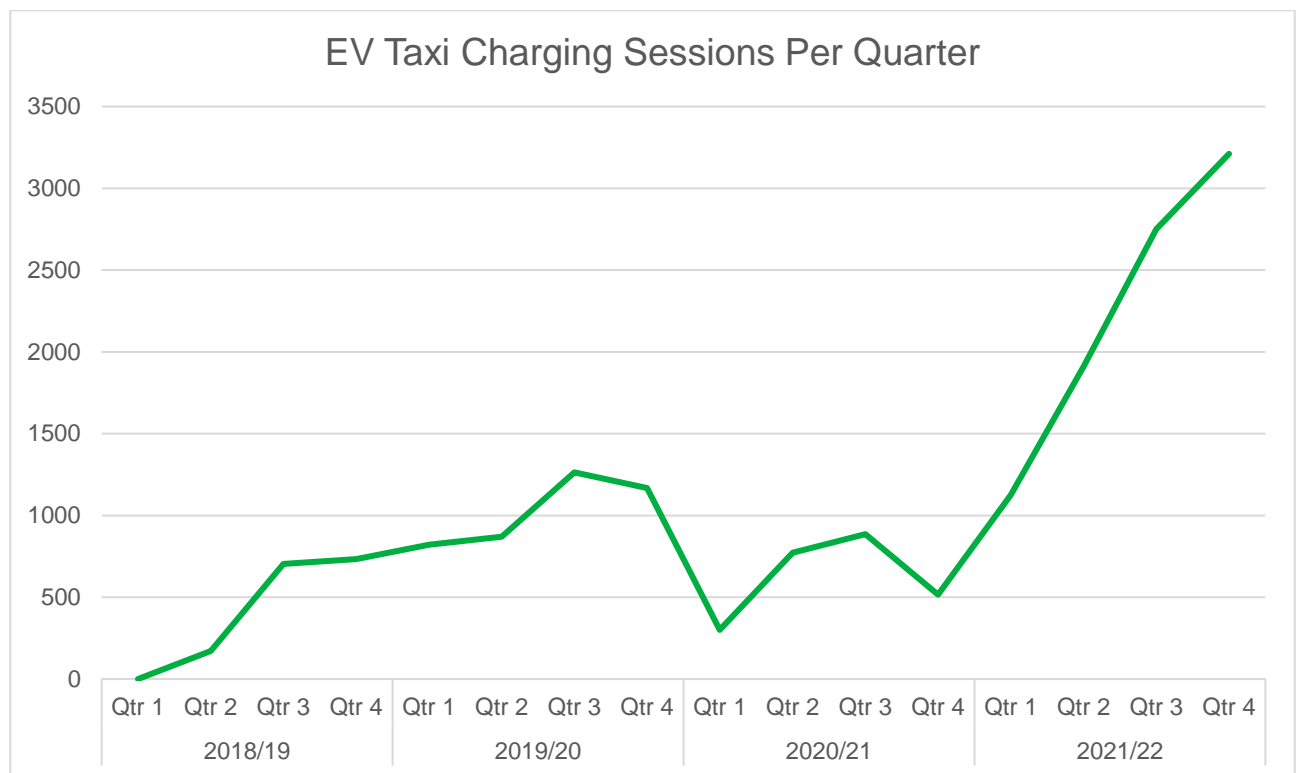
Progress on the following measures has been slower than expected.

Most projects have seen delays over the past couple of years for a variety of operational reasons during the pandemic – including the adoption of safe working practices, as well as staff and contractors being absent from work due to having to shelter or self-isolate. In addition, many County Council staff were seconded to work on the DfT Tranche One Active Travel projects. Whilst work on most projects is now underway further delays were seen during 2021 as life readjusted during the post pandemic period. Points of note include:

- The CPCA and GCP agreed to review some GCP approved projects to ensure that these are aligned with transport scheme needs and plans for the Combined Authority area.
 - The A428 [Cambourne – Cambridge \(C2C\) Better Public Transport project](#) was paused in 2018 for review by the Cambridgeshire and Peterborough Combined Authority (CPCA) in order to ensure compliance with the CAM proposals. In October 2018, the CPCA review concluded that GCP's work was robust and identified the optimal solution for the Cambourne to Cambridge corridor, as best delivering project objectives and aligning with future CAM project proposals. Route assessment continued in 2019 and was due to be presented to the GCP Executive Board in Spring 2020 but the scheme was again paused following intervention by CPCA. A further CPCA review considered alternative alignments but agreed that the GCP recommendation was better performing. In December 2020 the GCP Executive Board agreed to commission an Independent Audit of the Assumptions and

Constraints which informed the scheme in order to enable a final decision to be taken on a preferred route. Subsequently the Audit concluded that “no reason why the Executive Board of the GCP should not proceed to the next stage in the development of the C2C scheme”. As such the Preferred Route was approved on July 1st 2021 and the scheme is proceeding to the Environmental Impact Assessment stage. The scheme completed its EIA consultation in July 2022, but as a result of CPCA interventions, delivery is now likely to be completed in 2026.

- Park & Ride projects were paused as above including the proposed new P&R site(s) related to the A428 Cambourne – Cambridge Better Public Transport however planning was achieved on the new Cambridge South West Travel Hub in July 2022.
- Reducing emissions from buses (a priority measure) has not progressed as part of a Quality Bus Partnership. However, the GCP has been working with Stagecoach (the main operator locally) to assist with a trial of low emission buses operating on routes in the city centre – two fully electric buses joined the fleet in 2019 and became operational in February 2020, covering the Citi 6 route. The cost of the new buses has been shared between the GCP and the operator. Meanwhile, the CPCA and the GCP won a bid to DfT for 30 electric buses to replace the Park & Ride fleet and a high frequency Citi service. This will result in a measurable reduction in air pollution in Cambridge.
- Installation of EV Charge Points for taxis planned for 2020 were not completed as forecasted due to Covid restricting on site works and resources within both the Local Authority and its contractors. The remaining sites are scheduled to be completed by the end of 2022. This will complete our project total of 20 charge points across 13 sites.
- Data showing taxi charge use clearly shows in the next graph that the number of charging sessions dropped off over key Covid lockdown periods. Once restrictions had eased the number of charging sessions has increased rapidly.



- A pilot project between Cambridgeshire County Council and Cambridge City Council to install on-street charging points in certain areas of Cambridge is underway with the charge points expected to be installed during 2022. Other options are being actively considered to provide charging infrastructure to meet the growing demand – details will be provided in the next Annual Status Report.
- Cambridge City owned car parks have successfully undertaken procurement to find a company to install and managed charging points in its car parks. The first charge points are expected to be installed in the multi-storey car parks in 2022.
- Options for reducing emissions from HGV are limited by funding resources and logistical challenges. The GCP is undertaking a feasibility study considering freight deliveries in the city centre and potential use of one or more consolidation centres.
- Assessment of the Clean Air Zone options and/or any other interventions brought forward for implementation have been delayed by discussion on the shape of future transport options in Cambridge. The GCP Board undertook a consultation in Autumn 2021 that proposes a forward programme to design and deliver a transformed bus network alongside raising revenue to support services and measures to create space for buses and active travel. A congestion or pollution based road charge is one of the options being considered and, taken together with the proposed public transport improvements, has the potential to considerably reduce traffic volumes and air pollution. Feedback from the consultation is being discussed at the September 2022 GCP Executive Board, with

a decision due to be made on a proposal to consult on a transformed bus network, further active travel improvements, and a Sustainable Travel Zone consisting of a 7am-7pm weekdays, city-wide road user charge.

- Work on the CPCA Bus Reform Project is now included with the Local Transport and Connectivity Plan from the Cambridge and Peterborough Combined Authority which is out for consultation during Spring / Summer 2022. Bus passenger numbers were 66% lower in 2020 than in 2019 and whilst they have increased significantly during 2021 they are still approximately 40% below pre-pandemic levels.
- Consultation on extension of the Smoke Control Areas to cover the whole district was delayed because the final version of the Environment Bill only passed into legislation in November 2021.
- Reporting on the air quality impacts Mill Road project (bridge closure in 2019) was delayed whilst Cambridge City Council concentrated on its statutory duties. The final report to Defra was sent at the end of 2021.

New measures and projects introduced in 2021/22

Road Hierarchy in Cambridge

The GCP noted that the road hierarchy in Cambridge has not altered for some time. With the work on transforming the road network for buses it was decided that the road network as a whole needed to be reviewed. A consultation was undertaken in Spring/Summer 2022. This work is ongoing and expected to coincide with the work around a potential Clean Air Zone and charging options.

Local Transport Plan refresh

Since the publication of the LTP in early 2020 there have been several significant changes to Cambridgeshire, Peterborough and the wider world that have impacted on the appropriateness of the region's transport network and overarching strategy. These challenges and opportunities include:

- New CO₂ and EV targets published by government in the Decarbonisation of Transport Plan and the Ten Point Plan for a Green Industrial Revolution
- New national walking and cycling policy, Gear Change
- Climate Change Commission recommendations

- Developments within the OxCam Arc, including England's Economic Heartland Transport Strategy and the changes to the spatial strategy framework
- The effects of COVID-19, which are being felt across the transportation sector with impacts on public transport and active travel. In addition, it is important to ensure that there is not a predominantly car-based recovery during the establishment of the "new normal".
- Strategic schemes, including A428, East-West Rail, Peterborough Station quarter and the Greater Cambridge Local Plan have developed rapidly.

These developments, together with the changes in government policy, both local and national, has led to the need for a refreshed LTCP.

The new LTP will consider the recommendations of Cambridgeshire and Peterborough Independent Commission on Climate Change. The evidence base will be updated, and scenarios explored to ensure that due consideration is given to the various ways in which society continues to emerge following the COVID-19 pandemic. The plan will provide non-transportation solutions as well, and so it is suggested that the Local Transport and Connectivity Plan to reflect this. For example, improved digital connectivity can reduce the need to travel. The LTCP was consulted on in autumn 2021 and is undergoing a second consultation in Spring / Summer 2022. This will enable the Combined Authority to fully reflect the implications of any decision to remove the CAM from the overarching transport strategy. This revised timeline enables policies to be worked up to align with partners and the Medium-Term Financial Plan. The LTCP will be delivered in 2022/3 to the Transport & Infrastructure Committee and the Authority Board.

Zebra Buses

Cambridgeshire County Council and the GCP were successful in their ZEBRA bid to secure funding for 30 electric buses in Cambridgeshire. These buses are now being ordered and are expected to be working on the Park and Ride routes and the Citi 2 route in Cambridge, by 2023. Work to allow the bus depot to charge electric vehicles is underway. "The Cambridgeshire and Peterborough Combined Authority (CPCA) is leading a project that will deliver significant improvements to the city centre air quality through the Department for Transport's ZEBRA (Zero Emission Buses) scheme.

Thirty new pure electric double-decker buses will be placed in service from December 2022 and these will be focused on running short high frequency routes across the inner core of the city in order to maximise the positive effects of much lower levels of pollutants and

particulates. The routes to be converted are expected to be the Citi2 and the five Park & Ride services. Funding is coming principally from Stagecoach with top up funding from DfT, CPCA and GCP.”

Cambridgeshire County Council Active Travel Strategy – Tranche 2

The Cambridge Highways and Transport Committee agreed on proposals to deliver under the Active Travel Strategy Tranche 2, to encourage walking and cycling in late 2020. Development of the schemes was then progressed over the course of 2021 with a full public consultation undertaken in late summer 2021. Those schemes being progressed will begin to be delivered in 2022.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion on Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1a	Expansion of Park & Ride services	Alternatives to private vehicle use	Bus based	5 P&R sites already in place (Camb. County Council)	This is an ongoing project.	Camb. County Council/ Greater Cambridge Partnership /CPCA	The Greater Cambridge Partnership	NO	Funded	£10m+	Planning	This measure is to provide an alternative to support future travel requirements	No additional pollution from additional bus services.	The GCP has increased provision at Trumpington Park & Ride by 274 car spaces and 5 additional bus bays. Planning has been submitted for an additional 159 spaces at Babraham Park & Ride	The Greater Cambridge Partnership's programme includes plans for c.6500 new spaces at three new P&R sites to the west, south-west (at planning application) and south-east of the city. Proposals for the north and east are in development.
1b	Expansion of Park & Ride services	Alternatives to private vehicle use	Rail based Park & Ride	TBC	TBC	The Greater Cambridge Partnership	The Greater Cambridge Partnership	NO	Not funded	TBC	Planning	This measure is to provide an alternative to support future travel requirements	Completion and opening	Approval at December 2021 GCP Committee to go for planning approval in Summer 2022	A travel hub with c.750 spaces is planned at Foxton railway station. More information: https://www.greatercambridge.org.uk/transport/transport-projects/
2	Quality Bus Partnerships	Alternatives to private vehicle use	Other	TBC	TBC	Cambridgeshire and Peterborough Combined Authority	Cambridgeshire and Peterborough Combined Authority and operators	NO	Not funded			This measure is to provide alternative to support future travel requirements and to ensure that the new services do not add air pollution	QBP agreement for current services and all new services	Operators waiting for outcome of CPCA bus services review and central bus strategy.	Bus Reform Task Force is examining the appropriate framework for buses in the region. Provision of good public transport is key to meeting travel demand; buses must be high quality. Bus Services Reform is part of the LTCP consultation 2022.
3	Camshare is one strand of the Travel for Cambridgeshire scheme	Alternatives to private vehicle use	Car and lift sharing schemes	Ongoing	Ongoing	TfC, Camb. County Council		NO			Implementation	This measure is to provide alternative to support future travel requirements	n/a	5,000 members	Ongoing Routine. http://www.travelcambs.org.uk/car-share/
4	Provision of car park places for car club vehicles	Alternatives to private vehicle use	Car Clubs	Ongoing	Ongoing	Parking Services, Camb City Council	Car club providers	NO	Funded		Completed	This measure is to provide alternative to support future travel requirements	n/a	12 cars and 1 van in Zipcar. Cambridge City Council and Cambridgeshire County Council procured a car club operator to operate a car club, which has 37 vehicles. 4 of these vehicles are vans and 28 are hybrid vehicles which can be used in electric only mode.	There is no cost to the councils.
5	Provision of on-street car parking places for car club vehicles	Alternatives to private vehicle use	Car Clubs	Ongoing	Ongoing	Cambridgeshire County Council	Car club providers	NO	Funded		Completed	This measure is to provide alternative to support future travel requirements	n/a	12 cars and 1 van in Zipcar. Cambridge City Council and Cambridgeshire County Council procured a car club operator to operate a car club, which has 37 vehicles. 4 of these vehicles are vans and 28 are hybrid vehicles which can be used in electric only mode.	There is no cost to the councils.

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6	Require a site-wide car club strategy for large-scale Major sites – detailing the location and phasing of the charge point installations	Alternatives to private vehicle use	Car Clubs	SPD adopted in January 2020	Ongoing	Environmental Health/ Planning/ Camb. City Council/ district councils	Developers via S106 or other agreement	NO			Completed	This measure is to provide alternative to support future travel requirements	n/a	Not recorded.	Planning requirement in AQAP V2 and included in SPD.
7	Require 1 car club vehicle per 500 parking spaces, in new residential development, 1 vehicle per 10,000 m2 in non-residential developments	Alternatives to private vehicle use	Car Clubs	SPD adopted in January 2020	Ongoing	Environmental Health/ Planning/ Camb. City Council/ district councils	Developers via S106 or other agreement	NO			Completed	This measure is to provide alternative to support future travel requirements	n/a	Not recorded.	Planning requirement in AQAP v2 and included in SPD.
8	Promotion of electric bike hire/hub schemes	Alternatives to private vehicle use	Other	TBC	TBC	Environmental Health/ Planning/ Camb. City Council/ district councils	Depends on project	NO				This measure is to provide alternative to support future travel requirements	n/a	Camb City and Cambs County successfully bid for 30 e-cargo bikes, for councils, business and resident use, which are now in use. & by councils and the others are in schemes to allow residents and business to use.	Forward-thinking developers are already proposing e-bike hubs on large developments as sustainable transport mode offer to mitigate air pollution impact. Business parks are also looking at how they could offer electric bike hire, including at Cambridge Science Park and the Biomedical Campus.
9	Develop policies to require electric bike charge hubs and parking in new residential areas without off street parking	Alternatives to private vehicle use	Other	TBC	TBC	Environmental Health and Planning, Camb. City Council/ district councils	Depends on project	NO				This measure is to provide alternative to support future travel requirements	n/a	n/a	Will need to complement existing cycle parking requirements and space implications. Will need to consider if access is open or restricted.
10	Develop policies to promote electric bike charge facilities in workplaces and car parks/ require in new workplaces	Alternatives to private vehicle use	Other	TBC	TBC	Environmental Health and Planning, Camb. City Council/ district councils	Depends on project	NO				This measure is to provide alternative to support future travel requirements	n/a	n/a	Will need to complement existing cycle parking requirements and space implications. Will need to consider if access is open or restricted.

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	Provision of electric scooters (trial)	Alternatives to private vehicle use	Other	2020	2021	CPCA	Operator	NO	Funded		implementation	This measure is to provide alternative to support future travel requirements	n/a	400 e-scooters and 100 e-bikes in DfT trial, patronage increasing now that lockdown has eased.	12 month trial in and around Cambridge. Voi funds the trial, no cost to the council. Voi report that 27% of our riders in Cambridge reported that they are using e-scooters for journeys which were previously taken by car, ride-share or taxi. Please note this data has not been externally verified, and is based on responses to in-app surveys with our users, between 02/03/21 and 08/06/21.
17	Last Mile delivery based from P&R sites	Freight and Delivery Management	Delivery and service plans	TBC	TBC	GCP/ County CPCA Camb. Council/	TBC	NO	Not funded		planning	This measure is to reduce the number of domestic and business deliveries, thus reducing traffic.	n/a	The GCP is exploring a freight consolidation pilot for the city centre.	The trial has the potential to link with P&R sites for outward goods
18	Click and Collect hubs at P&R sites	Freight and Delivery Management	Freight Consolidation Centre	TBC	TBC	GCP/ County CPCA Camb. Council/	TBC	NO	Funding secured for pilot		planning	This measure is to reduce the number of domestic and business deliveries, thus reducing traffic.	n/a	The GCP is exploring a freight consolidation pilot for the city centre.	The trial has the potential to link with P&R sites for outward goods
19	Unified Consolidation Centres	Freight and Delivery Management	Freight partnerships for city centre deliveries	TBC	TBC	GCP/ County CPCA Camb. Council/	TBC	no	Funding secured for pilot	£10k - £50k	Planning	n/a – this is about reducing traffic and keeping levels below NAQO in future	n/a	The GCP is exploring a freight consolidation pilot for the city centre.	The CPCA LTP policy to promote sustainable urban freight distribution is under development. This would have a regional emphasis, but would benefit all areas. Greater Cambridge Joint Local Plan is also reviewing freight and distribution requirements to align with an effective freight management strategy for the City.
20	City Centre restrictions	Freight and Delivery Management	Quiet and Out of Hours delivery	Core Area changes completed over 10 years ago	Ongoing	GCP/ County Council Camb. Council	TBC	NO			Completed	n/a – this is about keeping levels below NAQO in future	n/a	Complete	HGV not permitted in Cambridge Core Area 10am – 4pm.
22a	Cycle Delivery services	Freight and Delivery Management	Other		Ongoing	Camb. Council County	These services are commercially viable.	NO			implementation	n/a – this is about reducing traffic and keeping levels below NAQO in future	n/a	GCP considering further incentives for cycle deliveries	Zedify (Cambridge) use specialist cargo-bikes and Electric vehicles. Cycle deliveries are used for home-delivery of take-away food.

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22b	Provision of e-cargo bikes to local businesses for deliveries	Freight and Delivery Management	Other	2020	Ongoing	Cambridgeshire County Council and Cambridge City Council	eCargo Bike Grant Fund, GCP, City Changer Cargo Bike (Horizon 2020 project)	NO	funded	£100k - £250k	Completed	n/a – this is about reducing traffic and keeping levels below NAQO in future	n/a	4 new bikes in use in the City Centre and trail scheme set up for business to "try before you buy"	Scheme continues to be built upon and significant learning around insurance, storage, charging locking and booking systems has been made. Scheme continues to attract interest.
23	Air Quality Policy in Joint Local Plan	Policy Guidance and Development Control	Regional planning – Area-wide strategies	TBC	2024	Environmental Health/ Planning/ Joint team City/SCDC	n/a	NO			planning	n/a – this is about keeping levels below NAQO in future	Air Quality policies in joint Local Plan	Plan in preparation, policies to be prepared in 2022	Local Plan "first proposals" consultation undertaken in 2021 seeking an integrated approach to management of air quality in the emerging Local Plan. www.greatercambridgeplanning.org/emerging-plans-and-guidance/greater-cambridge-local-plan/
24	Air Quality Policy in Local Plan	Policy Guidance and Development Control	Other Policy	2018	Ongoing	Environmental Health/ Planning/ Joint team City/SCDC	n/a	NO			Completed	n/a – this is about keeping levels below NAQO in future	n/a	In use	Completed
25	Adopt/ revise a Low Emissions Strategy	Policy Guidance and Development Control	Low Emissions Strategy		TBC	Environmental Health/ Planning/ Joint team City/SCDC	n/a	NO				n/a – this is about keeping levels below NAQO in future	Completion of new LES	SCDC have a Low Emissions Strategy in place. City Council could adopt similar LES or work with SCDC on joint guidance.	To be considered with joint Local Plan discussions. The Evolving LAQM Policy may also shape how this is approached. Will begin to discuss later in 2022 as the joint local plan AQ policy becomes clearer.
26	Supplementary Planning Documents	Policy Guidance and Development Control	Air quality Planning and Policy Guidance	2020	2020	Environmental Health/ Planning/ Joint team City/SCDC	n/a	NO				n/a – this is about keeping levels below NAQO in future	Completion of Sustainable Construction and Development SPD	City and SCDC committees approved in 2020	Update of the 2007 Sustainable Design and Construction SPD to provide guidance for policies contained in the Local Plan. More detail included than previously as the SPD incorporates the Air Quality Guidance specific requirements.
27	Air Quality and Planning guidance document	Policy Guidance and Development Control	Air quality Planning and Policy Guidance	-	2019	Environmental Health/ Planning/ Joint team City/SCDC	-	NO			aborted	n/a	Update of Air Quality in Cambridge: Developers Guide	Not yet started	Not taken forwards. Detail included in SPD as a neater solution, see measure 26.
28	Develop guidance based on Defra cost-benefit approach to mitigation	Policy Guidance and Development Control	Air quality Planning and Policy Guidance	-	TBC	Environmental Health/ Planning/ Joint team City/SCDC	n/a	NO			Implementation	n/a – this is about keeping levels below NAQO in future	Production of new guidance to support Policy 36	included in SPD and used in 2021	useful for larger sites

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29	Sustainable Procurement Guidance.	Policy Guidance and Development Control	Sustainable Procurement Guidance	2021	2021	District councils City/SCDC	n/a	NO			planning	n/a	n/a	Environmental factors are included in the council's Tender documents to ensure that all procurements consider economic, social and environmental issues	Completed
30	Develop policies to require Health Impact Assessments (HIA) at Pre-application stage	Policy Guidance and Development Control	Other		TBC	Planning and Environmental Health. PH at County Council	n/a	NO				n/a – this is about keeping levels below NAQO in future	n/a	Early discussion phase	To ensure that Healthy Communities are part of the design, not an optional add-on
31	Air Quality input into Joint Strategic Needs Assessments for Transport and for Built Environment	Policy Guidance and Development Control	Other		Ongoing	Public Healthm County Council /Environmental Health Districts	n/a	NO			Completed	n/a – this is about keeping levels below NAQO in future	To ensure that Healthy Community strategies are embedded into the JSNA.	n/a	Complete
32	Public Health to be consulted on preparation of SPDs	Policy Guidance and Development Control	Other	ongoing	ongoing	Districts/ Camb. County Council	n/a	NO			Implementation	n/a – this is about keeping levels below NAQO in future	n/a	ongoing	Public Health Representative present at AQAP steering group meetings and in discussions with officers about updates to AQ policy
33a	Require a site wide EV charging strategy for all large-scale Major sites	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
33b	Require a minimum of one slow EV Charge Point for each dwelling with allocated parking (100% coverage)	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
34a	Require a minimum of one slow EV Charge Point for two dwelling with communal parking (50% coverage)	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.

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34b	Require a minimum of one slow EV Charge Point for every two parking spaces in non-residential developments (50% coverage)	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
35a	Require one fast EV Charge Point for 1,000m2 non-residential floor space	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
35b	Require one rapid EV Charge Point for 1,000m2 non-residential floor space	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
35c	Require at least one rapid EV charge point for large-scale Major developments	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
36a	Any new or replacement car park to have EV charging points	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
36b	Require EV charge points to mitigate increase in trip generation where site use is intensified	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.
36c	Require installation of passive charge points at all parking spaces without active charge points	Policy Guidance and Development Control	Other	2020	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	Planning requirement in AQAP v2 and included in SPD.

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37	CHP emission standards	Promoting Low Emission Plant	Emission control equipment for small and medium stationary combustion plant	Ongoing	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	All gas CHP to meet low emissions standards, Spark ignition engine: less than 150 mgNOx/Nm3; Compression ignition engine: less than 400 mgNOx/Nm3; Gas turbine: less than 50 mgNOx/Nm3
38	Low NOx boilers	Promoting Low Emission Plant	Emission control equipment for small and medium stationary combustion plant	Ongoing	Ongoing	Cambridge City Environmental Health/ Planning	n/a	NO			Completed	Will reduce impact of additional development	n/a	In place	All developments to have low NOx boilers, defined as boilers that meet a dry NOx emission rating of 40mg/kWh.
42	Extension of Smoke Control Area	Promoting Low Emission Plant	Regulations for fuel quality for low emission fuels for stationary and mobile sources	TBC	2023	Camb City Council	Defra AQG	NO	Funded		planning	n/a	n/a	Defra AQG funding won to undertake consultation into a City wide SCA. Defra Funding to undertake AQ Monitoring of particulates assisting with building evidence base for this work	Environment Act 2021 in place and going through new guidance for SCA's. Once monitoring project complete will be undertaking consultation for City wide SCA.
43	Restriction on fuel types used on dwellings moored on river	Promoting Low Emission Plant	Regulations for fuel quality for low emission fuels for stationary and mobile sources	Ongoing	Ongoing	Camb City Council	n/a	NO	n/a	n/a	in place	n/a	n/a	Regulations already in place to cover smoke nuisance. All licencees informed about new fuel buying regulations.	Boaters have limited heating options, continue to liaise with boaters to look at alternatives.
44	Encourage use of zero-emission heating sources such as electric heating, ground source and air source heat pumps	Promoting Low Emission Plant	Shift to installations using low emission fuels for stationary and mobile sources	2020	2025	Camb City Council	n/a	NO			Completed	n/a	n/a	An alternative to low NOx boilers suggested in the Sustainable Design and Construction SPD	
46	"Clean Air Zone"	Promoting low emission transport	Low Emission Zone	TBC	2021	Camb City Council/ County Council/ Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Not funded	£1m - £10m	Planning	TBC	CAZ in place	GCP undertook a consultation in Autumn 2021 and will be presenting options at June 2022 meeting	GCP funding available if this measure goes forwards. This Measure is the one that has potential for the greatest improvement in air quality.
47	LEV discount offered as part of policy for residents parking permits	Promoting low emission transport	LEV priority parking	2019	2019	Cambs County Council	Cambs County Council	NO		no cost	Completed	This measure is to support alternative fuels	Discount offered on residents parking permits to Low Emission Vehicles	completed	A vehicle with emissions of less than 75g/km CO2 will attract a 20% discount of the full cost of a resident permit.

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48	Installation of Rapid and Fast EV charge points for taxis	Promoting low emission transport	Alternative refuelling infrastructure	2018	2022	Camb City Council/ South Cambs DC/ Camb County Council/ Greater Cambridge Partnership	Funding from OLEV, Greater Cambridge Partnership, Cambridge City Council	NO	Funded	£500k - £1m	Implementation	1.5 – 4.5% reduction in NOx emissions	Installation of 18 Rapid and 3 Fast EV chargepoints in Cambridge and South Cambridgeshire	15 charge points installed at 9 sites by March 2021. Further 5 charge points to be installed at 4 sites in 2022.	Delays in 20/21 because of Covid restricting on site works and resources within both the Local Authority and its contractors. Expected all sites to be in place by end of 2022
49a	Installation of EV charge points for residents – on road	Promoting low emission transport	Alternative refuelling infrastructure	TBC	TBC	Camb City Council/ Camb County Council/ Greater Cambridge Partnership	OLEV/GCP County/City	NO			Planning	This measure is to support alternative fuels	Installation of 16 EV chargepoints in residential parking zones. For property with no off-street parking	Discussion Phase	This strand of the project is delayed because of a scarcity of suitable parking spaces in Cambridge to be given over for EVCP provision. Suitable locations have now been found in the City and expected to start implementation in Summer 2022.
49b	Installation of EV charge points for residents - slot drains for cables	Promoting low emission transport	Alternative refuelling infrastructure	TBC	TBC	Camb City Council	OLEV/GCP County/City	NO			planning	This measure is to support alternative fuels	TBC	Discussion phase to find a suitable methodology	AQAP Partners are looking at technical specifications for this with possibility of a pilot scheme in the future.
49c	Installation of EV charge points for residential areas with communal car parks	Promoting low emission transport	Alternative refuelling infrastructure	TBC	TBC	Camb City Council Environmental Health and Housing teams	OLEV/GCP County/City	NO			Planning	This measure is to support alternative fuels	TBC	Discussion phase	The AQAP partners are looking at alternative solutions for property with no off-street parking – on road charging
49d	Installation of EV charge points for residents – adjacent to taxi charge point bays	Promoting low emission transport	Alternative refuelling infrastructure	TBC	TBC	Camb City Council County Council	OLEV/GCP County/City	NO			planning	This measure is to support alternative fuels	TBC	Discussion phase	The AQAP partners are looking at alternative solutions for property with no off-street parking – on road charging
49e	Installation of EV charge points in car parks for overnight charging for residents	Promoting low emission transport	Alternative refuelling infrastructure	TBC	TBC	Camb City Council Environmental Health and Parking teams	OLEV/GCP County/City	NO			Implementation	This measure is to support alternative fuels	Installation of EVCP in car parks for overnight charging	Contract agreed with a company to install additional EV charge points in Cambridge City Car parks	Needs to align with Parking EV Strategy
49f	Installation of EV charge points on lampposts, for residents and non-residents	Promoting low emission transport	Alternative refuelling infrastructure	TBC	TBC	Camb City Council/ Camb County Council/ Greater Cambridge Partnership	OLEV/GCP County/City	NO			planning	This measure is to support alternative fuels	Installation of a trial of 6 EV charging points from lampposts	Project on hold whilst County works with Lighting Contractor	The AQAP partners are looking at alternative solutions for property with no off-street parking – on road charging
50	Installation of EV charge points for non-residents in car parks	Promoting low emission transport	Alternative refuelling infrastructure	ongoing	Ongoing	Camb City Council/ Camb County Council/	OLEV/GCP County/City	NO			Implementation	This measure is to support alternative fuels	TBC	Contract agreed with a company to install additional EV charge points in Cambridge City Car parks	Parking EV Strategy will establish route map for further provision in City Car parks, at no cost to the council

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51	Installation of roadside EV charge points for residents and non-residents	Promoting low emission transport	Alternative refuelling infrastructure	TBC	n/a	Camb City Council/ Camb County Council/ Greater Cambridge Partnership	OLEV/GCP	NO			Planning	This measure is to support alternative fuels	TBC	Contract agreed and locations chosen with installation planned for Summer 2022	The AQAP partners are looking at alternative solutions for property with no off-street parking – on road charging. Delays with finding suitable locations
53	Procuring low emission vehicles for own fleet where possible	Promoting low emission transport	Public vehicle procurement	2017 10 EV vans on city council fleet 2019 Electric Refuse vehicle on test	2026	Camb. City Council and shared services	Camb. City Council and SCDC	NO			planning	n/a – this is about keeping levels below NAQO in future	Project completion	A review paper has been prepared for consideration by members during the summer 2020	Decarbonising Cambridge City Council Vehicle Fleet, internal review document
54	Fee reduction for low emission taxis	Promoting low emission transport	Taxi emission incentives	2018	In place	Camb. City Council	Camb. City Council	NO	funded	£10k - £50k	Completed	1.5 – 4.5% reduction in NOx emissions	Minimum of 9 HCV and 5 PHV per annum per annum from 2018/19	45 EV have Zero Emission exemption.	Concerns amongst taxi drivers trying to source zero emission vehicles to comply with the policy. New EV's are on typical waiting times of 6-12 months for most dealers.
55	Licensing conditions to require low emission taxis	Promoting low emission transport	Taxi Licensing conditions	2018	In place	Camb. City Council	City Council/	NO			Completed	1.5 – 4.5% reduction in NOx emissions	Minimum of 9 HCV and 5 PHV per annum from 2018/19	55 EV and 65 petrol hybrid out of a fleet of 452	A big shift from 2017 fleet - 2 EV and 30 petrol hybrid taxis. Little change in 2021/22 because of trading conditions related to the pandemic
56a	Lowering emissions from public service vehicles (buses and coaches)	Promoting low emission transport	Other	Gradual improvement of bus fleet is ongoing and has been for more than 10 years	TBC, no mechanism in place to require improvements, CAZ may be the most effective tool	Camb City Council/ Camb. County Council/GCP/ CPCA	Operator	NO	not funded		aborted	Could be significant	100% buses E6 or better. No increase in emissions from additional services	36% bus journey kilometres E6 in Cam-bridge Core Area (2018). Data not collected after 2018.	The cost of new buses. Pandemic related trading conditions. With new Zebra buses the old Euro VI buses will be moved to other routes and older buses will be decommissioned.
56b	Lowering emissions from public service vehicles (buses and coaches)	Promoting low emission transport	Other		The GCP Board has agreed to look at extending the trial to create all-electric fleets on one or more additional routes.	Camb City Council/ Camb. County Council/ Greater Cambridge Partnership/CPCA	CPCA/GCP/DfT/operator	NO	Partially funded	£10m+	Implementation	Could be significant. No increase in emissions from additional services	100% buses E6 or better	GCP co-funded with Stage-coach two electric buses which have operated on the Citi 6 and P&R services since February 2020. CPCA and GCP successful in winning ZEBRA bid for 30 additional buses to be delivered in 2022.	The cost of electric buses and charging infrastructure are the barriers. CPCA looking at design and location of depots to facilitate operators introducing alternatively fuelled vehicles. A successful ZEBRA bid would ensure that NAQO are realised in the long term (all other factors remaining unchanged)
56c	Electric Vehicle Charging Strategy	Promoting low emission transport	Other	Sep-19	TBC	Cambridge City Council	TBC	NO			Completed	This measure is to support alternative fuels	TBC	Environ-mental Health Team completed position statement in 2019, update due in 2022	All relevant authorities and departments are now aware of the role that they will play

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56d	Electric Vehicle Charging Strategy	Promoting low emission transport	Other	-	TBC	Cambridgeshire & Peterborough Combined Authority	TBC	NO			planning	This measure is to support alternative fuels	TBC	CPCA developing EV/EC strategy	CPCA tendering for consultants to develop, consult on and take EV/EC strategy to adoption. This will benefit whole region including Cambridge.
57a	Home-working policies	Promoting Travel Alternatives	Encourage and facilitate home working	Ongoing	Ongoing	Camb City Council/Camb County Council/GCP /CPCA	n/a	NO			completed	This measure is to reduce the need to travel to work	n/a	Home-working policies are in place	home-working policies being revised as required
58a	Active Travel Infrastructure via GCP measures	Promoting Travel Alternatives	Intensive Active Travel campaign and infrastructure	Ongoing	n/a	Greater Cambridge Partnership Camb County Council	Greater Cambridge Partnership	NO	£20m		planning	This measure is to support alternative forms of travel.	Scheme completion	Funding allocated for further improvements to active travel networks. 1st 2 routes for works chosen in December 2021 following consultation.	Integral part of other measures – new routes, junction upgrades, cycle parking, promotion of cycling and walking, etc.
58b	Active Travel Infrastructure via GCP and County measures	Promoting Travel Alternatives	Intensive Active Travel infrastructure installation	2020	n/a	CPCA, Greater Cambridge Partnership Camb County Council	DfT	NO	Partially funded	£1m - £10m	implementation	n/a	n/a	No specific measure in place	Emergency Active Travel infrastructure in place from Tranche 1 and planning for Tranche 2 is almost complete. See Text.
59	Travel for Cambridge-shire	Promoting Travel Alternatives	Personalised Travel Planning	Ongoing	Ongoing	Camb County Council	n/a	NO			implementation	n/a	n/a	Not recorded.	Can be required for major sites at point of residents moving in to ensure they are aware of all travel options
60	Refresh Cambridge City Council Travel Plan	Promoting Travel Alternatives	Other	Ongoing	ongoing	Cambridge City Council	n/a	NO	funded	<£10k	implementation	n/a	Adoption of refreshed Travel Plan each year	n/a	Ongoing . Travel to work and travel for work
61	Workplace Travel Plan	Promoting Travel Alternatives	Promote use of rail	Ongoing	ongoing	TfC, Cambridgeshire County Council	n/a	NO			implementation	n/a	n/a	n/a	Ongoing Routine Discounts available for TfC partners
62	Cycle parking provision in Local Plan	Promoting Travel Alternatives	Promotion of Cycling	Ongoing	Ongoing	Environmental Services/ Planning	n/a	NO			Completed	n/a	n/a	n/a	Cycle parking provision in current Local Plan and will be carried forward to future Local Plans, standards to be reviewed
63	S106 agreements for cycling and walking infrastructure	Promoting Travel Alternatives	Promotion of Cycling	Ongoing	Ongoing	Environmental Services/ Planning	n/a	NO			Completed	n/a	n/a	n/a	Part of development/ planning contributions
64	Cycle parking design guide	Promoting Travel Alternatives	Promotion of Cycling	2010	In place	Environmental Services/ Planning	n/a	NO			completed	n/a	n/a	In place	https://www.cambridge.gov.uk/media/6771/cycle-parking-guide-for-new-residential-developments.pdf
65	Schemes and grants	Promoting Travel Alternatives	Promotion of Cycling	ongoing	Ongoing	Camb City Council/ Camb. County Council/	Camb City Council/ Camb. County Council/	NO	funded	<£10k	Implementation	n/a	n/a	n/a	https://www.cambridge.gov.uk/cycling-and-walking-promotion-grants

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66	Schemes and grants	Promoting Travel Alternatives	Promotion of walking	ongoing	Ongoing	Camb City Council/ Camb. County Council/	Camb City Council/ Camb. County Council/	NO	funded	<£10k	Implementation	n/a	n/a	n/a	https://www.cambridge.gov.uk/cycling-and-walking-promotion-grants
67	Travel for Cambridge shire Travel Plan Services	Promoting Travel Alternatives	School Travel Plans	Ongoing	Ongoing	TfC, Cambridgeshire County Council	n/a	NO			Implementation	n/a	n/a	n/a.	Travel Plan Services offer help with writing, developing, maintaining and monitoring as well as support for Travel Plan implementation
68	Travel for Cambridge shire Travel Plan Services	Promoting Travel Alternatives	Workplace Travel Plans	Ongoing	Ongoing	TfC, Cambridgeshire County Council	n/a	NO			Implementation	n/a	n/a	n/a	Travel Plan Services offer help with writing, developing, maintaining and monitoring as well as support for Travel Plan implementation
69	Travel for Cambridge shire	Promoting Travel Alternatives	Other	Ongoing	Ongoing	TfC, Cambridgeshire County Council	n/a	NO			Implementation	n/a	n/a	TfC offers employers a range of services, tools and resources to support sustainable travel choices	The aim is to implement effective travel initiatives that promote cycling, walking, public transport and car sharing to work.
70	Cambridge Matters magazine	Public Information	Leaflets	Ongoing	Ongoing	Environmental health and Media Team, Camb City Council	Camb City Council	NO			Implementation	n/a	n/a	Air quality articles in most quarters	Delivered to every household in the district.
71	Twitter and Facebook	Public Information	Social media	Ongoing	Ongoing	Environmental health and Media Team, Camb City Council	Camb City Council	NO			Implementation	n/a	n/a	Ongoing	Ongoing Routine
72	Provide information on request	Public Information	Radio	Ongoing	Ongoing	Environmental health and Media Team, Camb City Council	Camb City Council	NO			Implementation	n/a	n/a	Ongoing	Ongoing Routine
73	Provide information on request	Public Information	TV	Ongoing	Ongoing	Environmental health and Media Team, Camb City Council	Camb City Council	NO			Implementation	n/a	n/a	Ongoing	Ongoing Routine
74	Website	Public Information	Internet	Ongoing	Ongoing	Environmental health and Media Team, Camb City Council	Camb City Council	NO			Implementation	n/a	n/a	Ongoing	Ongoing Routine
75	Clean Air Day	Public Information	Other	Ongoing	Ongoing	Environmental health and Media Team, Camb City Council	Camb City Council	NO			Implementation	n/a	n/a	Ongoing	Annual campaign to provide information about air quality and actions

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76	Campaigns to provide information about impacts air pollution on health	Public Information	Other	Ongoing	-	Environmental health and Media Team, Camb City Council, PH Camb County Council	n/a	NO			Implementation	n/a	n/a	as required	Prepare and disseminate information about health impacts
78	Campaign to provide information about impacts of wood burning, what type of wood to burn and how to burn it efficiently	Public Information	Other	Ongoing	ongoing	Environmental health and Media Team, Camb City Council	n/a	NO			Implementation	n/a	n/a	Defra leaflets are available from the website and publicised in Cambridge Matters	
79	Publicity campaign	Traffic Management	Anti-idling enforcement	Ongoing	Ongoing	Environmental health and Media Team, Camb City Council	n/a	NO			Implementation	n/a	n/a	As required	Anti-idling information in Cambridge Matters
80	Penalty notices for non-compliance	Traffic Management	Anti-idling enforcement		n/a	Camb City Council		NO				n/a	n/a	On hold	Would need additional resource and powers for enforcement, not currently a priority.
81	Expansion of residents' parking schemes	Traffic Management	Emission based parking and permit charges	2018	On hold.	Highways Team, Camb County Council	Camb County Council	NO			planning	n/a	Number of parking spaces in schemes	The GCP Executive Board agreed in June 2022 to deliver parking controls across the city, starting with six schemes over the next 1-2 years. Delivery is now underway	Following a pause to residents' parking delivery in 2021, this has now restarted.

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83	Congestion charging or road user charging	Traffic Management	Road-User charging/congestion zones	TBC	TBC	Infra-structure Team, Camb County Council, Greater Cambridge Partnership	Greater Cambridge Partnership	No	Not funded	N/A	Under consideration	n/a	n/a	GCP considering proposal at September 2022 Executive Board, following consultation in Autumn 2021.	Work to assess possible demand management underway. Will improve air quality, reduce carbon emissions and provide reliable public transport
84	Reconfiguration of road space in Cambridge	Traffic Management	Strategic highways improvements	TBC	TBC	Infra-structure Team, Camb County Council, Greater Cambridge Partnership	TBC	No	Funding earmarked in City Access 5 year budget	TBC	Planning	n/a at this stage	Agreement and implementation of schemes	GCP consulting on road hierarchy scheme in Summer 2022	The City Council consulted on the vision, aims, objectives and strategy for a Spaces and Movement SPD in autumn 2019. GCP now looking at road hierarchy in Cambridge and seeking to update it. Suggestions made to restrict vehicular access to some roads in City, only allow some roads to have public transport and some to be for active travel only.
85	Creation of better cycling and walking on key routes	Traffic Management	Re-prioritisation of road space	Ongoing projects	Ongoing projects	Infra-structure Team, Camb County Council, Greater Cambridge Partnership	Greater Cambridge Partnership	NO			Planning	n/a	n/a	See below for details of specific schemes	https://www.sustrans.org.uk/bike-life/bike-life-greater-cambridge
86	Extension of Core Area schemes – limiting access to city centre	Traffic Management	Access management	Ongoing project	TBC	Infra-structure Team, Camb County Council, Greater Cambridge Partnership	Greater Cambridge Partnership	no	Funding earmarked in City Access 5 year budget	TBC	Planning	Could be substantial in Core Area	TBC	A more comprehensive package of road space reallocation may result from the review of the road network hierarchy in the city that is currently in hand.	Consultation on road hierarchy to take place in summer 2022.
88	Review of traffic signals in Cambridge	Traffic Management	UTC, congestion management, traffic reduction	Rolling programme of reviews in progress	3 corridor reviews completed with outcomes being implemented	Greater Cambridge Partnership	Greater Cambridge Partnership	NO		TBC	Planning	n/a	n/a	GCP and county are currently piloting smart signals technology at selected junctions in the south of the city	GCP study to review existing infrastructure and consider future technology which may improve traffic flow and reduce idling, and could include bus prioritisation.
89	Workplace Parking Levy for employers with more than 300 employees in an area to be specified	Traffic Management	Workplace Parking Levy	TBC	n/a	Camb County Council/ Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Not funded	TBC	Under consideration	n/a	TBC	n/a	Work to assess possible demand management underway and to be discussed by GCP Executive Board in June 2022

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91a	CAM, Cambridge Area Metro	Transport Planning and Infrastructure	Public transport improvements)	TBC	TBC	Cambridgeshire and Peterborough Combined Authority	TBC	NO	Not funded	TBC	Aborted	A measure to accommodate long-term travel demand. Would reduce the need to use private transport to access key work, leisure and retail areas.	Completion of project		Learning and expertise from the CAM work to date will inform a developing transition plan, and that this will come back to the Combined Authority Board.
91b	Whittlesford Railway Station Travel Hub – bus, cycling, walking improvement, station upgrade	Transport Planning and Infrastructure	Public Transport Improvements	TBC	TBC	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Partially funded	£10m +	Planning	A measure to accommodate long-term travel demand and reduce congestion in Cambridge	Completion	Draft Delivery Plan being developed further through further stakeholder engagement	https://www.greatercambridge.org.uk/transport/transport-projects/rural-travel-hubs/whittlesford-transport-master-planning-exercise
91c	New on road bus routes for Cambourne to Cambridge corridor, to north and south Cambridge	Transport Planning and Infrastructure	Bus route improvements	TBC	Due Summer 2020	Cambridgeshire and Peterborough Combined Authority	Cambridgeshire and Peterborough Combined Authority	NO	Not funded	TBC	Aborted	A measure to accommodate current travel demand until CAM in place	n/a	No on-road bus route changes expected - proceeding with off road bus route.	Independent review of the process for the scheme concluded it was undertaken correctly.
91d	Cambridge South East Transport Project	Transport Planning and Infrastructure	Bus route improvements	TBC	2025	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded	£10m +	Planning	A measure to accommodate long-term travel demand	n/a	Currently preparing the TWAO with submission in 2023 and Public Inquiry to take place after.	www.greatercambridge.org.uk/transport/transport-projects/cambridgesoutheast
91e	Cambourne to Cambridge corridor off-road Busway	Transport Planning and Infrastructure	Bus route improvements	TBC	2024	Greater Cambridge Partnership, Stagecoach	Greater Cambridge Partnership	NO	Funded	£10m+	Planning	A measure to accommodate long-term travel demand	Completion	Currently undertaking work for the Environmental Impact Assessment. Consultation took place in July 2022. TWAO to be submitted in 2023 subject to Exec Board approval	https://www.greatercambridge.org.uk/transport/transport-projects/cambourne-to-cambridge
91f	Improvements to bus routes - Histon Road	Transport Planning and Infrastructure	Bus route improvements	Spring 2020	Oct-21	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded	£10m+	Completed	A measure to accommodate long-term travel demand	Completion	Completed September 2021	https://www.greatercambridge.org.uk/transport/transport-projects/histon-road/
91g	Improvements to bus routes - Milton Road	Transport Planning and Infrastructure	Bus route improvements	TBC	2024	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded	£10m+	Implementation	A measure to accommodate long-term travel demand	Completion	Preliminary works taking place Spring 2022, expecting main works to begin later in 2022.	https://www.greatercambridge.org.uk/transport/transport-projects/milton-road/

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91h	Improvements to bus routes - city Access	Transport Planning and Infrastructure	Bus route improvements	TBC	Ongoing project with multiple strands	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Partially funded	£10m +	Planning	A measure to accommodate long-term travel demand and reduce congestion in Cambridge	Completion of projects	Consultation on options in Autumn 2021, Exec Board Meeting in June 2022 to determine which options are taken forward.	https://www.greatercambridge.org.uk/city-access
91i	Cambridge Eastern Access	Transport Planning and Infrastructure	Bus route improvements	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	No	Funded	£10m +	Planning	A measure to accommodate long-term travel demand	Completion	Approval of Strategic Business Case in Dec 2021. Proceeding with works for short term gains (cycling improvements and P&R improvements/relocation by 2025; Longer term improvements to provide busway; and engagement with Network Rail and East West Rail about opportunities to upgrade the Newmarket to Cambridge train line.	£50m estimate https://www.greatercambridge.org.uk/public-transport-schemes/cambridge-eastern-access
91j	Waterbeach to Cambridge	Transport Planning and Infrastructure	Bus route improvements, cycle and walking facilities	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	No	Funded	£10m +	Planning	A measure to accommodate long-term travel demand	Completion	Consultation on preferred route in 2022/ early 2023	£50m estimate https://www.greatercambridge.org.uk/public-transport-schemes/waterbeach-to-cambridge
92a	New cycling routes - Chisholm Trail	Transport Planning and Infrastructure	Cycle network	Construction started in March 2019.	2022 – 2025	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	funded	£10m+	Implementation	A measure to accommodate long-term travel demand	Opening	Phase 1 complete, works starting for Phase 2 in 2022/23	https://www.greatercambridge.org.uk/transport/transport-projects/chisholm-trail
92b	Cambridge South East cycle route	Transport Planning and Infrastructure	Cycle network	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded	£1m - £10m	Planning	A measure to accommodate long-term travel demand	Opening	Currently preparing the TWAO with submission in 2023 and Public Inquiry to take place after.	https://www.greatercambridge.org.uk/transport/transport-projects/cambridgesoutheast
92c	Cambourne to Cambridge cycle route	Transport Planning and Infrastructure	Cycle network	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	funded		planning	A measure to accommodate long-term travel demand	Opening	Currently undertaking work for the Environmental Impact Assessment. Consultation on the EIA in Summer 2022 took place in July 2022. TWAO to be submitted in 2023 subject to Exec Board approval.	https://www.greatercambridge.org.uk/transport/transport-projects/cambourne-to-cambridge/
92d	Improved cycle routes - Histon Road	Transport Planning and Infrastructure	Cycle network	Work started winter 2020	2021/2	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded	£10m +	Completed	A measure to accommodate long-term travel demand	Completion	Completed September 2021	https://www.greatercambridge.org.uk/transport/transport-projects/histon-road/

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92e	Improved cycle routes - Milton Road	Transport Planning and Infrastructure	Cycle network	TBC	2024	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded	£10m+	Implementation	A measure to accommodate long-term travel demand	Completion	Preliminary works taking place Spring 2022, expecting main works to begin later in 2022.	https://www.greatercambridge.org.uk/transport/transport-projects/milton-road/
92g	New and/or improved cycle routes - Rural Travel Hubs	Transport Planning and Infrastructure	Cycle network	TBC	TBC	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Not funded		Aborted	A measure to accommodate long-term travel demand and reduce congestion in Cambridge	Completion	Consultation closed January 2019, further discussion on detail with local residents agreed	https://www.greatercambridge.org.uk/transport/transport-projects/rural-travel-hubs
92h	Improved cycle routes – Cross City Cycling	Transport Planning and Infrastructure	Cycle network	2019	Summer 2020	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Fully Funded	£1m-£10m	Completed	A measure to accommodate long-term travel demand and reduce congestion	Completion of the 5 schemes	completed	Cross City Cycling https://www.greatercambridge.org.uk/transport/transport-projects/cross-city-cycling/
92i	New cycle routes - Greenways	Transport Planning and Infrastructure	Cycle network	TBC	TBC, First route to be completed by 2024	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Fully Funded	£10m+	Planning/Implementation	A measure to accommodate long-term travel demand	Completion of all 12 routes	Routes prioritised for implementation	https://www.greatercambridge.org.uk/transport/transport-projects/greenways/
92j	New and/or improved cycle routes - Madingley Road	Transport Planning and Infrastructure	Cycle network	TBC	TBC	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Partially Funded	£10m+	Planning	A measure to accommodate long-term travel demand and reduce congestion in Cambridge	Completion	Detailed Designs being worked on.	Madingley Road https://www.greatercambridge.org.uk/transport/transportprojects/madingley-road/
92k	New cycling routes - A10 Royston to Cambridge	Transport Planning and Infrastructure	Cycle network		2019	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	funded		Completed	A measure to accommodate long-term travel demand	Completion	Cycle link between Melbourn and Shepreth completed.	Further link is the Melbourn Greenway project.
93l	Cambridge Eastern Access	Transport Planning and Infrastructure	Cycle network	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	No	Funded	£10m+	Planning	A measure to accommodate long-term travel demand	Completion	Approval of Strategic Business Case in Dec 2021. Proceeding with works for short term gains including cycling improvements on Newmarket Road.	£50m estimate https://www.greatercambridge.org.uk/public-transport-schemes/cambridge-eastern-access
93m	Waterbeach to Cambridge	Transport Planning and Infrastructure	Cycle network	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	No	Funded	£10m+	Planning	A measure to accommodate long-term travel demand	Completion	Consultation on preferred route in 2022/ early 2023	£50m estimate https://www.greatercambridge.org.uk/public-transport-schemes/waterbeach-to-cambridge
93a	New walking routes - Chisholm Trail	Transport Planning and Infrastructure	Walking network	Construction started in March 2019.	2022 – 2025	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded		Implementation	A measure to accommodate long-term travel demand	Opening	Phase 1 complete, works starting for Phase 2.	https://www.greatercambridge.org.uk/transport/transport-projects/chisholm-trail_costs_already_a

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93b	Cambridge South East	Transport Planning and Infrastructure	Walking network	TBC	2024	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded	£500k - £10m	Planning	A measure to accommodate long-term travel demand	n/a	Currently working on the TWAO being Drafted and planned to submit in 2023.	https://www.greatercambridge.org.uk/transport/transport-projects/cambridgesoutheast
93c	Cambourne to Cambridge	Transport Planning and Infrastructure	Walking network	TBC	2024	Greater Cambridge Partnership	Greater Cambridge Partnership	NO			Planning	A measure to accommodate long-term travel demand	n/a	Currently undertaking work for the Environmental Impact Assessment. Consultation took place in July 2022. TWAO to be submitted in 2023 subject to Exec Board approval	https://www.greatercambridge.org.uk/transport/transport-projects/cambourne-to-cambridge/
93d	Improved walking routes - Histon Road	Transport Planning and Infrastructure	Walking network	Work started winter 2020	2021/2	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded		Implementation	A measure to accommodate long-term travel demand	Completion	Completed in September 2021	https://www.greatercambridge.org.uk/transport/transport-projects/histon-road/
93e	New and/or improved walking routes - Milton Road	Transport Planning and Infrastructure	Walking network	TBC	2024	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Funded		Implementation	A measure to accommodate long-term travel demand	Completion	Initial works beginning in Spring 2022	https://www.greatercambridge.org.uk/transport/transport-projects/milton-road/
93g	New and/or improved walking routes - Rural Travel Hubs	Transport Planning and Infrastructure	Walking network	TBC	TBC	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Not funded		aborted	A measure to accommodate long-term travel demand and reduce congestion in Cambridge	Completion	Consultation closed January 2019, further discussion on detail with local residents agreed	https://www.greatercambridge.org.uk/transport/transport-projects/rural-travel-hubs
93i	New walking routes - Greenways	Transport Planning and Infrastructure	Walking network	TBC	TBC, First route to be completed by 2024	Greater Cambridge Partnership	Greater Cambridge Partnership	NO			Planning	A measure to accommodate long-term travel demand	Completion of all 12 routes	Routes prioritised for implementation	https://www.greatercambridge.org.uk/transport/transport-projects/greenways/
93j	New and/or improved walking routes - Madingley Road	Transport Planning and Infrastructure	Walking network	TBC	TBC	Greater Cambridge Partnership	Greater Cambridge Partnership	NO			Planning	A measure to accommodate long-term travel demand and reduce congestion in Cambridge	Completion	Detailed Designs being worked up.	Madingley Road https://www.greatercambridge.org.uk/transport/transportprojects/madingley-road/
93k	New and/or improved walking routes - A10 Royston to Cambridge	Transport Planning and Infrastructure	Walking network	2019	TBC	Greater Cambridge Partnership	Greater Cambridge Partnership	NO			completed	A measure to accommodate long-term travel demand	Completion	Cycle link between Melbourn and Shepreth completed.	Further link is the Melbourn Greenway project.
93l	Cambridge Eastern Access	Transport Planning and Infrastructure	Walking network	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	No	Funded		Planning	A measure to accommodate long-term travel demand	Completion	December 2021 approval of Strategic Business Case. Improvements to walking network on Newmarket Road planned for completion before 2025.	£50m estimate https://www.greatercambridge.org.uk/public-transport-schemes/cambridge-eastern-access

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93m	Waterbeach to Cambridge	Transport Planning and Infrastructure	Walking network	TBC	2026	Greater Cambridge Partnership	Greater Cambridge Partnership	No	Funded		Planning	A measure to accommodate long-term travel demand	Completion	Consultation on Preferred route planned for 2022/early 2023	£50m estimate https://www.greatercambridge.org.uk/public-transport-schemes/waterbeach-to-cambridge
94a	Bike Hire schemes	Transport Planning and Infrastructure	Cycle scheme hire	2018	n/a	Cambridge City Council, operators	operators	NO	This is viable without intervention from local authorities		Implementation	n/a	n/a	n/a	Mobike are trialling bike hire schemes in Cambridge, replacing Ofo.
94b	E-Scooter hire	Transport Planning and Infrastructure	Cycle scheme hire	2020	2021	CPCA	Voi/DfT	No	Funded		Implementation	n/a	continuation of scheme	Voi have said that : 27% of riders in Cambridge reported that they are using e-scooters for journeys which were previously taken by car, ride-share or taxi. Trial is continuing till November 2022	Voi/Dft 1 year trial with 400 e-scooters and 100 e-bikes for hire in and around Cambridge. In Cambridge, the oldest Voi user is 80, the youngest is aged 18. 80% of users are aged between 18 and 32. No cost to the Authority.
95	Improvements to P&R sites	Transport Planning and Infrastructure	Public transport improvements – inter-changes and stations	-	n/a	Camb County Council/ Greater Cambridge Partnership	Greater Cambridge Partnership	NO				n/a	TBC	n/a	
96	Piloting rural hubs	Transport Planning and Infrastructure	Public transport improvements – inter-changes and stations	first hubs due 2020	n/a	Greater Cambridge Partnership	Greater Cambridge Partnership	NO	Not funded		aborted	n/a	n/a	project cancelled following consultations	https://www.greatercambridge.org.uk/transport/transport-projects/rural-travel-hubs/
97	New station to serve the hospital and bio-medical campus	Transport Planning and Infrastructure	Public transport improvements – inter-changes and stations		TBC	Network Rail/CPCA/Greater Cambridge Partnership/CBC2 020 campus	TBC	NO	Not funded	TBC	Planning	n/a	Station fully operational	Planning and consultation Phase	Unlikely to be completed in the lifetime of this Plan but vital for the future to accommodate CBC expansion. Public examination of proposals concluded and awaiting decision on development consent from SoS.
103	Improve air quality by increasing tree cover	Other	Other	2020	2023	Camb City Council	City Council	NO	Funded	£500k - £1m	Implementation	n/a	n/a	around 17 tonnes of nitrogen dioxide and 3 tonnes of pm2.5 removed by trees in Cambridge baseline. Launched the Neighbourhood Canopy Campaign in 2020 to encourage those areas with fewer trees to plant more in their neighbourhood. Now on its third area of Cambridge.	Jointly funded by EDF and CCC. https://www.cambridge.gov.uk/cambridge-canopy-project https://www.cambridge.gov.uk/i-tree-eco-project

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
104	No Car Zones trial	Other	Other	2021	2021	Cambridgeshire County Council, Medical Research Council, Cambridge City Council	MRC	NO	Funded		Completed	n/a	Report	The trial concluded in 2021. Findings found that there were safety improvements outside schools as a result of the trial. Cambridgeshire County Council would consider other schemes where funding for this was made available.	Trial of No Car Zones around 2 schools at peak hours concluded in 2021 and found that there were safety improvements as a result of the schemes but little change in the number of pupils using active travel modes to access school. Recommend that a wider shift in travel across the City is required to make this change. No discernable improvement in air quality during the times of the trial.
105	School Streets	Other	Other	2021		Cambridgeshire County Council. Medical Research Council	Cambridgeshire County Council	No	Funded			n/a	Report	As part of the Experimental Traffic Orders brought in during the pandemic several schools became school streets and erected barriers to prevent traffic outside school during peak times.	Schemes run by schools themselves with support from road safety team at Cambridgeshire County Council. Data collected by MRC on the effectiveness of the scheme.

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

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

Source apportionment using the Defra Background maps shows that most background PM_{2.5} in Cambridge has a regional component (around 95%). The background estimates in Cambridge are around 10 micrograms per cubic metre (2019).

PM_{2.5} is measured at two locations in Cambridge – Gonville Place (a busy junction) and Newmarket Road (an arterial route). Recent measurements of PM_{2.5} at Newmarket Road indicate that there is a very small roads component in this location (measurements at the site are similar or just below estimated background with a measured level of 10 micrograms per cubic metre annual mean in 2019 dropping to 8 microgrammes per cubic metre annual mean in 2020 during the pandemic). Whilst Gonville Place saw a similar reduction in 2020 due to the pandemic reducing from 14 microgrammes per cubic metre annual mean in 2019 to 11 microgrammes per cubic metre annual mean in 2020, levels remained above background suggesting there is an additional contribution of up to 4 micrograms per cubic metre PM_{2.5} due to vehicle emissions. Most parts of Cambridge have ‘background’ levels of PM_{2.5}, but it is likely that hotspots are present in locations of high traffic density, such as Gonville Place. Monitored levels of PM_{2.5} in 2021 remained similar or stable to those measured in 2020 although Gonville Place exceeded the WHO limit of 10 micrograms per cubic metre by 2 microgrammes per cubic metre.

The Public Health Outcomes Framework measurement [D01 Fraction of Mortality attributable to Particulate Air Pollution data](#) shows that 48 deaths in Cambridge could be attributed to air pollution in 2020 (latest data available).

Particulate Matter specific measures

Cambridge City Council has considered setting targets for PM_{2.5} reduction and we welcome the introduction of targets under the Environment Bill, although the potential to achieve significant reduction is limited by the high regional contribution. There are few measures

that can be undertaken locally that will specifically reduce the small amount of PM_{2.5} produced locally. Regional, national and international measures will be more effective.

There are measures in the Action Plan that address the sources of nitrogen dioxide that will also help to reduce particulate matter (PM₁₀ and PM_{2.5}); which include:

- Ensuring that any increase in public transport provision is offset, at least, by improvements in tail-pipe emissions.
- Ensuring that the Public Health perspective is integrated into all transport/traffic policies and GCP plans and investment decisions.
- Ensuring that the Public Health perspective is integrated into planning policies; for example, by developing planning policies in the next iteration of the Local Plan that require a Health Impact Assessment for proposed developments over a certain size. This will ensure that new developments have health considerations at the heart of the scheme and lead to healthier communities.
- Publicity campaigns to provide information about impacts of wood burning/what type of wood to burn and how to burn it efficiently.
- Consideration of extension of the Smoke Control Area to cover the whole district.
- Publicity campaigns about traffic idling.

Cambridge already takes the following measures to address particulate matter levels:

- Demolition and construction dust is controlled by planning conditions requiring demolition and construction management plans.
- Where appropriate, the use of planning conditions to control non-road mobile machinery emissions. This is something we are giving more consideration to as the new AQAP is developed given the continuing high levels of development across the city
- Smoke Control Areas cover the central part of Cambridge. We are considering extending the SCA to cover the whole district but are waiting to see what the guidance relating to changing our SCA is following the Environment Act 2021. New regulations limiting the sale of house coal and wet wood should have a small impact on localised particulate matter levels. These will be publicised in the Cambridge Matters magazine that is delivered to every household in Cambridge.

- Boats moored on the river are not allowed to 'emit smoke' as part of their mooring agreement. Smokeless coal is encouraged in preference to wood. Boat dwellers will be informed by hand-delivered letter about the new purchasing regulations.
- Air Quality Grant funding from 2021 will continue to be used during 2022 to measure relative levels of particulates in a range of Cambridge non-roadside locations to understand the local variations in particulate levels at different times of the day and year. The results will inform any projects brought forwards resulting from any new measures in the Environment Act.

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

This section sets out the monitoring undertaken within 2021 by Cambridge City Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2017 and 2021 to allow monitoring trends to be identified and discussed.

No changes were made to the monitoring network in 2021. Four automatic monitors achieved data capture above 95%. Newmarket Road achieved 91% (nitrogen dioxide) and 87% (PM_{2.5}) due to recurring issues with the equipment due to age and loss of power when access was restricted. We have recently undertaken a procurement and plan to replace all automatic monitors over the coming 12 months. Five diffusion tubes required annualization.

The levels of NO₂ recorded both inside and outside the AQMA in 2021 remain relatively stable when compared with the levels measured in 2020. This is as expected given the continued reduction in vehicle movements due to COVID 19 restriction. Both PM₁₀ and PM_{2.5} levels have remained stable. No changes to the Air Quality Management Area are proposed at this time given the uncertainties of future levels as traffic levels increase. We have seen an increase in vehicle movements since about March 2022 as people begin recommencing activities within the city so will wait to see how recorded levels settle over the coming year.

More detail is set out in Appendix A.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Cambridge City Council undertook automatic (continuous) monitoring at 5 sites during 2021. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The [Cambridge City Council Air Pollution Measurements](#) page presents automatic monitoring results for Cambridge City Council, with automatic monitoring results also available through the UK-Air website .

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

3.1.2 Non-Automatic Monitoring Sites

Cambridge City Council undertook non- automatic (i.e. passive) monitoring of NO₂ at 69 sites during 2021. 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 Addendix D and at [Air Quality Monitoring Stations Map](#). 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.

Cambridge City Council monitors levels of benzene for the non-automatic monitoring network at the AURN site in Regent Street. National monitoring results are available at <https://uk-air.defra.gov.uk/data>. The annual average level of benzene measured in Cambridge was 0.45 micrograms per cubic metre in 2021.

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 2021 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.

Figure A.1 – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for Continuous Monitoring Sites

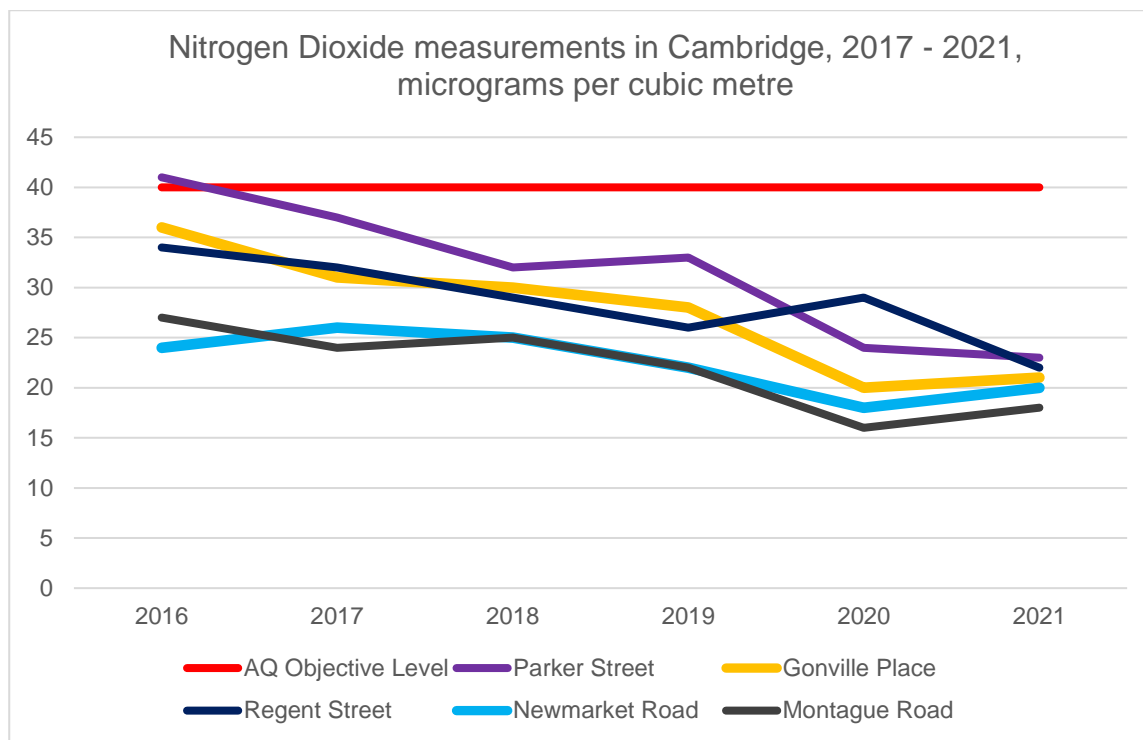
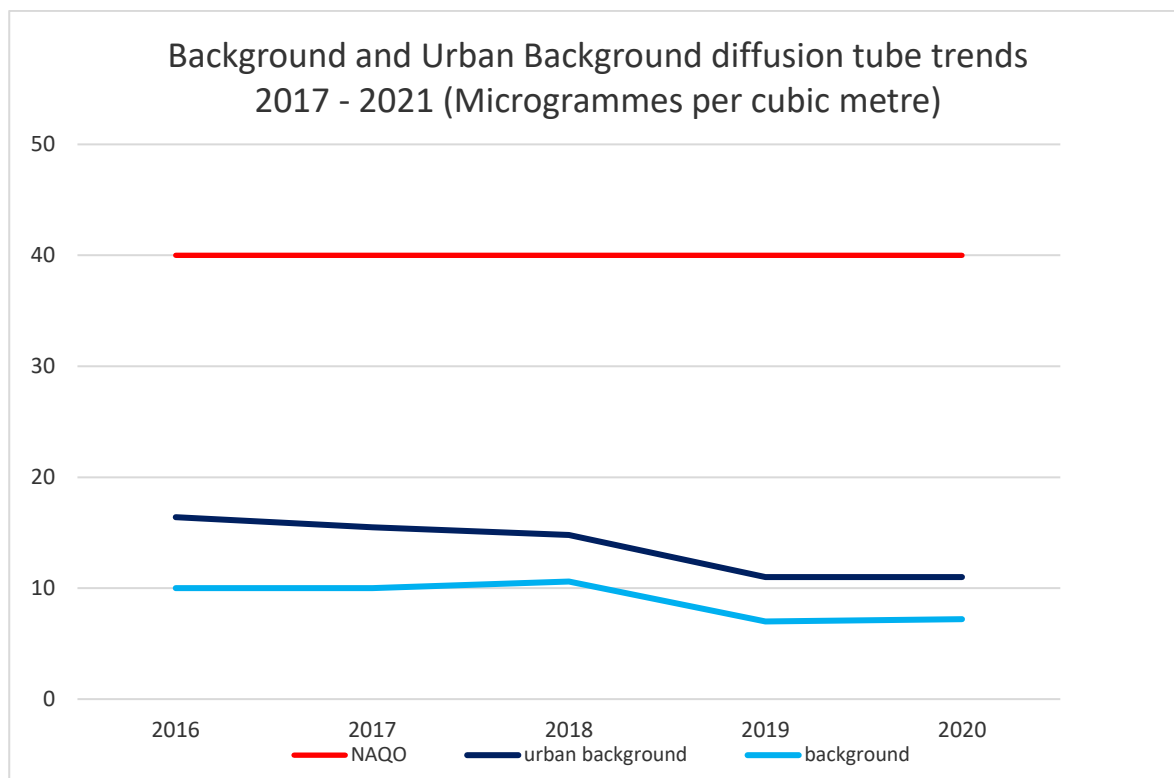


Figure A.1 presents NO₂ annual mean concentrations for the continuous monitoring sites between 2017 and 2021. There are no exceedances of the annual mean objective in 2021 with levels continuing to remain lower in 2021 following the significant drop in 2020 due to the COVID 19 pandemic, impact of lockdown and continuing Covid restrictions.

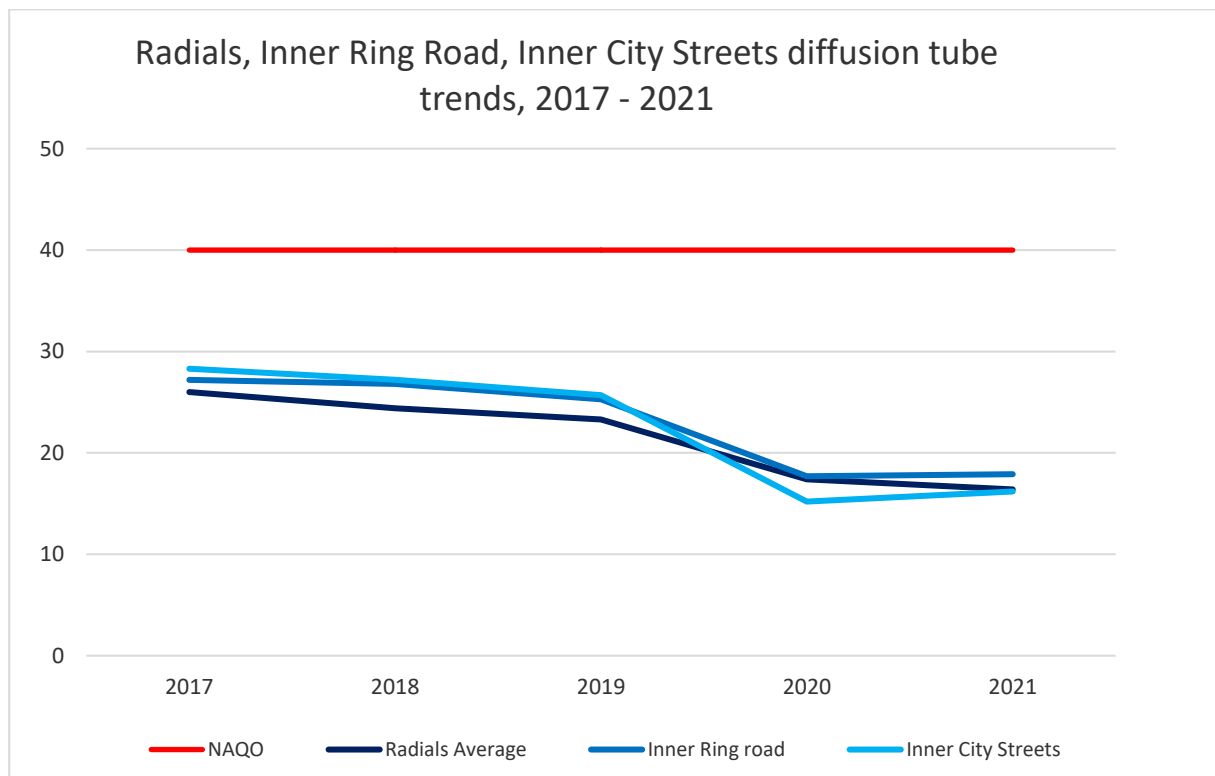
Cambridge City Council has split the diffusion tube data into groups based on the type of location or specific area of interest (typically related to areas of extensive development).

Figure A.2a – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for Background and Urban Background Sites



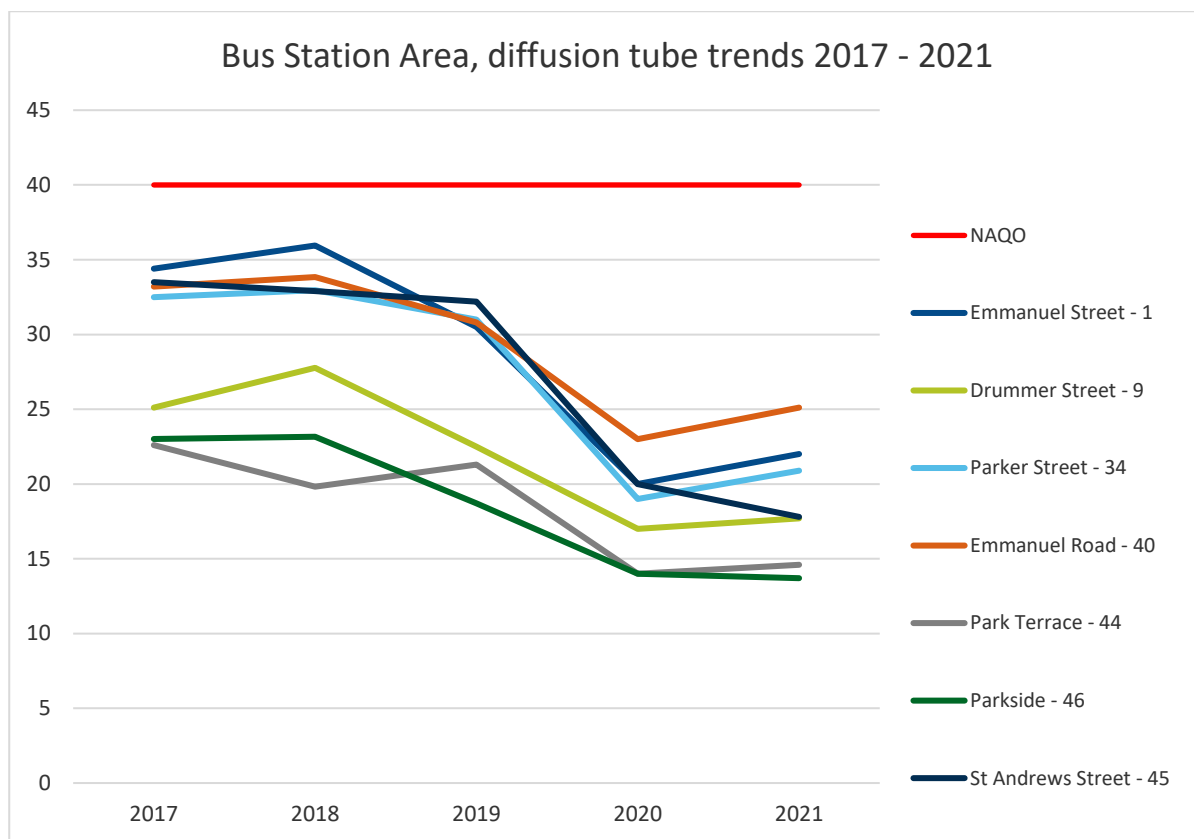
The annual mean nitrogen dioxide concentrations remained stable in 2021 in line with the reduced levels seen in 2020.

Figure A.2b – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for Radial Roads, the Inner Ring road and Inner City Streets



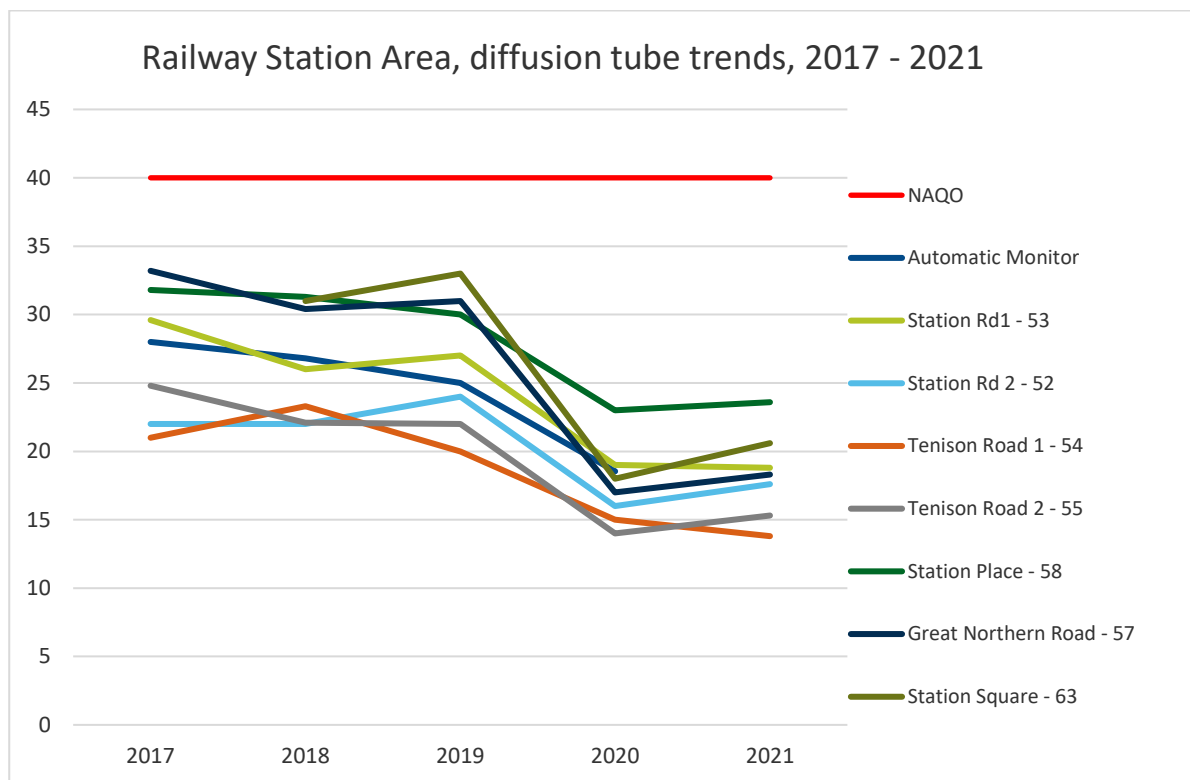
The annual mean concentrations of nitrogen dioxide remained stable or showed a small increase when compared with the reduced levels in 2020. There is a slight increase seen in the inner city streets which is as expected as the number of buses slowly began to increase during 2021. A small reduction was seen on the radial roads. This can be accounted for by the work undertaken on Histon Road Project which closed the road in one direction as part of the GCP improvement project. Vehicles movements were likely to have been shifted to other roads entering the city from the north including King Hedges Road.

Figure A.2c – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for the Bus Station Area



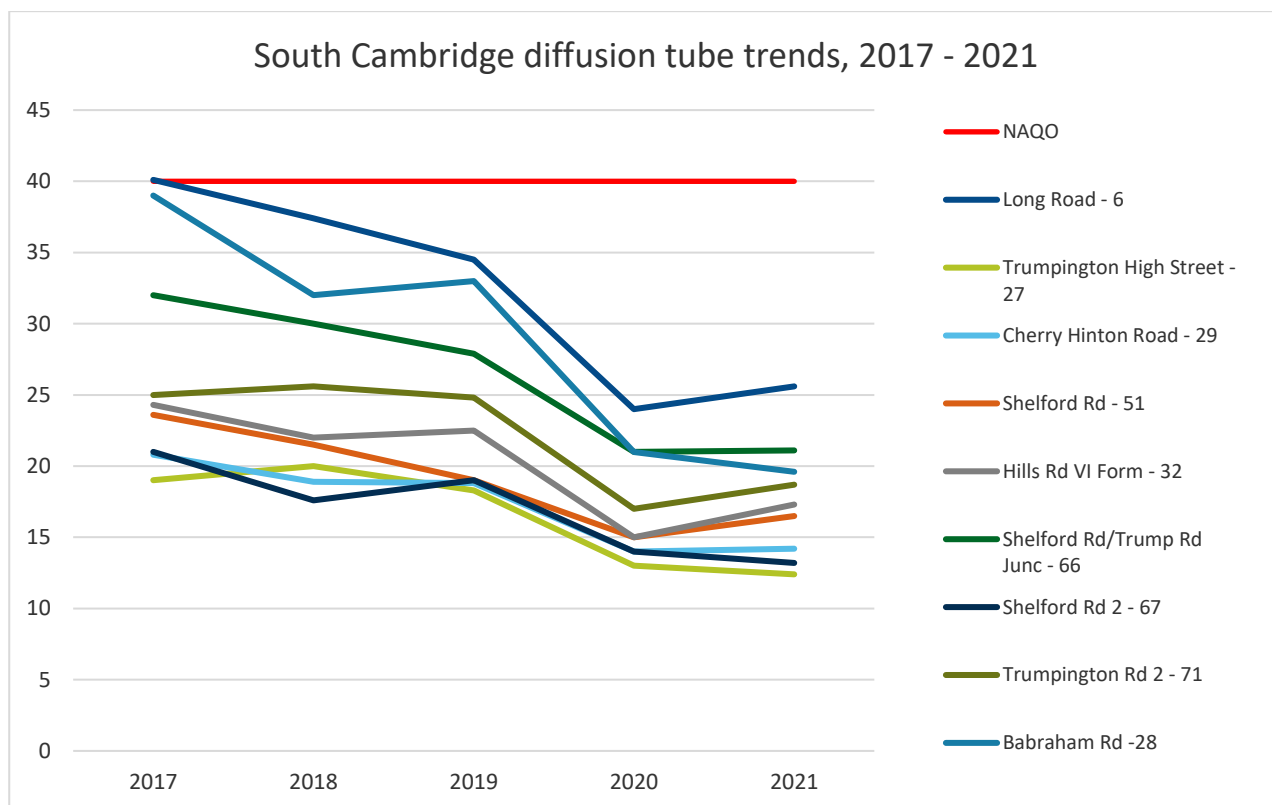
The annual mean nitrogen dioxide concentrations saw a slight increase when compared with the reduced 2020 levels. This is as expected given the increasing number of bus movements as Covid restrictions were relaxed over 2021.

Figure A.2d – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for the Railway Station Area



The annual mean nitrogen dioxide concentration has increased slightly for those sites which measure vehicle movements in the form of cars accessing the station area; whereas Station Place which is only accessed by Buses has remained stable. This fits with people opting for private vehicles as opposed to public transport as COVID restriction began to be lifted during 2021.

Figure A.2e – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 in South Cambridge



The annual mean nitrogen dioxide concentration has remained typically stable in South Cambridge when compared with 2020 levels.

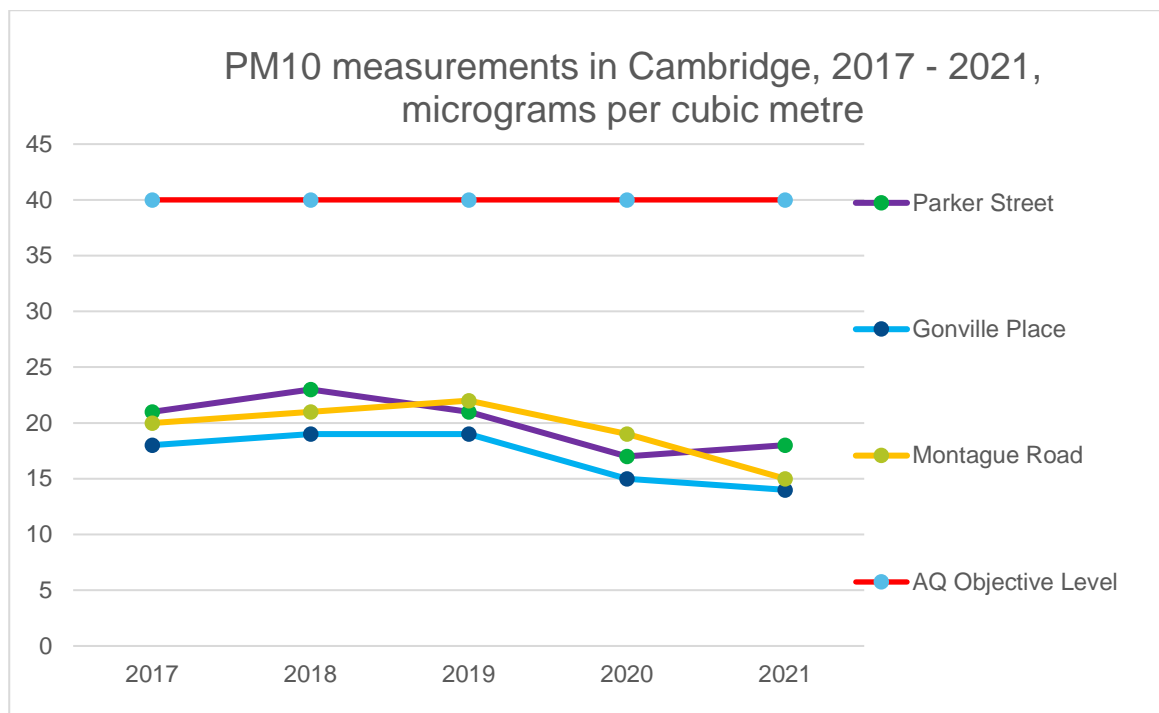
The measured levels and trends are as expected given the Lockdown at the start of the year and continuing Covid restrictions through out the year. Data for 2022 will be interesting as traffic levels in the city appear to have slowly been returning to normal although it is unknown at this time if this will reach pre Covid levels.

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.

There was a single exceedence of the NO₂ hourly mean concentrations against the air quality objective of 200µg/m³ in 2021 at Montague Street. Trends are discussed and illustrated with trend charts in the appendices. No changes to the AQMA are planned.

3.2.2 Particulate Matter (PM₁₀)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. There were no exceedances of this air quality objective in 2021.



The annual mean PM10 concentrations have remained fairly stable prior to 2020 with a significant decrease in measured levels in 2020 following Covid 19 restrictions, most likely in response to reduced vehicle movements. Whilst all measured levels in 2021 remained below 2019 levels there is no consistent trend with both decreases at Montague Road and Gonville Place (large decrease at Montague Road) and a small increase at Parker Street.

Table A.7 in Appendix A compares the ratified continuous monitored PM₁₀ daily mean concentrations for the past five years with the air quality objective of 50µg/m³, not to be exceeded more than 35 times per year. There were two exceedences in 2021 of this objective both at Parker Street.

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. Trends are discussed and illustrated with trend charts in the appendices.

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	Gonville Place	Roadside	545508	257828	NO ₂ , PM ₁₀ , PM _{2.5}	Yes, AQMA 1	Chemiluminescent, BAMs	1.8	3.2	2
CM2	Montague Road	Roadside	546057	259487	NO ₂ , PM ₁₀	Yes, AQMA 1	Chemiluminescent, BAM	1.4	3.9	2
CM3	Newmarket Road	Roadside	546317	258900	NO ₂ , PM _{2.5}	Yes, AQMA 1	Chemiluminescent, TEOM	0.5	3.3	2
CM4	Parker Street	Roadside	545366	258391	NO ₂ , PM ₁₀	Yes, AQMA 1	Chemiluminescent, BAM	0.5	3.3	2.5
CM5	Regent Street	Roadside	545289	258118	NO ₂	Yes, AQMA 1	Chemiluminescent	0.5	2.3	5

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 Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube located with a Continuous Analyser?	Tube Height (m)
1	Emmanuel Street	Roadside	545220	258357	NO2	Cambridge AQMA	0.0	2.4	No	2.5
2	Histon Road 2	Roadside	544299	261204	NO2	NO	20.0	1.7	No	2.5
3	Magdalene Street	Roadside	544677	258992	NO2	Cambridge AQMA	0.0	2.0	No	2.5
4	Northampton Street	Roadside	544492	259008	NO2	Cambridge AQMA	0.0	2.0	No	2.5
5	Silver Street	Roadside	544770	258112	NO2	Cambridge AQMA	0.0	1.0	No	2.5
6	Long Road	Kerbside	544867	255709	NO2	NO	20.0	0.1	No	2.0
7	Newmarket Road	Roadside	546181	258886	NO2	Cambridge AQMA	2.0	1.7	No	2.0
8	Milton Road	Roadside	545978	260355	NO2	NO	3.0	8.0	No	2.0
9	Drummer Street	Roadside	545235	258485	NO2	Cambridge AQMA	0.0	2.1	No	2.5
10	Gilbert Road	Roadside	545314	259777	NO2	NO	10.0	1.0	No	2.0
11	Latham Road	Urban Background	544811	256744	NO2	NO	10.0	20.0	No	2.0
12	Newmarket Road	Roadside	547998	259349	NO2	Cambridge AQMA	30.0	3.7	No	2.0
13	East Road	Roadside	545904	258431	NO2	Cambridge AQMA	1.0	4.0	No	2.5

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 located with a Continuous Analyser?	Tube Height (m)
14	Mill Road	Roadside	546080	257944	NO2	Cambridge AQMA	0.0	2.0	No	2.0
15	Eddington Avenue	Roadside	542734	260040	NO2	NO	2.0	0.4	No	2.0
16	Regent Street (office)	Roadside	545279	258135	NO2	Cambridge AQMA	0.5	2.3	No	5.5
17	Coldhams Lane	Roadside	547216	258286	NO2	NO	10.0	3.5	No	2.0
18	Pembroke Street	Roadside	544884	258098	NO2	Cambridge AQMA	0.0	1.2	No	2.0
19	Huntingdon Road 2	Roadside	543100	260344	NO2	NO	25.0	2.5	No	2.0
20	Elizabeth Way	Roadside	546083	259150	NO2	Cambridge AQMA	N	1.6	No	2.5
21	Victoria Road	Roadside	544425	259560	NO2	Cambridge AQMA	0.0	1.8	No	2.0
22	Madingley Road	Roadside	543784	259093	NO2	NO	20.0	0.8	No	2.0
23	Huntingdon Road	Roadside	543761	259813	NO2	NO	15.0	1.0	No	2.0
24	Histon Road	Roadside	544308	259664	NO2	NO	2.0	0.5	No	2.0
25	Barton Road	Roadside	544100	257473	NO2	NO	20.0	2.2	No	2.0
26	Fen Causeway	Roadside	544943	257567	NO2	Cambridge AQMA	50.0	2.1	No	2.0
27	Trumpington High St	Roadside	544575	255307	NO2	NO	5.0	2.7	No	2.0

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 located with a Continuous Analyser?	Tube Height (m)
28	Babraham Road	Roadside	546961	255132	NO2	NO	20.0	1.2	No	2.0
29	Cherry Hinton Road	Kerbside	548331	256252	NO2	NO	10.0	0.8	No	2.5
30	Arbury Road	Roadside	545693	260473	NO2	NO	5.0	0.8	No	2.0
31	Newnham Road	Roadside	544529	257730	NO2	Cambridge AQMA	0.0	1.6	No	2.0
32	Hills Road 2	Roadside	545893	257234	NO2	NO	2.0	3.6	No	2.5
33	Victoria Avenue	Roadside	545333	259439	NO2	Cambridge AQMA	0.0	1.4	No	2.0
34	Parker Street	Roadside	545390	258390	NO2	Cambridge AQMA	0.0	1.4	No	2.5
35	Abbey Road	Roadside	546163	258983	NO2	Cambridge AQMA	1.0	1.7	No	2.0
36	Cockburn Street	Urban Background	546596	257594	NO2	Cambridge AQMA	0.0	1.5	No	2.0
37	Oaktree Avenue	Urban Background	545885	260088	NO2	Cambridge AQMA	10.0	1.0	No	2.0
38	Chesterton Road	Roadside	545566	259579	NO2	Cambridge AQMA	2.0	2.7	No	2.0
39	Maids Causeway	Kerbside	545710	258782	NO2	Cambridge AQMA	5.0	0.8	No	2.0
40	Emmanual Road	Roadside	545405	258521	NO2	Cambridge AQMA	0.0	1.5	No	2.0
41	Downing Street	Roadside	545162	258240	NO2	Cambridge AQMA	0.0	1.3	No	2.0

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 located with a Continuous Analyser?	Tube Height (m)
42	Trumpington Street	Roadside	544981	257890	NO2	Cambridge AQMA	2.0	1.4	No	2.0
43	Lensfield Road	Roadside	545271	257675	NO2	Cambridge AQMA	5.0	1.8	No	2.0
44	Park Terrace	Roadside	545430	258271	NO2	Cambridge AQMA	3.0	1.9	No	2.5
45	St Andrew's St	Roadside	545135	258391	NO2	Cambridge AQMA	1.0	0.8	No	2.5
46	Parkside	Kerbside	545549	258283	NO2	Cambridge AQMA	5.0	0.5	No	2.0
47, 48, 49	Gonville Place	Roadside	545508	257828	NO2	Cambridge AQMA	0.0	3.3	Yes	2.0
50	Hills Road 3	Roadside	545854	257229	NO2	Cambridge AQMA	3.0	3.0	Yes	2.0
51	Shelford Road	Roadside	544960	254220	NO2	Cambridge AQMA	5.0	2.0	Yes	2.0
52	Station Road 2	Kerbside	546019	257300	NO2	NO	10.0	0.4	No	2.0
53	Station Road 1	Kerbside	545897	257325	NO2	NO	10.0	0.4	No	2.0
54	Tenison Road 1	Kerbside	546034	257683	NO2	Cambridge AQMA	4.0	0.2	No	2.5
55	Tenison Road 2	Kerbside	546005	257405	NO2	Cambridge AQMA	4.0	0.3	No	2.5
56	Silverwood Close	Roadside	546602	258796	NO2	Cambridge AQMA	8.0	1.7	No	2.5
57	Great Northern Road	Kerbside	546060	257389	NO2	Cambridge AQMA	3.0	0.2	No	2.5

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 located with a Continuous Analyser?	Tube Height (m)
58	Station Place	Kerbside	546080	257092	NO2	Cambridge AQMA	3.0	0.5	No	2.0
59	Coldhams Lane 3	Kerbside	548858	257162	NO2	NO	7.5	2.5	No	2.5
60	Barnwell Road	Kerbside	547917	258942	NO2	MO	7.5	0.2	No	2.5
61	Newmarket Road 3	Kerbside	546341	258882	NO2	NO	10.0	2.0	No	2.5
62	Mill Road 2	Kerbside	547181	257566	NO2	NO	0.0	2.5	No	2.5
63	Station Square	Kerbside	546177	257309	NO2	Cambridge AQMA	3.0	1.0	No	2.5
64	Park Street	Kerbside	544952	258856	NO2	NO	8.0	2.0	No	2.5
65	Brooklands Avenue	Roadside	545896	257025	NO2	Cambridge AQMA	3.0	1.0	No	2.5
66	Shelford/Trumpington	Roadside	544580	254692	NO2	Cambridge AQMA	15.0	1.0	No	2.5
67	Shelford 2	Kerbside	544614	254646	NO2	NO	15.0	0.5	No	2.5
68	Addenbrookes Road	Roadside	545211	254217	NO2	NO	10.0	3.0	No	2.5
69	Fendon Road	Kerbside	546854	255405	NO2	NO	20.0	0.5	No	2.5
70	Hills Road 4	Roadside	546693	255379	NO2	NO	30.0	3.0	No	2.5
71	Trumpington Road 2	Kerbside	545245	256860	NO2	NO	20.0	0.5	No	2.5

Notes:

- (1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).
- (2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
CM1 Gonville Place	545508	257828	Roadside	99.86	99.86	31	30	28	20	21
CM2 Montague Road	546057	259487	Roadside	99.83	99.83	24	25	22	16	18
CM3 Newmarket Road	546317	258900	Roadside	90.67	90.67	26	25	22	18	20
CM4 Parker Street	545366	258391	Roadside	96.62	96.62	37	32	33	24	23
CM5 Regent Street	545289	258118	Roadside	98.93	98.93	29	26	27	22	23

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

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

Notes:

The annual mean concentrations are presented as µg/m³.

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

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

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

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

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

Table A.4 – Annual Mean 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 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
1	545220	258357	Roadside	100	100.0	34.0	36.0	35.0	20.2	22.0
2	544299	261204	Roadside	57.7	57.7	23.0	24.0	21.0	13.8	12.0
3	544677	258992	Roadside	100	100.0	21.0	22.0	20.0	12.4	13.6
4	544492	259008	Roadside	100	100.0	33.0	31.0	31.0	20.1	19.8
5	544770	258112	Roadside	100	100.0	29.0	26.0	24.0	13.0	13.7
6	544867	255709	Kerbside	90.4	90.4	40.0	37.0	34.0	24.3	25.6
7	546181	258886	Roadside	100	100.0	32.0	33.0	31.0	26.0	22.7
8	545978	260355	Roadside	100	100.0	19.0	18.0	18.0	14.0	12.7
9	545235	258485	Roadside	92.3	92.3	25.0	28.0	23.0	16.7	17.7
10	545314	259777	Roadside	100	100.0	21.0	20.0	24.0	15.7	13.9
11	544811	256744	Urban Background	100	100.0	10.0	10.0	11.0	7.4	7.2
12	547998	259349	Roadside	100	100.0	28.0	25.0	23.0	20.4	19.1
13	545904	258431	Roadside	100	100.0	24.0	24.0	22.0	15.7	16.2

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 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
14	546080	257944	Roadside	92.3	92.3	24.0	23.0	21.0	15.8	14.9
15	542734	260040	Roadside	100	100.0			18.0	12.7	11.6
16	545279	258135	Roadside	90.4	90.4	29.0	27.0	26.0	17.0	18.8
17	547216	258286	Roadside	82.7	82.7	22.0	21.0	22.0	15.1	17.6
18	544884	258098	Roadside	84.6	84.6	34.0	30.0	30.0	17.9	17.9
19	543100	260344	Roadside	100	100.0	21.0	20.0	18.0	11.7	12.1
20	546083	259150	Roadside	100	100.0	26.0	27.0	26.0	19.3	20.2
21	544425	259560	Roadside	100	100.0	25.0	24.0	22.0	15.8	15.5
22	543784	259093	Roadside	100	100.0	33.0	30.0	30.0	18.1	17.5
23	543761	259813	Roadside	84.6	84.6	19.0	17.0	17.0	11.7	10.7
24	544308	259664	Roadside	92.3	92.3	29.0	24.0	25.0	19.0	16.5
25	544100	257473	Roadside	90.4	90.4	19.0	19.0	18.0	11.2	11.9
26	544943	257567	Roadside	84.6	84.6	19.0	19.0	18.0	12.0	12.5
27	544575	255307	Roadside	100	100.0	19.0	20.0	18.0	13.0	12.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
28	546961	255132	Roadside	82.7	82.7	39.0	32.0	33.0	21.5	19.6
29	548331	256252	Kerbside	92.3	92.3	21.0	19.0	19.0	14.4	14.2
30	545693	260473	Roadside	92.3	92.3	18.0	17.0	18.0	14.9	14.9
31	544529	257730	Roadside	100	100.0	31.0	31.0	29.0	20.3	21.3
32	545893	257234	Roadside	92.3	92.3	24.0	22.0	22.0	15.3	17.3
33	545333	259439	Roadside	100	100.0	35.0	35.0	31.0	21.4	23.5
34	545390	258390	Roadside	92.3	92.3	32.0	33.0	31.0	19.3	20.9
35	546163	258983	Roadside	100	100.0	19.0	17.0	17.0	13.5	13.2
36	546596	257594	Urban Background	100	100.0	17.0	16.0	15.0	11.1	10.9
37	545885	260088	Urban Background	92.3	92.3	16.0	15.0	15.0	11.0	11.4
38	545566	259579	Roadside	92.3	92.3	23.0	21.0	23.0	15.9	14.4
39	545710	258782	Kerbside	92.3	92.3	28.0	30.0	27.0	18.7	18.1
40	545405	258521	Roadside	90.4	90.4	33.0	34.0	31.0	23.0	25.1
41	545162	258240	Roadside	75	75.0	28.0	31.0	27.0	16.3	16.9

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 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
42	544981	257890	Roadside	100	100.0	24.0	20.0	20.0	13.1	13.0
43	545271	257675	Roadside	100	100.0	32.0	29.0	27.0	18.6	19.6
44	545430	258271	Roadside	92.3	92.3	23.0	20.0	21.0	13.9	14.6
45	545135	258391	Roadside	73.1	73.1	33.0	33.0	32.0	20.6	17.8
46	545549	258283	Kerbside	65.4	65.4	23.0	23.0	19.0	13.9	13.7
47, 48, 49	545508	257828	Roadside	100	100.0	31.0	31.0	29.0	20.1	19.8
50	545854	257229	Roadside	75	75.0	23.0	25.0	23.0	15.9	17.6
51	544960	254220	Roadside	92.3	92.3	24.0	22.0	25.0	14.9	16.5
52	546019	257300	Kerbside	75	75.0	22.0	22.0	24.0	15.8	17.6
53	545897	257325	Kerbside	100	100.0	30.0	23.0	27.0	19.2	18.8
54	546034	257683	Kerbside	57.7	57.7	21.0	23.0	20.0	15.1	13.8
55	546005	257405	Kerbside	82.7	82.7	25.0	22.0	22.0	14.4	15.3
56	546602	258796	Roadside	90.4	80.8	23.0	23.0	20.0	17.3	16.9
57	546060	257389	Kerbside	90.4	90.4	33.0	30.0	31.0	17.6	18.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
58	546080	257092	Kerbside	82.7	82.7	32.0	31.0	30.0	23.1	23.6
59	548858	257162	Kerbside	100	100.0		15.0	16.0	12.1	11.3
60	547917	258942	Kerbside	100	100.0		23.0	22.0	16.4	17.5
61	546341	258882	Kerbside	84.6	84.6		33.0	34.0	21.8	26.3
62	547181	257566	Kerbside	65.4	65.4			20.0	14.6	15.1
63	546177	257309	Kerbside	100	100.0		31.0	33.0	17.9	20.6
64	544952	258856	Kerbside	92.3	92.3		24.0	23.0	15.4	15.3
65	545896	257025	Roadside	65.4	65.4	22.0	24.0	22.0	16.1	16.1
66	544580	254692	Roadside	100	100.0	32.0	30.0	28.0	20.9	21.1
67	544614	254646	Kerbside	90.4	90.4	21.0	18.0	19.0	13.8	13.2
68	545211	254217	Roadside	100	100.0	18.0	17.0	16.0	12.5	12.2
69	546854	255405	Kerbside	100	100.0	24.0	22.0	21.0	15.4	17.2
70	546693	255379	Roadside	92.3	92.3	22.0	21.0	21.0	16.7	16.2
71	545245	256860	Kerbside	100	100.0	25.0	26.0	25.0	14.5	18.7

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

☒ Diffusion tube data has been bias adjusted.

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

Notes:

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

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

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

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

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

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

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

Figure A.1 – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for Continuous Monitoring Sites

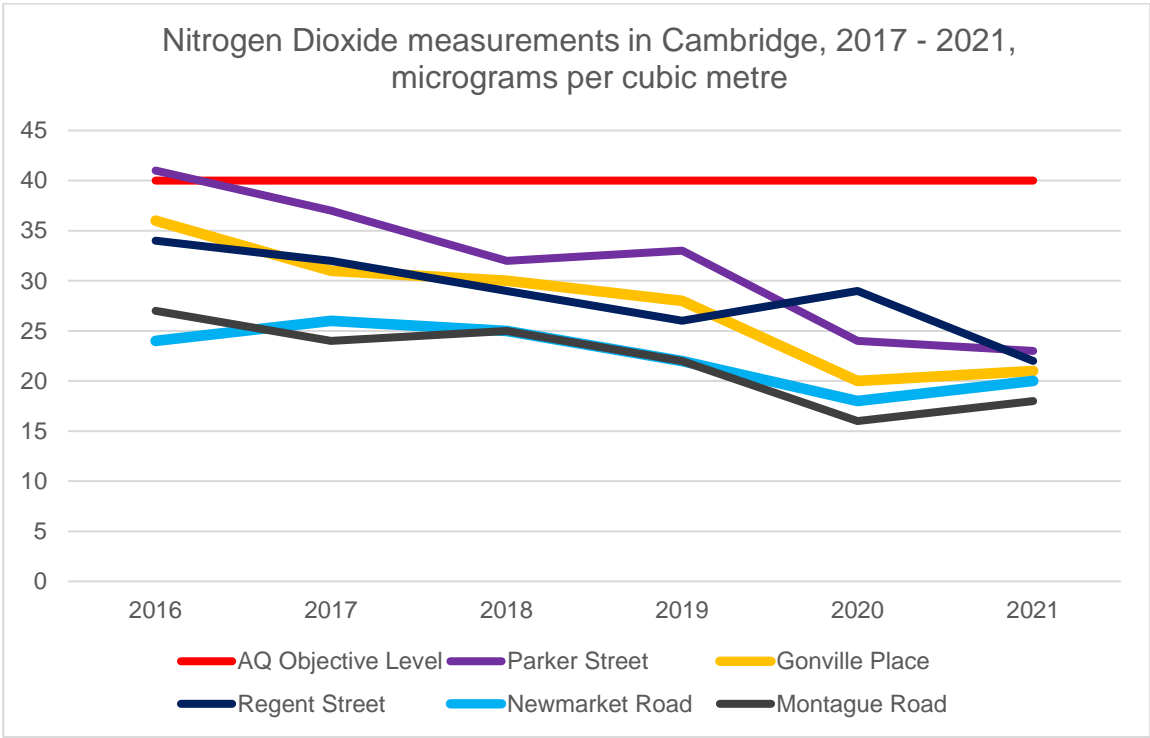
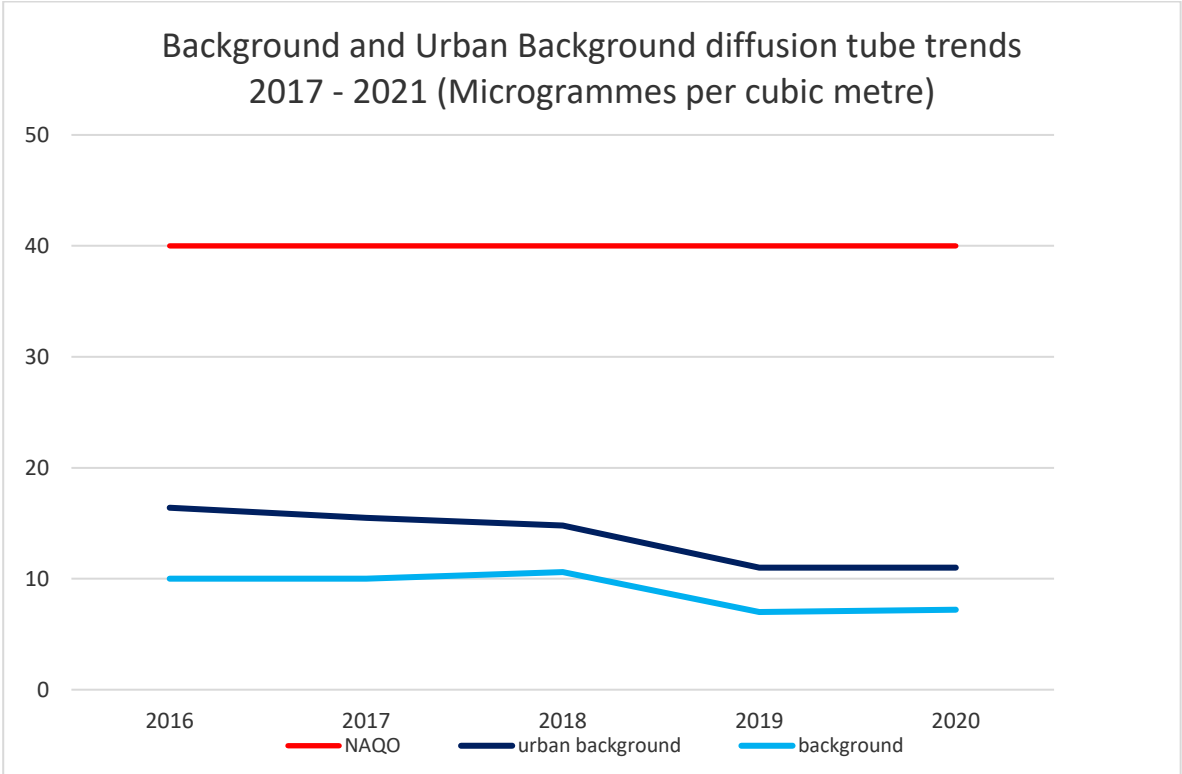


Figure A.1 presents NO₂ annual mean concentrations for the continuous monitoring sites between 2017 and 2021. There are no exceedances of the annual mean objective in 2021 with levels continuing to remain lower in 2021 following the significant drop in 2020 due to the COVID 19 pandemic, impact of lockdown and continuing Covid restrictions.

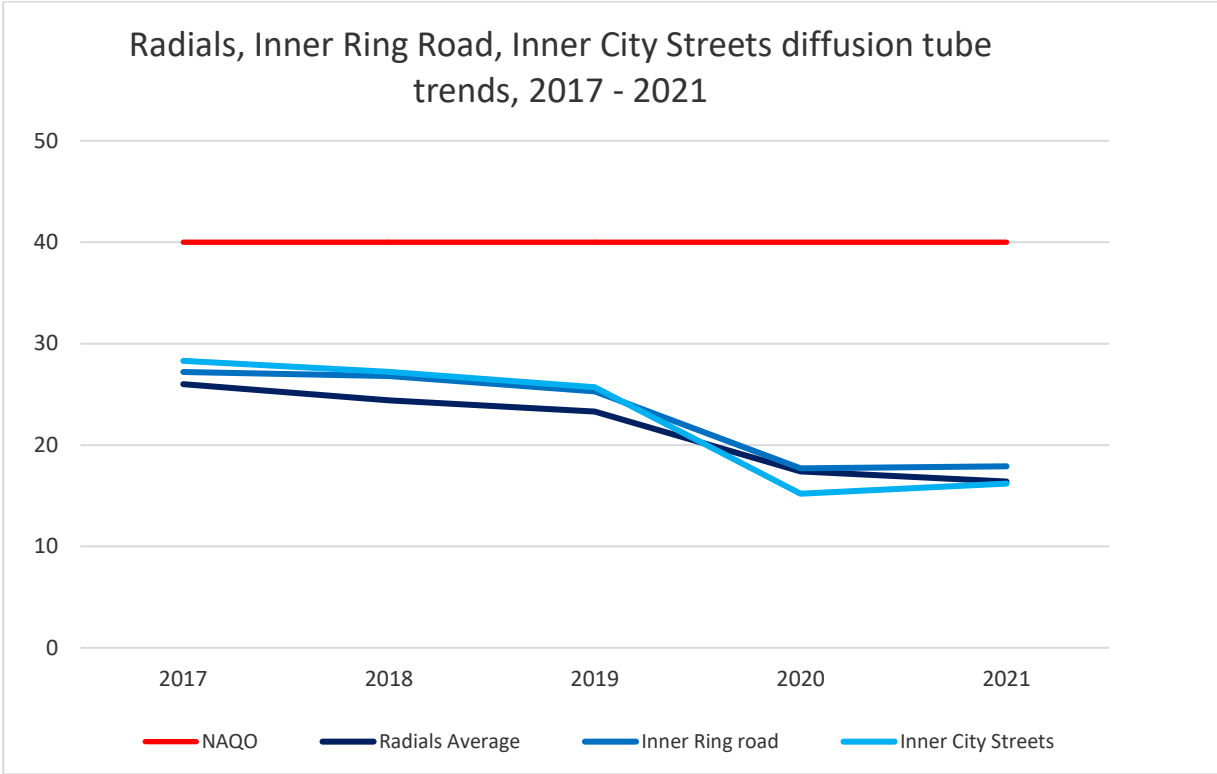
Cambridge City Council has split the diffusion tube data into groups based on the type of location or specific area of interest (typically related to areas of extensive development).

Figure A.2a – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for Background and Urban Background Sites



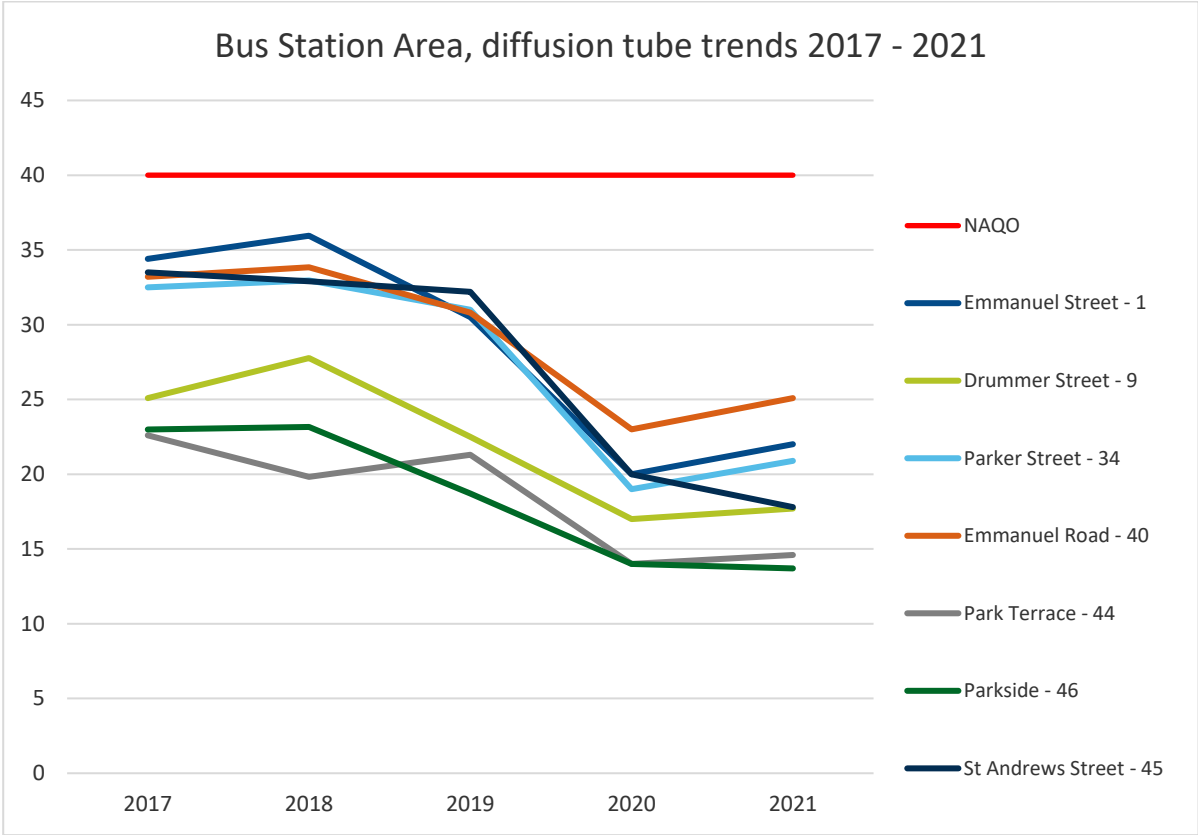
The annual mean nitrogen dioxide concentrations remained stable in 2021 in line with the reduced levels seen in 2020.

Figure A.2b – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for Radial Roads, the Inner Ring road and Inner City Streets



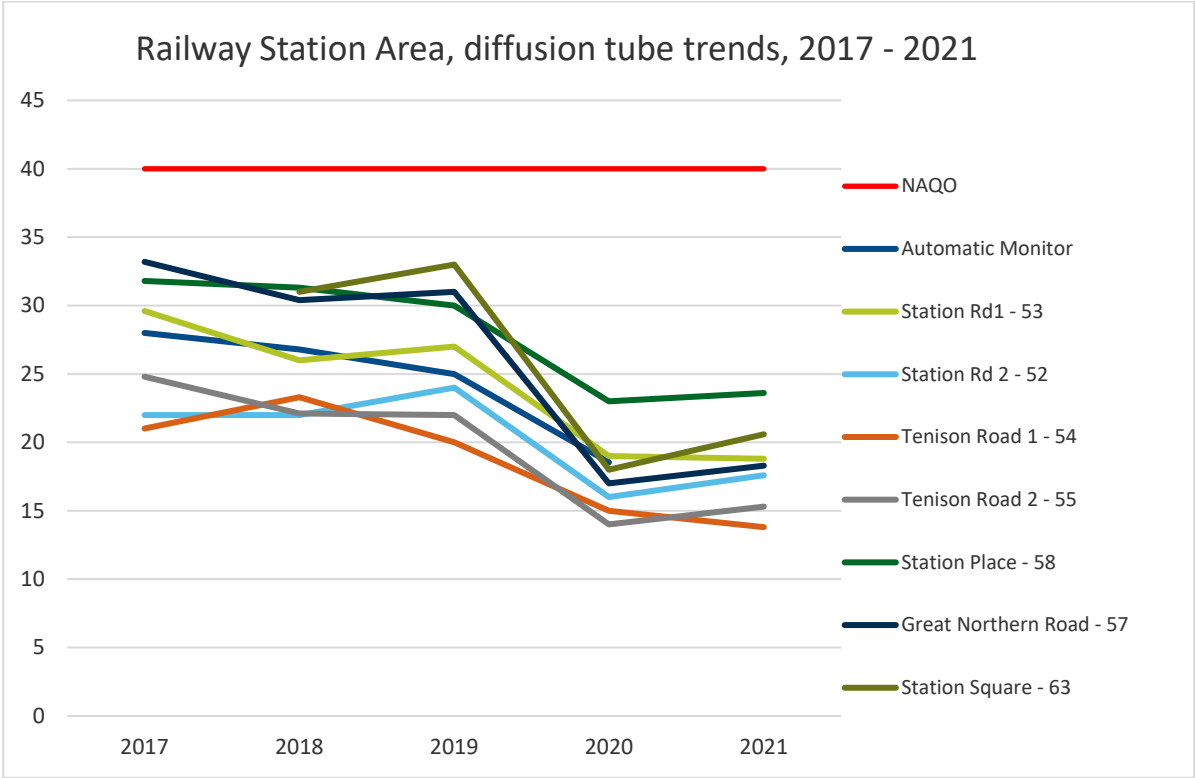
The annual mean concentrations of nitrogen dioxide remained stable or showed a small increase when compared with the reduced levels in 2020. There is a slight increase seen in the inner city streets which is as expected as the number of buses slowly began to increase during 2021. A small reduction was seen on the radial roads. This can be accounted for by the work undertaken on Histon Road Project which closed the road in one direction as part of the GCP improvement project. Vehicles movements were likely to have been shifted to other roads entering the city from the north including King Hedges Road.

Figure A.2c – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for the Bus Station Area



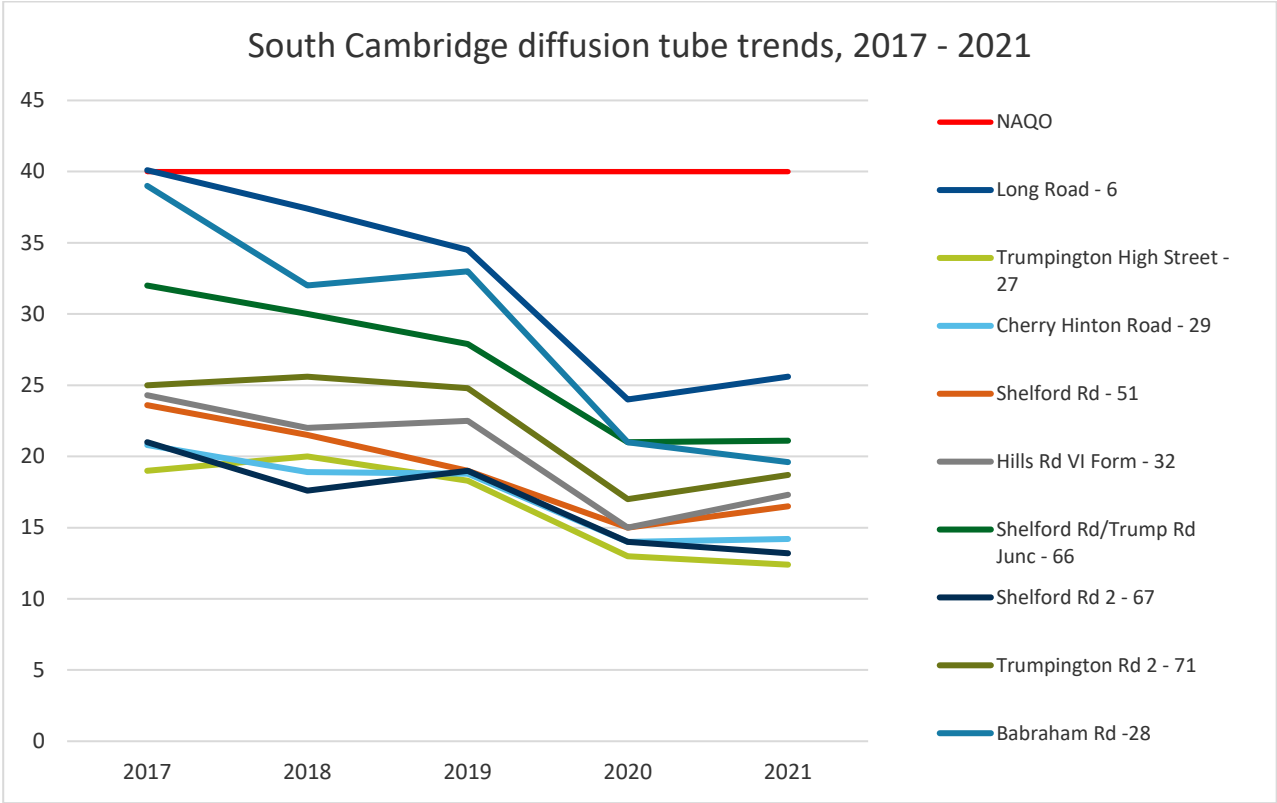
The annual mean nitrogen dioxide concentrations saw a slight increase when compared with the reduced 2020 levels. This is as expected given the increasing number of bus movements as Covid restrictions were relaxed over 2021.

Figure A.2d – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 for the Railway Station Area



The annual mean nitrogen dioxide concentration has increased slightly for those sites which measure vehicle movements in the form of cars accessing the station area; where as Station Place which is only accessed by Buses has remained stable. This fits with people opting for private vehicles as opposed to public transport as COVID restriction began to be lifted during 2021.

Figure A.2e – Trends in Annual Mean NO₂ Concentrations between 2017 and 2021 in South Cambridge



The annual mean nitrogen dioxide concentration has remained typically stable in South Cambridge when compared with 2020 levels.

The measured levels and trends are as expected given the Lockdown at the start of the year and continuing Covid restrictions through out the year. Data for 2022 will be interesting as traffic levels in the city appear to have slowly been returning to normal although it is unknown at this time if this will reach pre Covid levels.

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 (%) ⁽²⁾	2017	2018	2019	2020	2021
CM1 Gonville Place	545508	257828	Roadside	99.86	99.86	0	0	0	0	0
CM2 Montague Road	546057	259487	Roadside	99.83	99.83	0	1	0	0	1
CM3 Newmarket Road	546317	258900	Roadside	90.67	90.67	0	0	0	0	0
CM4 Parker Street	545366	258391	Roadside	96.62	96.62	0	0	0	0	0
CM5 Regent Street	545289	258118	Roadside	98.93	98.93	0	0	0	0	0

Notes:

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

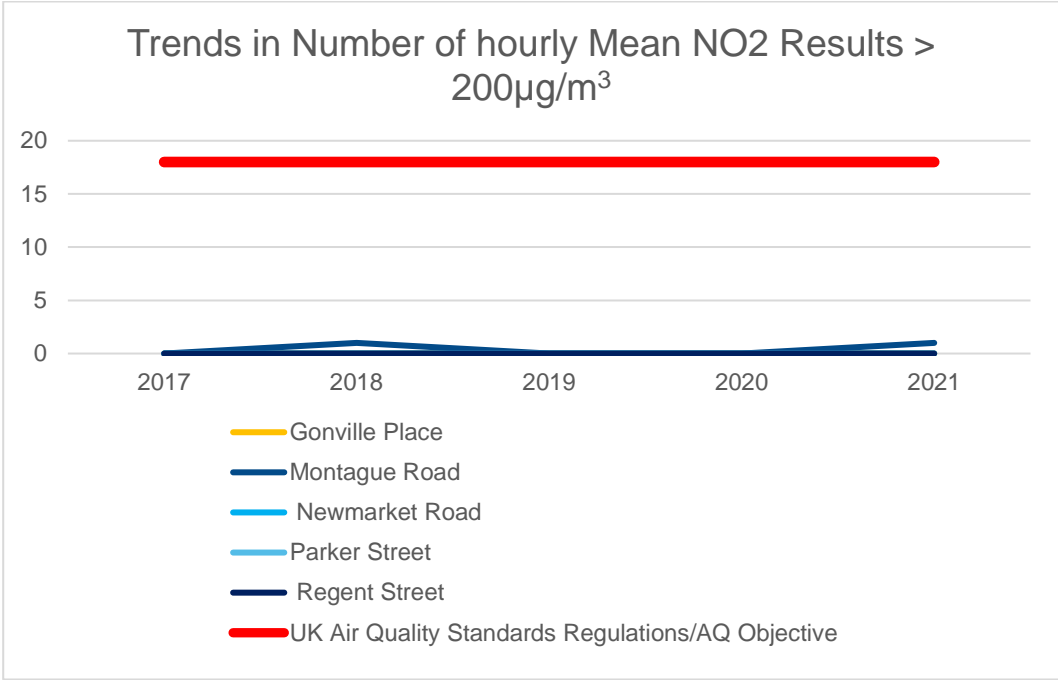
Exceedances of the NO₂ 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold**.

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

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

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

Figure A.3 – Trends in Number of NO₂ 1-Hour Means > 200µg/m³ between 2017 and 2021



There was a single exceedance of the nitrogen dioxide hourly mean in 2021 at Montague Road. The only other exceedance of the hourly mean was also at Montague Road in 2018.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Capture Monitoring Period (%) ⁽¹⁾	Valid Capture Data 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
CM1 Gonville Place	545508	257828	Roadside	99.32	99.32	18	19	19	15	14
CM2 Montague Road	546057	259487	Roadside	99.35	99.35	20	21	22	19	15
CM4 Parker Street	545366	258391	Roadside	99.16	99.16	21	23	21	17	18

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

Notes:

The annual mean concentrations are presented as µg/m³.

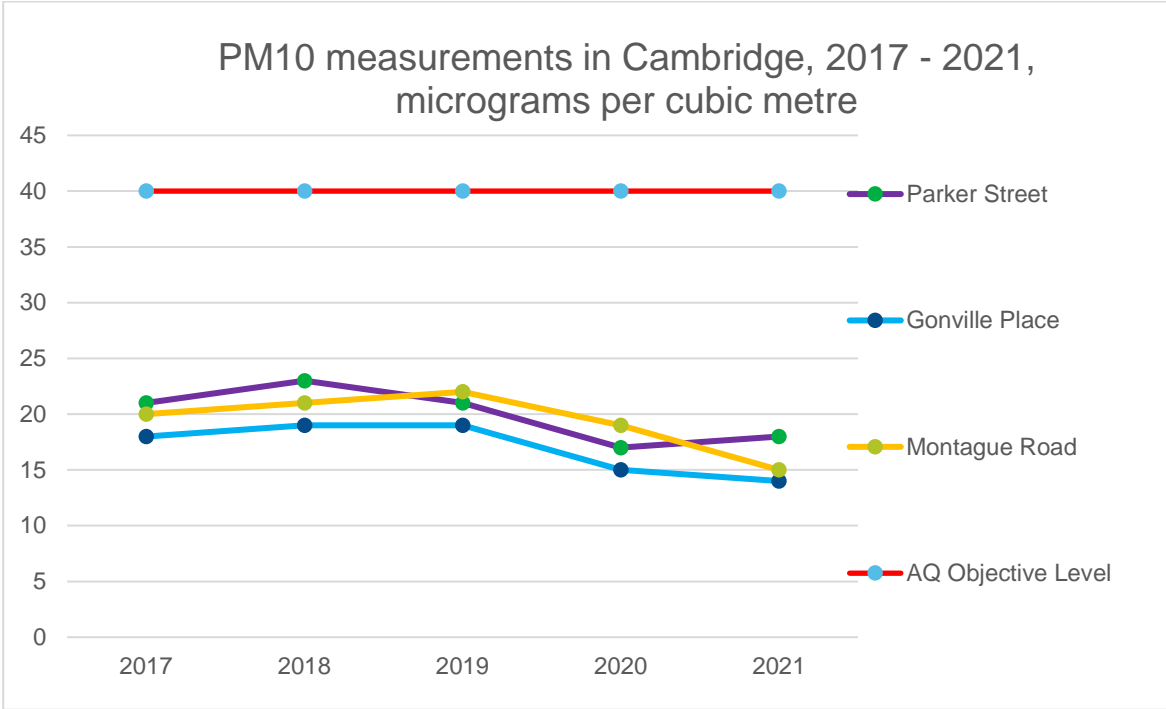
Exceedances of the PM₁₀ annual mean objective of 40µg/m³ are shown in **bold**.

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

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

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

Figure A.4 – Trends in Annual Mean PM₁₀ Concentrations between 2017 and 2021



The annual mean PM10 concentrations have remained fairly stable prior to 2020 with a significant decrease in measured levels in 2020 following Covid 19 restrictions, most likely in response to reduced vehicle movements. Whilst all measured levels in 2021 remained below 2019 levels there is no consistent trend with both decreases at Montague Road and Gonville Place (large decrease at Montague Road) and a small increase at Parker Street.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Capture Data for Monitoring Period (%) ⁽¹⁾	Valid Capture Data 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
CM1 Gonville Place	545508	257828	Roadside	99.32	99.32	3	1	2	0	0
CM2 Montague Road	546057	259487	Roadside	99.35	99.35	3	1	6	0	0
CM4 Parker Street	545366	258391	Roadside	99.16	99.16	4	1	5	0	2

Notes:

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

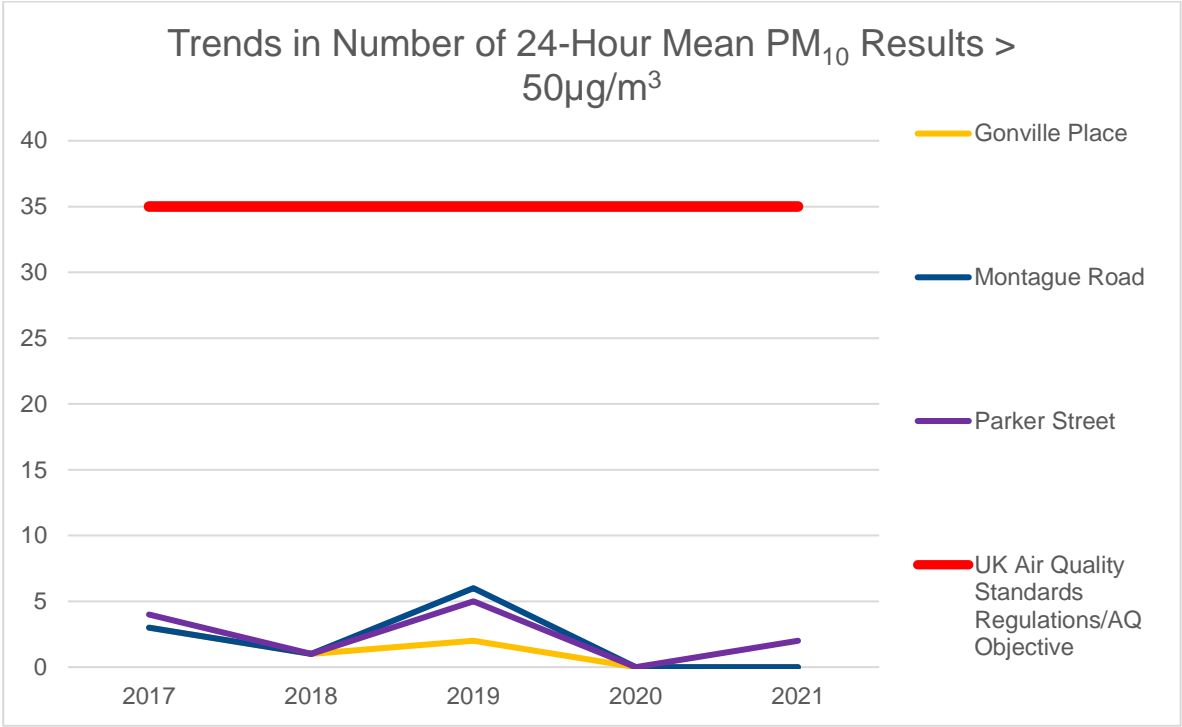
Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

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

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

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

Figure A.5 – Trends in Number of 24-Hour Mean PM₁₀ Results > 50µg/m³



The number of measured exceedences of the 24-hour average PM10 levels remain well below the National Air Quaility Objective; there was two exceedences at Parker Street in 2021.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Capture Monitoring Period (%) ⁽¹⁾	Valid Capture Data 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
CM1 Gonville Place	545508	257828	Roadside	98.69	98.69	15	15	14	11	12
CM3 Newmarket Road	546317	258900	Roadside	87	87	11	10	10	8	8

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

Notes:

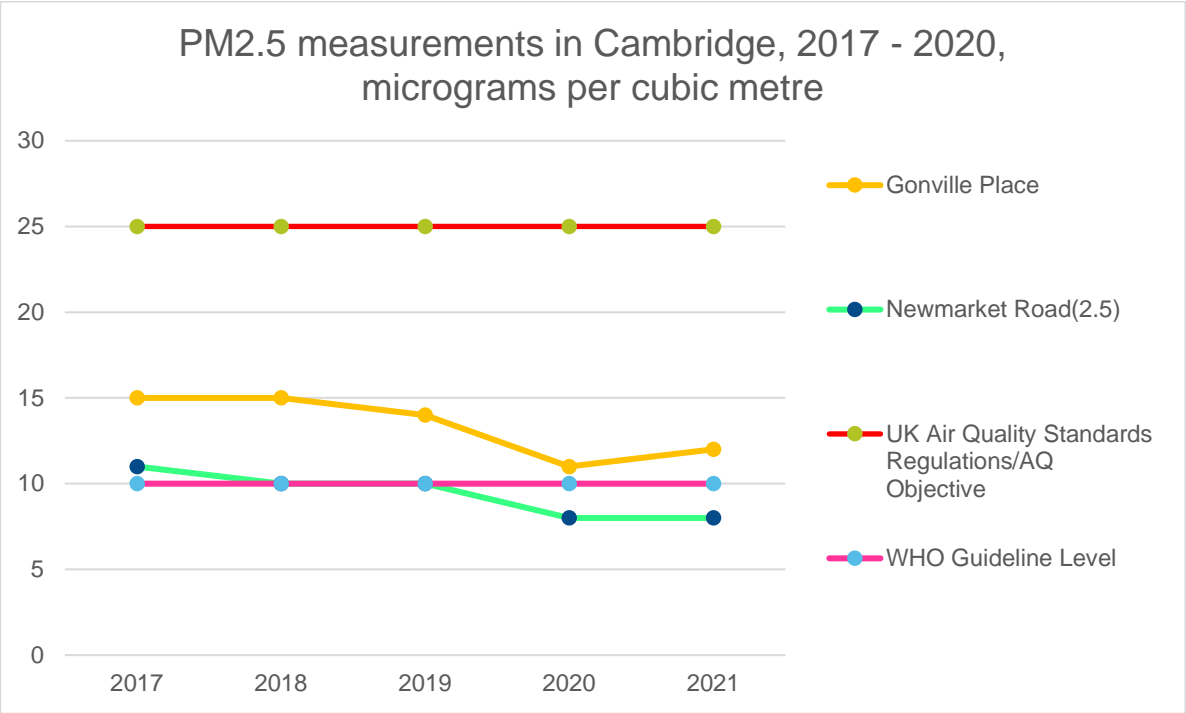
The annual mean concentrations are presented as µg/m³.

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

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

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

Figure A.6 – Trends in Annual Mean PM_{2.5} Concentrations between 2017 and 2021



PM2.5 annual mean concentrations are measured at two locations in Cambridge. Figure A5 shows the trend from 2017 to 2021. Whilst there was a small decrease in levels in 2020 which has continued into 2021 the overall trend remains stable. Newmarket Road achieves the World Health Organisation Guideline (WHO) level (10 microgrammes per cubic metre) whereas Gonville Place (busy and congested crossroads) continues to be above the WHO Guideline level in 2021. The DEFRA background level estimate for PM2.5 is between 9 and 10 microgrammes per cubic metre in Cambridge.

Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO₂ 2021 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.67)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	545220	258357	35.9	29.7	24.2	28.3	30.9	26.6	29.6	28.7	45.3	41.1	35.4	38.3	32.8	22.0		
2	544299	261204					11.7	13.4	12.7	12.2	18.9	16.3	22.0		15.3	12.0		
3	544677	258992	22.1	18.0	18.3	20.4	19.3	18.7	18.5	16.7	23.7	21.2	23.0	24.5	20.4	13.6		
4	544492	259008	38.4	24.7	28.1	29.8	29.8	25.0	25.3	21.5	32.8	32.3	37.1	29.3	29.5	19.8		
5	544770	258112	23.6	21.3	20.1	18.6	18.2	16.2	15.4	13.2	24.0	25.0	27.4	22.1	20.4	13.7		
6	544867	255709	42.8	37.5	37.9	39.1	33.9	36.7	27.5	30.0	43.3		50.2	41.9	38.3	25.6		
7	546181	258886	38.6	34.6	35.6	24.8	33.4	23.1	25.5	25.0	39.8	43.1	42.0	40.7	33.9	22.7		
8	545978	260355	26.6	23.2	11.2	19.6	15.4	17.0	13.3	12.3	22.2	20.5	24.0	23.0	19.0	12.7		
9	545235	258485	29.4		23.3	32.0	24.3	22.1	23.8	23.9	29.8	25.7	26.7	30.0	26.5	17.7		
10	545314	259777	27.8	23.8	18.7	19.5	17.9	23.3	15.1	11.7	24.3	21.6	20.9	24.2	20.7	13.9		
11	544811	256744	15.0	14.0	13.6	9.7	6.5	7.4	5.1	6.0	11.7	12.5	13.5	13.1	10.7	7.2		
12	547998	259349	37.9	30.1	29.1	20.2	27.1	31.5	14.8	19.3	35.2	31.8	33.8	31.5	28.5	19.1		
13	545904	258431	29.4	18.3	26.1	18.9	24.2	19.9	14.9	21.7	28.6	26.8	30.7	29.8	24.1	16.2		
14	546080	257944		26.0	23.0	23.5	20.6	15.1	17.4	15.6	24.1	23.5	29.6	26.4	22.3	14.9		

15	542734	260040	14.1	14.5	17.4	14.4	13.4	11.5	10.2	36.1	17.5	17.8	26.5	14.7	17.3	11.6		
16	545279	258135	31.4	23.4	23.5	23.3	26.4	24.2	24.6	27.0	32.3		39.1	32.7	28.0	18.8		
17	547216	258286	31.8	25.4	26.5	26.6		29.5	18.3	16.2	22.3		35.4	30.8	26.3	17.6		
18	544884	258098	28.3	29.9		24.2	25.7	23.3	22.4	19.7		30.0	32.6	31.2	26.7	17.9		
19	543100	260344	25.0	16.4	12.3	22.0	14.7	13.3	11.8	11.1	20.1	17.9	27.1	25.1	18.1	12.1		
20	546083	259150	35.0	37.8	27.4	30.8	15.8	18.7	27.1	24.7	37.9	34.3	36.9	35.6	30.2	20.2		
21	544425	259560	26.6	26.5	21.8	25.2	19.7	29.0	19.6	16.2	26.1	22.6	25.3	18.9	23.1	15.5		
22	543784	259093	31.8	28.8	21.3	25.0	23.0	22.8	20.3	15.8	34.7	31.4	32.6	26.3	26.2	17.5		
23	543761	259813	20.7	18.7	15.5	17.5	13.6	13.2	12.8	10.7		17.0		19.4	15.9	10.7		
24	544308	259664	33.8	26.8	25.7	19.5	12.0	17.0	13.0	15.4		31.4	41.1	34.4	24.6	16.5		
25	544100	257473	24.4	21.9	15.3	20.0	15.5	11.4	12.4	11.0	19.6	m	22.1	21.2	17.7	11.9		
26	544943	257567	23.1	21.4	18.2	22.2	16.5		12.9	11.4		16.7	22.8	21.5	18.7	12.5		
27	544575	255307	23.3	26.7	17.2	17.7	12.0	12.5	14.2	11.6	23.5	21.4	20.6	21.8	18.5	12.4		
28	546961	255132	32.6	28.2	32.6	32.6	35.8	30.1	27.5	24.5			22.9	25.5	29.2	19.6		
29	548331	256252	26.3	21.2	21.9	19.6	20.7	15.0	14.8	13.8		23.2	29.2	27.1	21.2	14.2		
30	545693	260473	27.6	25.6	22.4	18.2		14.9	14.8	14.1	24.4	24.7	30.3	27.4	22.2	14.9		

31	544529	257730	33.5	33.5	27.0	34.4	28.2	25.2	27.9	22.5	39.0	36.3	36.6	37.0	31.8	21.3		
32	545893	257234	29.4	26.5	23.6	24.7		20.4	22.0	19.1	28.2	29.0	30.2	30.8	25.8	17.3		
33	545333	259439	33.1	37.4	29.2	39.3	38.0	30.9	32.7	25.6	45.0	36.9	33.8	38.3	35.0	23.5		
34	545390	258390		31.3	28.9	32.2	30.5	26.5	28.0	25.5	39.1	33.1	33.5	35.2	31.3	20.9		
35	546163	258983	26.5	21.7	21.6	15.0	16.2	11.1	11.8	12.2	22.1	25.5	28.8	23.6	19.7	13.2		
36	546596	257594	23.2	18.2	18.1	14.7	12.6	11.5	9.2	9.3	10.9	18.0	26.1	22.7	16.2	10.9		
37	545885	260088	23.1	19.9	19.1	14.9	12.3	11.4	9.3		16.5	18.0	23.2	19.5	17.0	11.4		
38	545566	259579	35.7	27.6	25.9	22.7	20.6	17.4	16.1	15.1	0.8	27.2		26.6	21.4	14.4		
39	545710	258782	15.7	28.5	26.0	27.1	24.9	18.7	22.7		30.4	30.0	38.1	34.8	27.0	18.1		
40	545405	258521	43.3	36.5	29.9	39.5	39.2	39.6	35.1	30.3	41.4	35.6	41.0		37.4	25.1		
41	545162	258240	29.6	21.3	22.8	25.0		14.1	23.0	21.6	33.7			35.8	25.2	16.9		
42	544981	257890	20.5	23.3	17.4	16.6	15.3	19.0	11.3	7.2	21.2	22.0	28.5	30.0	19.4	13.0		
43	545271	257675	35.5	28.5	29.1	30.7	24.9	28.0	21.5	23.6	32.0	30.1	39.6	28.4	29.3	19.6		
44	545430	258271	24.3	23.6	22.2	22.5	18.6	17.4	17.6	19.3	23.3	22.8		27.6	21.7	14.6		
45	545135	258391	32.4	23.7			23.6	17.8	22.4	20.0	34.4		36.5	28.9	26.6	17.8		
46	545549	258283	28.6	23.6	20.5	19.7	18.5			13.9	20.3	20.5			20.7	13.7		

47	545508	257828	44.0			26.3	35.7	22.4	26.9	26.7		0.9	31.9	32.2	-	-		Triplicate Site with 47, 48 and 49 - Annual data provided for 49 only
48	545508	257828	38.5	24.3	26.7	26.8	35.0	31.1	29.2	25.4	37.8	38.5	32.2		-	-		Triplicate Site with 47, 48 and 49 - Annual data provided for 49 only
49	545508	257828	46.9	25.9	26.5	27.4	31.8	28.7	29.0	26.7	36.7	37.5	33.9	33.4	29.6	19.8		Triplicate Site with 47, 48 and 49 - Annual data provided for 49 only
50	545854	257229	24.8	31.8	27.8			22.2	21.4	19.2	34.5	24.8		29.4	26.2	17.6		
51	544960	254220	30.2	24.7	24.9	22.4	20.9		18.1	18.4	30.3	26.1	26.3	29.0	24.7	16.5		
52	546019	257300	26.9	22.8	28.1		26.6	23.6	25.6			25.4	30.8	26.6	26.3	17.6		
53	545897	257325	40.4	36.6	28.6	29.2	25.2	22.0	23.9	5.5	30.4	31.2	33.0	30.0	28.0	18.8		
54	546034	257683	24.1	24.9	21.5			15.7			22.0	25.7		25.9	22.8	13.8		
55	546005	257405	27.8	25.5	23.0	23.6	18.5	18.2	18.8	16.4			28.5	28.2	22.9	15.3		
56	546602	258796	33.2	31.2	21.1		22.5	21.7	20.7	19.6	27.0	22.5	32.2		25.2	16.9		
57	546060	257389	28.6	28.1	26.5	18.2	24.6	15.3		21.8	31.9	34.9	36.4	34.3	27.3	18.3		
58	546080	257092	43.0	28.8	29.5	27.8	29.6			35.0	36.3	37.6	50.0	34.8	35.2	23.6		
59	548858	257162	22.2	20.5	16.9	16.1	15.3	11.8	11.7	10.7	19.3	21.1	11.9	24.0	16.8	11.3		
60	547917	258942	25.1	26.4	28.8	24.7	22.0	23.2	19.8	19.6	29.9	29.0	33.3	31.0	26.1	17.5		
61	546341	258882	46.4	44.7	34.4	34.5	42.5		35.1	27.5	46.2	40.6		41.0	39.3	26.3		
62	547181	257566	28.8	25.6	25.6			15.4	15.6	16.3			31.8	28.2	23.4	15.1		

63	546177	257309	36.5	29.4	23.3	25.1	26.1	27.1	25.5	27.5	35.5	35.8	41.1	35.8	30.7	20.6		
64	544952	258856	24.7	32.3	20.4	19.8	18.6	17.8	14.6		23.3	22.4	29.0	28.7	22.9	15.3		
65	545896	257025	29.8	28.7	24.6				22.3	16.4	28.4	23.7	25.9		25.0	16.1		
66	544580	254692	37.9	31.6	32.9	23.8	23.4	29.4	25.2	26.4	35.6	34.2	41.4	35.9	31.5	21.1		
67	544614	254646	25.0	17.1	19.7	17.8	15.7	15.9		14.3	22.2	19.9	26.6	22.4	19.7	13.2		
68	545211	254217	27.4	22.8	20.2	16.6	14.9	11.1	12.9	11.2	19.3	19.2	21.3	22.3	18.3	12.2		
69	546854	255405	36.8	27.7	27.8	20.6	21.0	19.1	16.8	19.0	27.8	29.6	32.4	29.0	25.6	17.2		
70	546693	255379	31.5		27.1	25.9	16.7	18.3	20.3	13.8	28.1	27.4	31.0	25.6	24.2	16.2		
71	545245	256860	30.4	27.6	28.3	27.1	24.2	29.5	23.8	22.6	31.0	27.2	33.8	28.8	27.9	18.7		

☒ 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.TG16.

☒ Local bias adjustment factor used.

☐ National bias adjustment factor used.

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

☒ Cambridge City Council confirm that all 2021 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 Cambridge City Council During 2021

Cambridge City Council has not identified any new sources relating to air quality within the reporting year of 2021.

Additional Air Quality Works Undertaken by Cambridge City Council During 2021

Cambridge City Council has not completed any additional works within the reporting year of 2021.

QA/QC of Diffusion Tube Monitoring

Socotec UK Ltd supply and analyse the nitrogen dioxide tubes for Cambridge City Council. The tubes are prepared by spiking acetone: triethanolamine (50:50) onto the grids prior to being assembled. The tubes are desorbed with distilled water and the extract is analysed using a segmented flow auto-analyser with ultraviolet detection. Socotec UK Ltd, Didcot is one of the laboratories that follows the AIR PT inter-comparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes; SOCOTEC currently holds the highest rank of a **Satisfactory** laboratory.

Exposure periods for the diffusion tubes are those of the UK Nitrogen Dioxide Diffusion Tube Network run by National Physical Laboratory, with the tubes being changed every four or five weeks.

QA/QC procedures are as detailed in the UK NO₂ Diffusion Tube Network Instruction Manual. Some diffusion tube data were rejected from the dataset in line with guidance. Low concentrations are rare at urban background or roadside sites and are likely to result from an analytical problem or a faulty tube and therefore are rejected, particularly if they are an isolated occurrence. High concentrations are included unless there is a reason to reject them.

Monitoring was completed in adherence with the Diffusion Tube Monitoring Calendar in 2021.

Diffusion Tube Annualisation

Five diffusion tubes failed to achieve 75% data capture and required annualization. The Diffusion Tube Data Entry System template was used to annualise the following tubes Tube 2 (Histon Road 2), Tube 46 (Parkside), Tube 54 (Tenison Road 1), Tube 62 (Mill Road 2) and Tube 65 (Brooklands Avenue).

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2021 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Cambridge City Council have applied a local bias adjustment factor of 0.67 to the 2021 monitoring data. A summary of bias adjustment factors used by Cambridge City Council 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
2021	Local	-	0.67
2020	Local	-	0.68
2019	Local	-	0.68
2018	Local	-	0.71
2017	Local	-	0.70

The results in this report are bias-adjusted using a locally derived co-location factor. For 2021 this is 0.67 compared with a nationally derived factor of 0.78 for the ESG Didcot 50%TEA in acetone method. This locally derived factor compares the results from the continuous monitor with the average from the triplicate tubes all located at Gonville Place,

Cambridge. The locally derived factor is used as it is more representative of the local situation compared with the national factor, as well as for consistency as this is the approach that Cambridge City Council has taken since first carrying out bias-adjustment calculations. The bias-adjustment factor has been falling gradually as measured levels of nitrogen dioxide have fallen at the triplicate site Gonville Place, as shown in the graph below. We have discussed this with various air quality professionals in recent years; our understanding is that the relationship between the diffusion tube measurements and the continuous monitor measurements drifts at lower levels of nitrogen dioxide (as measured by the continuous monitor).

NO₂ Fall-off with Distance from the Road

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

No diffusion tube NO₂ monitoring locations within Cambridge City Council required distance correction during 2021.

QA/QC of Automatic Monitoring

Cambridge City Council has five continuous monitors; all are at roadside sites. The monitoring station at Regent Street is situated at the offices of Cambridge City Council in Mandela House. It is part of the National Automatic Urban Network (AURN) on behalf of DEFRA and has been in place since 1993. Monitors for Gonville Place and Parker Street were commissioned in 1998. The monitor at Newmarket Road was commissioned in 2001 in response to perceived data shortfalls for urban feeder roads following the first round of R&A. The monitoring station at Montague Road was commissioned in April 2007, using the monitors formerly located in Silver Street.

Each of the sites is calibrated and maintained every 2-3 weeks by the Local Site Operator (LSO), Cambridge City Council. The sites are serviced every six months. Our Equipment Support Unit (ESU) services are provided by Matts Monitors. The sites are audited by Ricardo Energy & Environment either as part of the AURN or through the 'Calibration Club'. All data is collated and ratified externally by Ricardo Energy & Environment. The results are ratified and returned as hourly sequential data.

PM₁₀ and PM_{2.5} Monitoring Adjustment

The PM₁₀ monitors have had the BAM Gravimetric Equivalent correction factor applied by the QA/QC contractor.

The PM_{2.5} monitor at Gonville Place does not require correction as it has a heated inlet.

The PM_{2.5} monitor at Newmarket Road has had the conventional TEOM Gravimetric Equivalent correction factor applied by the QA/QC contractor.

Automatic Monitoring Annualisation

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

NO₂ Fall-off with Distance from the Road

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

No automatic NO₂ monitoring locations within Cambridge City Council required distance correction during 2021.

Table C.2 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Wicken Fen	Annualisation Factor Northampton Spring Park	Annualisation Factor Norwich Lakenfields	Annualisation Factor Site 4 Name	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
2	1.2236	1.1578	1.1323		1.1713	15.3	17.9	
46	0.9831	0.9677	1.0047		0.9852	20.7	20.4	
54	0.9016	0.8926	0.9184		0.9042	22.8	20.6	
62	0.9577	0.9781	0.9592		0.9650	23.4	22.6	
65	0.9727	0.9483	0.9609		0.9607	25.0	24.0	

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	12				
Bias Factor A	0.67 (0.62 - 0.73)				
Bias Factor B	49% (36% - 61%)				
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)					
Mean CV (Precision)	31.5				
Automatic Mean ($\mu\text{g}/\text{m}^3$)	4.7%				
Data Capture					
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	21.2				

Notes:

A single local bias adjustment factor has been used to bias adjust the 2021 diffusion tube results.

Cambridge City Council

Diffusion Tube Locations plus AQMA

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Project Location & Name: [C:\ProgramData\GIS\Project\Baseline_LayplanName.mxd](#)

Date: 31st May 2017
 Produced by: Themis Kantara
 Section/Department: Environmental Health, Planning and Development
 Scale: 1:40,000

The [Cambridge City Council website](https://www.cambridgecitycouncil.gov.uk/) has a map showing the locations of the monitoring stations in Cambridge which can be zoomed in and out to discover the specific locations. A click on the icon will provide the name and number of each site.

Figure D.2 – Map of Automatic Monitoring Sites

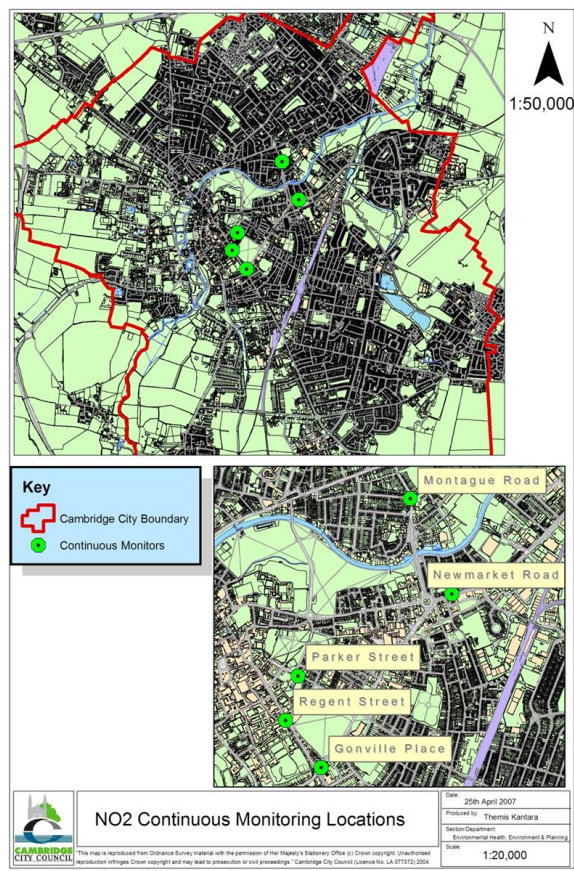
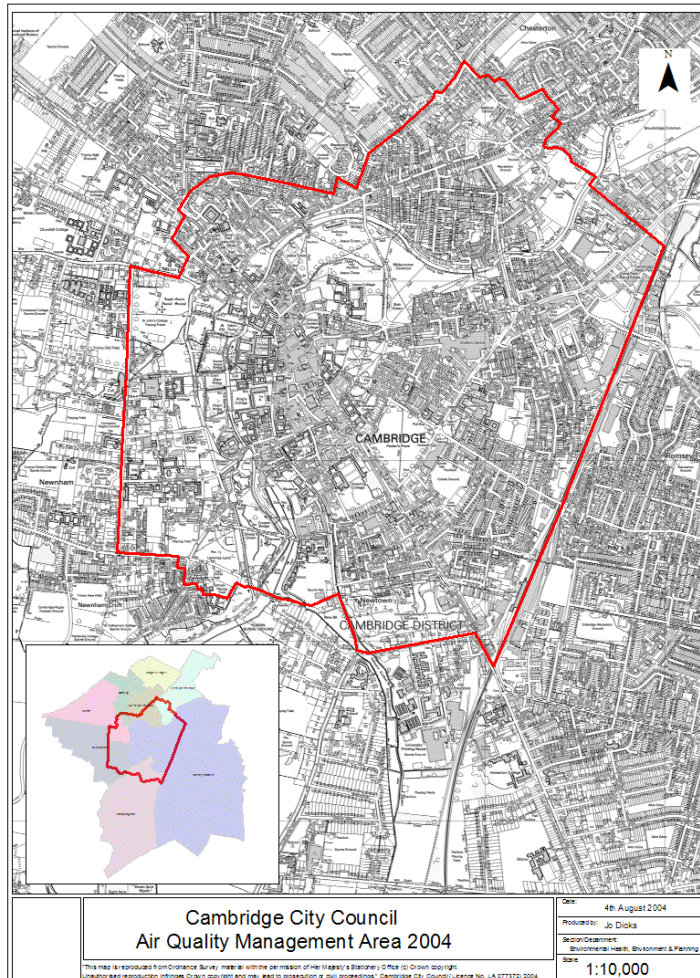


Figure D.3 – Map of Air Quality Management Area

The [Cambridge City Council website](https://www.cambridgecitycouncil.gov.uk/) has a map of the Air Quality Management Area.



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁶

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

⁶ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.