Rossendale BOROUGH COUNCIL

Rossendale Borough Council

2018 Air Quality Annual Status Report (ASR)

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

June 2018

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Executive Summary: Air Quality in Our Area

Air Quality in Rossendale

This report discusses the air quality in Rossendale in 2017.

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas.[1,2]

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

The main issue of air pollution in Rossendale is with nitrogen dioxide which comes from road vehicle emissions. There are two air quality management areas in the valley which were declared in 2013. They are along Manchester Road, Haslingden and along Bacup Road, Rawtenstall. For the third successive year in 2017 there were no exceedances of the air quality objective in the Manchester Road Haslingden so the air quality in that area has improved in this area and is again below government limits.

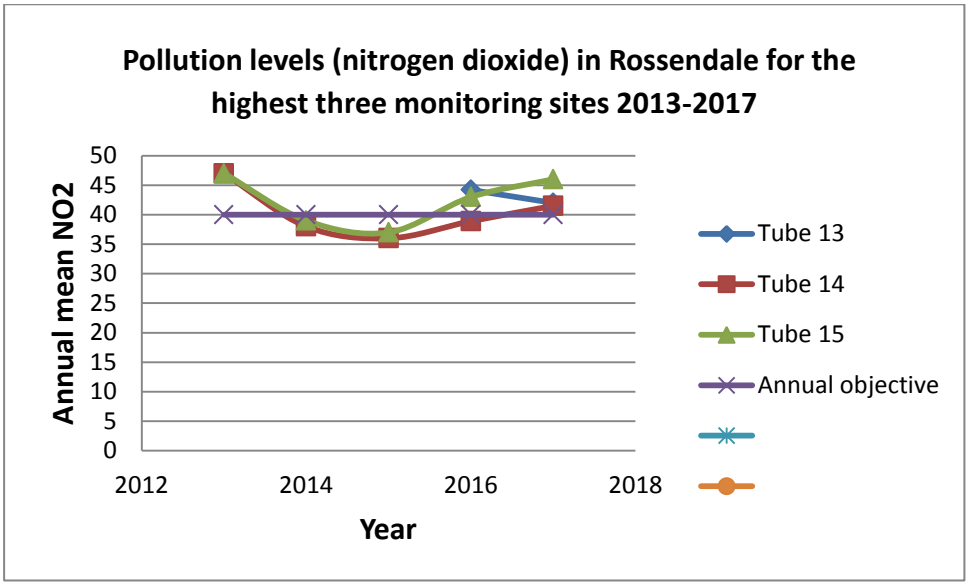
However during 2017 the air quality objective was breached at three locations on Bacup Road, Rawtenstall Tubes 13, 14 and 15. (see Figure 1). The Council has produced an Air Quality Action Plan to help tackle air quality which was approved by DEFRA in May 2017. Lancashire County Council who are the Highways Authority have the control of the Highways so are the lead authority for highway issues and improvements.

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

Figure 1-Pollution levels (nitrogen dioxide) in Rossendale AQMAs for the highest five monitoring sites 2012-2017



Actions to Improve Air Quality

East Lancashire Cycleway

The creation of an East Lancashire Strategic Cycleway Network was proposed in the Lancashire County Council East Lancashire Highways and Transport Masterplan, which was approved in February 2014. The masterplan sets out the transport priorities for East Lancashire including Blackburn with Darwen until 2021.

Priorities within the masterplan include:

- Improving access to areas of economic growth and regeneration.
- Providing better access to education and employment.
- Improving people's quality of life.

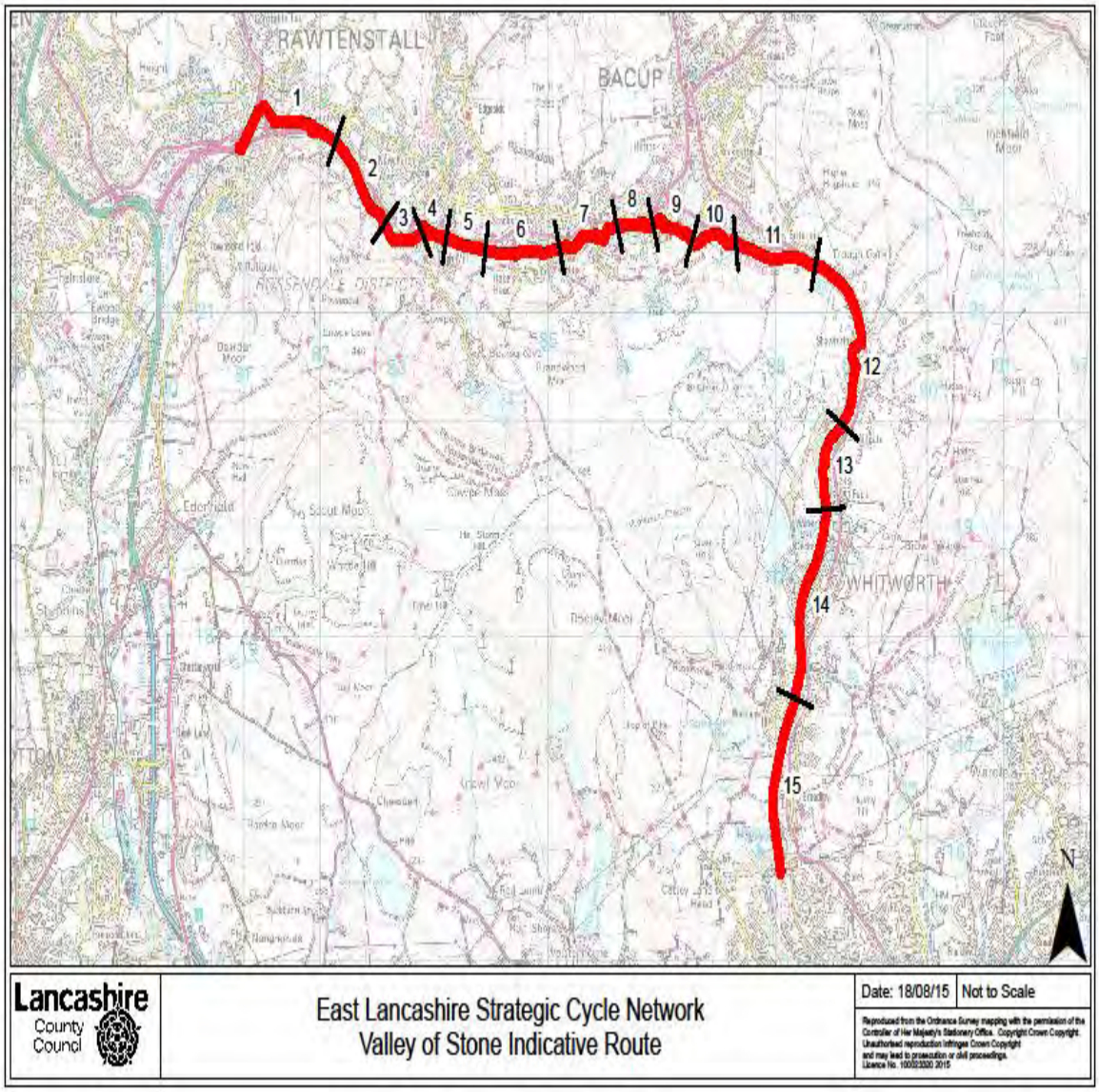
Building an effective cycle network linking towns, employment sites and communities is identified in the masterplan as a key project to be taken forward.

In June 2015, £2.6m funding towards the creation of the cycleway was secured from the Lancashire Growth Deal through the Lancashire Enterprise Partnership. This is in addition to the local contributions of £3.0m from Lancashire County Council and £0.25m from Blackburn with Darwen Borough Council, with £5.85m approved in total towards the project.

There are two parts of the proposed cycleway which will go through Rossendale whaich are the Valley of Stone (Rossendale) cycleway and National Cycle Route 6 which are detailed below:

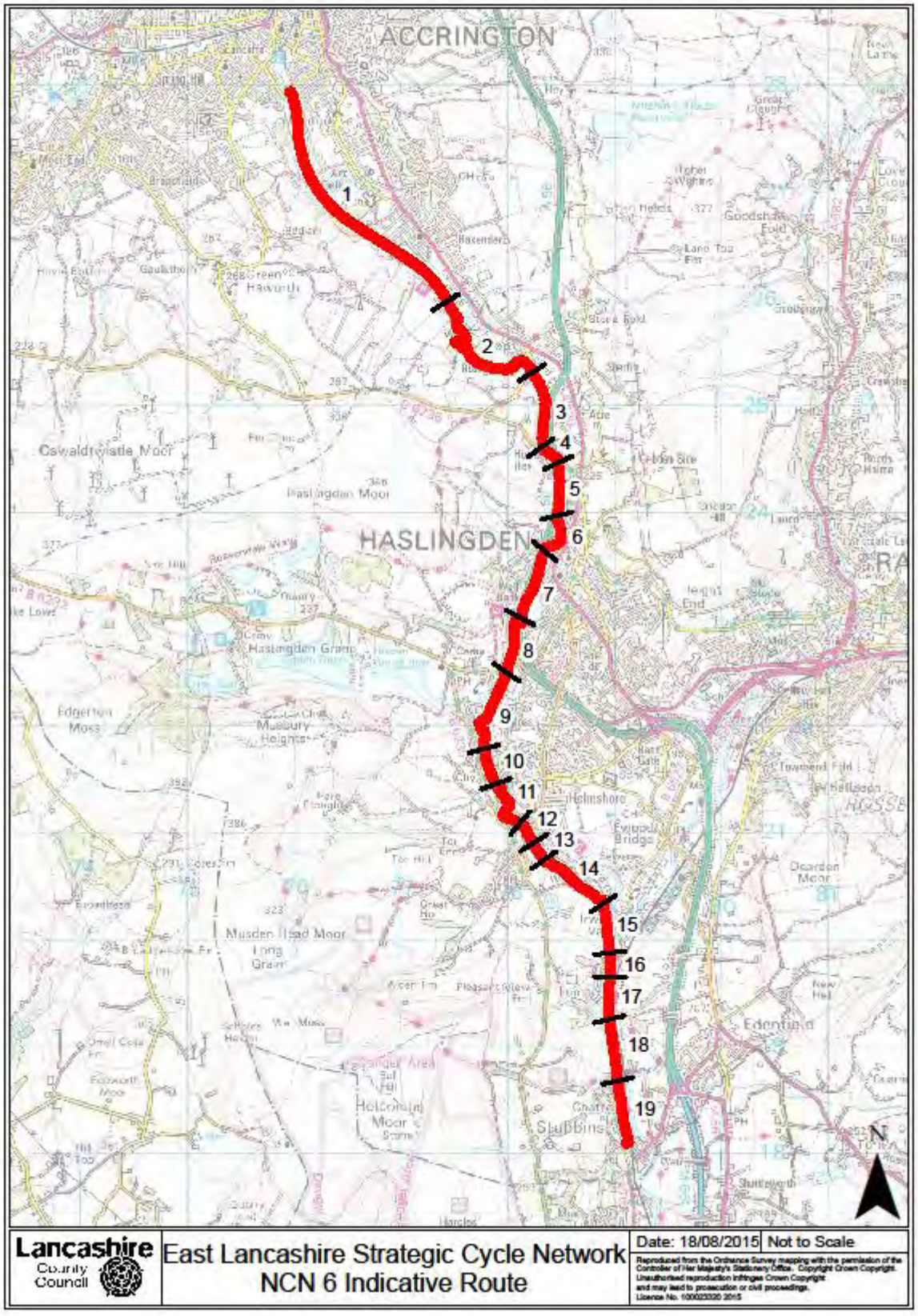
Valley of stone (Rossendale)

The Valley of Stone is16.5km long and connects Rawtenstall in the west to Waterfoot, Bacup and Whitworth to the Lancashire border with Rochdale at Healey Dell, as well as providing access to many employment sites along the Rossendale Valley. It is a largely off road route following a former railway line and when completed will provide a real sustainable travel alternative to using the busy roads which run along the main valley floor. The idea for the Valley of Stone has been put forward by the local community and although some sections are already open, the full potential of the route will only be realised once it is fully completed.



National cycle route 6 (Hyndburn and Rossendale)

This route is mostly off road and runs in a roughly north-south direction from Accrington in the north to the Lancashire border at Stubbins near Ramsbottom in the south. It is 12km in length and follows the line of a former railway, although large sections of the railway no longer exist such as around Haslingden. It has great potential for commuter use, especially to the employment areas on the west side of Haslingden close to the A56 and it will contribute towards the tourist economy by linking to the East Lancashire Railway and Irwell Sculpture Trail to the south. The route is part of the wider National Cycle Network Route 6 that connects Watford to Keswick via Manchester and Preston.


ACCRINGTON
HASLINGDEN
Cowpe
Haslingden Grane
Musbury Heights
Helmshore
Musden Head Moor
Stubbins
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
N
Lancashire County Council
East Lancashire Strategic Cycle Network
NCN 6 Indicative Route
Date: 18/08/2015
Not to Scale

When the cycleway is completed its use will contribute to improvements in local air quality.

Latest news (August 2017)

Recent works

Work on several sections of the cycleway has been completed in the first half of 2017:

Valley of Stone Section 6, Waterfoot - New 3m wide surfaced path completed from the entrance to the tunnels to Rakehead Lane, Brandwood, near Waterfoot. This section of the route was previously impassable for much of the year due to the poor ground conditions and the works mean that a 0.4km section can now be used by pedestrians and cyclist in all weathers.

Valley of Stone Section 14, Whitworth - Resurfacing work has taken place of a section of highway 250m in length on Cowm Park Way, Whitworth that the cycleway runs along. The surface of this road was previously in poor condition and in need of improvement.

National Cycle Route 6 Section 12, Helmshore - A new zebra crossing has been installed at Helmshore Road to provide a safer crossing for users of the cycleway and also people using the park at Snig Hole. Since the crossing has been completed a reduction in traffic speeds has been recorded.

National Cycle Route 6 Section 13, Helmshore – Work to improve the surface of the access road and path between Helmshore Road and Holme Vale & the River Ogden was also completed in May. The access road had a poor, uneven surface and drainage issues which have been improved, along with widening and resurfacing of a path towards the river.

Conclusions and Priorities

The Spinning Point redevelopment of the town centre commenced in 2017. It's a area of regeneration right in the middle of AQMA 2 which is being redeveloped. The former Town Hall annex and police station have been demolished and the refurbishment of the remaining Town Hall is planned to be completed by August 2019.

An new bus station construction is planned to be completed by March 2019 this is planning application 2015/0476 which got approved in March 2017. The

redevelopment of the site is for a bus station and retail/cafe units (Use Classes A1, A2, A3, A4, A5 or B1), including associated facilities, car parking and landscaping, demolition of former police station, town hall annex, public toilets and part demolition and works to the Old Town Hall, within Rawtenstall conservation area.

An air quality assessment submitted with the application summised 'air quality effects as a result of the proposed development are considered to be not significant'.

The existing bus station should be demolished and highway works completed by March 2019

Work on development of phase 2 – outline programme March 2019 start for completion summer/autumn 2020. The planning application number is 2017/0617 'Full planning application for the redevelopment of the former Valley Centre site for a mixed use development comprising leisure, hotel, housing and commercial uses (including Use Classes A1, A2, A3, A4, B1, C1, C3 and D2 of the Town and Country Planning (Use Classes) (Amendment) (England) Order 2015) including the creation of an area of public open space with associated landscape and highway works.

Location: Rawtenstall Town Square, Bank Street, Rawtenstall, Rossendale, Lancashire'

Was submitted in December 2017 and will be reported on in the next (2019) air quality report.

One of the main hopes with all this redevelopment is that with the demolition of the exisitng bus station the canyon effect of Bacup Road will be reduced and the nitrogen dioxide will be spread out more hopefully to below government levels and this will be continued to be monitored.

Photo 1 taken September 2017 of Bacup Road Rawtenstall showing the development site on the left hand side and the old bus station on the right hand side.

As there are no exceedances in AQMA 1 for the third year we will continue to monitor it with a view to revoking it in 2019 if all levels continue to lie 10% below the threshold of 40 µg/m^3 (ie 36 µg/m^3 or under)

Rossendale Borough Council's priorities for the coming year are regenerating Rossendale, providing responsive and value for money local services and a clean and green Rossendale.

Signage

Rossendale Borough Council have informed Lancashire County Council that there is currently a mis-placed road sign on the bottom of Bank Street and one of the priorities in the air quality action plan is the installation of amended signage deprioritising Bacup Road and reprioritisation of Bocholt Way this is in the pipeline with Lancashire County Council and will be reported on in the next (2019) air quality report.

Photo 2 showing the mis-placed road sign

Local Engagement and How to get Involved

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

- Using public transport
- Reducing the use of cars
- Changing to an electric vehicle see https://www.gov.uk/plug-in-car-van-grants
- Cycling and walking
- 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://smokecontrol.defra.gov.uk/index.php

- Car sharing see https://liftshare.com/uk/community/sharedwheels

There is no local air quality action group to the knowledge of the writer.

However Client Earth are activist lawyers committed to securing a healthy planet. The website is https://www.clientearth.org/

Further information on air quality can be found on the DEFRA website UK air quality information resource following this link https://uk-air.defra.gov.uk

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1 Local Air Quality Management

This report provides an overview of air quality in Rossendale Borough Council during 2016. 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) provides an update for 2016 detailing the strategies employed by Rossendale Borough Council and partners to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England can be found in Table E.1 in Appendix E.

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives. The AQAP was approved by DEFRA in May 2017 so will be discussed further in the 2018 air quality report.

A summary of the two AQMAs declared by Rossendale Borough Council in 2013 can be found in Table 2.1. The maps are also available at http://uk-air.defra.gov.uk/aqma.

See appendix D which provides maps of air quality monitoring locations in relation to the AQMA(s).

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)		Action Plan (inc. date of publication)
						At Declaration	Now	
AQMA 1 Haslingden	8/1/2013	NO^2 annual mean	Haslingden	An area encompassing a number of residential properties on Haslingden Road	No	43 µg/m^3	36.6 µg/m^3	Air quality action plan for Manchester Road Haslingden and Bacup Road Rawtenstall July 2016
AQMA 2 Rawtenstall	8/1/2013	NO^2 annual mean	Rawtenstall	An area encompassing a number of properties on Bacup Road	No	43 µg/m^3	44.2 µg/m^3	Air quality action plan for Manchester Road Haslingden and Bacup Road Rawtenstall July 2016

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

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

The Air Quality Action Plan was approved by DEFRA in 2017 and there is a summary in Table 2.2

It is expected that the following measures will be started over the course of the next reporting year: the start of the Spinning Point development of the bus station in Rawtenstall see http://www.spinningpoint.com/ and the installation of electric vehicle charging points in Rossendale.

Rossendale Borough Council's priorities for the coming year are regenerating Rossendale, providing responsive and value for money local services and a clean and green Rossendale.

Rossendale Borough Council anticipates that the downward trend in NO^2 in AQMA 1 will continue and we will be a year closer to revoking it.

Whilst the measures stated above will help to contribute towards compliance, Rossendale Borough Council anticipates that further additional measures as detailed in the AQAP will be required in subsequent years to achieve compliance and enable the revocation of Rawtenstall AQMA 2.

Lancashire County Council website has a wealth of information on statistics on economic, social and environment factors affecting the heath of residents in Rossendale (http://www.lancashire.gov.uk/lancashire-insight/area-profiles/local-authority-profiles/rossendale-district.aspx) This information was sent to all Lancashire District and Borough Councils in June 2018 from Lancashire County Council.

Lancashire County Council Activity Update for Local Air Quality Management Annual Status Report 2018

The Director of Public Health and Wellbeing report 2016 for Lancashire makes clear the need to tackle the wider determinants of health including promoting healthy living environments through for example, increased walking and cycling whilst also making clear the need for sustainable behaviour change including tackling physical activity. It also outlines the need for telecare and harnessing digital technology whilst also joining up services in neighbourhoods. Combined these actions should reduce the level of road use and therefore ultimately reduce the levels of particulate matter emitted.

Within Lancashire County Council (LCC) Public Health is taking a central role internally to ensure services are aware of the impacts of air pollution and what changes they can make to reduce pollution and exposure to pollution for our residents, working with District Council partners. In Summary the following activity is underway or in development:

Lancashire and South Cumbria Air Quality Summit

An event to raise awareness of air quality issues, share what we already know and improve engagement for action was held at Lancaster University on 28th February. The Summit was funded by Public Health England and Chaired by the Director of Public Health from Blackburn with Darwen with involvement from Public Health departments from Lancashire, Blackpool, Blackburn and Cumbria and the University. Over 60 people attended to hear presentations on the health impact of pollution, local approaches to action, including transport planning and Prof Barbara Maher from Lancaster University introduced her research, including emerging evidence of particulate matter in the brain of patients with Alzheimer's disease.

Feedback from the event is being collated to form the basis of a report to identify priorities and inform future action planning, to be published on National Clean Air Day on 21 June 2018.

Health Impact Data

Information about the impact of air pollution on health is available on the Lancashire Insights webpages. This includes an Air Quality and Health 'dashboard' published in May 2018 on the respiratory disease pages. The dashboard provides information on emissions and prevalence of health conditions that can be affected by poor air quality such as Asthma and Chronic Obstructive

Pulmonary Disorder (COPD). The dashboard also provides the mortality ranking for Lancashire for PM2.5 using the methodology outlined in the Air Quality Briefing for Directors of Public Health.

A summary of emissions by source is available on the air quality pages of the Lancashire Insights page and in November 2017 a detailed emissions inventory with further analysis of road transport emissions was published. When the National Atmospheric Emissions Inventory data is updated later this year the summary will be refreshed to include a breakdown by other emission sources.

Spatial Planning

There is closer working between Public Health and both county and district planning teams to consider how future local plans can mitigate the effect of poor air quality, as well as address wider public health issues, such as improved opportunities for physical activity and access to green and open space. Public Health is supporting the adoption of Air Quality Planning Policy Guidance developed by Lancaster City Council to assist developers to support action through the planning system to improve air quality.

In the next few months Lancaster University, led by Professor Barbara Maher, will be starting a piece of research in Lancaster regarding the impact of plants on reducing particulate matter air pollution. Lancashire County Council Public Health and Highways have attended an initial meeting with Lancaster City Council to discuss and agree the research which will involve placing plants in pots on the footpath and on railings alongside the road in the area of Cable Street to measure their impact at reducing particulate matter over a period of several months. Previous initial research by the University found a 50-60% reduction in $PM_{2.5}$ in homes of those affected when vegetation strips were used.

Lancashire County Council Public Health aims to use the evidence generated from this research, as well as evidence that already exists on this topic, to inform a public health advisory note about the use of strategically sited plants to reduce exposure to particulate matter air pollution at the end of this year.

Transport Planning

A significant number of air quality issues are a result of high volumes of traffic. Work to develop the next Local Transport Plan (LTP4) for Lancashire, Blackpool and Blackburn with Darwen is now underway and the Public Health team has submitted an evidence base to the process. It highlights transport related health challenges that affect the population of Lancashire and makes 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. Stakeholder engagement and consultation will be carried out during 2018-19.

The Strategic Highways Planning team incorporates air quality considerations in action planning to aid in the identification of highway measures. Local Highways and Transport Masterplans have been developed in consultation and set out major changes to the highways, public transport, walking and cycling facilities and drive investment highways and transport across the County. Funding is sought from a number of sources including National Productivity Investment Fund, Lancashire Growth Fund and City Deal to enable schemes identified in the plans to go ahead.

In time the Masterplans will be refreshed to align with the priorities of LTP4, which will provide an opportunity to identify network improvements that would have a positive impact on air quality.

A number of major transport schemes identified in the current masterplans are underway or being planned, including the East Lancashire Strategic Cycleway Network, Penwortham Bypass and Pennine Reach. Recently completed schemes include the Broughton Bypass and The Bay Gateway (the Heysham to M6 link road). A future aim is to be able to measure the impact of major transport schemes on air quality in real terms.

Network Management

Reducing queues at and around junctions therefore removing waiting times, moving congestion away from junctions and smoothing the flows of traffic particularly at motorway junctions are priorities for all network management schemes that can also have a positive impact on air quality. An AQMA layer has been added to the County Council's mapping system enabling transport planners and network management to utilise this information when making decisions about the network.

In built up areas with traffic signal junctions, minimisation of start stop of traffic flow is currently achieved by the use of Intelligent Traffic Systems mostly via signal control systems. This software controls signal timings which minimises overall traffic delay (reducing start and stops) in a road network. The County Council also collects traffic count data to support district air quality modelling.

Sign-only 20mph areas have been introduced in many residential areas in Lancashire to reduce accidents and encourage walking and cycling, these will have a small effect on reducing particulate emissions. The impact of sign-only 20's has been the subject of a national DfT sponsored review and the impact on air quality is one of the elements being considered. The findings of the study are yet to be shared.

Active Travel

The Lancashire Walking and Cycling Strategy is due to be published later this year following formal approval from the three Lancashire Local Transport Authorities – Lancashire, Blackburn with Darwen and Blackpool Councils. Work has now commenced on the preparation of Local Cycling and Walking Infrastructure Plans (LCWIPs) for the five Lancashire Highway and Transport masterplan areas. With support from Department of Transport consultants, LCC are initially working to prepare LCWIPs for Lancaster and West Lancashire by the end of March 2019. The outcomes from the LCWIP preparation will be: a network plan for cycling and walking infrastructure; a prioritised list of schemes for delivery over short, medium and long term timeframes; and a robust evidence base report. The LCWIPs will then be used to guide future infrastructure decisions and funding requests and to integrate cycling and walking more effectively into local planning and transport policy.

Working in partnership with Blackburn with Darwen Council, Lancashire County Council is now in the second year of delivery of the three-year Connecting East Lancashire 'Access Fund' programme. A dedicated team of Business Travel Planners has been recruited to visit employers promoting active travel and modal shift. Grants have already been allocated to businesses, workplaces, colleges and relevant organisations in East Lancashire for showers, lockers and cycle storage etc. 'Love to Ride', an online business to business cycle challenge will be proactively promoted throughout Lancashire throughout the summer.

The County Council's Safe and Healthy Travel team work with schools, the community and workplaces to encourage sustainable modes of travel. LCC has a duty to produce an annual Sustainable Modes of Travel (SMOT) Strategy under the Education and Inspections Act 2006.
The strategy sets out approaches to promote sustainable travel to and from school. School travel plans are reviewed as required and can be discussed with Officers from the Safe and Healthy Travel Team during meetings with the school. The DFT backed national scheme for school travel plans called Modeshift STARS is supported by LCC.

Initiatives for schools to encourage walking and cycling include: theatre productions, school gate parking 'A' boards, Walk to School resources, digital board games, local zone route maps, safety promotional literature, high visibility jackets for walking and cycling uses, a bespoke training scheme for balance bikes and ongoing safety based training schemes for walking and cycling (e.g. Right Start, Bikeability and Passport to safer Cycling). These training schemes continue to be offered to all Lancashire primary schools and uptake is excellent. Walking school buses continue to be promoted and we are currently updating our walking bus literature to enable schools to set up a walking bus with parents/carers easily and effectively.

Low Emission Vehicles

The County Council has now signed a 10 year contract with Chargemaster to provide (initially) 150 electric vehicle charging spaces across the county. The initial mix of chargers is expected to be 18 Ultra chargers (capable of charging a car from 0-80% in around 30 mins) and 66 Dual outlet Fast chargers (capable of charging 2 cars from 0-80% in 3-4 hours).

The charge points will be on the POLAR network which is a nationally accessible scheme run by Chargemaster allowing existing customers visiting Lancashire to use the machines immediately. The current timetable is to have all these initial machines installed this calendar year. As part of the contract a basket price has been secured for the chargers to allow the purchase further machines.

Bus operators and district councils are supported in applying for funding such as 'cleaner. bus grants. LCC submitted an application to the Bus Retrofit Grant Fund, launched in September 2017 by DfT and Defra. The application was, however, unsuccessful.

Public Awareness

General information with links to the Defra national alert system and advice on what to do when pollution levels are high has been added to the County Council's "Your health and wellbeing" webpages as part of provision of information to the public on how to stay healthy and well.

Public Health continues to work with the Safe and Healthy Travel team to provide information to and engage with schools on the issues of air quality, particularly those schools close to AQMA areas, linking with existing work and resources to promote walking and cycling and inappropriate parking at school drop-off and pick-up times.

The County Council will join partners in promoting National Clean Air Day on 21st June 2018.

Public Health evidence reviews

A key role for Public Health is reviewing evidence to inform policy and intervention design. During 2018-19 evidence reviews under consideration include the impact of domestic wood burners, this is with a view to inform public behaviour and choice on the use of domestic burners, and effective actions to inform taxi licensing policy.

Electric Vehicle Charge Points

We have just signed a 10 year contract with chargemaster to provide (initially) 150 electric vehicle charging spaces across the county.

Based on the tender, and these are subject to change during the implementation process and site surveys etc, we pencilled in the following by district:

District	Ultracharge	F7 Dual	Outlets
Burnley	0	4	8
Chorley	1	2	5
Fylde	0	4	8
Hyndburn	1	8	17
Lancaster	4	15	34
Pendle	2	6	14
Preston	2	12	26
Ribble Valley	1	8	17
Rossendale	2	4	10
South Ribble	3	0	3
West Lancs	1	3	7
Wyre	1	9	19
Total	17	75	168

These numbers will be subject to change as it will be noted that we have 168 outlets listed when we will end up with 150.

The initial mix of chargers are expected to be 18 Ultra chargers (capable of charging a car from 0-80% in around 30 mins) and 66 Dual outlet Fast chargers (capable of charging 2 cars from 0-80% in 3-4 hours).

The charge points will be on the POLAR network which is a nationally accessible scheme run by chargemaster allowing existing customers visiting Lancashire to use the machines immediately.

As part of the contract we have also secured a basket price for the chargers to allow us to purchase further machines (which we are doing for Preston bus station.

Our current timetable is to have all these initial machines installed this calendar year

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
1	Limit Council fleet use of Bacup Road for non-essential access, eg refuse lorries, except when servicing properties on Bacup Road	Traffic Management	Other	Rossendale Borough Council and Lancashire County Council	Informed Head of Operations re the requirement	Head of Operations informed drivers	Random/visual checks	Not able to be measured	Borough Council fleet now do not use Bacup Road unless servicing the properties	Jan-19	NA
2	No through access to HGVs or LDVs unless deliveries	Traffic Management	Other	Lancashire County Council	NA	NA	NA	NA	NA	NA	Not deemed enforceable so this option will not be pursued
3	Road signage amended to reprioritise use of Bocholt way and deprioritise Bacup Road	Traffic Management	Other	Lancashire County Council	Discussions and photographs sent to LCC.		Installation of amended signage deprioritising Bacup Road and reprioritisation of Bocholt Way	NA	LCC are currently having new signs made stating local traffic along Bacup Road	Jan-19	Awaiting for the signs to be made and installed
4	Encourage school travel plans to encourage	Promoting Travel Alternatives	School Travel Plans	Lancashire County Council	NA	NA	NA	NA	NA	NA	Not pursued as the air quality in this area is again below actionable levels for another year

	alternative modes										
5	No through road signage at road entry points to Haslingden	Traffic Management	Other	Lancashire County Council	NA	NA	NA	NA	NA	NA	Not pursued as the air quality in this area is again below actionable levels for another year
6	Apply Public Spaces Protection Orders to restrict idling on Manchester Road	Vehicle Fleet Efficiency	Other	Lancashire County Council	NA	NA	NA	NA	NA	NA	Not pursued as the air quality in this area is again below actionable levels for another year

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 do not currently measure for PM $_{2.5}$

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

3.1 Summary of Monitoring Undertaken

This section sets out what monitoring has taken place and how it compares with objectives.

3.1.1 Automatic Monitoring Sites

Rossendale Borough Council undertook no automatic (continuous) monitoring at Rossendale sites during 2017.

3.1.2 Non-Automatic Monitoring Sites

Rossendale Borough Council undertook non- automatic (passive) monitoring of NO_2 at 20 sites during 2017. Table A.1 in Appendix A shows the details of the sites. Tubes are exposed in accordance with the DEFRA calendar.

Maps showing the location of the monitoring sites are provided in Appendix D.

Tubes 3,5,6,7,8,9,10,11 and 12 are all located in AQMA 1. Tubes 1, 4,13,14,15,16 and 17 are all located in AQMA 2. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. “annualisation” and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, “annualisation” and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40µg/m^3.

For diffusion tubes, the most recent full year of data of monthly mean values is provided in Appendix B.

There are three exceedances of NO_2 at tubes 13,14 and 15 which are both within AQMA 2. At tube 13 the result was 42.1 µg/m^3, tube 14 was 41.5µg/m^3 and tube 15 the result was 46.2 µg/m^3 These are all representative of public exposure as the tubes are located on the front elevation of residential property.

There are again no exceedances of NO_2 in AQMA 1. This is the fourth year in a row and if this downward trend continues through 2018 we will give consideration to revoking the AQMA but in the meantime air quality monitoring will continue.

We haven't annualised the results for tubes 7, 10,11 and 12. They kept going missing and we even put a sign up (see photo 3) on the posts the brackets where attached to (see photo 4) and still they kept being removed. As they are all in a line very close to each other it was decided after speaking to the helpdesk that they would be moved to more appropriate locations within the borough as there are still five other diffusion tubes in the AQMA 1.

Photo 3 Sign put on the posts where the tubes kept going missing from

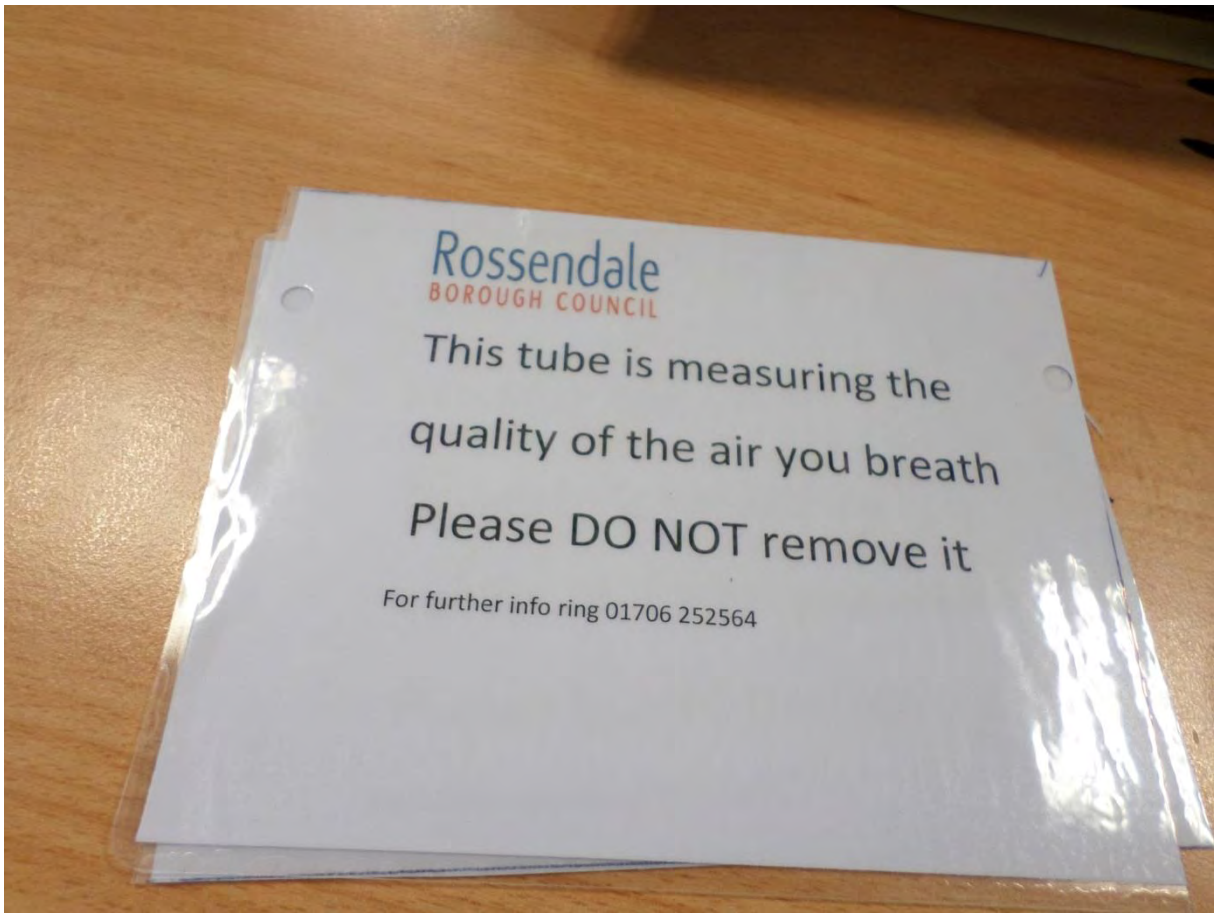


Photo 4 This is the sign placed on site

3.2.2 Particulate Matter (PM_{10})

Rossendale Borough Council do not currently measure for particulate matter PM_{10}

3.2.3 Particulate Matter ($PM_{2.5}$)

Rossendale Borough Council do not currently measure for PM $_{2.5}$

3.2.4 Sulphur Dioxide (SO_2)

Rossendale Borough Council do not measure for sulphur dioxide

Appendix A: Monitoring Results

Table A.1 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube collocated with a Continuous Analyser?	Height (m)
DT1	93-95 Bacup Road Rawtenstall	Roadside	381394	422756	NO_2	Y	5	1	N	1.80
DT2	229 Newchurch Road, Stacksteads	Roadside	385606	421860	NO_2	N	0	5	N	1.80
DT3	349 Manchester Road, Haslingden	Roadside	379153	422234	NO_2	Y	0	4	N	1.80
DT4	81 Bacup Road, Rawtenstall	Roadside	381325	422740	NO_2	Y	20	3.5	N	1.80
DT5	377 Manchester Road, Haslingden	Roadside	379209	422171	NO_2	Y	0	3	N	1.80
DT6	359 Manchester Road,	Roadside	379175	422213	NO_2	Y	0	4	N	

	Haslingden									1.80
DT7	364-366 Manchester Road, Haslingden	Roadside	379193	422216	NO_2	Y	0	2	N	1.80
DT8	Road sign near roundabout Manchester Road Haslingden	Roadside	379197	422213	NO_2	Y	4	2	N	1.80
DT9	363 Manchester Road, Haslingden	Roadside	379183	422200	NO_2	Y	0	4	N	1.80
DT10	358-360 Manchester Road Haslingden	Roadside	379178	422237	NO_2	Y	0	3.5	N	1.80
DT11	364 Manchester Road, Haslingden	Roadside	379192	422215	NO_2	Y	0	1	N	1.80
DT12	348 Manchester Road,	Roadside	379161	422251	NO_2	Y	0	1	N	

	Haslingden									1.80
DT13	30/32 Bacup Road Rawtenstall	Roadside	381377	422756	NO_2	Y	0	2	N	1.80
DT14	24 Bacup Road Rawtenstall	Roadside	381358	422754	NO_2	Y	0	2	N	1.80
DT15	22 Bacup Road Rawtenstall	Roadside	381350	422754	NO_2	Y	0	2	N	1.80
DT16	2A Bacup Road Rawtenstall	Roadside	381161	422747	NO_2	Y	0	6	N	1.80
DT17	1-3 Bacup Road Rawtenstall	Roadside	381121	422725	NO_2	Y	8	2	N	1.80
DT18	185 Bacup Road Rawtenstall	Roadside	381675	422745	NO_2	N	0	4	N	1.80
DT19	End of Rose Vale Street	Roadside	381822	422751	NO_2	N	5	1	N	

										1.80
DT20 moved	Road sign 280 Haslingden Road	Roadside	379900	422499	NO_2	N	17	4	N	1.80

Notes:

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

(2) N/A if not applicable.

Table A.2 – Annual Mean NO_2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture 2017 (%) [2]	NO_2 Annual Mean Concentration (µg/m^3) [3]				
				2013	2014	2015	2016	2017
Tubes located Haslingden Road AQMA 1								
DT3	Roadside	Diffusion Tube	92%	25	26	23	35.2 new location	34.9
DT5	Roadside	Diffusion Tube	75%	26	28	35	31.8	38.6
DT6	Roadside	Diffusion Tube	92%	36	34	36	33.5	39.2
DT7	Roadside	Diffusion Tube	42%	**42**	35	38	33.5	NA
DT8	Roadside	Diffusion Tube	100%	35	29	29	27.1	31.4
DT9	Roadside	Diffusion Tube	83%	**40**	34	36	30.2	38.7
DT10	Roadside	Diffusion Tube	42%	**42**	36	36	34.6	NA
DT11	Roadside	Diffusion Tube	42%	38	33	32	31.6	NA
DT12	Roadside	Diffusion Tube	25%	**44**	35	35	37.1	NA
Tubes located in Bacup Road AQMA 2								
DT1	Roadside	Diffusion Tube	100%	36	36	33	32.8	36.9
DT4	Roadside	Diffusion Tube	83%	35	31	N/A	29.9	35.4
DT13	Roadside	Diffusion Tube	92%	28	25	24	**44.2** new location	**42.4**

DT14	Roadside	Diffusion Tube	92%	**47**	38	36	38.9	**41.5**
DT15	Roadside	Diffusion Tube	100%	**47**	39	37	**42.6**	**46.2**
DT16	Roadside	Diffusion Tube	100%	35	30	22	30.6	33.8
DT17	Roadside	Diffusion Tube	58%	34	34	33	30.6	NA
Tubes located outside the AQMAs								
DT2	Roadside	Diffusion Tube	100%	35	34	28	31.4	28.7
DT18	Roadside	Diffusion Tube	100%	28	23	23	22.7	23.6
DT19	Roadside	Diffusion Tube	92%	28	31	27	30.1	30.4
DT20	Roadside	Diffusion tube	100%	23	24	22	20.4	22.7

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

☒ **Annualisation has been conducted where data capture is <75%**

☒ **If applicable, all data has been distance corrected for relevant exposure**

Notes:

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

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

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

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

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

Appendix B: Full Monthly Diffusion Tube Results for 2017

Table B.1 – NO_2 Monthly Diffusion Tube Results - 2017

Site ID	NO_2 Mean Concentrations (µg/m^3)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.77) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
DT1	63.4	51	51.7	35.4	40.9	44.6	36.2	29.1	43.8	52.9	65.8	59.7	47.9	36.9	N/A
DT2	49.4	39	47.1	28.4	34.2	36	28.9	28.1	35.2	34.6	42.5	44.6	37.3	28.7	N/A
DT3	113.6 (excuded)	70.4	47.5	36.9	37.2	38.8	33.5	35.2	43.1	46.9	51.7	57.4	45.3	34.9	N/A
DT4	64.8	2.5 (excluded)	46.9	36.8	Missing	33.8	28.4	31.2	37.9	40	55.3	51.7	46.6	35.9	N/A
DT5	Missing	49.4	40.2	41.1	Missing	42.7	Missing	37.4	44	46.2	52.3	52.7	50.1	38.6	38.6
DT6	68	51.6	47.5	42.7	41.1	40.6	34.7	32.8	41.3	Missing	59.1	54	50.9	39.2	39.2
DT7	Missing	Missing	Missing	39.8	45.8	Missing	33.6	35.4	Missing	Missing	Missing	Missing	38.7	N/A	N/A
DT8	45.8	43.3	40.1	33.8	31.6	28.9	27.4	27.9	35	40.4	48.7	48.6	40.8	31.4	N/A
DT9	56.3	46.7	50.4	37.7	42.6	39	35.7	Missing	41.6	Missing	58.6	48.3	50.3	38.7	38.7
DT10	Missing	Missing	49.8	40.8	Missing	Missing	Missing	34.1	Missing	Missing	Missing	Missing	41.6	N/A	N/A

DT11	Missing	Missing	Missing	Missing	44.8	Missing	28.9	31.9	Missing	Missing	Missing	Missing	35.2	N/A	N/A
DT12	Missing	Missing	Missing	33.4	Missing	Missing	Missing	32.7	Missing	Missing	Missing	Missing	33.1	N/A	N/A
DT13	83.7	54.9	60.2	54.6	Missing	52.8	44.3	45.2	53.6	58.7	63.6	58.5	54.6	**42.1**	42.1
DT14	68.3	55.4	61.1	49.4	51	37.7	23.9	Missing	49.5	52.2	36.7	57.9	53.9	**41.5**	41.5
DT15	74.8	62.1	66.3	57.2	51.1	42.4	41.2	39.3	50.2	50	72.2	58	60	**46.2**	46.2
DT16	59.2	49.1	47.3	37.8	34	32.3	32.6	33.1	36.3	47	60.6	57.5	43.9	33.8	N/A
DT17	Missing	46.9	60.6	Missing	Missing	Missing	37.7	Missing	Missing	Missing	Missing	66.2	52.9	N/A	N/A
DT18	45.7	31.7	34.7	24.9	20.6	23	20.6	22	26.4	35.4	42.8	39.2	30.6	23.6	N/A
DT19	57.3	44.5	42.2	34.7	31.7	26.4	28.2	28.3	35.2	48.2	58.3	Missing	39.5	30.4	N/A
DT20	42.2	32.1	34.2	20	27.6	20.3	20.7	20.9	24.8	33.4	38.5	38.7	29.5	22.7	N/A

☐ **Local bias adjustment factor used**

☒ **National bias adjustment factor used**

☐ **Annualisation has been conducted where data capture is <75%**

Notes:

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

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

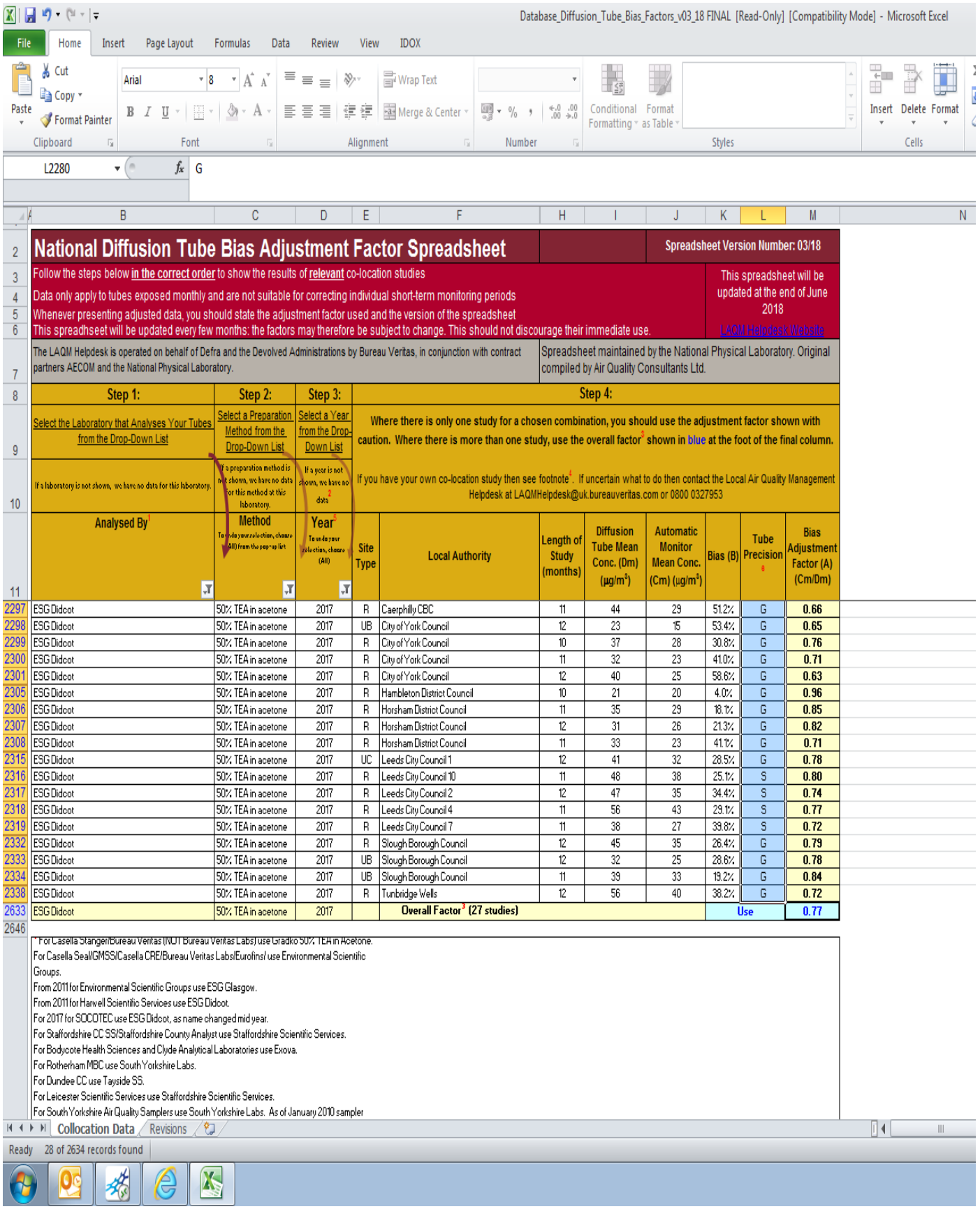
(2) Distance corrected to nearest relevant public exposure. Please note where N/A this is because Paul Bentley from AQMA helpdesk advised distance correction is only needed for tubes above 36 µg/m^3

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

The diffusion tubes are supplied and analysed by Environmental Services Group UK (ESG). The preparation method used is 50% TEA in Acetone. ESG follows the procedures set out in the Harmonisation Practical Guidance and participates in both AEA solution and The Workplace Analysis Scheme for Proficiency (WASP) tube analysis trials. In the last round of WASP the laboratory was rated ‘good’.

The bias adjustment factor being applied to the annual mean for the diffusion tubes is 0.77. This came from the Review and Assessment Helpdesk website V03/18 spreadsheet.

Screen shot of bias adjustment factor v3/18



Database_Diffusion_Tube_Bias_Factors_v03_18 FINAL [Read-Only] [Compatibility Mode] - Microsoft Excel

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/18

Follow the steps below in the correct order to show the results of relevant co-location studies

Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods

Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet

This spreadhseet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2018

LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List. If a laboratory is not shown, we have no data for this laboratory.

Step 2: Select a Preparation Method from the Drop-Down List. If a preparation method is not shown, we have no data for this method at this laboratory.

Step 3: Select a Year from the Drop-Down List. If a year is not shown, we have no data[2]

Step 4: Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.

If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@uk.bureauveritas.com or 0800 0327953

	Analysed By[1]	Method (To undo your selection, choose (All) from the pop-up list)	Year[5] (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
2297	ESG Didcot	50% TEA in acetone	2017	R	Caerphilly CBC	11	44	29	51.2%	G	0.66
2298	ESG Didcot	50% TEA in acetone	2017	UB	City of York Council	12	23	15	53.4%	G	0.65
2299	ESG Didcot	50% TEA in acetone	2017	R	City of York Council	10	37	28	30.8%	G	0.76
2300	ESG Didcot	50% TEA in acetone	2017	R	City of York Council	11	32	23	41.0%	G	0.71
2301	ESG Didcot	50% TEA in acetone	2017	R	City of York Council	12	40	25	58.6%	G	0.63
2305	ESG Didcot	50% TEA in acetone	2017	R	Hambleton District Council	10	21	20	4.0%	G	0.96
2306	ESG Didcot	50% TEA in acetone	2017	R	Horsham District Council	11	35	29	18.1%	G	0.85
2307	ESG Didcot	50% TEA in acetone	2017	R	Horsham District Council	12	31	26	21.3%	G	0.82
2308	ESG Didcot	50% TEA in acetone	2017	R	Horsham District Council	11	33	23	41.1%	G	0.71
2315	ESG Didcot	50% TEA in acetone	2017	UC	Leeds City Council 1	12	41	32	28.5%	G	0.78
2316	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 10	11	48	38	25.1%	S	0.80
2317	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 2	12	47	35	34.4%	S	0.74
2318	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 4	11	56	43	29.1%	S	0.77
2319	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 7	11	38	27	39.8%	S	0.72
2332	ESG Didcot	50% TEA in acetone	2017	R	Slough Borough Council	12	45	35	26.4%	G	0.79
2333	ESG Didcot	50% TEA in acetone	2017	UB	Slough Borough Council	12	32	25	28.6%	G	0.78
2334	ESG Didcot	50% TEA in acetone	2017	UB	Slough Borough Council	11	39	33	19.2%	G	0.84
2338	ESG Didcot	50% TEA in acetone	2017	R	Tunbridge Wells	12	56	40	38.2%	G	0.72
2633	ESG Didcot	50% TEA in acetone	2017		Overall Factor[3] (27 studies)				Use		0.77

2646

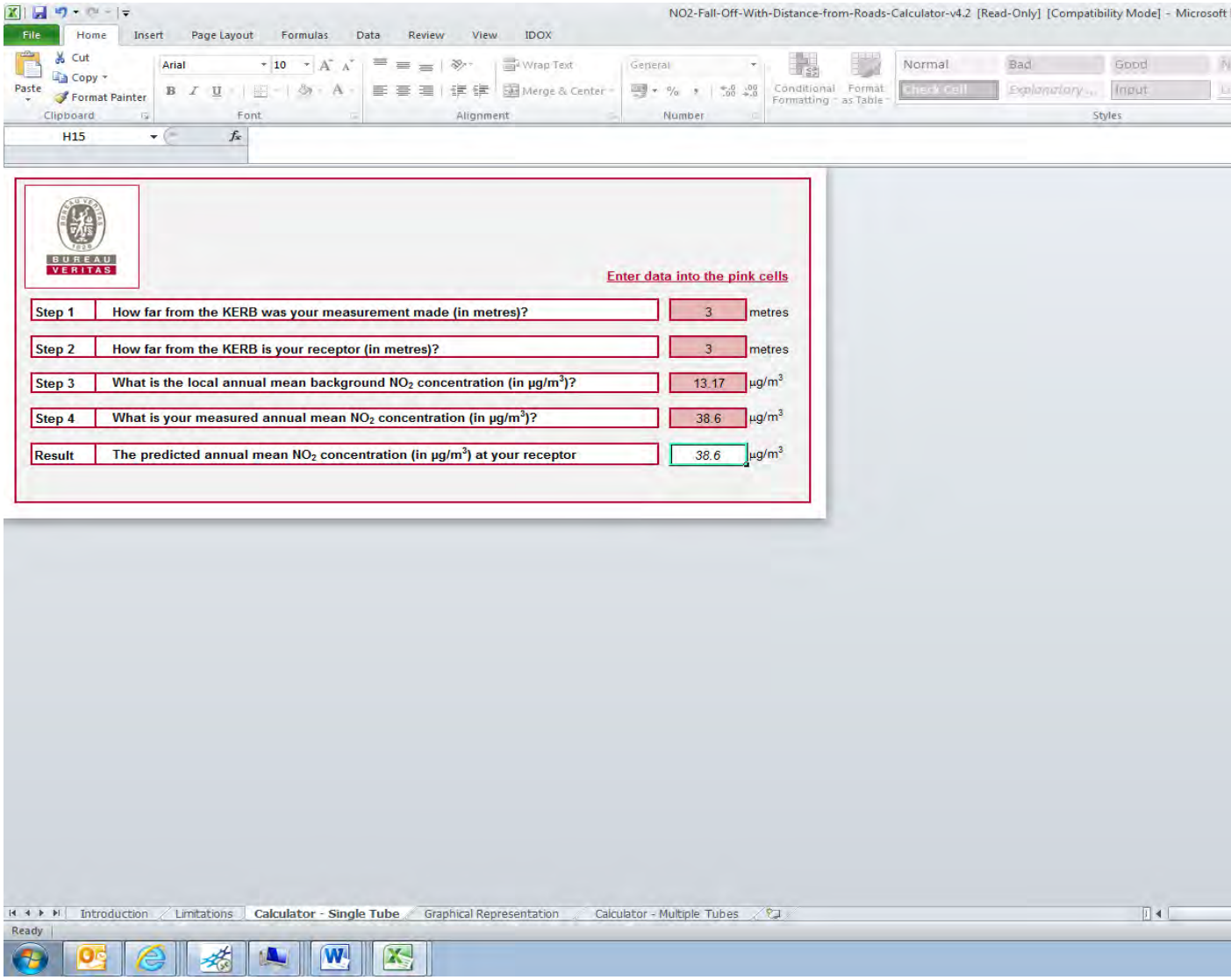
[1] For Casella Stanger/Bureau Veritas (NOT Bureau Veritas Labs) use Gradko 50% TEA in Acetone.
For Casella Seal/GMSS/Casella CRE/Bureau Veritas Labs/Eurofins/ use Environmental Scientific Groups.
From 2011 for Environmental Scientific Groups use ESG Glasgow.
From 2011 for Harwell Scientific Services use ESG Didcot.
For 2017 for SOCOTEC use ESG Didcot, as name changed mid year.
For Staffordshire CC SS/Staffordshire County Analyst use Staffordshire Scientific Services.
For Bodycote Health Sciences and Clyde Analytical Laboratories use Exova.
For Rotherham MBC use South Yorkshire Labs.
For Dundee CC use Tayside SS.
For Leicester Scientific Services use Staffordshire Scientific Services.
For South Yorkshire Air Quality Samplers use South Yorkshire Labs. As of January 2010 sampler

Collocation Data | Revisions

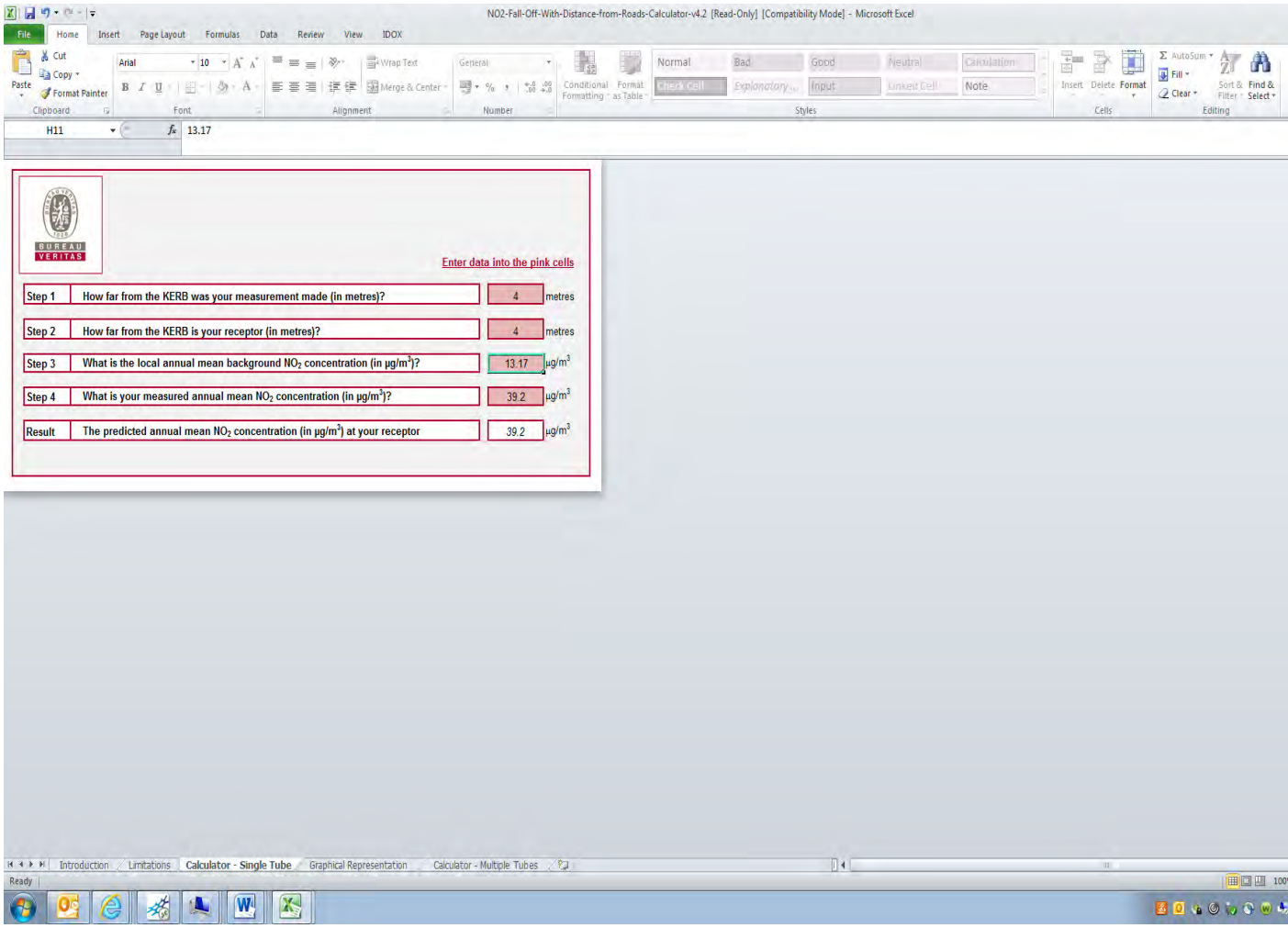
Ready 28 of 2634 records found

Screen shots of distance calculations

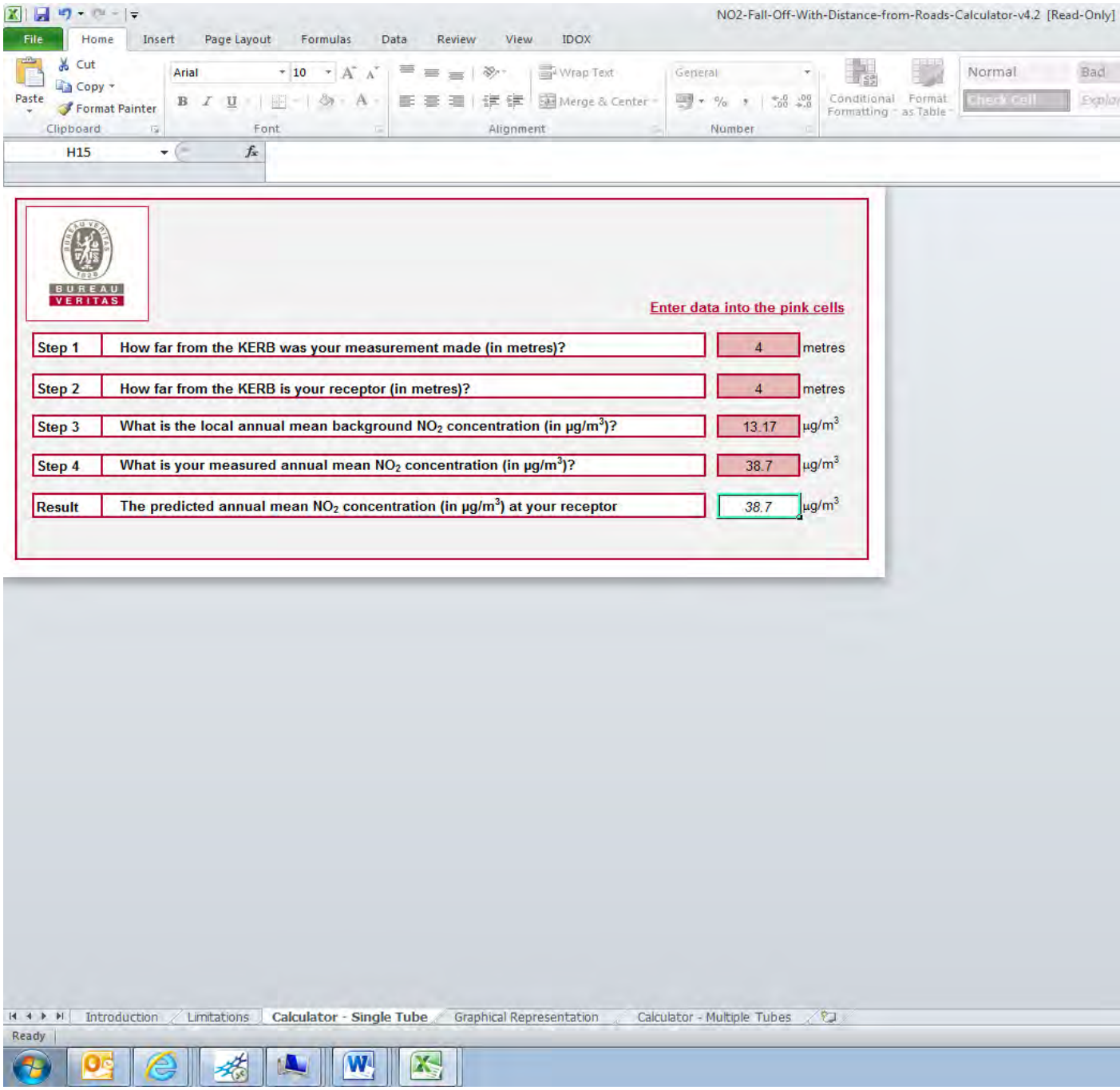
Tube 5 Distance calculation



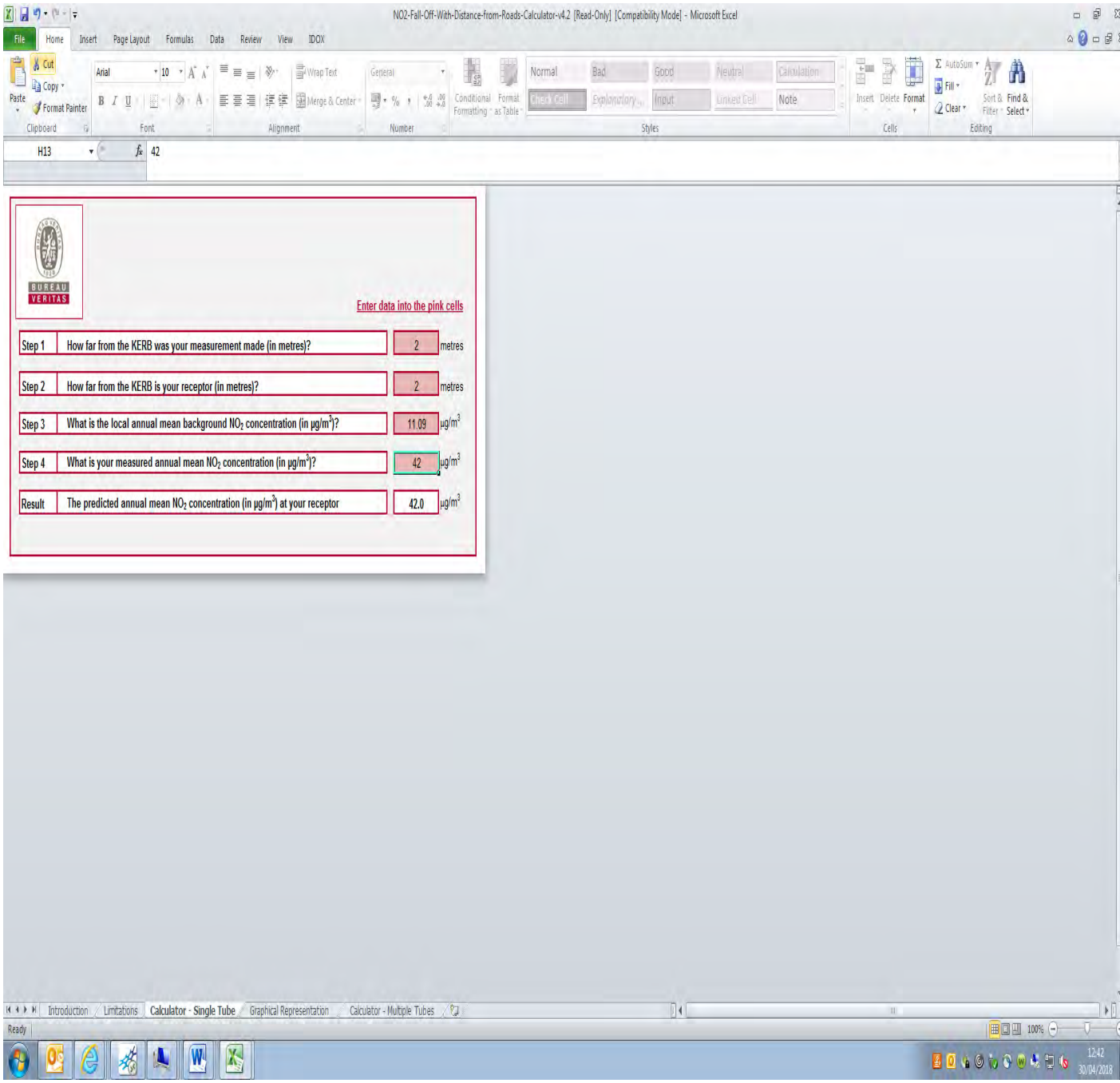
Tube 6 Distance calculation



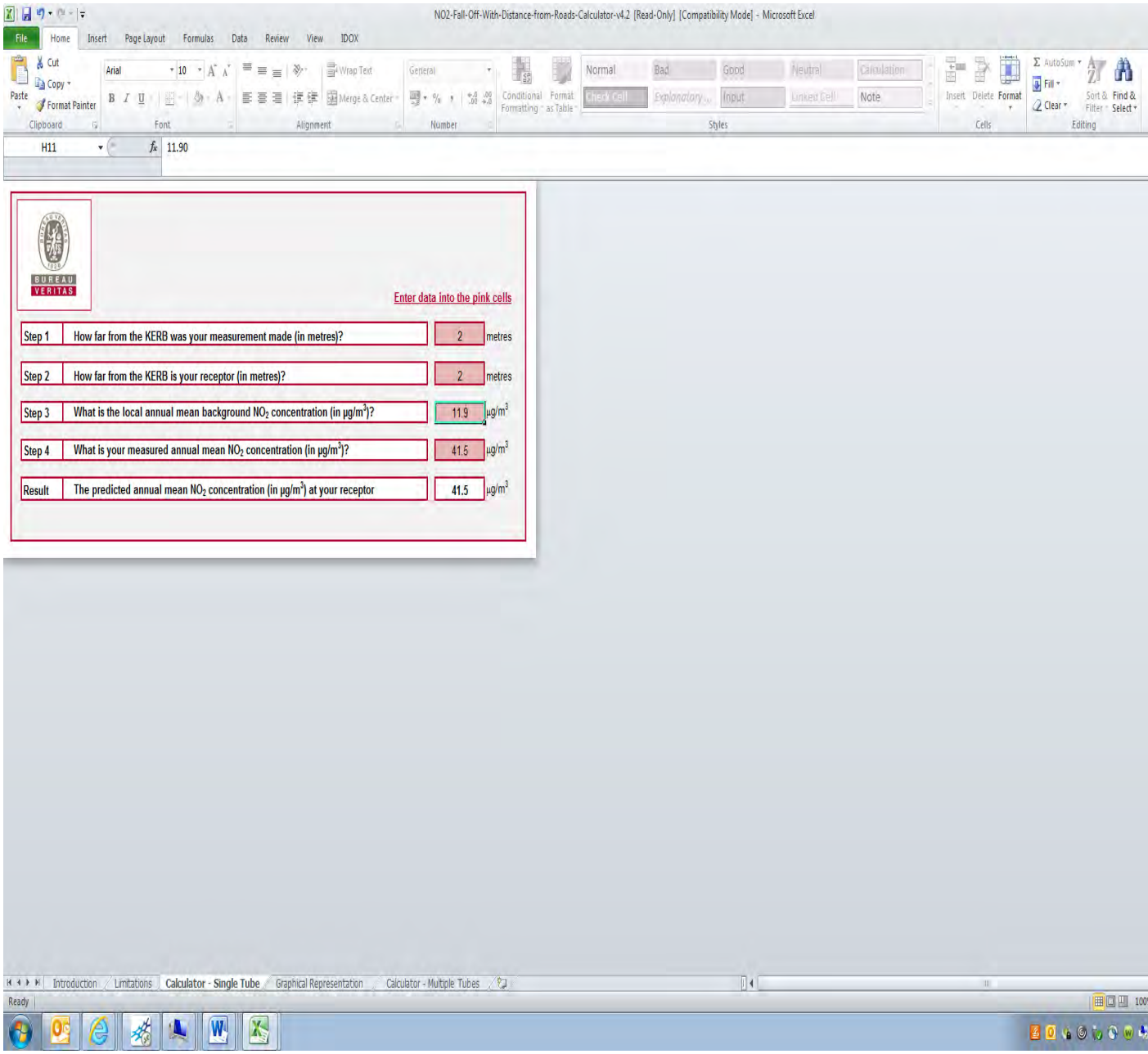
Tube 9 Distance calculation



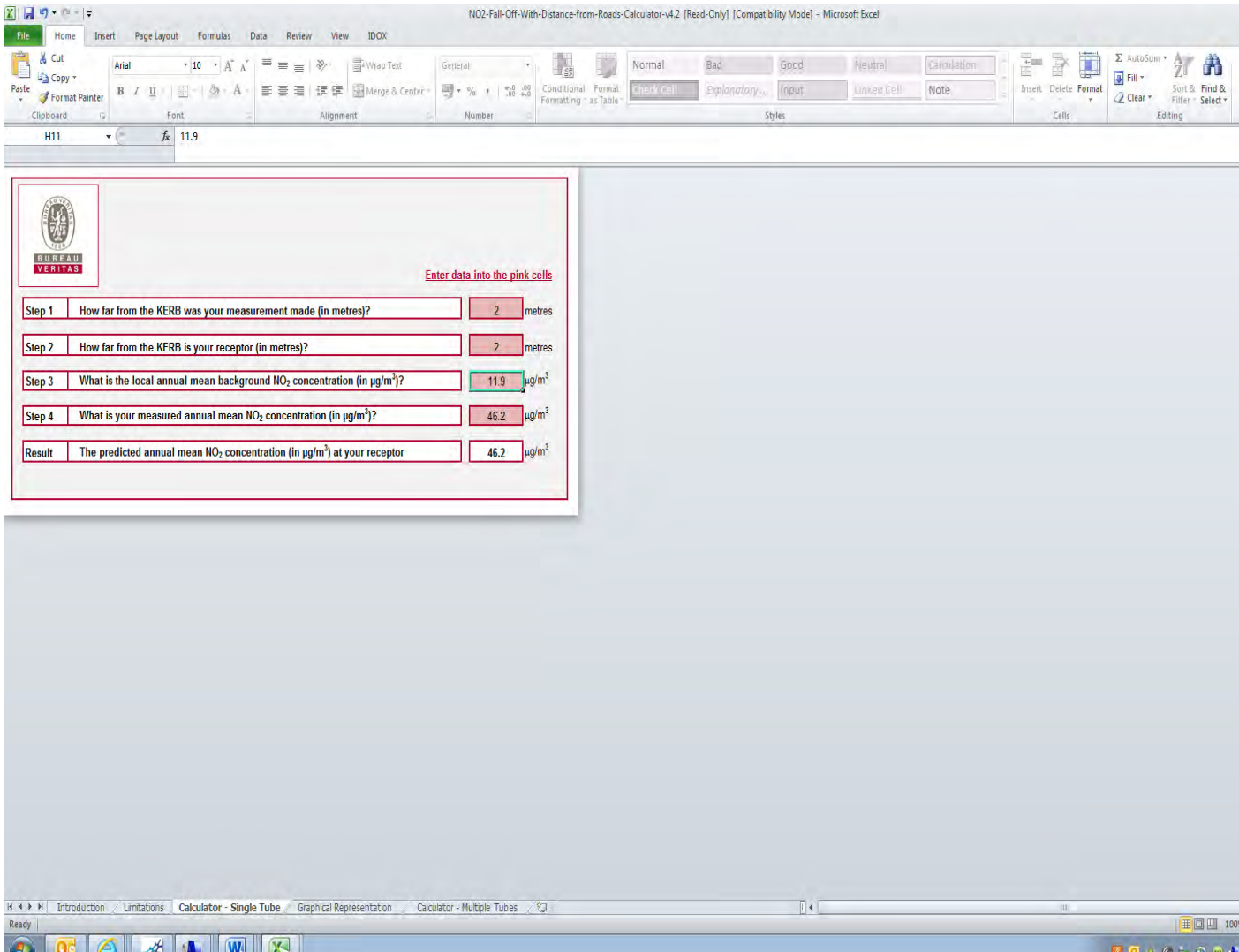
Tube 13 Distance calculation



Tube 14 Distance calculation



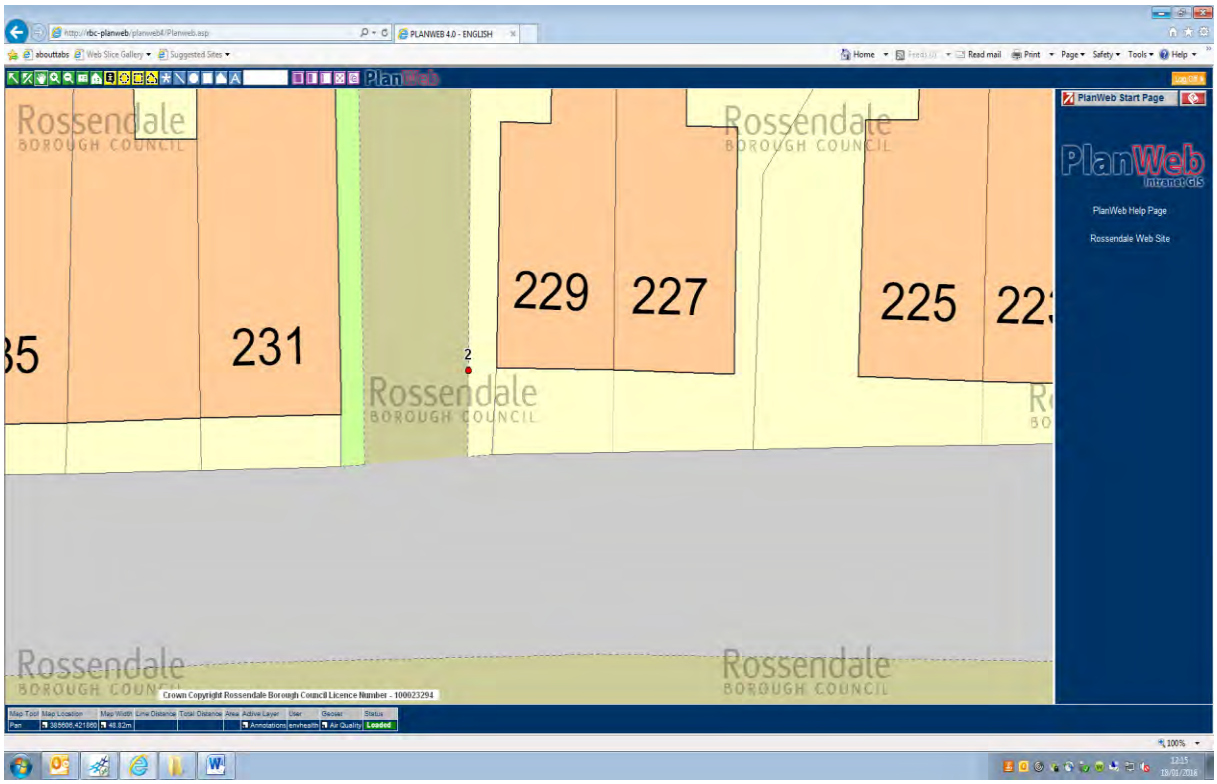
Tube 15 Distance calculation



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

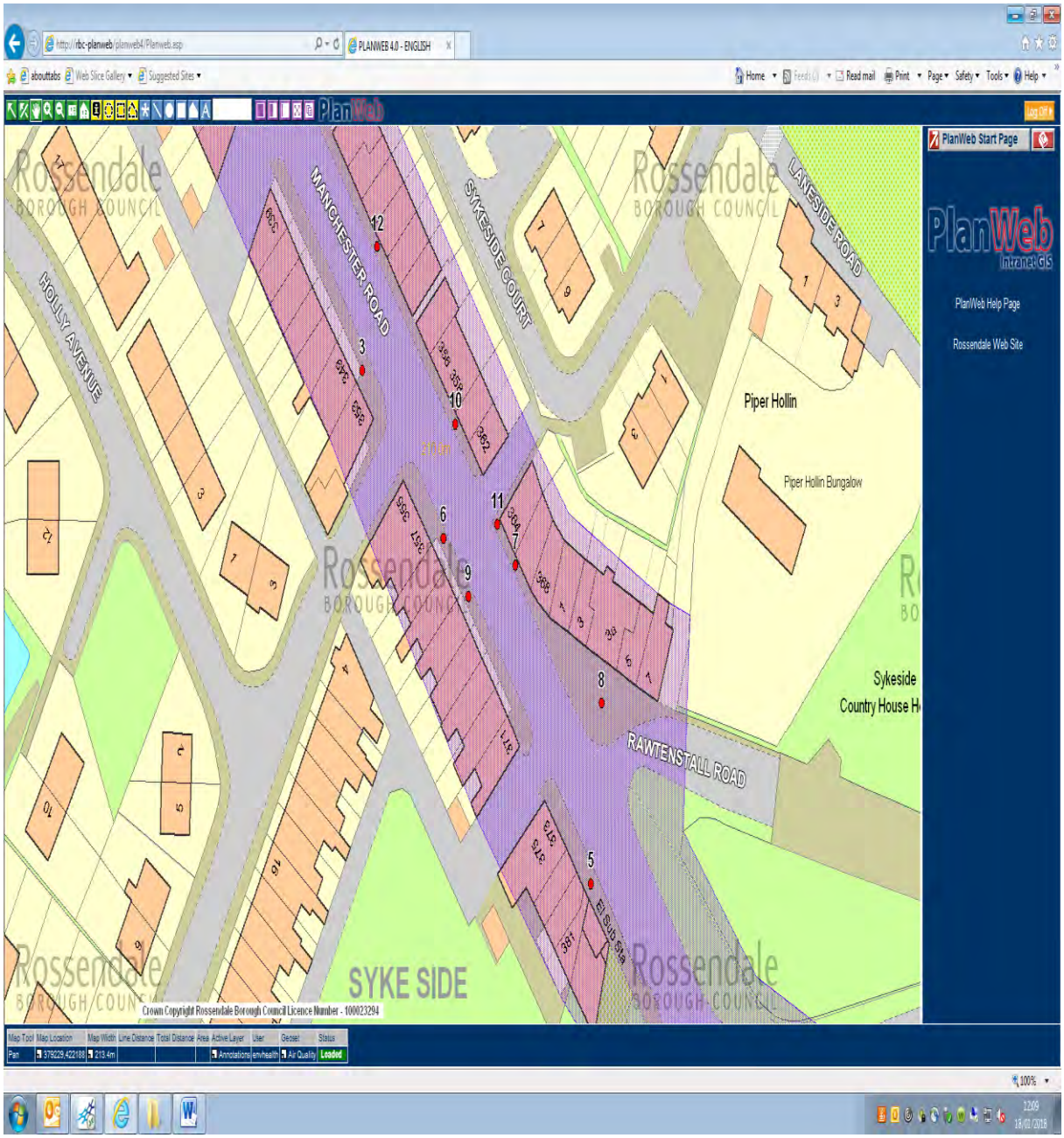
Tubes No: 1, 4, 13, 14, 15, 16 and 17
Location: **Bacup Road AQMA**
Grid Ref Central: X: 381629 Y: 422740

Tube No: 2
Location: Side of 229 Newchurch Road, Stacksteads
Grid Ref: X: 385606 Y: 421860



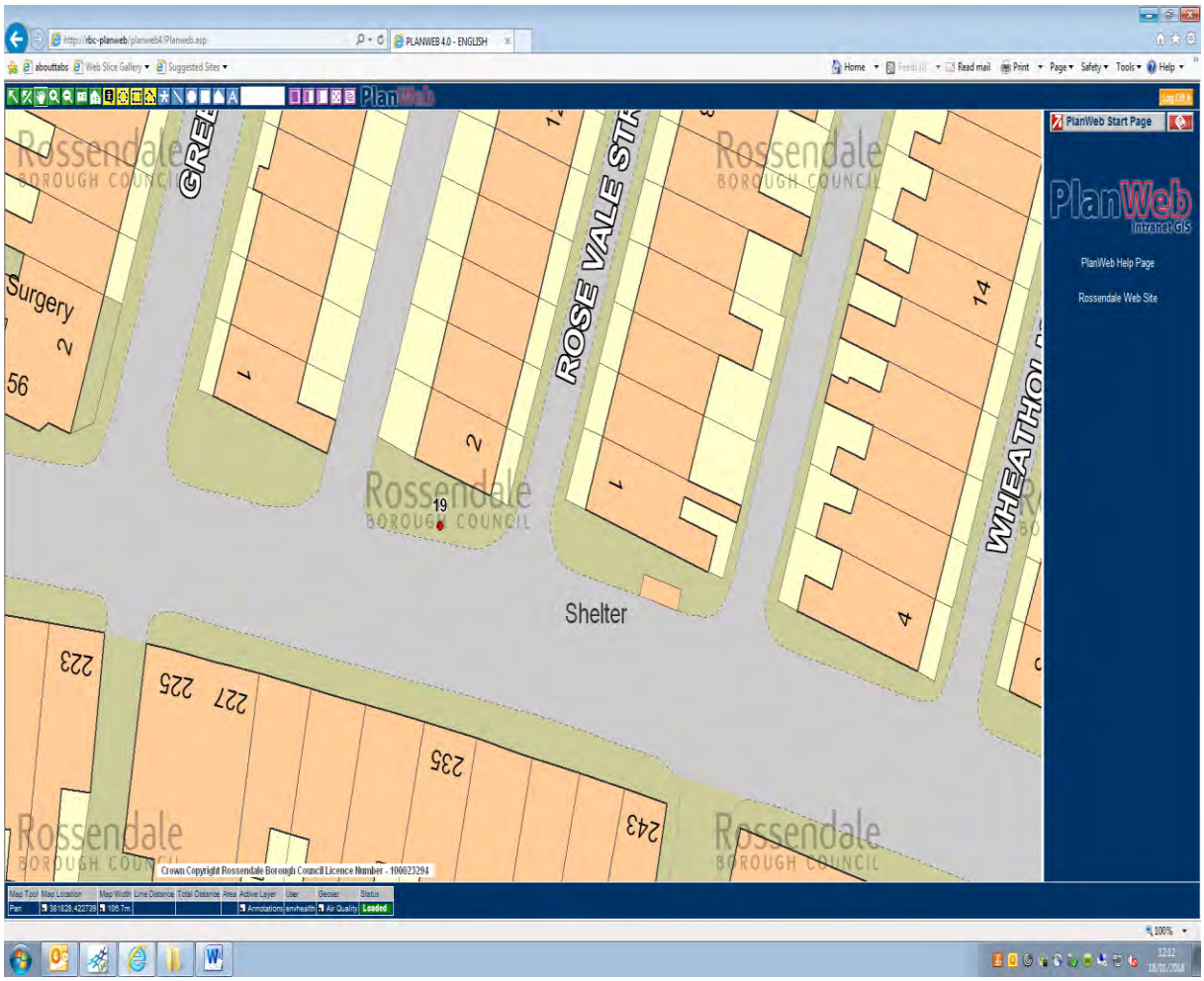
Tubes No: Tube No: 3, 5,6,7,8, 9,10, 11 and 12

Location: AQMA 1, 377, 359, 366 Manchester Road, 5-7 Rawtenstall Road, 363 Manchester Road, 358-360, 364 and Manchester Road, 358-360,359,364-366, Tesco Sign and 381 Manchester Road, Haslingden.
Grid reference: is around X:379213 Y:422191

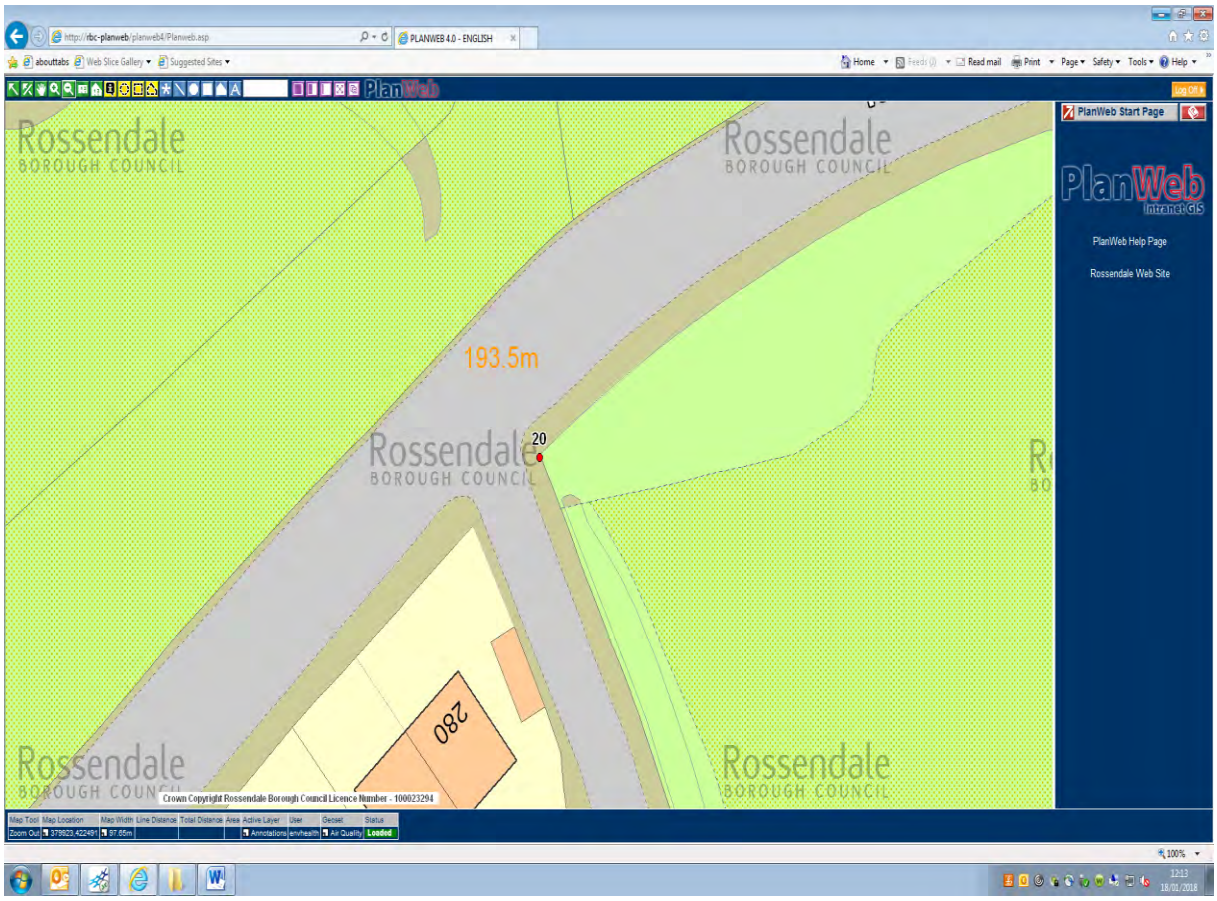


Tube No: 18
Location: 185 Bacup Road, Rawtenstall
Grid Ref: X: 381675 Y: 422745

Tube No: 19
Location: Rose Vale Street, Rawtenstall
Grid Ref: X: 381822 Y: 422745



Tube No: 20
Location: All Saints School Sign adjacent to 280 Haslingden Road, Rawtenstall
Grid Ref: X:379900 Y:422499


PLANWEB 4.0 - ENGLISH
PlanWeb
PlanWeb Start Page
PlanWeb intranet GIS
PlanWeb Help Page
Rossendale Web Site
193.5m
20
280
Rossendale
BOROUGH COUNCIL
Crown Copyright Rossendale Borough Council Licence Number - 100023294

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

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

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

Glossary of Terms

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