Rossendale BOROUGH COUNCIL

ITEM NO. E3

Subject:	Annual Air Quality Report 2022		**Status:**	For Publication	
Report to:	Cabinet		**Date:**	7th December 2022	
Report of:	Public Protection Manager		**Lead Member:**	Environment and Corporate Services	
Key Decision:	☒ Forward Plan ☒		General Exception ☐	Special Urgency ☐	
Equality Impact Assessment:	Required:	No	Attached:	No	
Biodiversity Impact Assessment:	Required:	No	Attached:	No	
Contact Officer:	Phil Morton		**Telephone:**	01706 252442	
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1. RECOMMENDATIONS

1.1 That the content of the report be noted in relation to the Annual Air Quality report.

1.2 That Cabinet endorse the statutory requirement to declare Air Quality Management Area 3 as detailed and authorises the Monitoring Officer to make the necessary Order.

1.3 That Cabinet endorse the statutory requirement to revoke Air Quality Management Areas 1 and 2 as detailed and authorises the Monitoring Officer to make the necessary Orders.

2. EXECUTIVE SUMMARY

1. The Annual Air Quality Report is a statutory requirement of the Authority.

2. Improvements in air quality in existing Air Quality Management Areas means these can now be revoked.

3. Identification of a localised area of concern requires the declaration of a further Air Quality Management Areas.

4. Generally continued improvement in NO2 levels across the Borough as a whole.

5. Increased involvement across linked areas of air quality and carbon reduction initiatives.

3. BACKGROUND

3.1 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.

3.2 The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017. The health and social care costs of air pollution in England could reach £5.3 billion by 2035 unless action is taken, according to a report and cost tool published by Public Health England (PHE) in 2018.

3.3 Approximately 80% of a person's health and wellbeing is not determined by health interventions but by activities and circumstances in their home and community.

3.4 UK Health Security Agency (HAS) estimates that poor air quality contributes to around 4.4% of all deaths across Lancashire. However, air pollution is likely to contribute a small amount to the deaths of a larger number of exposed individuals rather than being solely responsible for the calculated figure of attributable deaths.

3.5 The main air quality issue of concern in Rossendale continues to be Nitrogen Dioxide (NO2) caused by road vehicle emissions.

3.6 Every year an Annual Status Report is submitted to the Department for Environment, Food and Rural Affairs (DEFRA) detailing the current position regarding air quality within the Borough.

A copy is attached as **Appendix 1**.

4. DETAILS

4.1 Local authorities have a central role in achieving improvements in air quality. District councils have responsibility for monitoring air quality. Where places are found that have pollution levels higher than the national air quality objectives the local authority must declare an Air Quality Management Area (AQMA) and then put together a plan to bring about improvements.

4.2 In Rossendale, Borough Council Environmental Health staff in the Public Protection Unit carry out this work. However, the work to improve air quality is the responsibility of a wide range of services, organisations and individuals.

4.3 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 will be needed to improve air quality further.

4.4 2020 and 2021 showed a clear reduction in NO2 overall due to the Covid lockdowns and reduced traffic movements. However, air quality readings at sites located on Grane Road Haslingden show the recorded level of NO2 exceeded the Governments annual limit of 40 ug/m3.

4.5 Air quality is monitored in 20 locations within Rossendale. There are 2 areas where pollution from vehicles has been higher than the health based objective for nitrogen dioxide (NO2). These are:

Manchester Road, Haslingden
Bacup Road, Rawtenstall

4.6 As a result AQMA's were declared in 2013 and action plans written to deal with the pollution.

4.7 Significant reductions have been noted at both sites over recent years and levels are now below levels which require AQMA's to be declared or maintained. Consequently, it is now intended to revoke both existing AQMA's at these locations.

4.8 It is necessary, however to declare an additional AQMA covering the area previously identified on a small section of Grane Road, Haslingden.

Declaration of new AQMA

4.9 The Environment Act 1995 places a duty on councils to carry out periodic reviews of air quality and to identify those areas where prescribed air quality objectives for one of more of seven pollutants, are being, or are likely to be, exceeded.

4.10 The Air Quality Regulations 2000 and Air Quality (Amendment) (England) Regulations 2002 define the air quality objectives for certain air pollutants including nitrogen dioxide, fine particles (PM10), benzene, 1, 3-Butadiene, lead, carbon monoxide and sulphur dioxide.

4.11 Where it has been identified that one or more of the air quality objectives will be exceeded at a location where there is relevant public exposure, councils have a duty to declare an Air Quality Management Area (AQMA) in that locality following a period of consultation.

4.12 Rossendale Borough Council has complied with this requirement by monthly measurements of Nitrogen Dioxide using a network of passive monitoring diffusion tubes located across the valley. Nitrogen dioxide is a pollutant resulting mainly from car exhausts, industrial and domestic fossil fuel combustion.

4.13 Recently an area in Rossendale has consistently exceeded the air quality objective which is 40µg/m³ leading to the requirement to declare an Air Quality Management Area.

4.14 Specifically this covers the area of residential properties between 240 and 268 Grane Road, Haslingden.

4.15 In 2018 diffusion tube 20 was added outside pavement fronted property 264 Grane Road which recorded a level of 47.8µg/m3.

4.16 In 2020 the results showed breaches at tubes 12 of 44.9 µg/m3 and tube 19 of 41.6µg/m3.

4.17 In 2021, the same two tubes exceeded the level. Tube 12 was 50.4 µg/m3 and tube 19 was 46.9 µg/m3.

4.18 The map of the proposed boundary for the Area 3 AQMAs is detailed in **Appendix 2.**

4.19 As residential dwellings are the main receptors that fall into the category of relevant public exposure, all residential properties facing directly onto the road affected have been included within the AQMA.

4.20 The AQMA needs to be designated officially by means of an Order. A draft Order has therefore been produced and is included in **Appendix 3**.

4.21 The date the Order shall come into effect will be the date it is officially sealed.

4.22 Once the Order has been made, there is a legal requirement to publicise it to ensure that the public and local businesses are fully aware of the situation.

4.23 The Order can be amended at a later stage and further amendments can be made based on-going monitoring and modelling work. The order can also be revoked.

Next Steps

4.24 Within 12 months of designating the AQMA, the Council will be statutorily obliged to complete a further assessment of air quality within the AQMA boundary.

4.25 The assessment should aim to confirm the exceedance of the air quality objectives; define what improvement in air quality and corresponding reductions in emissions are required to attain objectives; and provide information on source contributions.

4.26 The data obtained from the further assessment will then shape the Air Quality Action Plan (AQAP), which will set out what measures the authority intends to implement, in conjunction with other organisations, in pursuit of the air quality objectives. The compilation of the AQAP will assist the Council in adopting a more focussed and joined up approach towards air quality management in this area.

4.27 The Council is required to consult with a list of statutory consultees including the Environment Agency, Highways Authority, and neighbouring authorities on both the further detailed assessment and on the preparation of the AQAP.

4.28 There is no statutory time-scale for the completion of the AQAP, but policy guidance recommends that authorities aim to complete the action plan within twelve to eighteen months of the AQMA declaration.

4.29 The AQAP will need to be integrated within the Local Transport Plan (Lancashire County Council) to embed any links between local air quality management and related transport issues.

Revocation of existing AQMA's

4.30 The decision to revoke an Air Quality Management Area (AQMA) should only be taken following a detailed assessment or further assessment. This should set out in detail all the available information used to reach the decision.

4.31 Section 4.9 of Local Air Quality Management (LAQM) Policy Guidance PG16 (April 2016) states,

> "*For revocation this should demonstrate that air quality objectives are being met and will continue to do so. In other words they should have confidence that the improvements will be sustained. Further information is provided in the Technical Guidance, but typically this is after three years or more compliance."*

4.32 In instances where compelling evidence exists, detailed modelling to support the decision to amend or revoke an AQMA may not be necessary and an AQMA may be amended or revoked based on robust monitoring evidence.

4.33 Since the declaration in 2013 of both existing AQMA's, (AQMA1 Manchester Road, Haslingden. AQMA 2 Bacup Road Rawtenstall) have shown considerable reductions in levels of NO2.

4.34 A number of actions including resigning and routing of traffic, re-siting of transport hubs and monitoring of speed and levels of traffic have contributed to the reduction in N02 levels at both of these sites.

4.35 Both sites are now well below the exceedance level of 40ug/m3, and have shown a steady and consistent reduction since 2017.

4.36 As in declaring an AQMA, local authorities need to revoke their AQMAs officially by means of an AQMA Revocation Order. Defra should be informed once this has happened.

4.37 A draft Order is attached at **Appendix 4.**

Actions taken by Rossendale Borough Council during 2021 in relation to air quality.

4.38 A number of initiatives, actions and successes have been achieved during 2021 having an impact on not only air quality across the Borough, but on the Council's ambitions to reduce our Carbon Footprint. These include;

- Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 came into effect enforced by LCC Trading Standards to ban the use of the most polluting fuel i.e. wet wood and bituous coal.
- Updated air quality information and links on council website.
- Agile working policy brought in so staff can work from home more reducing car use.
- Appointed a Climate Change Programme Officer.
- Conversion of all operational vehicles from diesel to HVO fuel, cutting carbon emissions by up to 90% as well as reducing emissions of NO2.
- Roundabout at Rawtenstall re-marked making it clearer for drivers to use Bocholt Way to reduce traffic movement on Bacup Road.
- Replacement of Mayoral and pool car with ULEV's reducing NO2 and carbon emissions
- Re-siting of NOX tubes to identified areas of higher N02 levels.
- Attendance and participation in Chartered Institute of Environmental Health Air Quality Conference.

5 RISK

All the issues raised and the recommendation(s) in this report involve risk considerations as set out below:

5.1 Local authority obligations may be enforced by the Secretary of State.

5.2 Where a District Council is preparing an action plan, county councils are required to submit measures related to their functions (i.e. local transport, highways and public health) to help meet air quality objectives in their local area. Any disagreements between district and county councils over action plan proposals can be referred by either council to the Secretary of State to decide.

5.3 Secretary of State can give directions to the local authority if it is not meeting air quality standards, if it is failing to discharge its duties under the LAQM system, or if its actions under LAQM are inappropriate.

5.4 Continued joint working and cross authority cooperation will help mitigate the risks outlined.

6 FINANCE

6.1 Any future financial implications arising will have to be assessed separately as part of the Council's budget setting and resource allocations.

7 LEGAL

7.1 The Council must continue to work towards improvement of air quality to mitigate the risk of challenge or intervention although as outlined in previous years the risk of this is considered to be low. Local authorities need to declare or revoke their AQMAs officially by means of an Order. A local authority has a duty to declare an AQMA, whether it can resolve the air quality exceedance through the action planning process or not.

8 POLICY AND EQUALITIES IMPLICATIONS

8.1 Consultation with statutory officers.

9 REASON FOR DECISION

9.1 The improvement in overall levels of NO2 across the Borough is a positive step and the proposed revocation of two existing AQMA's is testament to this. However localised issues of NO2 exceedance is still an issue, which needs to be addressed by the Council.

9.2 The declaration of a further AQMA shows the authorities determination to tackle this important issue. Success in improving the air that we breathe relies on action by a wide range of organisations and individuals and continued work across the authority and in partnership with other public and private organisations is central to achieving this.

Background Papers	
Document	**Place of Inspection**
Annual Status Report	Appendix 1
Map of the proposed boundary for the Area 3 AQMA's	Appendix 2
AQMA draft Order	Appendix 3
AQMA draft Revocation Order	Appendix 4

Rossendale
BOROUGH COUNCIL

2022 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date: 30 June 2022

Information	Rossendale Borough Council Details
Local Authority Officer	Lorna Robinson
Department	Environmental Health/Public Protection Unit
Address	Futures Park, Newchurch Road, Bacup OL13 0BB
Telephone	01706 252564
E-mail	lornarobinson@rossendalebc.gov.uk
Report Reference Number	ASR 2022
Date	30 June 2022

Executive Summary: Air Quality in Our Area

Air Quality in Rossendale Borough 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].

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages[3], with a total estimated healthcare cost to the NHS and social care of £157 million in 2017[4].

Approximately 80% of a persons health and wellbeing is not determined by health interventions but by activities and circumstances in their home and community.

The main air quality concern in Rossendale continues to be Nitrogen Dioxide (NO_2) caused by road vehicle emissions.

However, for the third consecutive year, all of the diffusion tubes in the air quality management areas where more than 10% under the governments threshold of 40$\mu g/m^3$ so we are able to revoke these air quality management areas due to the ongoing improvement in the air quality.

However there have been exceedances at the new hotspot, the same two tube locations as last year. Tube DT12 located outside on the front elevation of the pavement fronted terrace at 250 Grane Road Haslingden which measured 50.4 $\mu g/m^3$ and tube DT19 located on the front elevation of 256 Grane Road Haslingden which measured 46.9 $\mu g/m^3$. So we

[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

will be declaring an air quality management area to cover the residential properties within the vicinity of these tubes.

Linking in with air quality and environmental improvements the Rossendale Borough Council Climate Change Officer has been busy working with colleagues on the newly published Climate Change Strategy 2020-2030 which is available to view by clicking on this link https://www.rossendale.gov.uk/info/210168/environment/10883/climate_change

The aim of the strategy is to make Rossendale Borough Council net-zero carbon by 2030 and to work in partnership to reduce carbon emissions for the whole of Rossendale. This incorporates less fossil fuel burning leading to less emissions of pollution.

Actions to Improve Air Quality

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

The 2019 Clean Air Strategy[5] sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero[6] sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Actions taken by Rossendale Borough Council during 2021 in relation to air quality

After a review of the monitoring locations diffusion tube 10 in Edenfield was relocated to 277 Grane Road Haslingden, a pavement fronted terrace, to support the monitoring of the new area of concern.
Cyclists could get access to footpaths on the Valley of Stone route round Fallbarn Fold/Bocholt Way.
Climate change meetings at Rossendale Borough Council started which raised the profile of climate change.
The Haslingden cycleway opens leading to more off road cyclepaths see

[5] Defra. Clean Air Strategy, 2019

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

https://www.lancashiretelegraph.co.uk/news/19097128.new-cyclepath-opens-haslingden-part-multimillion-pound-project/

Following this there was lots of work on developing/promoting Rossendale off road Cycleways see https://www.visitlancashire.com/dbimgs/Inner.compressed.pdf

Officer online attendance on ARC NWC Air Quality and Health Knowledge Exchange Workshop. ARC NWC aims to improve outcomes for patients and the public through collaboration working by bringing together academics, health and social care providers, members of the public, universities and local authorities. Its vision is to improve the quality, delivery and efficiency of health and care services; reduce health inequalities and increase the sustainability of the health and care system both locally and nationally. Read more about it here NIHR - Applied Research Collaboration | North West Coast

There was officer online attendance at Chartered Institute of Environmental Health air quality conference.

The air quality information, content and links on the Rossendale Borough Council website was updated.

Rossendale Borough Council procured four new electric bikes for use by staff doing work visits.

Following the success of staff working from home during the Covid pandemic Rossendale Borough Council introduced an Agile Working Policy enabling staff who can work from home, and who want to, the ability to work up to 2 days a week at home therefore reducing car use.

Awareness of the link between eating healthy food to fight free radicals caused by pollution https://www.longdom.org/open-access/roles-of-free-radicals-in-the-toxicity-of-environmental-pollutants-and-toxicants-2161-0495.S13-e001.pdf

https://www.herbalmedicineuk.com/free-radicals-affect-body/

https://www.saga.co.uk/magazine/health-wellbeing/diet-nutrition/nutrition/understanding-antioxidants

The main roundabout at Rawtenstall at the start of AQMA 2 was re line marked making it clearer for drivers to use Bocholt Way instead of Bacup Road when driving to Bacup.

Rossendale Borough Council published its Health and Wellbeing strategy which includes clean air.

Facebook post on Council social media in autumn promoting the garden waste collection service rather than garden bonfires

Grane Road in Haslingden, as well as being high for NO^2 in parts, is also Rossendale's most dangerous road in Rossendale for drivers see

https://www.rossendalefreepress.co.uk/news/local-news/revealed-rossendales-ten-most-dangerous-6283558

Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 came into effect enforced by Lancashire County Council Trading Standards to ban the use of the most polluting fuel ie wet wood and bituous coal

We have appointed a Climate Change Programme Officer on an initial two year contract. He started with Rossendale Borough Council on Monday 4th October 2021 and works in the Public Protection Unit.

Rossendale Borough Council held a community Climate Emergency Action Day on 10th November 2021 which launched grant schemes for local businesses and community groups.

Rossendale Borough Council Transport Services are reducing the carbon emissions of four of all refuse vehicles by about 90 percent. This is being achieved by converting them to HVO fuel which is derived form of vegetable oil. It performs the same as diesel but reduces emissions massively.

A procurement exercise to replace cars for staff use to electric vehicles is ongoing.

Through funding obtained from the Office of Ultra Low Emission Vehicles (ULEV) Rossendale Borough Council installed 4 rapid EV charge points on council owned car parks.

Lancashire County Council are keeping a record of Lancashire residents who don't have off street parking for electric vehicles Installation of electric vehicle charge points throughout Lancashire - Lancashire County Council

In addition, On Road Charging Scheme (ORCS) funding is being sought by Rossendale Borough Council to fit EV charge points on residential car parks.

Lancashire County Council's Public Health Summary for Air Quality Annual Status Reports 2022

In Lancashire the strongest evidence we have on the population health impacts of air pollution comes from Public Health England's Public Health Outcomes Framework. This Framework estimates 'the fraction of adult mortality attributable to particulate air pollution ($PM_{2.5}$)' each year. It shows that, while the overall mortality rate from particulate air pollution in Lancashire-12 (4.6%) is lower than the England average (5.6%), air pollution remains a significant public health issue for the county.

Working with district councils, Lancashire County Council (LCC) has an important role to play in taking action to reduce the health impacts of air pollution. Responsible for transport planning, network management, highway maintenance, public health and procuring local vehicle fleets, there are a number of ways LCC can support local and county wide efforts to improve air quality. In summary, the following activities are underway or in development:

1. Encouraging the use of sustainable forms of travel

Lancashire's cycling and walking strategy, Actively Moving Forward, sets out an ambitious plan for increasing the number of people walking and cycling in the county by 2028. By improving and increasing access to cycling and walking infrastructure, alongside training and promotional activities, it aims to significantly increase the amount of cycling and walking people do across the county. Information on the County Council's ongoing activities in this area can be found on the Active Travel in Lancashire website.

As part of Lancashire's cycling and walking strategy, work has now commenced on developing Local Cycling and Walking Infrastructure Plans (LCWIPs) for Lancashire. LCWIP's have been defined for seven areas across Lancashire. These are:

- Lancaster
- Central Lancashire
- West Lancashire
- Fylde Coast
- Ribble Valley
- Burnley and Pendle
- Rossendale and Hyndburn

As part of the LCWIP process extensive public and stakeholder engagement is underway. Following on from this, it is planned for all LCWIP's to be completed by early 2023. The Plans will include a network plan for cycling and walking infrastructure and a prioritised list of schemes for delivery over short, medium and long term timeframes. These plans will be used to support future infrastructure decisions and to access new funding schemes as they become available.

The Road Safety Team work with schools, workplaces and the community to encourage safe and sustainable modes of travel. Initiatives for schools are promoted though the Safer Travel Moodle and include: a series of cycling and walking safety training programmes; guidance and resources for teachers to encourage safe and active travel; and support for creating travel plans.

2. Supporting the transition to low emission vehicles

Lancashire County Council and Rossendale Borough Council through (ORCS On Street Residential Charge Point Scheme), working with BP Pulse, has installed 150 Electric Vehicle charge points either at the side of the adopted highway or in county council carparks. These chargepoints are ultra chargers which will allow most vehicles to take a full charge in less than an hour and Fast Chargers that will take around three hours to charge the vehicles. The mix of these units depends on location, power supply and demand.

Lancashire County Council and Rossendale Borough Council (through ORCS funding) are currently focussing on supporting residents who do not have off-street parking charge at home, this is a real issue in Lancashire, with up to 65% of households estimated to have no off-street parking. The Council is currently trialing an innovative footway cable tray which will provide a low cost and practical solution to support residents without off street parking charge at home. The cable-tray will enable residents to safely pass an electric cable across the footway from their property to the carriageway enabling charging their vehicle from their domestic supply. Two products (1 designed in-house and 1 adapted product) are currently being trialled in several residential properties in the county.

Almost £3m has been invested in new electric vehicles and charging points for county council services. Following trials, the first service to go electric will be the county council's parking enforcement team, with 12 new electric vehicles. Work will get underway to install charging infrastructure at the offices and depots where the vehicles are based, and where they regularly visit. Trials have also been undertaken on small and medium battery electric plant, for example hedge trimmers, mowers and mini-diggers that will inform a move to battery electric plant from conventional petrol and diesel plant.

3. Creating cleaner, healthier road networks

Work to develop the next Local Transport Plan (LTP4) for Lancashire, Blackpool and Blackburn with Darwen is underway. The Public Health team has submitted an evidence base to inform the process, highlighting transport related health challenges affecting the population of Lancashire and making recommendations about how local transport planning policy can make a contribution to addressing these. Air quality is one of the key themes of the evidence base and will be an identified priority in LTP4. The local Highways and Transport Masterplans will be refreshed to align with the priorities of LTP4. This will provide an opportunity to identify longer-term network solutions that address issues in AQMAs and have a positive impact on air quality generally.

The Lancaster City Centre Movement Strategy which looked at how vehicular, public transport and pedestrian walking movements could be improved across the city, recently received approval and is now moving towards implementation. A key facet of the study was to examine what improvements could be implemented to prioritise public transport, reduce severance, improve air quality and effectively make the city centre a more welcoming environment for people. The intention is for a similar approach to be adopted as part of future Highways and Transport Masterplans.

4. Embedding air quality into policy

The County Council works with district planners to ensure air quality is a key consideration of Local Plans, alongside wider public health issues. It supports district councils in

developing policies that seek to ensure new developments do not contribute to increasing levels of air pollutants and that requirements for appropriate mitigation are in place.

The County Council, as part of its highways input into planning applications, actively encourages measures that aim to promote sustainable forms of travel. Working under the direction of the National Planning Policy Framework, the County Council seeks measures that facilitate cycling and walking, increase the use of public transport and provide access to electric vehicle charge points. The County Council also seeks funding from developers, through section 106 contributions, to support existing bus services or to provide new bus services suitable to serve development sites once their built.

5. Raising awareness and increasing engagement

The Lancashire Insight website provides information on the sources and health impacts of air pollution across the county. Webpages include a Summary of Emissions Data, Monitoring of Air Quality and Health Impacts and an Air Quality and Health Dashboard.

Conclusions and Priorities

A priority for the Council will be to declare a Fast Track AQMA along a small residential pavement fronted section of Grane Road Haslingden due to ongoing NO_2 exceedances and this will lead to an updated AQAP for the area being produced in the next 12-18 months. The challenge in this area will be around actions for the air quality action plan which will be limited due to it being a main road the B6232 into and out of the west of the borough which is used by drivers as a short cut to the M65 rather than using the A56. We will need discussions with Lancashire County Council Highways/Transport Teams for them to come up with suggestions on how to improve the air quality in that area.

For the third year in a row all monitoring results from the diffusion tubes within the two existing AQMAs where all 10% or more below the air quality objective so they will both be revoked in 2022 due to continuous and ongoing improvements in air quality

Local Engagement and How to get Involved

Due to Covid-19 and the lockdowns, when the air quality improved, the detrimental impact of poor air quality was highlighted which has, thankfully become much more in the public radar. Covid-19 prompted changes in people's behaviours and it demonstrated we can reduce our reliance on carbon-based travel and make a switch to cycling and walking more. We need a much broader social movement that allows everyone to play their part.

Thinking about air pollution and climate change on a worldwide, or even country scale can be daunting because as individuals we can often feel insignificant. Yet if we all work to reduce the amount of fuel we use and the number of chemicals we use at home, we will improve the quality of the air that we breathe and help the local and global problem. Other ways we can all contribute to improving air quality are as follows:

- Using public transport more
- Reducing car use and doing more car sharing for things like the school runs sorted informally or see https://liftshare.com/uk
- Changing to an electric or hybrid vehicle see https://www.gov.uk/government/organisations/office-for-zero-emission-vehicles
- Cycling and walking where possible
- Using less chemicals and more natural products in the home to reduce the toxic load on your internal air quality see https://www.nice.org.uk/guidance/ng149
- Not having garden bonfires and only burning smokeless fuel on domestic stoves as the whole of Rossendale is a smoke control area (except for a few outlying rural properties see https://www.rossendale.gov.uk/info/210197/environmental_protection/10622/report_pollution/4
- Working from home, if you can, to save communting

There is no local air quality action groups to the knowledge of the writer however there is an active Clean Air Parents Network public facebook group.

Client Earth are activist lawyers committed to securing a healthier planet. Their website is

ClientEarth | ClientEarth

Further information on air quality and air pollution forecasts can be found on the DEFRA website UK Air quality Information Resource following this link Home - Defra, UK

The Choked up Campaign is teenagers in London raising awareness of air pollution issues Living Street UK is a charity who want a nation where walking is the natural choice for everyday local journeys see Living Streets | Home Page | Living Streets

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Rossendale Borough Council with the support and agreement of the following officer:

Phil Morton Public Protection Manager

This ASR has been approved by:

Adam Allen Director of Communities Rossendale Borough Council

This ASR has not been signed off by a Director of Public Health.

If you have any comments on this ASR please send them to Lorna Robinson at:

Rossendale Borough Council

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Table of Contents

Figures

Tables

1 Local Air Quality Management

This report provides an overview of air quality in Rossendale Borough 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 Rossendale Borough Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by Rossendale Borough Council can be found in Table 2.1. The table presents a description of the two AQMAs that are currently designated within Rossendale Borough Council. Appendix D: Maps of Monitoring Locations and AQMAs provides maps of AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO_2 annual mean;

We propose to declare a new AQMA on a section of Grane Road Haslingden area due to exceedances of the NO_2 annual mean air quality objective (see monitoring information section).

We propose to revoke AQMAs 1 and 2 due to three consecutive years of concentrations of all diffusion tubes below 36 $\mu g/m^3$ which we consider suitably robust and we are confident that air quality objectives will continue to be met in the future years.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by National Highways?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
AQMA 1 Haslingden	Declared 8th May 2013	NO^2 Annual mean 40 µg/m^3	An area comprising of residential property on Manchester Road	NO	43µg/m^3	N/A	Air quality action plan July 2016	Air quality action plan | Rossendale Borough Council
AQMA 2 Rawtenstall	Declared 8th May 2013	NO^2 Annual mean 40µg/m^3	An area comprising of residential property on Bacup Road	NO	43µg/m^3	N/A	Air quality action plan July 2016	Air quality action plan | Rossendale Borough Council

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

☒ **Rossendale Borough Council confirm that all current AQAPs have been submitted to Defra**

2.2 Progress and Impact of Measures to address Air Quality in Rossendale Borough Council

Defra's appraisal of last year's ASR concluded that the report was well structured, detailed and provided the information specified in the Guidance. The following comments were designed to help in future reports and our responses are detailed:

- We noted the LAQM Guidance note on Covid-19 advised against using the 2020 data on its own to determine revocation of AQMAS but we now have three consecutive years of compliance data so are able to revoke both AQMAS
- Because we added two additional diffusion tubes in the Grane Road area that information has enable us to determine the extent of the area of the new AQMA
- We have now added a line showing the air quality objective of 40 µg/m^3 in the graph representing the monitoring data since 2017 to allow for easier identification of monitoring locations exceeding the objective
- An updated AQAP will be produced to ensure continued compliance with air quality objectives and to support the new AQMA
- This report has been submitted earlier than last years meaning the bias adjustment factor 0.78 version 03/22`

Rossendale Borough Council hasn't taken forward a number of direct measures from the AQAP during the current reporting year of 2021 in pursuit of improving local air quality but please refer to the discussion on pages iii to vii which details other measures implemented.

The principal challenges and barriers to implementation that Rossendale Borough Council anticipates facing are officer capacity and resource issues.

A new action plan will be produced following the declaration of the new AQMA.

Table 2.2 – Progress on Measures to Improve Air Quality

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

The action plan will be reviewed and updated following the revocation of the AQMAs and the designation of the new AQMA

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.

Rossendale Borough Council currently doesn't measure for $PM_{2.5}$ as it's not currently a legal requirement. Using the DEFRA background mapping resource it shows $PM_{2.5}$ in Rossendale in 2021 to have a maximum background mean of 6.9 $\mu g/m^3$.

The maximum in Rossendale in 2021 was lower compared to the northern region which had a maximum background of 13.5 $\mu g/m^3$ and also lower than neighbouring authorities which had maximum background means of 8.7 $\mu g/m^3$ at Burnley Borough Council, 8.0 $\mu g/m^3$ at Blackburn with Darwen Borough Council and 10.8 $\mu g/m^3$ at Calderdale Borough Council.

Rossendale Borough Council is taking the following measures to address $PM_{2.5}$:

- A no open burning condition is attached to approved planning applications on demolition and construction sites
- Council Officers responding to requests for service in relation to domestic garden bonfires advising people that recycling garden waste is the most appropriate way of disposing of garden waste. We also signpost residents to apply for the Council's fortnightly garden waste collection service
- Prompt investigation of smoky domestic chimney and dark smoke complaints under the Clean Air Act 1993
- Partnership working with the Environment Agency and Environmental Enforcement colleagues in relation to complaints about trade and commercial waste burning/inappropriate disposal of trade waste

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

This section sets out the monitoring undertaken within 2021 by Rossendale Borough 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.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Rosendale Borough Council undertook no automatic (continuous) monitoring during 2021

3.1.2 Non-Automatic Monitoring Sites

Rossendale Borough Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 20 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 Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Rossendale Borough Council has no automatic monitoring sites

Table A.4 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 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.

Table A.5 in Appendix A would compare the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3 but Rossendale Borough Council does not measure hourly mean concentrations.

There are no annual means greater than 60µg/m^3 which indicates that an exceedance of the 1-hour mean objective is unlikely.

The various bar charts in Figure A.1 presents NO_2 annual mean concentrations for sites DT1 to DT20 between years 2016 to 2021. There are no exceedances of the annual mean objective in the last five years in AQMA 1 and no exceedances of the annual mean objective in AQMA in the last three years. For the tubes located outside the AQMA the final column chart shows exceedances in the last two years at DT12 and DT19 which will be fast tracked as a AQMA. It also shows DT2 and DT11 have recorded very low concentrations in the past two years so these tubes will be relocated in 2022 to new locations within Rossendale.

3.2.2 Particulate Matter (PM_{10})

Rossendale Borough Council undertook no particulate matter (PM_{10}) monitoring during 2021

3.2.3 Particulate Matter ($PM_{2.5}$)

Rossendale Borough Council undertook no particulate matter ($PM_{2.5}$) monitoring during 2021

3.2.4 Sulphur Dioxide (SO_2)

Rossendale Borough Council undertook no sulphur dioxide SO_2 monitoring in 2021.

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)

Rossendale Borough Council has no automatic monitoring sites

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Height (m)
1	Front of Casa Tapas Bacup Road Rawtenstall	Roadside	381394	422756	NO2	2	5.0	1.0	No	1.8
2	235 Newchurch Road Stacksteads	Roadside	385579	421855	NO2		0.0	2.0	No	1.8
3	349 Manchester Road Haslingden	Roadside	379153	422234	NO2	1	0.0	3.0	No	1.8
4	Jobcentre 83 Bacup Road Rawtenstall	Roadside	381325	422740	NO2	1	20.0	3.0	No	1.8
5	377 Manchester Road Haslingden	Roadside	379209	422171	NO2	1	0.0	3.0	No	1.8
6	359 Manchester Road Haslingden	Roadside	379175	422213	NO2	1	0.0	4.0	No	1.8
7	366-368 Manchester Road Haslingden	Roadside	379193	422210	NO2	1	0.0	2.0	No	1.8
8	5-7 Rawtenstall	Roadside	379197	422213	NO2	1	4.0	2.0	No	1.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Height (m)
	Road Haslingden									
9	363 Manchester Road Haslingden	Roadside	379183	422200	NO2	1	0.0	4.0	No	1.8
10	277 Grane Road Haslingden	Roadside	377879	422502	NO2	NA	0.0	5.0	No	1.8
11	632 Bacup Road Waterfoot	Roadside	383506	421766	NO2	NA	0.0	0.0	No	1.8
12	250 Grane Road Haslingden	Roadside	377909	422488	NO2	NA	0.0	2.0	No	1.8
13	30-32 Bacup Road Rawtenstall	Roadside	381377	422756	NO2	2	0.0	2.0	No	1.8
14	24-26 Bacup Road Haslingden	Roadside	381358	422754	NO2	2	0.0	2.0	No	1.8
15	22 Bacup Road Rawtenstall	Roadside	381350	422754	NO2	2	0.0	2.0	No	1.8
16	2A Bacup Road Rawtenstall	Roadside	381161	422725	NO2	2	0.0	6.0	No	1.8
17	1 Bacup Road Rawtenstall	Roadside	381121	422725	NO2	2	8.0	2.0	No	1.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Height (m)
18	222 Grane Road Haslingden	Roadside	378094	422560	NO2	NA	0.0	3.0	No	1.8
19	256-258 Grane Road Haslingden	Roadside	377896	422488	NO2	NA	0.0	2.0	No	1.8
20	264 Grane Road Haslingden	Roadside	377899	422488	NO2	NA	0.0	2.0	No	1.8

Notes:

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

(2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021

Rossendale Borough Council has no automatic monitoring sites

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
1	381394	422756	Roadside	100	100.0	36.9	33.3	32.3	23.8	26.2
2	385579	421855	Roadside	90.4	90.4	28.7	30.2	29.4	24.8	25.7
3	379153	422234	Roadside	90.4	90.4	34.9	31.9	27.3	22.0	24.9
4	381325	422740	Roadside	100	100.0	35.4	31.9	27.3	22.0	20.9
5	379209	422171	Roadside	59.6	59.6	38.6	31.8	28.7	22.1	24.8
6	379175	422213	Roadside	100	100.0	39.2	31.2	31.1	24.2	27.8
7	379193	422210	Roadside	90.4	90.4	**NA**	33.5	32.3	26.3	30.0
8	379197	422213	Roadside	100	100.0	31.4	27.6	25.6	20.4	20.2
9	379183	422200	Roadside	100	100.0	38.7	33.6	31.6	25.3	26.9
10	377879	422502	Roadside	100	100.0	**NA**	**N/A**	**N/A**	**N/A**	18.4

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
11	383506	421766	Roadside	100	100.0	**NA**	31.4	34.9	26.5	30.7
12	377909	422488	Roadside	100	100.0	**NA**	**NA**	**NA**	**44.9**	**50.4**
13	381377	422756	Roadside	100	100.0	**42.4**	**40.9**	32.2	28.4	32.7
14	381358	422754	Roadside	100	100.0	**41.5**	36.8	31.9	26.2	29.3
15	381350	422754	Roadside	92.3	92.3	**46.2**	39.7	32.2	28.8	31.8
16	381161	422725	Roadside	100	100.0	33.8	28.4	26.6	24.7	24.1
17	381121	422725	Roadside	84.6	84.6	**NA**	35.9	34.7	28.6	29.6
18	378094	422560	Roadside	100	100.0	**NA**	**NA**	**NA**	20.4	23.2
19	377896	422488	Roadside	100	100.0	**NA**	**NA**	**NA**	**41.6**	**46.9**
20	377899	422488	Roadside	84.6	84.6	**NA**	**47.8**	**46.6**	34.8	36.1

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

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

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

Notes:

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

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

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

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

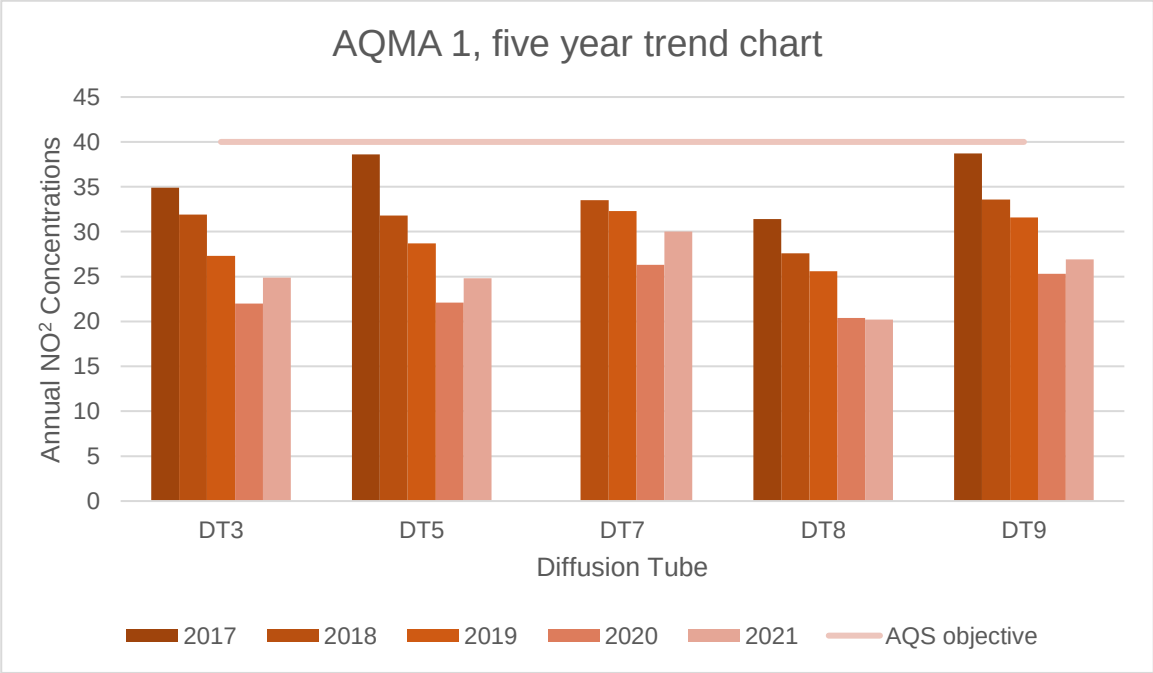
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

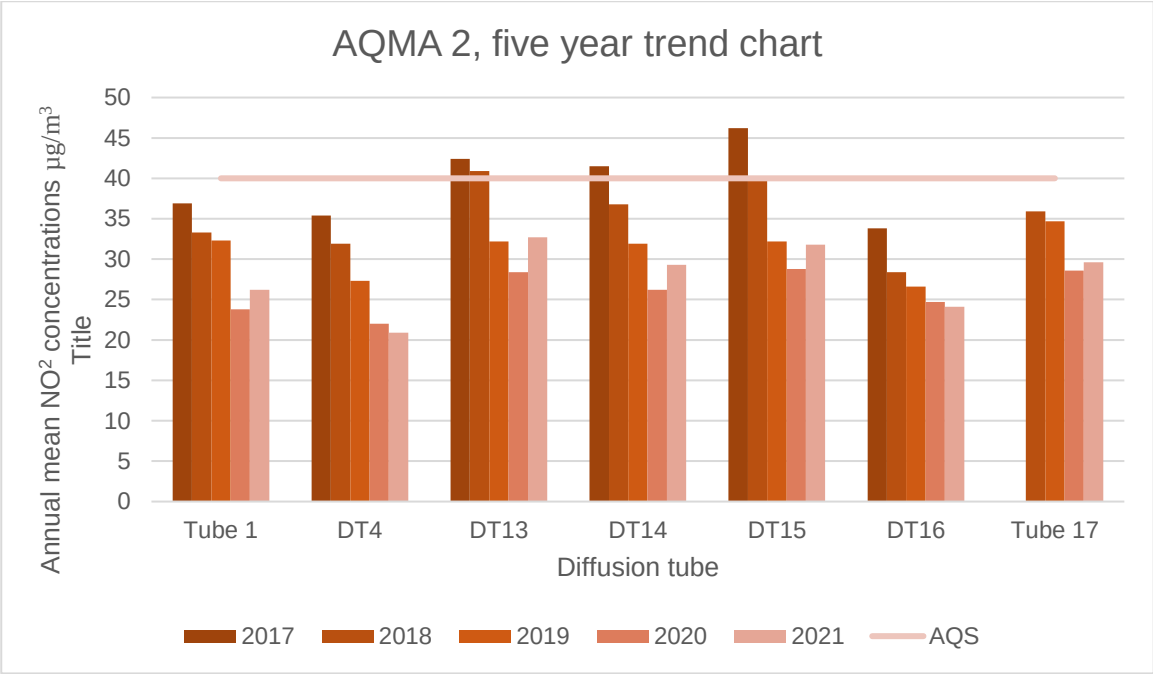
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

Figures in A.1 presents NO_2 annual mean concentrations for sites DT1 to DT20 between years 2016 to 2021. There are no exceedances of the annual mean objective in the last five years in AQMA 1 and no exceedances of the annual mean objective in AQMA in the last three years. For the tubes located outside the AQMA the final column chart shows exceedances in the last two years at DT12 and DT19 which will be fast tracked as a AQMA. It also shows DT2 and DT11 have recorded very low concentrations in the past two years so these tubes will be relocated in 2022.




AQMA 2, five year trend chart
Annual mean NO2 concentrations µg/m3
Title
50
45
40
35
30
25
20
15
10
5
0
Tube 1
DT4
DT13
DT14
DT15
DT16
Tube 17
Diffusion tube
2017
2018
2019
2020
2021
AQS

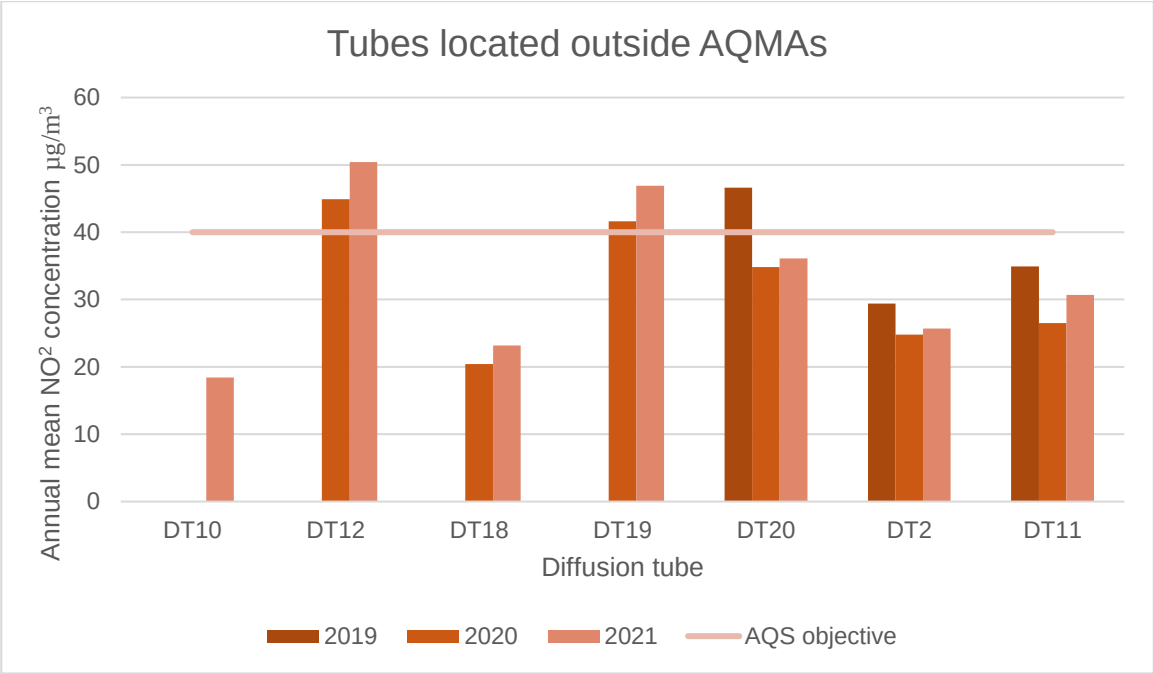

Tubes located outside AQMAs
Annual mean NO2 concentration µg/m3
60
50
40
30
20
10
0
DT10
DT12
DT18
DT19
DT20
DT2
DT11
Diffusion tube
2019
2020
2021
AQS objective

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021

NO_2 1-hour mean is not measured in Rossendale Borough Council

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

NO_2 1-hour mean is not measured in Rossendale Borough Council

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021

Rossendale Borough Council does not undertake annual mean PM_{10} monitoring

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

Annual mean PM_{10} is not measured in Rossendale Borough Council

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021

24-Hour Mean PM_{10} Monitoring is not measured in Rossendale Borough Council

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

24-Hour Mean PM_{10} Monitoring is not measured in Rossendale Borough Council

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021

Annual Mean $PM_{2.5}$ is not undertaken in Rossendale Borough Council

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

Annual Mean $PM_{2.5}$ is not undertaken in Rossendale Borough Council

Table A.9 – SO_2 2021 Monitoring Results, Number of Relevant Instances

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	Number of 15-minute Means > 266µg/m^3	Number of 1-hour Means > 350µg/m^3	Number of 24-hour Means > 125µg/m^3

SO_2 monitoring is not undertaken in Rossendale Borough Council

Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO_2 2021 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted 0.78	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	381394	422756	40.9	37.0	33.3	27.0	29.2	24.0	28.0	25.7	37.2	35.7	39.5	45.2	33.6	26.2	-	
2	385579	421855	42.2	35.9	27.5	35.3	31.1	30.6	25.5	23.3	41.0		33.4	36.3	32.9	25.7	-	
3	379153	422234	40.8	34.6	30.0		31.4	24.0	23.2	24.9	36.1	34.9	33.1	38.7	32.0	24.9	-	
4	381325	422740	34.0	22.2	28.3	25.6	24.6	14.0	14.9	21.2	31.6	29.0	36.4	39.8	26.8	20.9	-	
5	379209	422171	34.9				26.1		29.1	24.6		33.4	33.0	41.2	31.8	23.7	-	
6	379175	422213	39.3	35.8	33.8	30.4	34.3	27.9	29.6	28.6	42.4	41.4	40.1	43.5	35.6	27.8	-	
7	379193	422210	47.5	41.4	33.4	39.9	35.3	29.7		28.8	40.8	36.1	44.3	45.2	38.4	30.0	-	
8	379197	422213	36.5	29.5	23.6	1.1	25.7	22.2	22.4	21.2	31.6	32.7	30.1	34.1	25.9	20.2	-	
9	379183	422200	44.1	32.0	34.8	32.8	34.5	27.2	28.6	25.6	40.2	34.9	37.2	42.0	34.5	26.9	-	
10	377879	422502	34.0	26.7	19.8	23.8	21.0	19.5	18.7	19.0	24.7	21.6	24.1	29.5	23.5	18.4	-	
11	383506	421766	42.9	32.5	37.9	46.7	40.9	37.1	44.0	36.6	44.9	33.9	34.0	41.4	39.4	30.7	-	
12	377909	422488	80.5	62.0	52.7	61.3	70.2	59.2	59.5	62.2	76.1	59.6	65.9	66.4	64.6	**50.4**	-	
13	381377	422756	50.1	33.4	38.6	44.2	41.1	34.7	41.2	25.3	49.1	41.7	49.2	55.2	42.0	32.7	-	
14	381358	422754	49.1	33.5	33.9	39.7	35.8	32.8	31.9	22.7	45.5	34.4	47.7	43.4	37.5	29.3	-	
15	381350	422754	50.4	30.8	33.3	47.2	36.9	33.7	30.4		49.8	31.3	52.6	52.4	40.8	31.8	-	
16	381161	422725	43.2	31.5	30.4	24.4	26.8	23.0	23.1	24.0	32.5	31.6	39.1	41.0	30.9	24.1	-	
17	381121	422725	51.3	44.4	37.3	33.3	32.9	26.3	32.9			41.1	27.6	52.8	38.0	29.6	-	
18	378094	422560	40.4	35.7	26.2	32.9	26.8	24.1	24.7	23.1	34.8	26.6	28.0	34.1	29.8	23.2	-	

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 0.78	Annual Mean: Distance Corrected to Nearest Exposure	Comment
19	377896	422488	70.6	57.0	45.9	60.5	63.7	53.8	58.2	57.1	69.3	57.2	62.0	66.9	60.2	**46.9**	-	
20	377899	422488	60.6	11.9	43.5	50.1	48.2	42.0	43.2		58.8	45.5		59.2	46.3	36.1	-	

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

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

☐ **Local bias adjustment factor used**

☒ **National bias adjustment factor used**

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

☒ **Rossendale Borough Council confirm that all 2021 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Rossendale Borough Council During 2021

Rossendale Borough Council has not identified any new sources relating to air quality within the reporting year of 2021

Additional Air Quality Works Undertaken by Rossendale Borough Council During 2021

Rossendale Borough Council has not completed any additional works within the reporting year of 2021,

QA/QC of Diffusion Tube Monitoring

The monitoring has been completed in adherence with the 2021 Diffusion Tube Monitoring Calendar.

The supplier used for the provision and analysis of the diffusion tubes continued to be SOCOTEC, Didcot,

The samples have been analysed in accordance with SOCOTEC's standard operating procedure ANU/SOP/1015. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes For Ambient NO2 Monitoring: Practical Guidance.'

The tubes were prepared by spiking acetone:triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow autoanalyser with ultraviolet detection. All samples were received in good condition, unless otherwise stated in the comments field of results table. Please note:

i) As set out in the practical guidance, the results were initially calculated assuming an ambient temperature of 11ºC, the reported values **have** been adjusted to 20ºC to allow for direct comparison with EU limits.

(ii) The reported results have not been bias adjusted.

This analysis of diffusion tube samples to determine the amount of nitrogen dioxide present on the tube is within the scope of our UKAS schedule. Any further calculations and assessments requiring exposure details and conditions fall outside the scope of our accreditation. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC currently holds the highest rank of a **Satisfactory** laboratory.

Diffusion Tube Annualisation

Annualisation is required for any site with data capture less than 75% but greater than 25%. Diffusion tube 5 only had 59.6% data capture so it needed annualisation. We used the nearest urban background sites in Wigan Centre and Preston and taking the automatic background measurements for 2021 we inputted the data into the Diffusion Tube Data Processing Tool and the annualised figure came out at 30.4 µg/m^3 see Table C.3.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within this ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Rossendale Borough Council have applied a national bias adjustment factor of 0.78, from the v03/22, to the 2021 monitoring data. A summary of bias adjustment factors used by Rossendale Borough 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	National	03/22	0.78
2020	National	03/21	0.77
2019	National	03/20	0.75
2018	National	06/19	0.75
2017	National	09/18	0.77

NO_2 Fall-off with Distance from the Road

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

No diffusion tube NO_2 monitoring locations within Rossendale Borough Council required distance correction during 2021

QA/QC of Automatic Monitoring

Rossendale Borough Council do not carry out automatic monitoring

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

Rossendale Borough Council do not carry out PM_{10}/$PM_{2.5}$ monitoring

Automatic Monitoring Annualisation

Rossendale Borough Council do not carry out any automatic monitoring.

NO_2 Fall-off with Distance from the Road

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

No automatic NO_2 monitoring locations within Rossendale Borough Council required distance correction during 2021.

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

Site ID	Annualisation Factor Site 1 Wigan Centre	Annualisation Factor Site 2 Preston	Annualisation Factor Site 3	Annualisation Factor Site 4	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
5	0.9507	0.9665	-	-	0.9586	31.8	30.4	

Table C.3 – Local Bias Adjustment Calculation

A local bias adjustment was not used at Rossendale Borough Council

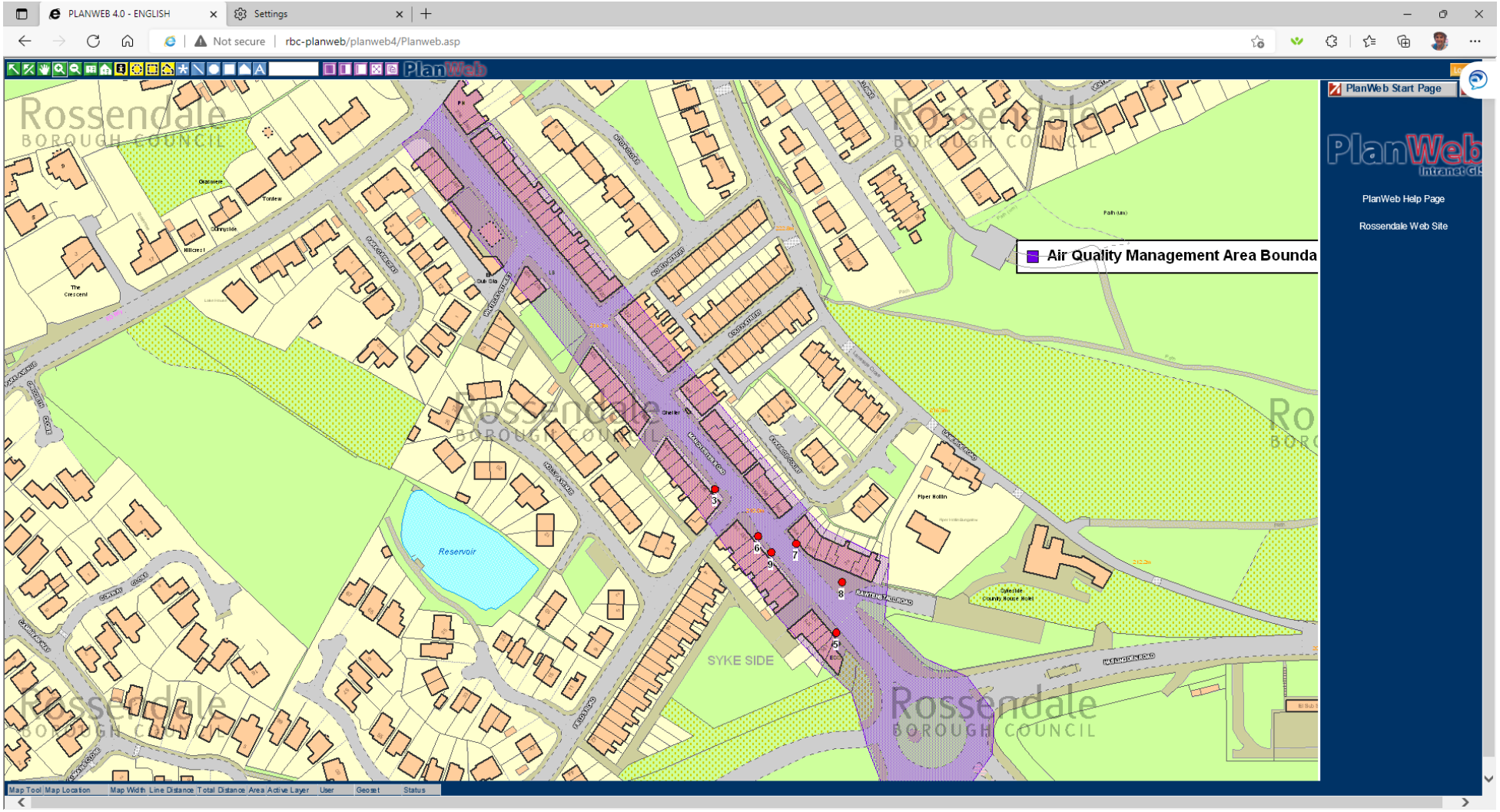
Table C.4 – NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

NO^2 fall off with distance calculations were not needed at Rossendale Borough Council

Appendix D: Maps of Monitoring Locations and AQMAs

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

Tubes DT3,DT5,DT6,DT7,DT8 and DT9 located in AQMA 1


PLANWEB 4.0 - ENGLISH
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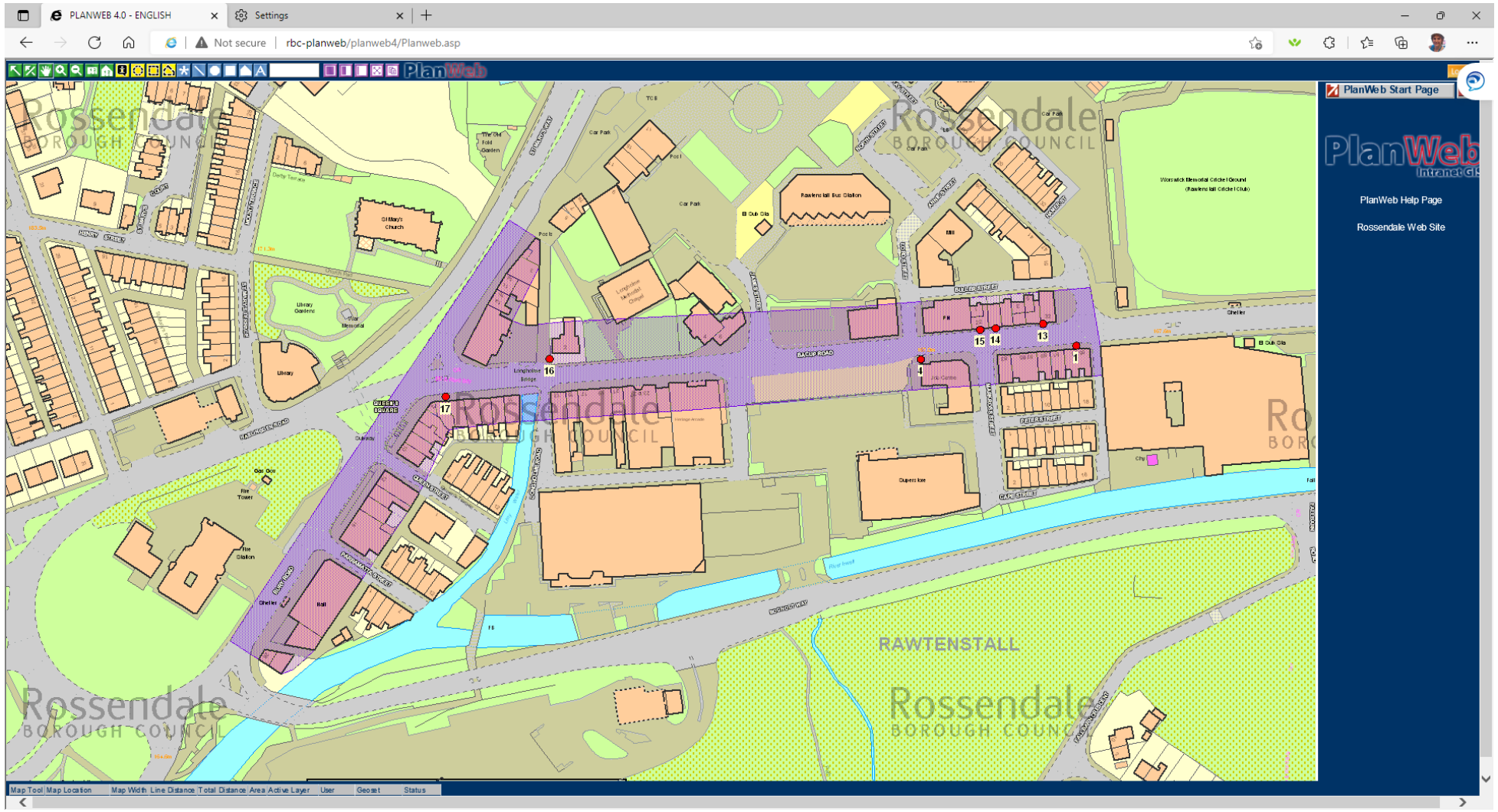
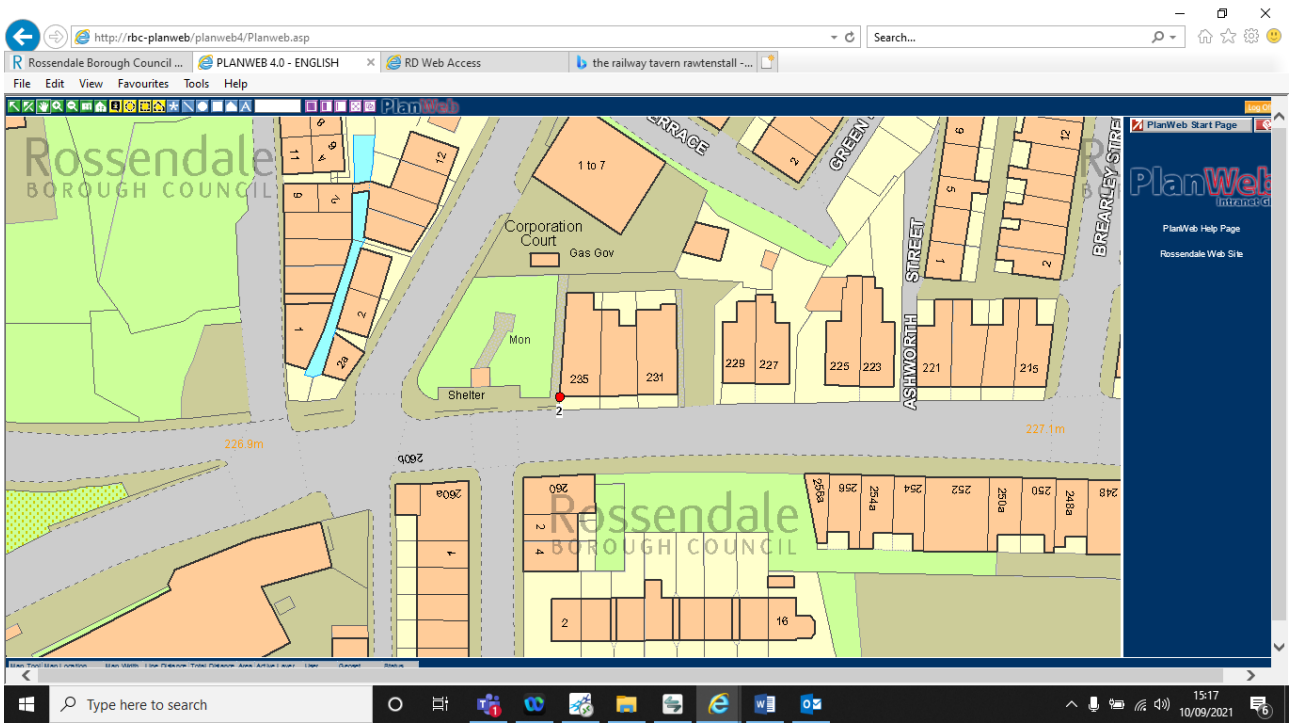
PlanWeb
Air Quality Management Area Bounda
PlanWeb Start Page
PlanWeb Help Page
Rossendale Web Site
Reservoir
SYKE SIDE
Rossendale
BOROUGH COUNCIL

Diffusion Tubes DT1,DT4,DT13,DT14,DT15,DT16 and DT17 Bacup Road Rawtenstall located in AQMA 2

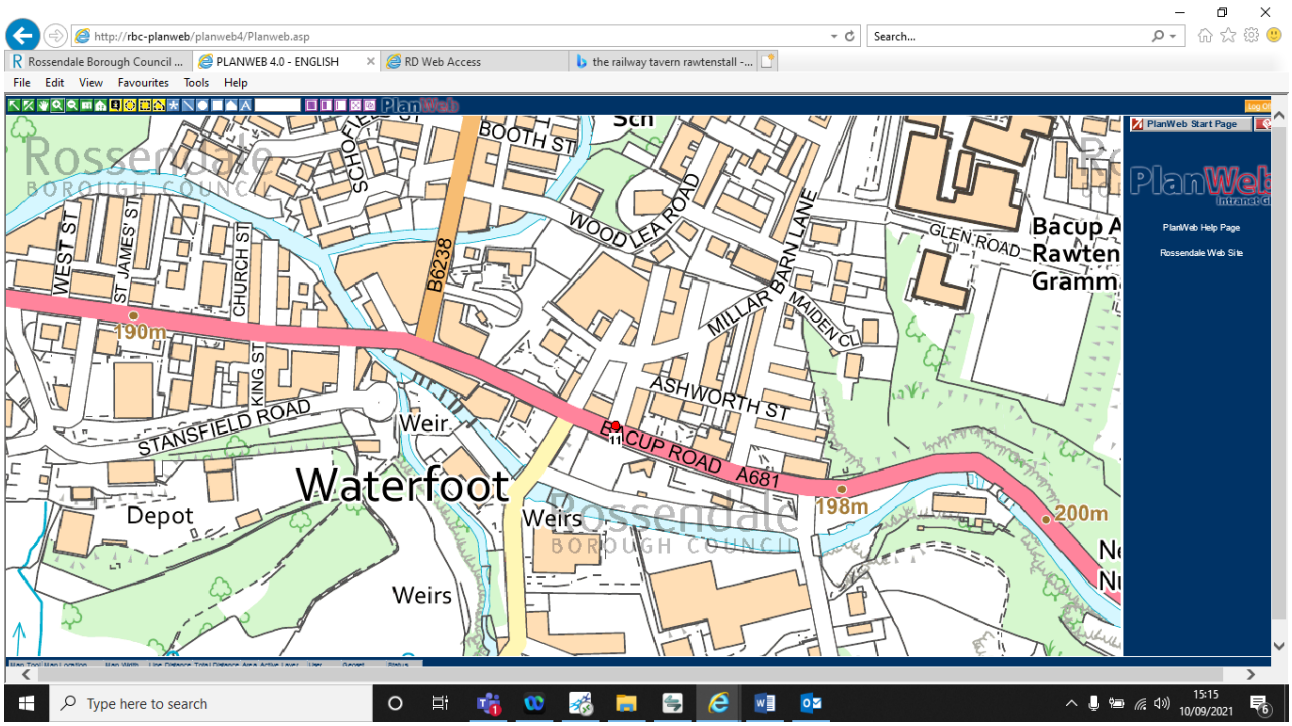


Diffusion Tubes DT10, DT12, DT18, DT19 and DT20 Grane Road Haslingden

Diffusion Tube DT2



Diffusion Tube DT11



Appendix E: Summary of Air Quality Objectives in England

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

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

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	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
LCC	Lancashire County Council
LAQM	Local Air Quality Management
LCWIP	Local Cycling and Walking Infrastructure Plans
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
ORCS	On Road Charging Scheme
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
RBC	Rossendale Borough Council
SO_2	Sulphur Dioxide
ULEV	Ultra Low Electric Vehicles

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.


Google Maps
Soul Space
BrakeTech Mobile Mechanic Car Battery...
B6232
Grane Rd
Greaves St
Hutch Bank Rd
St Crispin Wa
Grane Rd
B6232
Grane Rd
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Warburton St
The Best Partnership UK
Nordex
Jy Auto Electrics
Mr Fitzpatrick's
Unit 14
Gas St
Warburton St
Holden Pl
Google
Map data ©2022
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Order Designating an Air Quality Management Area Rossendale Borough Council

Environment Act 1995 Part IV Section 83(1) Rossendale Borough Council AQMA Order

Rossendale Borough Council, in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order.

This Order may be cited/referred to as the Rossendale Borough Council Air Quality Management Area No3 and shall come into effect on date

The area shown on the attached map in red is to be designated as an air quality management area (the designated area).

The designated area incorporates thirteen residential properties between Gas Street and Holden Place numbered 240 to 268 Grane Road Haslingden BB4 4PB

The map may be viewed online at www.rossendalebc.gov.uk or at the Council Offices Public Protection Unit Room 118 Futures Park Bacup OL13 0BB

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Regulations 2000

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

The Common Seal of Rossendale Borough Council

was hereto affixed on [date]

and signed in the presence of /on behalf of said Council

……

Director of Communities

ROSSENDALE BOROUGH COUNCIL

ORDER 2022

ENVIRONMENT ACT 1995 Part IV SECTION 83(2) (b)

ORDER REVOKING AN AIR QUALITY MANAGEMENT AREA

Rossendale Borough Council, in exercise of the powers conferred on it by Section 83(2) (b) of the Environment Act 1995 HEREBY makes the following order:-

1. This Order shall revoke the area known as **Air Quality Management Area No.1** for Nitrogen dioxide NO2 in the area approximately 0.5km of road stretching from Park Avenue / Manchester road Junction to the Manchester Road / Haslingden Road roundabout as shown in the attached map.

2. The Order shall come into force on 8th December 2022

The Common Seal of **ROSSENDALE BOROUGH COUNCIL**

Appendix F: Dispersion Model Contour Maps

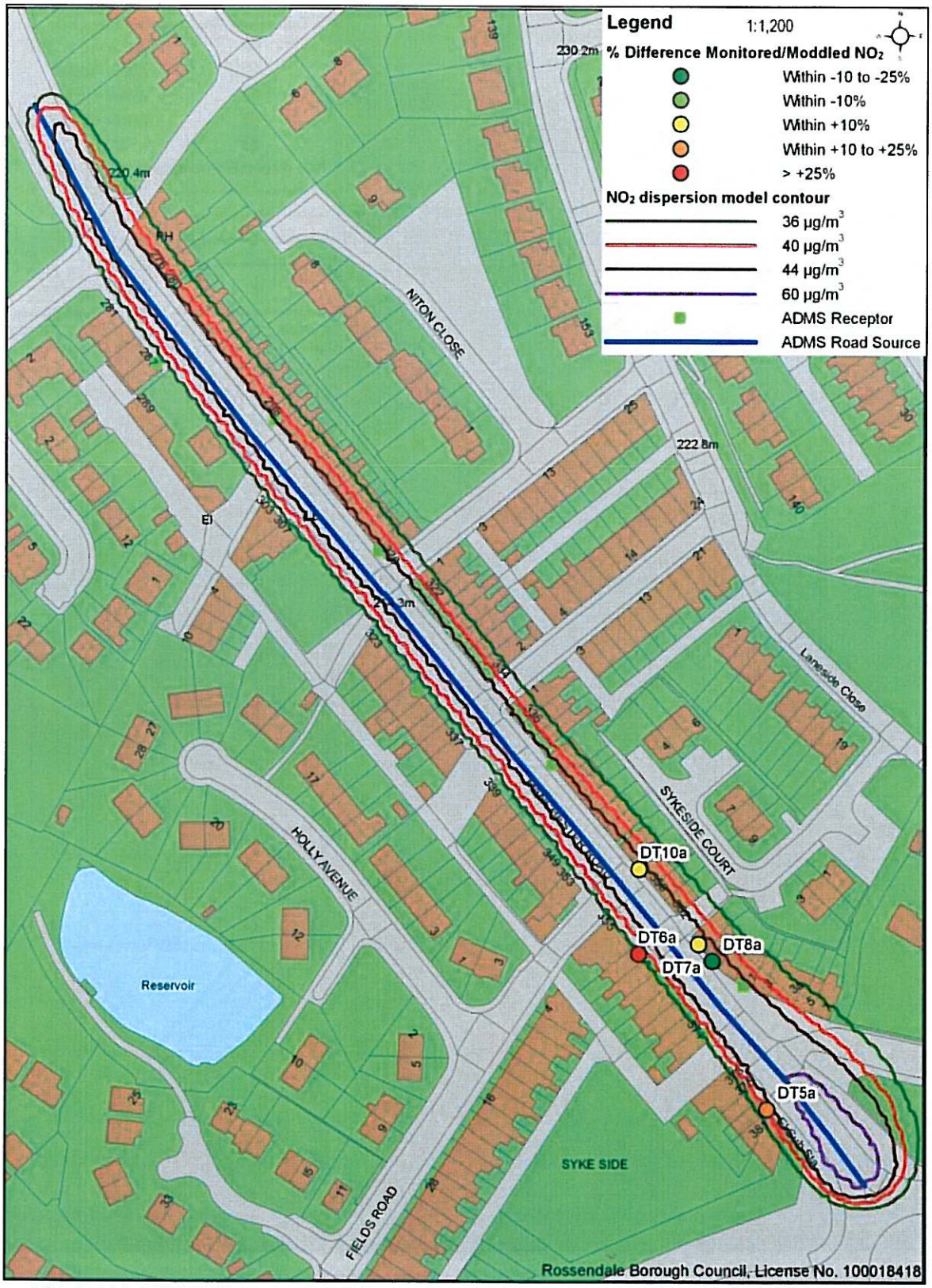

Figure 11: Dispersion model contour map of Manchester Road, Haslingden showing % difference between monitored and modelled NO_2 at diffusion tube sites

ROSSENDALE BOROUGH COUNCIL

ORDER 2022

ENVIRONMENT ACT 1995 Part IV SECTION 83(2) (b)

ORDER REVOKING AN AIR QUALITY MANAGEMENT AREA

Rossendale Borough Council, in exercise of the powers conferred on it by Section 83(2) (b) of the Environment Act 1995 HEREBY makes the following order:-

1. This Order shall revoke the area known as **Air Quality Management Area No.2** for Nitrogen dioxide NO2 in the area approximately 0.6km of road stretching from the junction of Kay Street and Bacup Road to the junction of Bacup Road and St Marys Way. Also proceeding NE along the east side of St Marys Way, from its junction with Bacup Road for approximately 60m. Also proceeding SW along the east side of Bury Road, from its junction with Bacup Road for approximately 140m as shown in the attached map.

2. The Order shall come into force on ……..

The Common Seal of **ROSSENDALE BOROUGH COUNCIL**

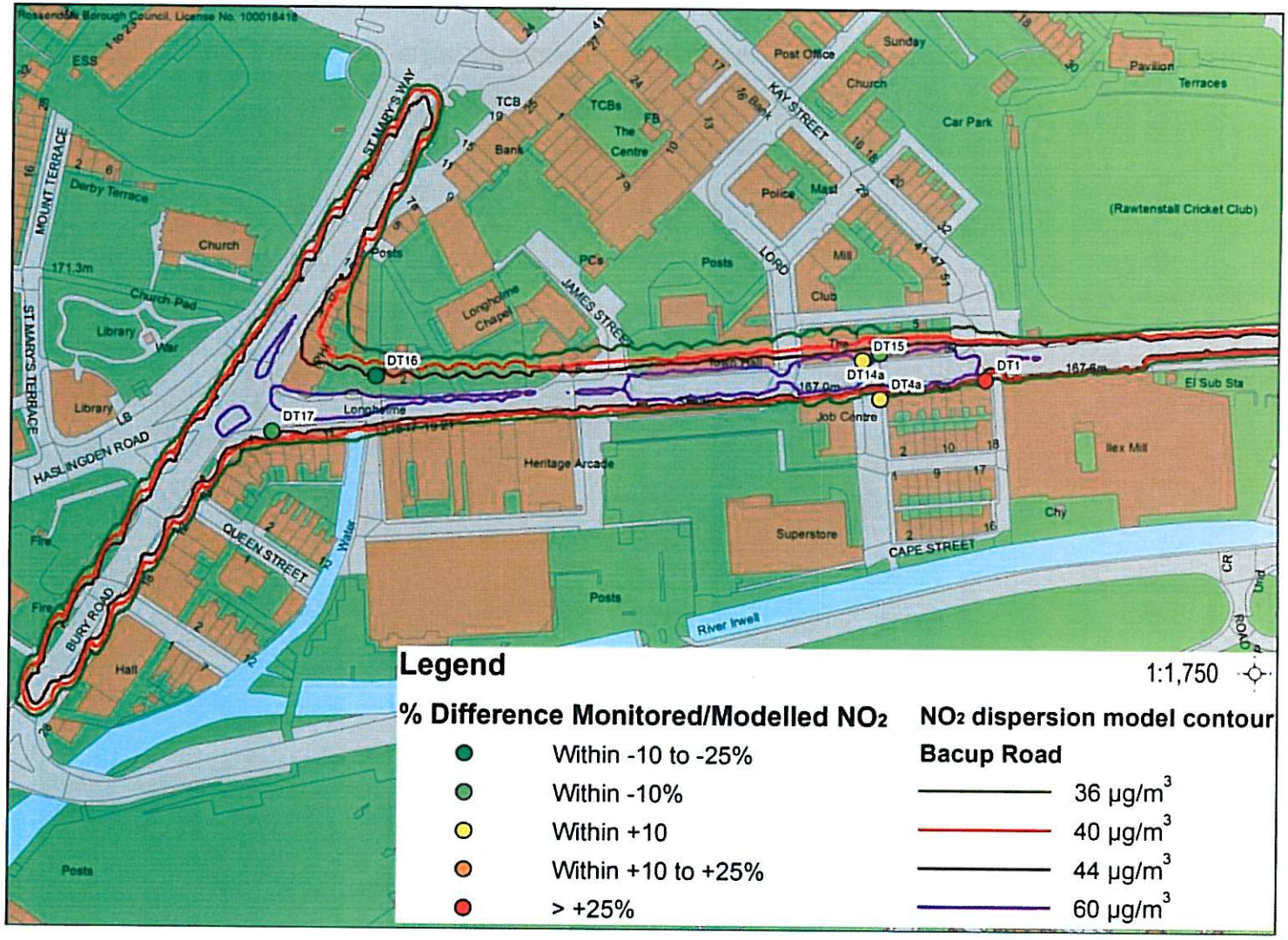

Figure 10: Dispersion model contour map of Bacup Road, Rawtenstall (west) showing % difference between monitored and modelled NO_2 at diffusion tube sites