





# 2021 Air Quality Annual Status Report (ASR)

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

August, 2021

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Report Reference Number	ASR2021
Date	August 2021

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## Executive Summary: Air Quality in Our Area

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 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 exceedances are considered likely, the local authority must then 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.

The authority has seen a continuation in both elected member and public concern over the last year in relation to air quality and climate issues, while at the same time substantive action has been undertaken to try and improve air quality through the completion of the borough wide Air Quality Action Plan (AQAP).

## Air Quality in South Ribble Borough Council

Air pollution is associated with several 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<sup>1,2</sup>.

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

For the borough of South Ribble, the current mortality attributed to anthropogenic (made man) particulate air pollution is 4.1%<sup>5</sup>.

<sup>1</sup> Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

<sup>3</sup> Defra. Air quality appraisal: damage cost guidance, July 2020

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

<sup>5</sup> Public Health England, Public Health Profiles, Air Pollution: fine particulate matter 2019

[https://fingertips.phe.org.uk/search/air%20pollution#page/0/gid/1/pat/102/par/E10000017/ati/101/iid/30101/age/230/sex/4/cid/4/tbm/1/page-options/car-do-0\\_ovw-do-0](https://fingertips.phe.org.uk/search/air%20pollution#page/0/gid/1/pat/102/par/E10000017/ati/101/iid/30101/age/230/sex/4/cid/4/tbm/1/page-options/car-do-0_ovw-do-0)

The principal pollutants of concern within South Ribble are those associated mainly with traffic, these being Nitrogen Dioxide, and Particulate Matter. The Council only monitors Nitrogen Dioxide emissions via a network of diffusion tubes and currently has five declared Air Quality Management Areas within the borough.

**Trend data over the last five years indicates that levels have generally reduced, the results from 2020 show no areas of exceedance or near exceedance of the national objectives within the borough.**

No exceedances of the annual mean objective value have been identified over 2020. Although due to the Covid 19 Pandemic the year was not representative of the normal flow of traffic throughout the borough and as a result of the lockdown it is not unsurprising that the annual mean levels have reduced significantly.

Air Quality is no longer specifically identified within the Council's revised Corporate Plan. However, a new 'Green Agenda' item has been included which encompasses work being undertaken on the Climate Emergency and Air Quality workstreams

There have been no new major industrial sources of emissions within the borough, however a substantial number of dwellings are being built and planning permissions granted over the last year as part of the City Deal project.

## 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<sup>6</sup> sets out the case for action, with goals even more ambitious than EU requirements to reduce exposure to harmful pollutants. The Road to Zero<sup>7</sup> 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.

The last year has seen limited progress on the completion of the actions within the Action Plan primarily due to the Covid 19 Pandemic and the restrictions imposed on the county over the majority of the year.

The Council has declared a Climate Emergency and progressed a strategy and action plan over 2020, many of the actions compliment those within the Air Quality Action Plan.

Key actions the Council will be looking at over the next year included:

- Continuing with the diffusion tube monitoring programme
- Continue to consider air quality for all relevant planning applications
- The adoption of the Lancashire Air Quality Planning Guidance note, as a South Ribble Borough Council guidance document, setting out how and when air quality issues need to be considered as part of the planning process, while this has been completed the next step is to embed it within the planning process
- Encourage greater use of public transport and alternative forms of travel, including the provision of electric vehicle recharging points through the planning system\*
- We will continue to carry out the inspections and enforcement of permitted premises within the borough under the Environmental Permitting Regulations
- Continue to work with partners in Public Health Lancashire, and across the Lancashire District authorities in the development and publication of the Lancashire Air Quality Planning Guidance Document

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<sup>6</sup> Defra. Clean Air Strategy, 2019

<sup>7</sup> DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

\*The CoVid19 pandemic has resulted in advice from central government to not use public transport, this may have an adverse impact on air quality as the use of private vehicles is therefore being encouraged South Ribble being encouraged.

## Conclusions and Priorities

Monitoring results from the 2020 monitoring programme have shown a significant reduction in Nitrogen Dioxide levels across the borough although this is likely to be as a result of the national and local lockdowns during the Covid 19 pandemic and the reduction of traffic.

The revised borough wide Action Plan and the general national increase in awareness over the harmful effects of air quality, has seen a greater level of engagement over the last year from both elected members and the public.

The priority for the coming year is to continue the monitoring programme, reviewing this in light of any new information and developments, progress the actions identified in the plan, which includes consideration of the significant on-going construction work across the borough, education and facilitating a modal shift away from the domestic car, although this work has been hampered by the Covid-19 pandemic and the government guidelines not to use public transport. To progress the to work with partner organisations in particular the County Public Health team and Highways Department and other Lancashire District Authorities.

## Local Engagement and How to get Involved

If you would like to get involved in the work being undertaken to tackle air pollution within South Ribble; or you would like more information on how you can help reduce your personal emissions, then please contact the Environmental Health Department at South Ribble Borough Council on 01772 421491 or via e-mail at [envhealth@southribble.gov.uk](mailto:envhealth@southribble.gov.uk). Further information will be made available on the Council's website.

We are particularly interested to here from schools, businesses and community groups with a view of encouraging greater partnership working to raise awareness of air quality.

Lancashire has a large number of established and well-maintained cycle routes that can be used for commuting as well as leisure purposes. More information can be found on: <http://www.visitlancashire.com/cycling-lancashire>

There is also a wealth of information on public transport:

<http://www.lancashire.gov.uk/roads-parking-and-travel/public-transport.aspx>

And alternative ways to travel:

<http://www.lancashire.gov.uk/roads-parking-and-travel/alternative-ways-to-travel.aspx>

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## **1 Local Air Quality Management**

This report provides an overview of air quality in South Ribble Borough Council during 2020. 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 South Ribble 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

### 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 South Ribble Borough Council can be found in Table 2.1. The table presents a description of the five AQMA(s) that are currently designated within South Ribble Borough Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMA(s) and the air quality monitoring locations in relation to the AQMA(s). The air quality objectives pertinent to the current AQMA designation(s) are as follows:

- NO<sub>2</sub> annual mean;

A new Supermarket has been developed on the southeast corner of the Penwortham AQMA, this has entailed changes to the road layout including the provision of a dedicated cycle path and changes to the traffic lights at the junction.

NO other changes have occurred at the other AQMA's.

**Table 2.1 – Declared Air Quality Management Areas**

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
AQMA1	Declared August 2005	NO2 Annual Mean	An area encompassing several residential properties at the junction of Cop Lane, Liverpool Road and Priory Lane	NO	44.7	19	South Ribble Borough Council, Air Quality Action Plan, 2018	<a href="https://www.southribble.gov.uk/airquality">https://www.southribble.gov.uk/airquality</a>
AQMA2	Declared August 2005	NO2 Annual Mean	An area encompassing several residential properties along Victoria Road.	NO	52	25	South Ribble Borough Council, Air Quality Action Plan, 2018	<a href="https://www.southribble.gov.uk/airquality">https://www.southribble.gov.uk/airquality</a>
AQMA3	Declared August 2005	NO2 Annual Mean	An area encompassing residential properties at the Tardy Gate Junction.	NO	48	30	South Ribble Borough Council, Air Quality Action Plan, 2018	<a href="https://www.southribble.gov.uk/airquality">https://www.southribble.gov.uk/airquality</a>
AQMA4	Declared August 2005	NO2 Annual Mean	An area encompassing several residential properties along Station Road.	NO	44.9	28	South Ribble Borough Council, Air Quality Action Plan, 2018	<a href="https://www.southribble.gov.uk/airquality">https://www.southribble.gov.uk/airquality</a>

AQMA5	Declared December 2017	NO2 Annual Mean	An area encompassing several residential properties along Turpin Green Lane, through Churchill Way to Golden Hill Lane. Also encompassing properties along Chapel Brow.	NO	41	32	South Ribble Borough Council, Air Quality Action Plan, 2018	<a href="https://www.southribble.gov.uk/airquality">https://www.southribble.gov.uk/airquality</a>
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- South Ribble Borough Council confirm the information on UK-Air regarding their AQMA(s) is up to date (confirm by selecting in box).
- South Ribble Borough Council confirm that all current AQAPs have been submitted to Defra (confirm by selecting in box).

## Progress and Impact of Measures to address Air Quality in South Ribble Borough Council

Defra's appraisal of last year's ASR concluded that there were some formatting errors, although these were later addressed and accepted. The consideration of new sources or developments within the ASR was welcomed. The Council were encouraged to consider the revocation of AQMAs 1 and 2, as no exceedances have been identified in recent years.

As mentioned above a large recent commercial development has occurred on the edge of AQMA 1, Penwortham, along with the construction of the Penwortham by-pass road. The authority is minded to leave the AQMA designation in place for a further year to assess the impact of these developments. Given the Covid 19 pandemic this time scale is likely to be extended until a full 'normal' year can be assessed.

The revocation of AQMA 2, Walton-le-Dale, will be considered further following a return to 'normal' traffic flow rates post pandemic.

South Ribble Borough Council has taken forward several direct measures during the current reporting year of 2020 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 58 measures are included within Table 2.2, with the type of measure and the progress South Ribble Borough Council have made during the reporting year of 2020 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in their respective South Ribble Action Plan.

Key completed measures are:

- Purchase of electric vehicles by the Council
- Completion of the cycle storage facilities
- Policy changes to allow 'essential car user' to use alternative forms of transport where practical.

South Ribble Borough Council expects the following measures to be completed over the course of the next reporting year:

- Full consideration of road layouts within the AQMAs
- Provision of additional Electric vehicle charging points on council car parks
- Improved engagement with schools, community groups and businesses.

The principal challenges and barriers to implementation that South Ribble Borough Council anticipates facing are financial, staffing constraints and the Covid 19 pandemic.

Progress on the following measures has been slower than expected due to lack of staffing and financial resources and the Covid 19 pandemic:

- Awareness and engagement activities
- Encouraging the use of car sharing and public transport

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance, South Ribble Borough Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of the declared AQMA's, particularly Lostock Hall, AQMA3 and Leyland, AQMA 5.

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
1	To publicise and encourage the use of the Lancashire based Air Quality Guidance Document for Developers.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	-	2021	Lancashire Authorities EHL AQ Subgroup	internal staff time	NO	Not Funded	< £10k	Implementation	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	Completion of the guidance document. Publication of the Guidance document. Inclusion of the Guidance Document within the Central Core Strategy	Funding secured, planning phase	Staffing resources/CoVid19
2	To include the Lancashire based Air Quality Guidance Document for Developers within the revised Central Lancashire Core Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	-	2024	SRBC Planning	Central Core Strategy Development	NO	Not Funded	< £10k	Implementation	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	Inclusion of the Guidance Document within the Central Core Strategy	Implementation on-going	Waiting for the Lancashire Core Strategy Team to progress Core Strategy
3	To develop and embed a low emission strategy into planning decisions	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	-	2022	SRBC Planning	Central Core Strategy currently being developed.	NO	Not Funded	< £10k	Implementation	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	Inclusion of the Strategy Document within the Central Core Strategy	Implementation on-going	Waiting for the Lancashire Core Strategy Team to progress Core Strategy
4	To require a suitable air quality assessment in line with a published Air Quality Guidance Document for Developers for all planning applications as identified within the document	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	ongoing	2032	SRBC Planning/EH	internal staff time	NO	Not Funded	< £10k	Implementation	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	AQA required for relevant developments - new guidance to be introduced	Implementation on-going	Development of the Central Core Strategy



5	Develop an 'Electric Vehicle Charging Points Guidance for Development' document and have this included within the revised Central Lancashire Core Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	-	2022	SRBC EH/planning	internal staff time	NO	Not Funded	< £10k	Implementation	Reduced vehicle emissions from new developments - maintaining the status quo	Completion of the guidance document. Inclusion in the Central Core Strategy	Implementation on-going	Development of the Central Core Strategy
6	Ensure adequate Electrical Vehicle charging infrastructure is provided on all Planning Applications in line with the Council's Electric Vehicle Charging Points Guidance for Developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	2032	SRBC Planning	-	NO	Not Funded	< £10k	Implementation	encourage uptake of electric vehicles - maintain status quo	Inclusion of EVR points on all relevant planning applications	Implementation on-going	Planning
7	Require suitable travel plans to be produced, and implemented on all relevant developments in line with the low emissions strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2016	2032	SRBC Planning	-	NO	Not Funded	< £10k	Implementation	encourage uptake of alternative forms of transport - maintain status quo	Inclusion of travel plans on all relevant planning applications	Implementation on-going	Planning
8	Require secure cycle storage to be included on all relevant domestic, commercial, industrial, and leisure developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2018	2032	SRBC Planning	-	NO	Not Funded	< £10k	Implementation	encourage uptake of alternative forms of transport - maintain status quo	Inclusion of secure cycle storage on relevant planning applications.	Implementation on-going	Planning

9	Require adequate changing facilities to be provided for use of staff / visitors for all relevant commercial and industrial developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2018	2032	SRBC Planning	-	NO	Not Funded	< £10k	Implementation	encourage uptake of alternative forms of transport - maintain status quo	Inclusion of adequate changing facilities as part of planning applications.	Implementation on-going	Planning
10	Promotion of living walls / green roofs	Other	Other	Not Started	2031	SRBC	-	NO	Not Funded	£10k - 50k	Planning				
11	Investigate ways to limit the use of solid fuel heating in developments	Promoting Low Emission Plant	Other Policy	Not Started	2023	SRBC EH	-	NO	Not Funded	£10k - 50k	Planning				
12	Improved Planning enforcement	Policy Guidance and Development Control	Other policy	ongoing	2031	SRBC Planning	planning budget	NO	Funded	£50k - £100k	Implementation	Job advert released to fill vacant post	Timely Planning enforcement undertaken	on-going	Post is only temporary
13	Securing three major road developments identified within the Lancashire County Council 'Central Lancashire Highways and Transport Masterplan'	Transport Planning and Infrastructure	Other	2013	2025	LCC Highways	City Deal	NO	Funded	£500k - £1 million	Implementation	Re-direct traffic away from areas of poor air quality	Completion and opening of the new roads	Cawsey link Rd complete, Dualling of A582 progressing, new junction complete	Funding
14	To review all traffic light sequencing within AQMA's to reduce the amount of standing traffic	Transport Planning and Infrastructure	Other	2017	2023	LCC Highways	unknown	NO	Not Funded	£50k - £100k	Planning	Improved traffic flow in the area to reduce idling, stop/start and traffic congestion	To review Traffic Signal sequencing at locations where Air Quality problems have been identified in order to ensure the safe and expeditious movement of traffic around the highway network.	County highways have stated they have no funding, time or staff to undertake this work. We need to provide evidence of an issue before they will look at it.	LCC Highways - funding, prioritisation

15	To investigate the provision of a link road between Centurion Way and Tomlinson Road	Transport Planning and Infrastructure	Other	2019	2032	SRBC Planning / EH	unknown	NO	Not Funded	£100k - £500k	Aborted	Remove traffic from a declared AQMA	Development of the link road.	LCC highways against action, developer of land against action, no funding	Planning application on adjacent land / LCC Highways
16	Consider road layouts within the AQMA's to see whether improvements can be made to reduce congestion	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2019	2023	LCC Highways / SRBC EH	unknown	NO	Not Funded	< £10k	Planning	Reduced vehicle emissions	Review of all road layouts within the declared AQMAs	N/A	Finance, Staffing, LCC
17	Look to improve signage to re-direct HGV traffic away from areas of poor air quality	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2018	2032	SRBC	unknown, SRB internal	NO	Not Funded	£10k - 50k	Planning	Reduced traffic	Improved signage	All businesses have been contacted again asking them to use alternative routes	Funding & suitable location for signage
18	Work with Highways England to improve signage to the motorways to advise HGV's to use Junction 29 instead of junction28	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2018	2032	Highways England / SRBC EH	N/A	NO	Not Funded	£50k - £100k	Planning	Re-direct traffic away from declared AQMA	New signage in place	Highways England willing to undertake work for new sign at SRBC expense ~£70K,	Funding £70K for new motorway sign.
19	Provide advice and contacts to businesses to help them choose low emission vehicles, & develop travel plans	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	Not Started	2023	SRBC EH / Public Health Lancashire / Chorley BC	unknown	NO	Not Funded	< £10k	Planning	reduced vehicle emissions	production of advice literature (inc social media)	Engagement officer post to be filled shortly	Resources

20	Improve the cycle infrastructure within the borough, especially along routes to schools and employment sites	Transport Planning and Infrastructure	Cycle network	2018	2021	LCC Highways / SRBC - Green links	Planning - S106, CIL, grants	NO	Partially Funded	£100k - £500k	Implementation	reduced vehicle trips	Green Links project completed	Green Links project progressing,	resources, funding, commitment from LCC Highways
21	Maintain & Sweep cycle routes on a regular basis throughout the borough	Transport Planning and Infrastructure	Cycle network	2018	2032	LCC Highways / SRBC Neighbourhoods	N/A	NO	Not Funded	< £10k	Planning	reduced vehicle trips	clean well-maintained cycle routes	LCC highways have stated no funding available to maintain cycle routes/	There is currently no budget provision within LCC Highways to resource this measure.
22	Improve the electric vehicle infrastructure across the borough	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2016	2032	SRBC EH	grants	NO	Not Funded	£500k - £1 million	Planning	reduced vehicle emissions	Number of EVR points	Grant bids to be submitted	Resources, electrical infrastructure, finance
23	Provide electric vehicle charging points on council owned car parks and buildings	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2018	2025	SRBC - EH / Neighbourhoods / Estates	grants	NO	Funded	£100k - £500k	Planning	reduced vehicle emissions	number of charging points provided	Grant bids are being applied for	resources
24	Offer free or reduced parking tariffs for electric vehicles	Promoting Low Emission Transport	Priority parking for LEV's	-	2023	SRBC Neighbourhoods	N/A	NO	Not Funded	£10k - 50k	Planning	reduced vehicle emissions	New charging policy	To be considered with each carpark EV charging point	resources, willingness with council
25	Anti-Idling Campaign in declared AQMA's and outside schools, colleges and leisure centres	Traffic Management	Anti-idling enforcement	2019	2025	SRBC - EH / Neighbourhoods / Estates	internal staff time	NO	Not Funded	< £10k	Implementation	reduced vehicle emissions	Number of schools visited for enforcement	Campaign run in 2019, postponed in 2020. Staffing is an issue to attend sites at the correct times. Looking again in 2022	Resources
26	Encourage the greater use of public Transport	Promoting Travel Alternatives	Other	Not Started	2032	SRBC	-	NO	Not Funded	< £10k	Planning	reduced vehicle emissions	Great use of public transport and less private car journeys	Engagement Officer post to be created.	UK central government
27	Work with taxi firms to encourage the uptake of low emission vehicles (Electric)	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV	2018	2025	SRBC EH / Licensing	OLEV bid	NO	Not Funded	£10k - 50k	Planning	reduced vehicle emissions	Number of LEV in taxi fleet	EV charging infrastructure being installed - COVID has prevented some engagement.	Taxi drivers, charging infrastructure

			recharging, Gas fuel recharging												
28	Further reduce the age limit of taxis within the borough	Promoting Low Emission Transport	Taxi Licensing conditions		2025	SRBC EH / Licensing / AQ Sub-group	-	NO	Not Funded	< £10k	Planning	reduced vehicle emissions	New taxi policy	Taxi licensing adverse to intro tighter requirements to neighbouring authorities. Discussions held on a Lancashire wide basis, but no consensus reached.	Licensing committee
29	Stop taxis and buses idling within AQMA's and outside schools & Colleges	Traffic Management	Anti-idling enforcement	2019	2023	SRBC EH	internal staff resources	NO	Not Funded	< £10k	Planning	reduced vehicle emissions	Anti-idling enforcement visits	Anti-idling campaign started in 2019, stopped due to covid, will resume in 2022	Resources
30	To consider a reduced taxi license fee for electric vehicles	Promoting Low Emission Transport	Taxi emission incentives		2025	SRBC EH / Licensing	-	NO	Not Funded	< £10k	Planning	reduced vehicle emissions	reduced emissions	Taxi licensing teams are not in favour of this and do not think it will make any difference - still to be progressed.	Licensing committee
31	To work with both bus and taxi companies to apply for any grant bids available	Promoting Low Emission Transport	Other		2032	SRBC	on going	NO	Not Funded	£10k - 50k	Planning	reduced vehicle emissions	reduced emissions	-	
32	Implement an 'Electrify' campaign – encouraging businesses to only use electric taxis	Traffic Management	Other	Not Started	2022	SRBC		NO	Not Funded	£10k - 50k	Planning	reduced vehicle emissions		To be started as part of the rapid EV charging infrastructure work with Electric Blue once installed in 2021.	Charging infrastructure
33	Encouraging Car Sharing within the borough	Traffic Management	Other	Not Started	2025	SRBC	-	NO	Not Funded	< £10k	Planning	reduced vehicle emissions	reduced vehicle trips	N/A - Covid has prevented this work from progressing	resources / CoVid-19
34	Development and delivery of educational programmes to schools	Public Information	Other		2032	SRBC EH / PHL / Chorley BC	unknown	NO	Not Funded	£10k - 50k	Planning	reduced vehicle emissions	reduced vehicle trips	-	Resources / schools
35	Development of educational material for businesses	Public Information	Other		2024	SRBC EH / PHL / Chorley BC	unknown	NO	Not Funded	£10k - 50k	Planning	reduce vehicle trips	reduced vehicle trips	-	Resources / business

36	Development and run a campaign to reduce school traffic e.g. walk/cycle to school	Promoting Travel Alternatives	Promotion of cycling	Not Started	2024	SRBC EH / Members	planning applications	NO	Not Funded	£10k - 50k	Planning	reduce vehicle trips	reduced vehicle trips	-	Resources/ planning
37	Investigate the provision of personal travel plans for residents and employees within the borough	Promoting Travel Alternatives	Personalised Travel Planning	Not Started	2028	SRBC EH	planning applications	NO	Not Funded	£100k - £500k	Planning	reduce vehicle trips	reduced vehicle trips	-	Resources/ planning
38	Promote cycling within the borough, including cycle to workday, salary sacrifice scheme	Promoting Travel Alternatives	Promotion of cycling		2032	SRBC EH / Sports Development	-	NO	Not Funded	£50k - £100k	Planning	reduce vehicle trips	reduced vehicle trips	-	Resources
39	Promote walking within the borough, including promotion of walking routes, the Leyland Loop	Promoting Travel Alternatives	Promotion of walking		2032	SRBC EH / Sports Development	-	NO	Not Funded	£50k - £100k	Planning	reduce vehicle trips	reduced vehicle trips		Resources
40	Encourage 'walk to school' and the use of 'walking buses' across the borough for all schools	Promoting Travel Alternatives	Promotion of walking	Not started		SRBC EH	planning applications	NO	Not Funded	£50k - £100k	Planning	reduced vehicle trips	No of walk to school/buses		resources, schools' parents
41	Encourage elected members to car share and use alternative forms of transport, to council meetings and functions	Traffic Management	Other			SRBC Cabinet	ongoing	NO	Not Funded	< £10k	Implementation	reduced emissions	Members car shared on official duties	Promotion of car sharing among members undertaken but Covid has prevented this progressing.	Members / Covid 19
42	Replace the mayoral car with an electric car	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles		2020	SRBC Cabinet	internal	NO	Funded	£10k - 50k	Aborted		Provision of an electric mayoral car	Hybrid brough instead	ELT / member commitment

43	Provide education and information relating to air quality through members learning hours, leaflets and councillor connect	Public Information	Other	2016	2032	SRBC EH / Cllrs	internal	NO	Not Funded	< £10k	Implementation	reduced emissions	production and roll out of educational material	On-going training/learning hours undertaken, nothing in 2020-21 due to covid	resources / CoVid-19
44	Air Quality shall be considered within the decision-making process on every report to cabinet, council, portfolio holder decision etc	Policy Guidance and Development Control	Other policy	2019	2021	SRBC - EH / Democratic Services	-	NO	Not Funded	< £10k	Implementation	-	AQ considered on all reports	Air Quality is being considered on each report (in theory)	Needs proper consideration on the reports by authors
45	Replace the civic centre pool car with an electric car	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	Stalled	2022	SRBC - ELT	Vehicle fleet budget	NO	Partially Funded	£10k - 50k	Planning		Provision of an electric pool car	Pool Car might be scrapped due to low usage.	ELT commitment
46	Systematically replace the depot vans with electric vehicles	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2020	2030	SRBC - Neighbourhoods Cllrs	Vehicle fleet budget	NO	Partially Funded	£1 million - £10 million	Planning			3 small electric vans have been purchased, technology is still not good enough for bin wagons and larger/high mileage vehicles	commitment, funding
47	Systematically replace grounds vehicles with electric vehicles as technology becomes available	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	2021	2032	SRBC - Neighbourhoods / Cllrs	Equipment fleet budget	NO	Partially Funded	£100k - £500k	Planning	reduced emissions	programme to exchange vehicles required and to be followed	-	Willingness to consider alternatives / funding / provision of suitable technology
48	The provision of electric vehicle charging points at council buildings, initially the civic centre and depot. These may be provided free of charge to enable the installation of cheaper charging points and encourage the uptake of electric vehicles	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2018	2025	SRBC Neighbourhoods	ongoing	NO	Partially Funded	£100k - £500k	Implementation	Encourage uptake of LEV	Provision of EVR points at council buildings	2 chargers at civic centre and 2 at depot installed.	funding

49	Apply for the Workplace EVR point Government scheme	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	Not started		SRBC Neighbourhoods		NO			Planning				
50	Sign up to the 'nhs fleet solutions salary sacrifice scheme' this allows staff to purchase via salary sacrifice a new car (to be restricted to electric vehicles only) including all insurance, tax, and servicing	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	Stalled		SRBC ELT / HR	Stalled	NO				up to - based on mileage claims made to the Council from use of private cars	Provision of a suitable salary sacrifice scheme		Changing staff terms and conditions, shared services with Chorley agreement
51	Provide secure lockable cycle storage facilities at the civic and depot	Promoting Travel Alternatives	Promotion of cycling	2018	2021	SRBC EH / Neighbourhoods	-	NO	Not Funded	£10k - 50k	Implementation	reduced commuter mileage, encourage uptake of cycling	Provide secure cycle storage at Civic Centre and Moss Side Depot	Civic Centre cycle storage complete	
52	Provide suitable changing rooms and storage facilities for use of staff	Promoting Travel Alternatives	Other	2018	2021	SRBC - ELT	-	NO	Funded	£10k - 50k	Completed	reduced commuter mileage, encourage uptake of cycling / walking	Provision of changing facilities at Civic Centre	changing facilities installed at civic and moss side	-
53	Continue with the 'bike to work' salary sacrifice scheme	Promoting Travel Alternatives	Promotion of cycling	2018	2032	SRBC HR	internal	NO	Not Funded	£10k - 50k	Implementation	reduced commuter mileage, encourage uptake of cycling	Provision of the bike to work scheme	ongoing offer for staff	-
54	Provide cycle reassurance training for any member of staff, elected members who wish to receive it	Promoting Travel Alternatives	Promotion of cycling	2018	2032	SRBC Sports Development	internal	NO	Not Funded	£10k - 50k	Implementation	reduced commuter mileage, encourage uptake of cycling	Provision of training. Uptake of training	ongoing offer for staff	Staff
55	Encourage staff to use alternative modes of travel e.g. cycling and walking	Promoting Travel Alternatives	Other	2018	2032	SRBC	internal	NO	Not Funded	£10k - 50k	Implementation	reduce vehicle trips	increased use of alternative travel options		resources, facilities staff willingness to change
56	Promote car sharing among staff	Traffic Management	Other	2018	2032	SRBC	internal	NO	Not Funded	£10k - 50k	Implementation	Reduced vehicle emissions	Increase in car sharing among staff	Covid has prevent this from progressing	Covid - 19 / resources / staff willingness to adapt



57	Alter the policy to allow essential users to leave their cars at home and walk/cycle to work on certain days in line with business requirements and manager agreement without the risk of loss of the lump sum	Policy Guidance and Development Control	Other policy		2022	SRBC ELT / HR	-	NO	Not Funded	< £10k	Completed	Encourage uptake of alternative forms of transport	Change of Policy	Policy has been changed	-
58	Develop an internal travel plan and offer individual travel planning guidance to staff and elected members	Promoting Travel Alternatives	Workplace Travel Planning	Not Started	2024	SRBC	-	NO	Not Funded	£50k - £100k	Planning	Reduce Vehicle emissions	Less staff travelling to work in private cars		Resources

## PM<sub>2.5</sub> – 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<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

South Ribble Borough Council is taking the following measures to address PM<sub>2.5</sub>:

The continuation of the borough wide Smoke Control Area.

- The inclusion of PM<sub>2.5</sub> assessment within Air Quality Assessments carried out through the planning process.
- Progression of the action plan measures, which include;
  - Encouraging the use of alternative travel options e.g. cycling, walking, and use of public transport.
  - The four major road improvements to divert traffic away from residential areas.
  - Provision of EVR points on all new developments.
  - The provision of EVR points on Council car parks.
- Raise awareness of the harmful effects of PM<sub>2.5</sub> using the Public Health Indicator's which demonstrate that South Ribble suffers from the fifth highest adult mortality attributed to particulate matter in Lancashire at 4.0%, encouraging people to take actions to reduce their own emission rates.
- Work with the County Public Health Lancashire to develop actions to tackle PM<sub>2.5</sub> levels.
- An awareness campaign relating to solid fuel burning

## Lancashire County Council Actions on PM<sub>2.5</sub>

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<sub>2.5</sub>)' each year. It shows that, while the overall mortality rate from particulate air pollution in Lancashire-12 (4.0%) is lower than the England average (5.1%), 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 several 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 the five Lancashire Highway and Transport Masterplan areas. 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 through 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

- The County Council is working with BP Chargemaster to deliver 150 electric vehicle charge points across the County. The charging network will be accessible to drivers from all over the country and will support local and national efforts to increase the number of drivers purchasing electric vehicles.
- The County Council is supporting six district councils with a low emission taxi infrastructure scheme. Funded by the Office for Low Emission Vehicles, the scheme will provide taxi drivers with access to 24 new rapid electric vehicle charge points across the six districts. This, alongside a series of promotional activities and suggested regulatory changes, is designed to produce a transition towards more low emission taxi vehicles across Lancashire.

## 3. Creating cleaner, healthier road networks

- Work to develop the next Local Transport Plan (LTP4) for Lancashire, Blackpool and Blackburn with Darwen is now underway. The Public Health team has submitted an evidence base to 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 is looking at how vehicular, public transport and pedestrian walking movements can be improved across the city. A key facet of the study is to examine what improvements can 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](#).

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

This section sets out the monitoring undertaken within 2020 by South Ribble Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2016 and 2020 to allow monitoring trends to be identified and discussed.

#### 3.1.1 Changes to the Local Authority Area

A review of the area has been undertaken to assess any changes that have occurred over the last 12 months and the potential for these to impact either negatively or positively on-air quality.

As part of the Preston, South Ribble and Lancashire City Deal, further significant residential development has been granted planning permission, particularly in the Leyland area, Bamber Bridge, adjacent to the declared AQMA's and Lostock Hall with construction having been commenced on many sites, with some plots occupied. Additional sites are still in the process of having planning applications submitted and these are likely to come forward over 2021.

Air quality has been considered for most of the above developments, with those using nationally recognised assessment methodology unsurprisingly concluding a negligible impact. Some developers are starting to use the emerging low emissions guidance document. In line with the proposed Lancashire wide guidance document mitigation measures have been requested on all of these sites.

Monitoring of the area using diffusion tubes is currently being undertaken by the Council and the results are detailed below.

Progress is continuing on the construction of the major road infrastructure improvements identified in the 'South Ribble Borough Council Air Quality Action Plan' and 'Central Lancashire Highways and transport Masterplan'. These road improvements once completed should help to reduce congestion and improve air quality within the towns of South Ribble. The Cawsey link road and Penwortham By-pass Road have now been completed and open to the public and the junctions along the A582 have been altered as part of the dualling work along this road.

Following a planning application to redevelop a derelict site to the southeast of the Penwortham AQMA (AQMA 1.) a large supermarket has been constructed and road

improvements undertaken around the junction. These include new lanes, changes to the traffic lights and a new dedicated cycle path.

Other developments detailed in the last years ASR that may have an impact on air quality included several small-scale power plants, these have still not progressed.

## Summary of Monitoring Undertaken

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

### 3.1.2 Automatic Monitoring Sites

South Ribble Borough Council did not undertake any automatic (continuous) monitoring during 2020. The AQ Mesh continuous analyser installed within AQMA1, Penwortham, at a roadside location as part of the Lancashire County Council road improvement project to build a by-pass around Penwortham malfunctioned/was damaged during the year and as a result no data is available.

### 3.1.3 Non-Automatic Monitoring Sites

South Ribble Borough Council undertook non- automatic (i.e. passive) monitoring of NO<sub>2</sub> at 29 sites during 2020. **Error! Reference source not found.** 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.

## 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.

### 3.1.4 Nitrogen Dioxide (NO<sub>2</sub>)

Table A. in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>. 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 2020 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.

### 3.1.1 Trend Data

Trend Data, shown in Figure A.1, identifies the trend in monitored Nitrogen Dioxide readings over the last five years.

The data shows that all areas have seen a dramatic reduction over the 2020 monitoring year. This is primarily due to the Covid 19 pandemic. No exceedances are reported at any of the monitoring locations.

AQMA 1, Penwortham is consistently below the Objective value, the new by-pass road has recently been opened but so has a large shopping complex. Following a return to 'normal traffic flows' post pandemic if levels continue to remain at this level then the Council will be looking to revoke the AQMA will be made.

AQMA 2, Walton-le-Dale, remains a main route into the City of Preston and levels over the preceding three years had remained consent and below the objective value. Following a return to 'normal traffic flows' post pandemic if levels continue to remain at this level then the Council will be looking to revoke the AQMA will be made.

AQMA 3, in Lostock Hall has historically remained close to the objective value and further large development is planned in the area (~1200 properties).

AQMA 4, Bamber Bridge has historically remained fairly consent. Additional development is underway in the area.



AQMA 5, the latest area to be declared in Leyland has seen an increase in pollutant levels in previous years which corresponds to an increase in both residential development within the area and increased freight. Further large residential development is planned nearby which is likely to impact on the area.

### **3.1.2 Particulate Matter (PM<sub>10</sub> & PM<sub>2.5</sub>)**

South Ribble Borough Council does not monitor PM<sub>10</sub> or PM<sub>2.5</sub> levels. However, a check of the Defra background maps indicates no likely exceedances of the objective levels for either of these two pollutants. Particulate Matter (PM<sub>2.5</sub>).

### **3.1.3 Sulphur Dioxide (SO<sub>2</sub>)**

South Ribble Borough Council does not monitor SO<sub>2</sub> levels. However, a check of the Defra background maps indicates no likely exceedances of the objective levels for this pollutant.

## Appendix A: Monitoring Results

**Table A.1 – 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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
1	Civic Centre, Leyland	Urban Background	353626	421783	NO2	No		N/A	No	2.4
1	Civic Centre, Leyland	Urban Background	353626	421783	NO2	NO		N/A	No	2.4
1	Civic Centre, Leyland	Urban Background	353626	421783	NO2	No		N/A	No	2.4
2	12 Turpin Green Lane/Charnock St, Leyland	Roadside	354527	422371	NO2	Yes (AQMA 5)	0.0	5.2	No	2.3
3	38 Turpin Green Lane, Leyland	Roadside	354588	422269	NO2	Yes (AQMA 5)	0.0	5.6	No	2.6
4	"Gentle Touch" 65 Turpin Green Lane, Leyland	Roadside	354678	422249	NO2	Yes (AQMA 5)	0.0	5.6	No	2.2
5	66 Turpin Green Lane, Leyland	Roadside	354730	422212	NO2	Yes (AQMA 5)	0.0	7.8	No	2.2
6	87 Turpin Green Lane, Leyland	Roadside	354744	422231	NO2	Yes (AQMA 5)	0.0	5.7	No	2.0
7	36 Golden Hill Lane	Roadside	354438	422645	NO2	Yes (AQMA 5)	0.0	2.9	No	2.2
7	36 Golden Hill Lane	Roadside	354438	422645	NO2	Yes (AQMA 5)	0.0	2.9	No	2.2
7	36 Golden Hill Lane	Roadside	354438	422645	NO2	Yes (AQMA 5)	0.0	2.9	No	2.2
8	130 Golden Hill Lane	Roadside	353890	422654	NO2	Yes (AQMA 5)	0.0	2.9	No	2.1
8	130 Golden Hill Lane	Roadside	353890	422654	NO2	Yes (AQMA 5)	0.0	2.9	No	2.1
8	130 Golden Hill Lane	Roadside	353890	422654	NO2	Yes (AQMA 5)	0.0	2.6	No	2.1
9	57 Leyland Lane	Roadside	353048	422809	NO2	No	0.0	4.9	No	2.6
10	The Mill, Longmeanygate	Roadside	352970	422796	NO2	No	0.0	1.8	No	2.4
11	28-30 Watkin Lane, Lostock Hall	Roadside	354515	425695	NO2	Yes (AQMA 3)	4.0	2.4	No	2.2
12	Spar, Watkin Lane, Lostock Hall	Roadside	354368	425783	NO2	Yes (AQMA 3)	0.0	5.4	No	2.4
13	13 Browndge Road, Lostock Hall	Roadside	354410	425835	NO2	Yes (AQMA 3)	0.0	2.4	No	2.3
14	Tardy Gate PH, Leyland Rd, Lostock Hall	Roadside	354353	425844	NO2	Yes (AQMA 3)	0.0	2.7	No	2.3
14	Tardy Gate PH, Leyland Rd, Lostock Hall	Roadside	354353	425844	NO2	Yes (AQMA 3)	0.0	2.7	No	2.3
14	Tardy Gate PH, Leyland Rd, Lostock Hall	Roadside	354353	425844	NO2	Yes (AQMA 3)	0.0	2.7	No	2.3
15	477 Leyland Road, Lostock Hall	Roadside	354296	425903	NO2	Yes (AQMA 3)	0.0	4.1	No	2.3
16	11 Library Liverpool Road, Penwortham	Roadside	352122	428449	NO2	Yes (AQMA 1)	4.9	2.6	No	2.1
17	"Robert&Co", 36e Liverpool Road, Penwortham	Roadside	351875	428427	NO2	Yes (AQMA 1)	0.0	9.8	No	2.8
18	Fleece Inn, 43 Liverpool Road, Penwortham	Kerbside	351884	428404	NO2	Yes (AQMA 1)	0.0	2.4	No	2.2
19	Upper Crust / Dewhurst Homes, Liverpool Road, Penwortham. LOWER	Kerbside	351947	428434	NO2	Yes (AQMA 1)	3.5	1.5	No	2.0
20	Upper Crust / Dewhurst Homes, Liverpool Road, Penwortham. UPPER	Kerbside	351947	428434	NO2	Yes (AQMA 1)	3.5	1.5	No	3.0

22	Broad Oak Lane, Penwortham	Roadside	351880	426962	NO2	No	0.0	9.7	No	2.2
23	14 Victoria Road, Walton-le-Dale	Roadside	355370	428571	NO2	Yes (AQMA 2)	0.0	6.4	No	2.0
24	40 Victoria Road, Walton-le-Dale	Roadside	355429	428518	NO2	Yes (AQMA 2)	4.4	2.7	No	2.2
24	40 Victoria Road, Walton-le-Dale	Roadside	355429	428518	NO2	Yes (AQMA 2)	4.4	2.7	No	2.2
24	40 Victoria Road, Walton-le-Dale	Roadside	355429	428518	NO2	Yes (AQMA 2)	4.4	2.7	No	2.2
25	69 Victoria Road, Walton-le-Dale	Roadside	355521	428467	NO2	Yes (AQMA 2)	0.0	2.0	No	2.8
26	146/Library, Station Road, Bamber Bridge	Roadside	356437	426303	NO2	Yes (AQMA 4)	0.0	2.0	No	2.2
27	243 Station Road, Bamber Bridge	Roadside	356530	425840	NO2	Yes (AQMA 4)	0.0	6.1	No	2.5
28	244 Station Road, Bamber Bridge	Roadside	356506	425793	NO2	Yes (AQMA 4)	0.0	8.9	No	2.2
29	266 Station Road, Bamber Bridge	Roadside	356511	425692	NO2	Yes (AQMA 4)	4.1	2.9	No	2.4
30	301 Station Road, Bamber Bridge	Roadside	356000	425578	NO2	Yes (AQMA 4)	0.0	3.0	No	2.2
31	361 Station Road, Bamber Bridge	Roadside	356426	425364	NO2	Yes (AQMA 4)	0.0	1.6	No	2.2

**Notes:**

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

(2) N/A if not applicable.

Table A.2 – Annual Mean NO<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2020 (%) <sup>(2)</sup>	2016	2017	2018	2019	2020
1	353626	421783	Urban Background	75.0	75.0	15.3	13.6	15.1	17.2	12.4
2	354527	422371	Roadside	75.0	75.0	31.7	30.4	31.7	31.4	28.9
3	354588	422269	Roadside	75.0	75.0	32.3	32.7	32.8	31.3	26.2
4	354678	422249	Roadside	83.3	83.3	41.5	35.3	36.3	38.6	31.8
5	354730	422212	Roadside	83.3	83.3	28.0	25.2	28.3	28.6	19.0
6	354744	422231	Roadside	83.3	83.3	40.8	34.8	36.8	33.9	30.1
7	354438	422645	Roadside	83.3	83.3	38.2	34.7	34.8	36.2	30.9
8	353890	422654	Roadside	75.0	75.0	38.0	32.5	34.1	34.6	28.2
9	353048	422809	Roadside	83.3	83.3	28.6	25.1	26.8	25.9	20.9
10	352970	422796	Roadside	58.3	58.3	25.1	23.3	23.5	24.1	17.1
11	354515	425695	Roadside	83.3	83.3	26.3	25.7	27.7	26.1	22.0
12	354368	425783	Roadside	83.3	83.3	32.3	33.1	32.8	32.1	23.8
13	354410	425835	Roadside	83.3	83.3	38.1	40.0	40.3	38.8	29.7
14	354353	425844	Roadside	83.3	83.3	37.7	35.3	37.8	35.4	27.7
15	354296	425903	Roadside	83.3	83.3	32.3	27.7	30.9	30.5	22.6
16	352122	428449	Roadside	75.0	75.0	28.2	28.2	26.5	25.9	16.4
17	351875	428427	Roadside	75.0	75.0			34.0	23.0	17.9
18	351884	428404	Kerbside	83.3	83.3			34.0	31.0	19.0
19	351947	428434	Kerbside	66.7	66.7	24.6	23.2	25.0	30.0	17.7
20	351947	428434	Roadside	66.7	66.7	31.1	29.0	32.3	30.0	18.0
22	351880	426962	Roadside	75.0	75.0					21.0
23	355370	428571	Roadside	83.3	83.3	36.2	32.1	32.2	32.0	23.4
24	355429	428518	Roadside	80.5	80.5	31.6	27.7	26.7	25.0	23.0
25	355521	428467	Roadside	83.3	83.3	35.8	30.8	32.3	31.7	25.1
26	356437	426303	Roadside	50.0	50.0	32.5	29.2	32.1	29.8	23.5
27	356530	425840	Roadside	75.0	75.0	30.3	28.7	29.2	29.0	22.7
28	356506	425793	Roadside	83.3	83.3	25.0	24.8	22.9	22.3	19.1
29	356511	425692	Roadside	58.3	58.3	28.1	26.2	26.1	30.0	26.9
30	356000	425578	Roadside	83.3	83.3	24.7	22.9	25.6	24.8	20.3
31	356426	425364	Roadside	66.7	66.7	39.9	35.1	35.2	35.9	28.4

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<sup>3</sup>.

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 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.

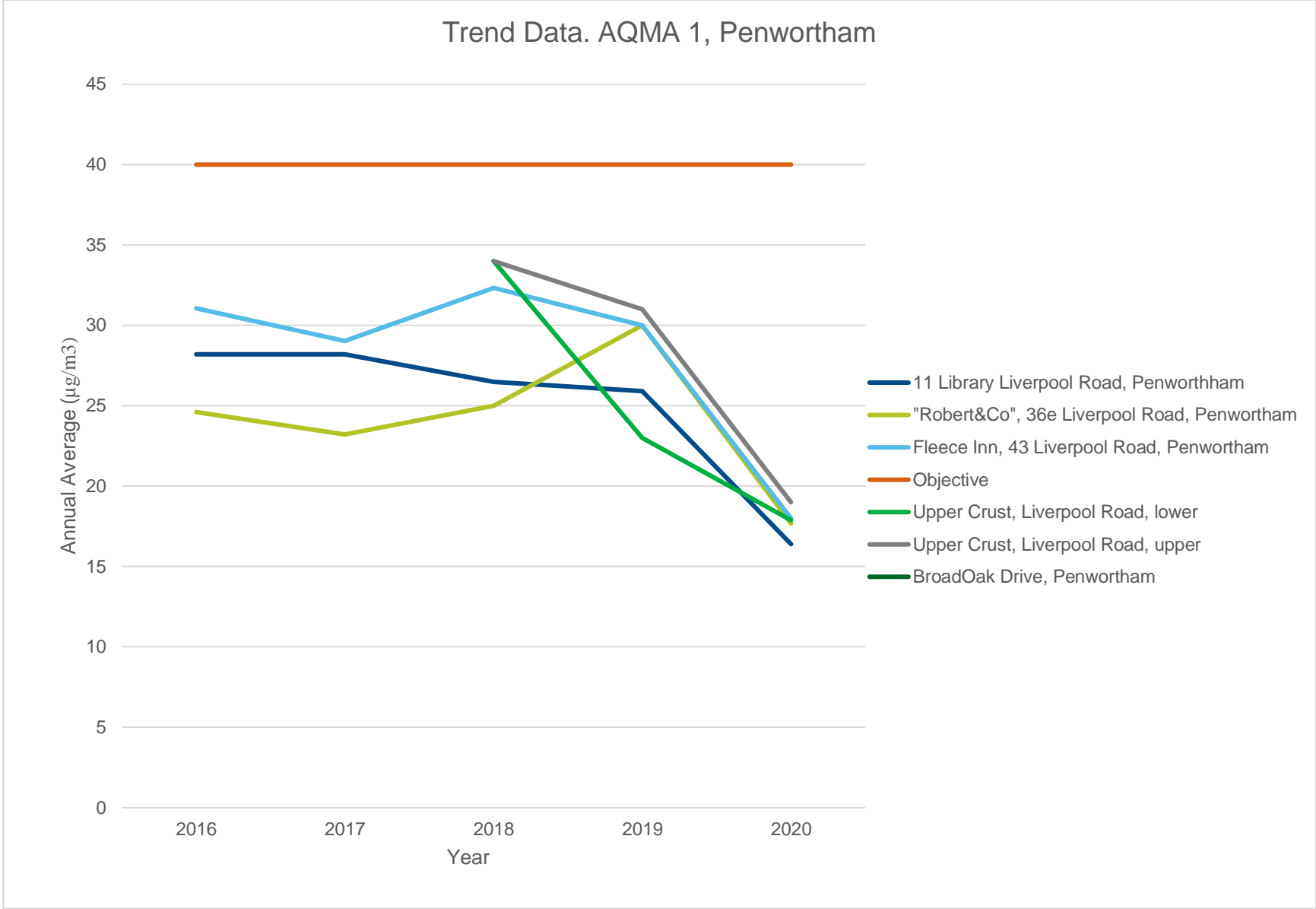
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

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

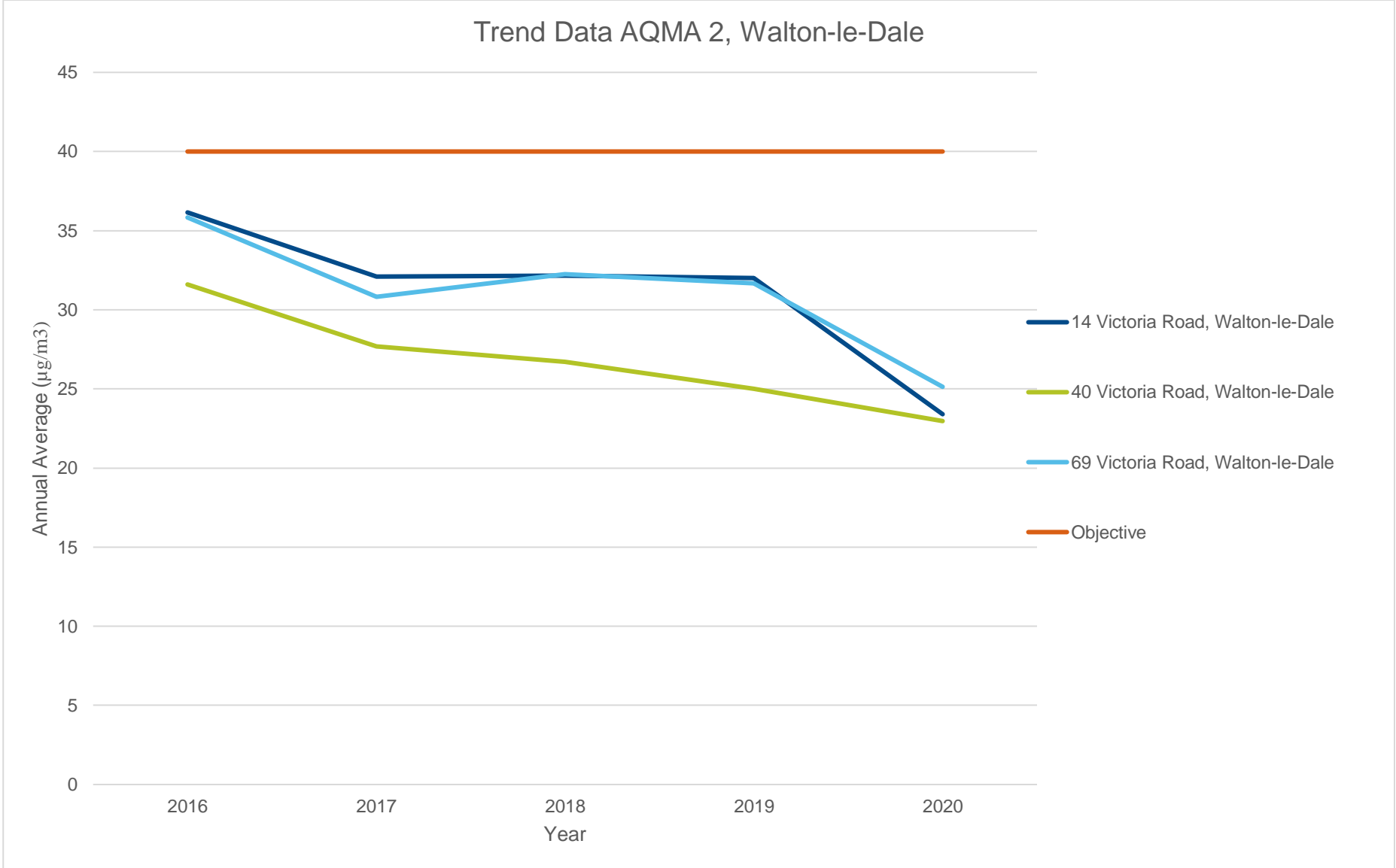
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations**

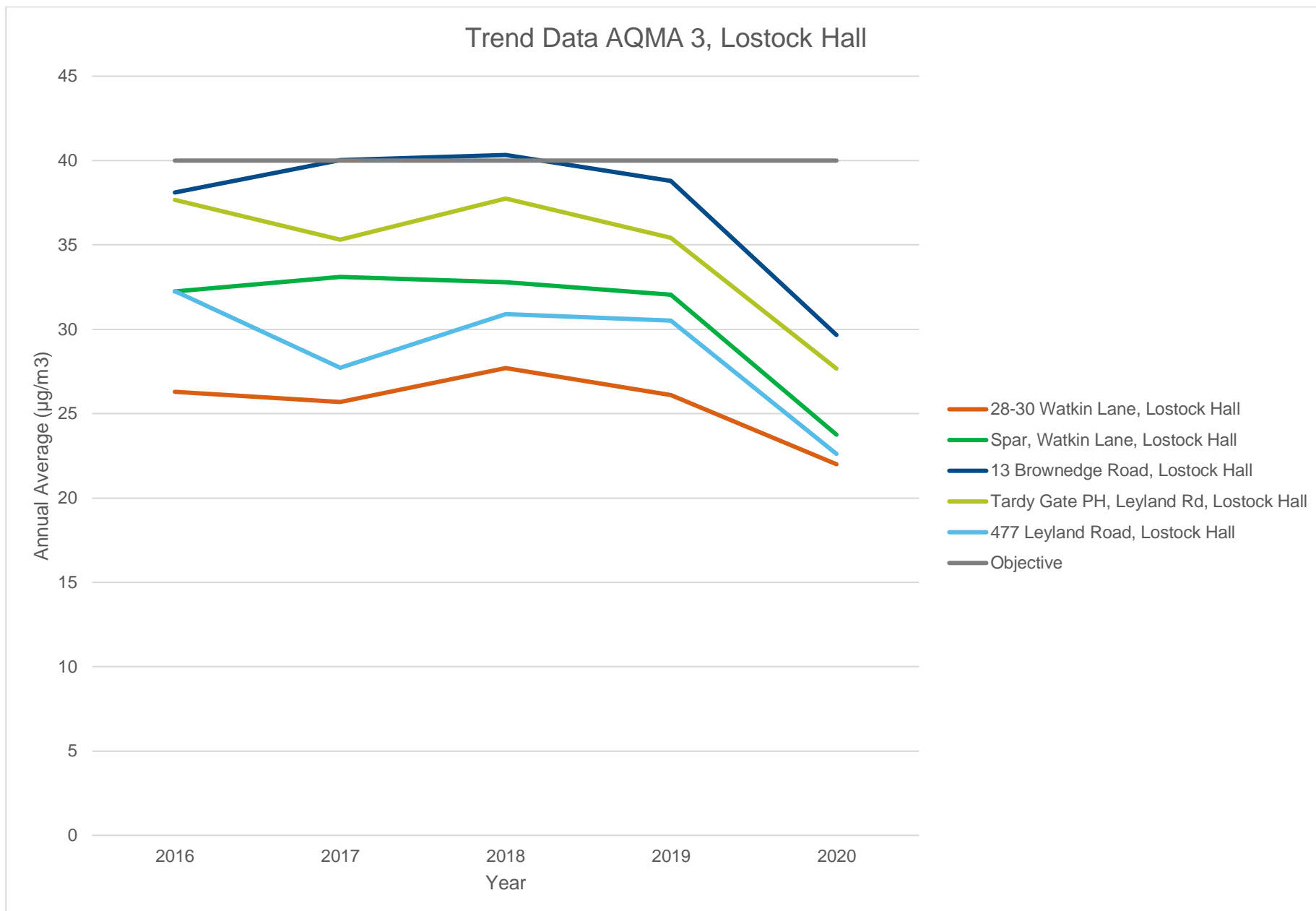
AQMA 1 - Penwortham (+BroadOak)



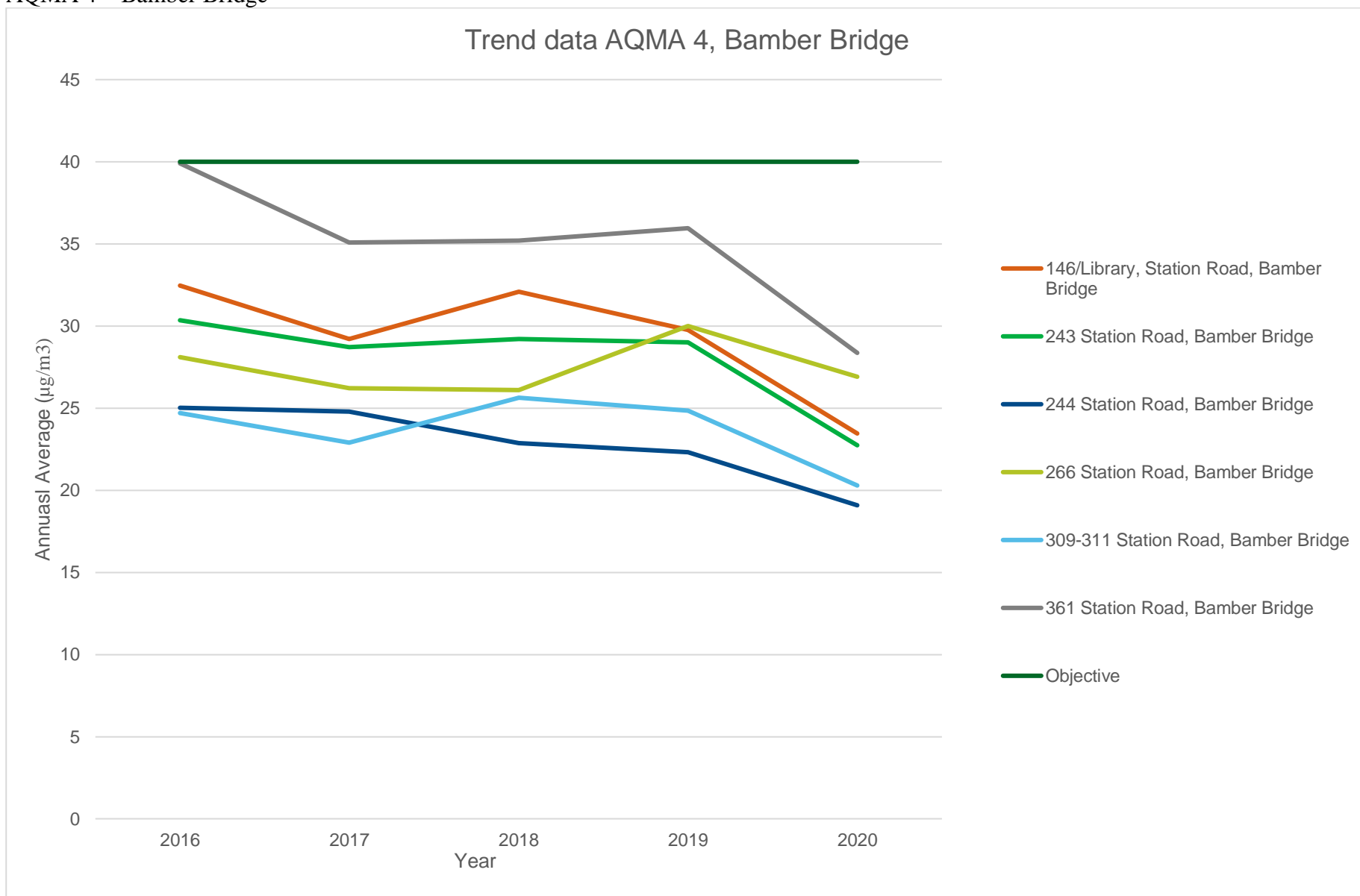
AQMA 2 – Walton-Le-Dale



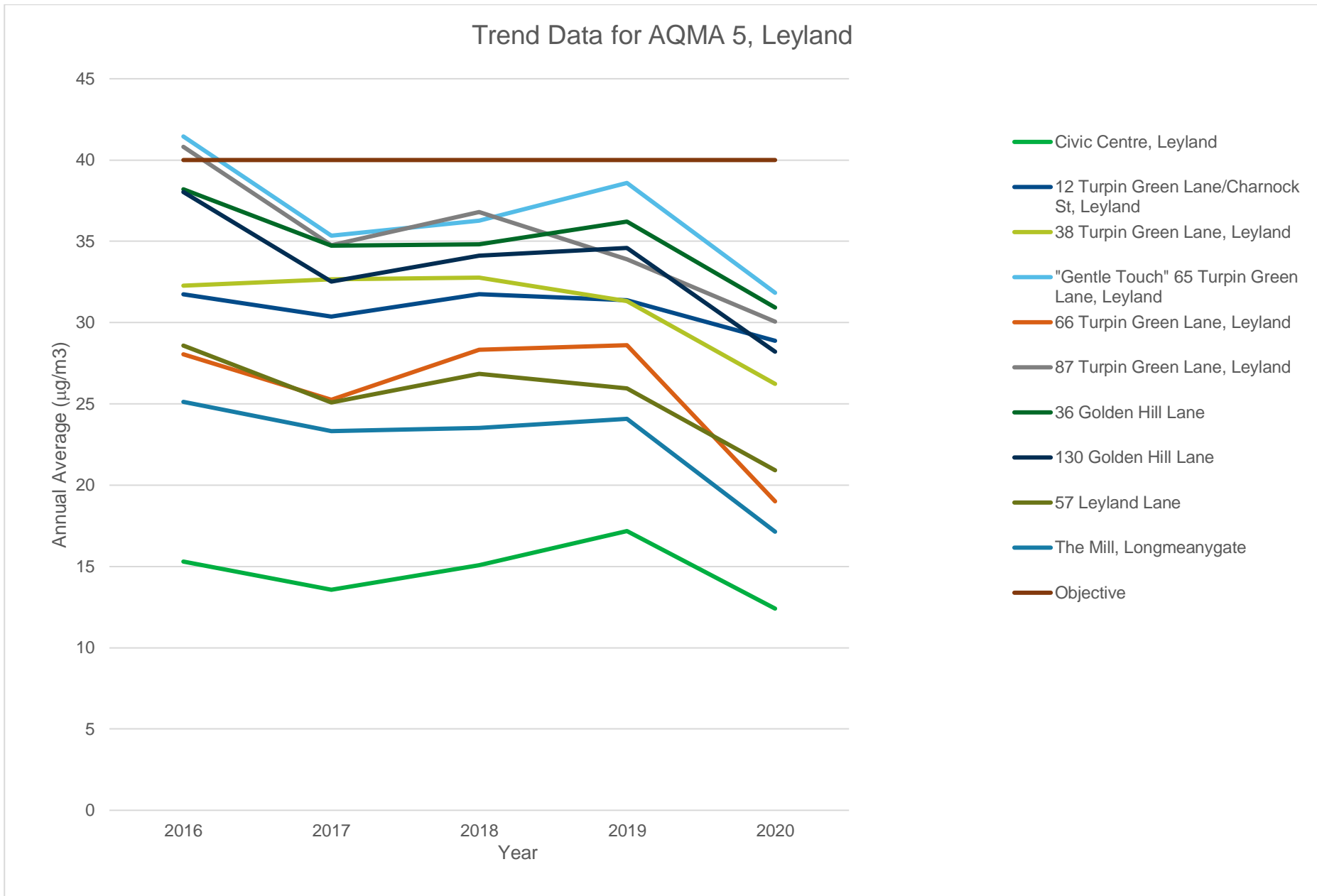
AQMA 3 – Lostock Hall



AQMA 4 – Bamber Bridge



AQMA 5 – Leyland



## Appendix B: Full Monthly Diffusion Tube Results for 2020

Table B.1 – NO<sub>2</sub> 2020 Diffusion Tube Results (µg/m<sup>3</sup>)

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 (0.83)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	353626	421783	16.8	14.3			6.8	8.4	7.2	10.6	11.3	16.0	20.6	25.3	14.2	11.8		
2	353626	421783	17.8	13.4			7.7	8.5	7.1	10.2	11.2	15.3	19.2	21.5	13.5	11.2		
3	353626	421783	19.1	14.5			7.5	7.3	7.1	10.4		34.6	21.7	24.9	17.2	14.2		
4	354527	422371	41.9	30.3			15.2	24.0		50.8	29.7	35.3	41.5	37.9	34.8	28.9		
5	354588	422269	47.8	44.2			23.5	28.8	29.0	27.4	32.2		44.8	13.0	31.6	26.2		
6	354678	422249	43.7	35.3			27.0	34.6	26.8	43.5	38.8	43.4	39.6	46.5	38.4	31.8		
7	354730	422212	27.1	20.5			16.3	16.8	16.0	23.0	22.4	24.8	30.7	29.0	22.9	19.0		
8	354744	422231	40.2	30.2			29.1	33.1	26.1	38.3	39.2	39.8	39.4	43.9	36.2	30.1		
9	354438	422645	40.7	36.9			23.7	29.7	26.3	30.8	32.4	39.3	45.5	45.5	35.6	29.5		
10	354438	422645	58.1	43.9			28.1	29.9	21.7	32.8	31.2	38.5	40.1	43.4	36.9	30.6		
11	354438	422645	76.9	37.4			25.7	30.6	27.8	32.3	33.9	39.9	42.2	44.0	39.3	32.6		
12	353890	422654	43.1	34.5			24.3	30.7	22.3	29.4	31.6		45.7	47.4	34.8	28.9		
13	353890	422654	40.3	32.7			26.7	17.3	22.3	29.1	32.0		40.0	43.8	31.9	26.5		
14	353890	422654	45.1	35.7			23.1	27.7	23.2	29.9	32.0				31.0	29.3		
15	353048	422809	33.4	26.5			16.1	18.6	18.2	20.3	23.4	28.2	30.4	32.8	25.2	20.9		
16	352970	422796	29.5	19.5			16.0	13.1				19.1	35.4	33.9	24.4	17.1		
17	354515	425695	31.1	28.1			20.3	19.2	19.1	23.0	24.4	31.3	20.5	41.2	26.5	22.0	19.8	
18	354368	425783	36.9	31.2			24.3	25.0	23.9	25.3	33.2	33.3	34.1	21.0	28.6	23.8		
19	354410	425835	45.3	35.6			30.7	31.8	30.9	30.6	33.6	38.7	36.9	40.6	35.7	29.7		
20	354353	425844	36.9	29.5			24.2	33.5	22.6	34.3	31.5	37.0	35.8		31.8	26.4		
21	354353	425844	37.5	34.5			25.3	30.8	19.8	31.3	33.5	33.8	35.5	39.8	32.3	26.8		
22	354353	425844	38.0				27.3	31.0	22.5	32.4	30.5	38.3			31.5	29.8		
23	354296	425903	33.9	21.4			19.1	26.8	16.8	29.2	26.4	28.8	33.8	34.1	27.2	22.6		
24	352122	428449	31.0	13.0			13.4	9.2	14.9	15.4	19.4		27.0	30.2	19.8	16.4	15.2	
25	351875	428427	24.0	20.4			11.6	13.6		17.4	19.6	21.9	28.0	31.0	21.5	17.9		
26	351884	428404	20.8	22.2			11.4	13.6	13.8	33.7	20.0	22.5	26.7	26.6	21.4	17.8		
27	351947	428434					10.4	15.9	14.1	18.1	25.6	21.3	27.5	29.3	20.8	17.7	15.7	
28	351947	428434		19.5			12.1	16.1	14.1	20.3		37.1	28.5	28.0	22.7	18.9	16.7	
30	351880	426962	30.3	20.5			17.3	20.5	17.5	21.1	23.3	22.9		43.1	24.8	20.6		
31	355370	428571	39.8	31.6			17.2	21.3	23.1	22.4	26.3	32.0	35.4	29.9	28.2	23.4		
32	355429	428518	40.6	29.9				21.8	22.2	22.2	26.4	27.2	31.5	33.5	28.4	23.5	20.7	
33	355429	428518		31.8			17.7	20.0	22.8	23.5	25.4	29.9	32.2	36.2	27.2	22.6	20	
34	355429	428518	38.8	30.8			18.4	19.3	19.6	22.8	26.5	30.6	32.8	32.0	27.4	22.8	20.1	
35	355521	428467	37.0	28.9			18.5	37.6	20.9	27.9	27.1	29.5	30.4	40.5	30.3	25.1		
36	356437	426303	35.4	28.1				25.9		30.2	23.5		38.3		30.2	23.5		
37	356530	425840	36.5	28.2			18.5	22.1	11.8	24.4	26.5		34.8	40.8	27.4	22.7		
38	356506	425793	21.1	20.8			9.0	15.4	19.2	16.5		36.0			20.7	19.1		
39	356511	425692	44.4	31.3			16.9	23.9	25.6	25.3	29.5				28.5	26.9	24.6	
40	356000	425578	29.2	23.3			18.2	19.2	16.7	21.1	23.1	22.4		41.2	24.4	20.3		
41	356426	425364		35.8				29.3	23.6	33.8		34.1	43.6	46.3	35.3	28.4		

☒ All erroneous data has been removed from the NO<sub>2</sub> 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.
- South Ribble Borough Council confirm that all 2020 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 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 South Ribble Borough Council During 2020

South Ribble Borough Council has not identified any new sources relating to air quality within the reporting year of 2020.

### Additional Air Quality Works Undertaken by South Ribble Borough Council During 2020

South Ribble Borough Council has not completed any additional works within the reporting year of 2020.

### QA/QC of Diffusion Tube Monitoring

The diffusion tubes used by South Ribble Borough Council were supplied by Gradko Environmental Ltd, using a 50% TEA / Acetone solution. The Air Quality Review and Assessment website gives a bias adjustment figure of 0.92 for the 2018 data set.

No co-location study has been undertaken by South Ribble Borough Council, and so the national bias adjustment figure derived from the table below has been used to adjust all results obtained by South Ribble Borough Council. This bias adjust figure has been obtained from the June 2020 spreadsheet.

The results of the AIR NO<sub>2</sub> Proficiency Testing Scheme and a field inter-comparison exercise, precision survey indicated a good overall level of precision with collocated studies for the Gradko diffusion tubes.

The diffusion tube monitoring program has been completed generally in line with the 2020 Diffusion Tube Monitoring Calendar, during a couple of months the diffusion tubes were changed slightly later than the planned day for example during the summer months. These dates have been noted and the correct exposure times recorded. All tubes were exposure for the minimum of 4 weeks with no tubes exposed for longer than 4.5 weeks, except for the March 2020 tubes which were left out for a period of 3 months due to the Covid 19 Pandemic.



## Figure C.2 – WASP accuracy Results

Table 1: Laboratory summary performance for AIR NO<sub>2</sub> PT rounds AR0030, 31, 33, 34, 36, 37, 39, 40 and 42

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO<sub>2</sub> PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of  $\leq \pm 2$  as defined above.

AIR PT Round	AIR PT AR030	AIR PT AR031	AIR PT AR033	AIR PT AR034	AIR PT AR036	AIR PT AR037	AIR PT AR039	AIR PT AR040	AIR PT AR042
Round conducted in the period	January – February 2019	April – May 2019	July – August 2019	September – November 2019	January – February 2020	May – June 2020	July – August 2020	September – October 2020	January – March 2021
Aberdeen Scientific Services	75 %	100 %	100 %	100 %	100 %	NR [3]	NR [3]	100 %	100 %
Edinburgh Scientific Services	100 %	NR [2]	100 %	25 %	50 %	NR [3]	NR [3]	100 %	25 %
SOCOTEC	87.5 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	NR [3]	NR [3]	100 % [1]	100 % [1]
Glasgow Scientific Services	100 %	100 %	100 %	50 %	100 %	NR [3]	NR [3]	100 %	50 %
Gradko International	75 %	100 %	100 %	100 %	75 %	NR [3]	NR [3]	75 %	25 %
Lambeth Scientific Services	50 %	100 %	50 %	100 %	100 %	NR [3]	NR [3]	100 %	100 %
Milton Keynes Council	100 %	100 %	50 %	100 %	100 %	NR [3]	NR [3]	25 %	0 %
Somerset Scientific Services	100 %	100 %	100 %	100 %	100 %	NR [3]	NR [3]	100 %	100 %
South Yorkshire Air Quality Samplers	100 %	100 %	100 %	75 %	100 %	NR [3]	NR [3]	100 %	100 %
Staffordshire County Council	100 %	75 %	75 %	75 %	100 %	NR [3]	NR [3]	50 %	100 %
Tayside Scientific Services (formerly Dundee CC)	100 %	NR [2]	100 %	NR [2]	100 %	NR [3]	NR [3]	100 %	NR [2]
West Yorkshire Analytical Services	100 %	100 %	100 %	50 %	100 %	NR [3]	NR [3]	NR [2]	NR [2]

**Diffusion Tube Annualisation**

Annualisation of nine sites was required for the 2020 monitoring data. Details of these are provided below within Table C. 2. Data from the nearest automatic continuous analysers at Preston, Blackburn and Wigan has been used to determine a suitable correction factor for each site.

**Diffusion Tube Bias Adjustment Factors**

The diffusion tube data presented within the 2020 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<sub>x</sub>/NO<sub>2</sub> continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

South Ribble Borough Council have applied a national bias adjustment factor of 0.83 to the 2020 monitoring data. A summary of bias adjustment factors used by South Ribble Borough Council over the past five years is presented in Table C.1.

The bias adjustment figure used has been obtained from the National Diffusion Bias Adjustment Factor Spreadsheet, for Gradko 50% in Acetone diffusion tubes for the year 2020, spreadsheet version 06/21.

**Table C.1 – Bias Adjustment Factor**

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2020	National	06/21	0.83
2019	National	06/20	0.89
2018	National	03/19	0.92
2017	National	03/18	0.97
2016	National	03/17	1.03

**NO<sub>2</sub> Fall-off with Distance from the Road**

Wherever possible, local authorities should ensure that monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure should be estimated using the NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table B.1.

Six sites within South Ribble have been corrected for distance as the monitoring locations are located upon the public footpath and are not representative of the nearest receptor locations.

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

Site ID	Annualisation Factor Preston	Annualisation Factor Blackburn	Annualisation Factor Wigan	Annualisation Factor Site 4 Name	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
8	1.1274	1.1322	1.1579		1.1392	31.0	35.3	
10	0.8266	0.8628	0.8485		0.8460	24.4	20.6	
14	1.1294	1.1257	1.1691		1.1414	31.5	35.9	
19	1.0396	0.9988	1.0347		1.0244	20.8	21.3	
20	1.0146	0.9857	1.0131		1.0045	22.7	22.8	
26	0.9445	0.9407	0.9238		0.9364	30.2	28.3	
28	1.0977	1.1022	1.1379		1.1126	20.7	23.0	
29	1.1274	1.1322	1.1579		1.1392	28.5	32.4	
31	0.9826	0.9540	0.9710		0.9692	35.3	34.2	

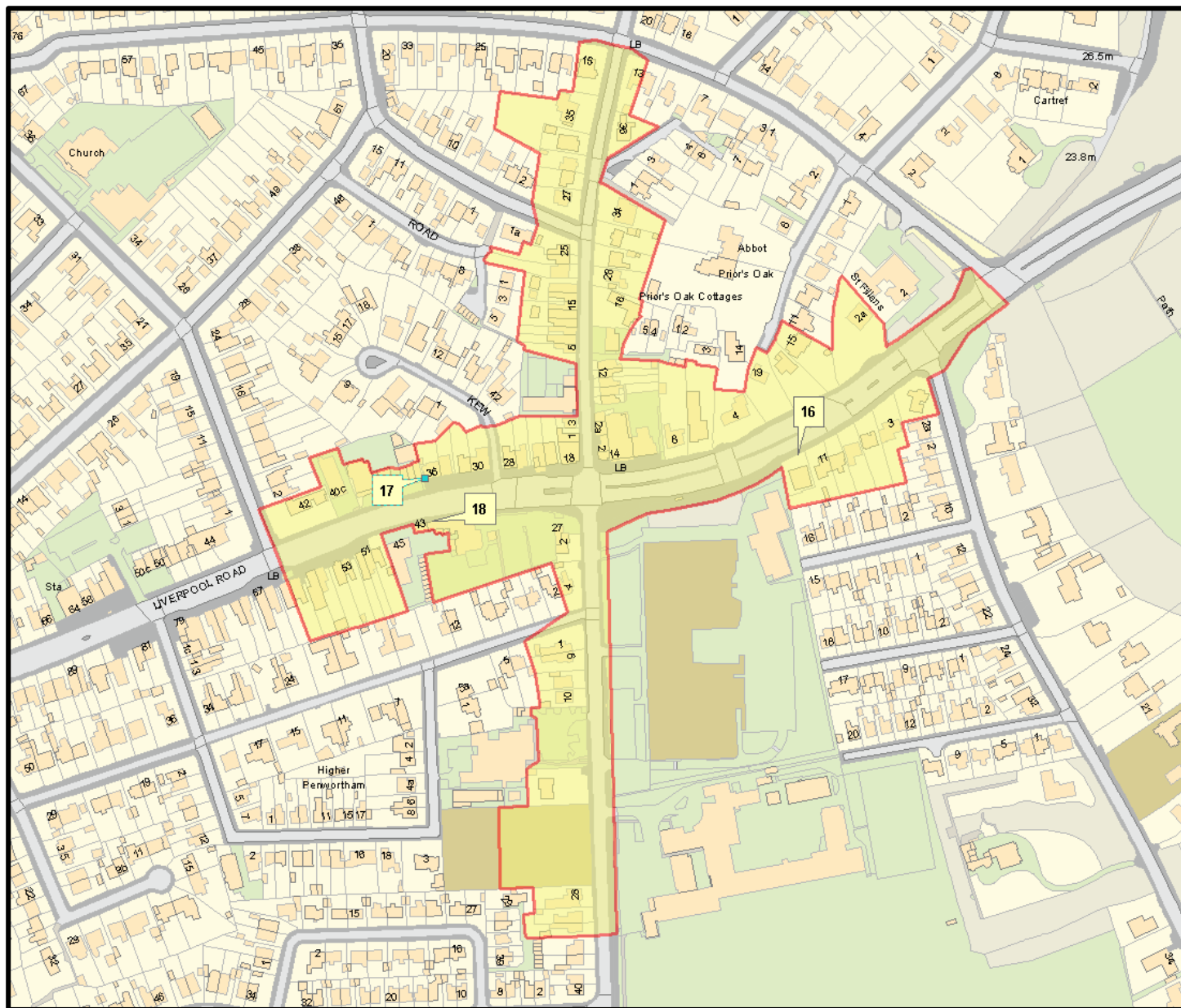
**Table C.3 – NO<sub>2</sub> Fall off With Distance Calculations (concentrations presented in µg/m<sup>3</sup>)**

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
11.0	2.4	6.4	12.8	22.0	19.8	
16.0	2.6	7.5	11.7	16.4	15.2	
19.0	1.5	5.0	10.4	17.7	15.7	
20.0	1.5	5.0	10.4	18.9	16.7	
24.0	2.7	7.1	11.9	23.5	20.7	
24.0	2.7	7.1	11.9	22.6	20.0	
24.0	2.7	7.1	11.9	22.8	20.1	
29.0	2.9	7.0	16.7	26.9	24.6	

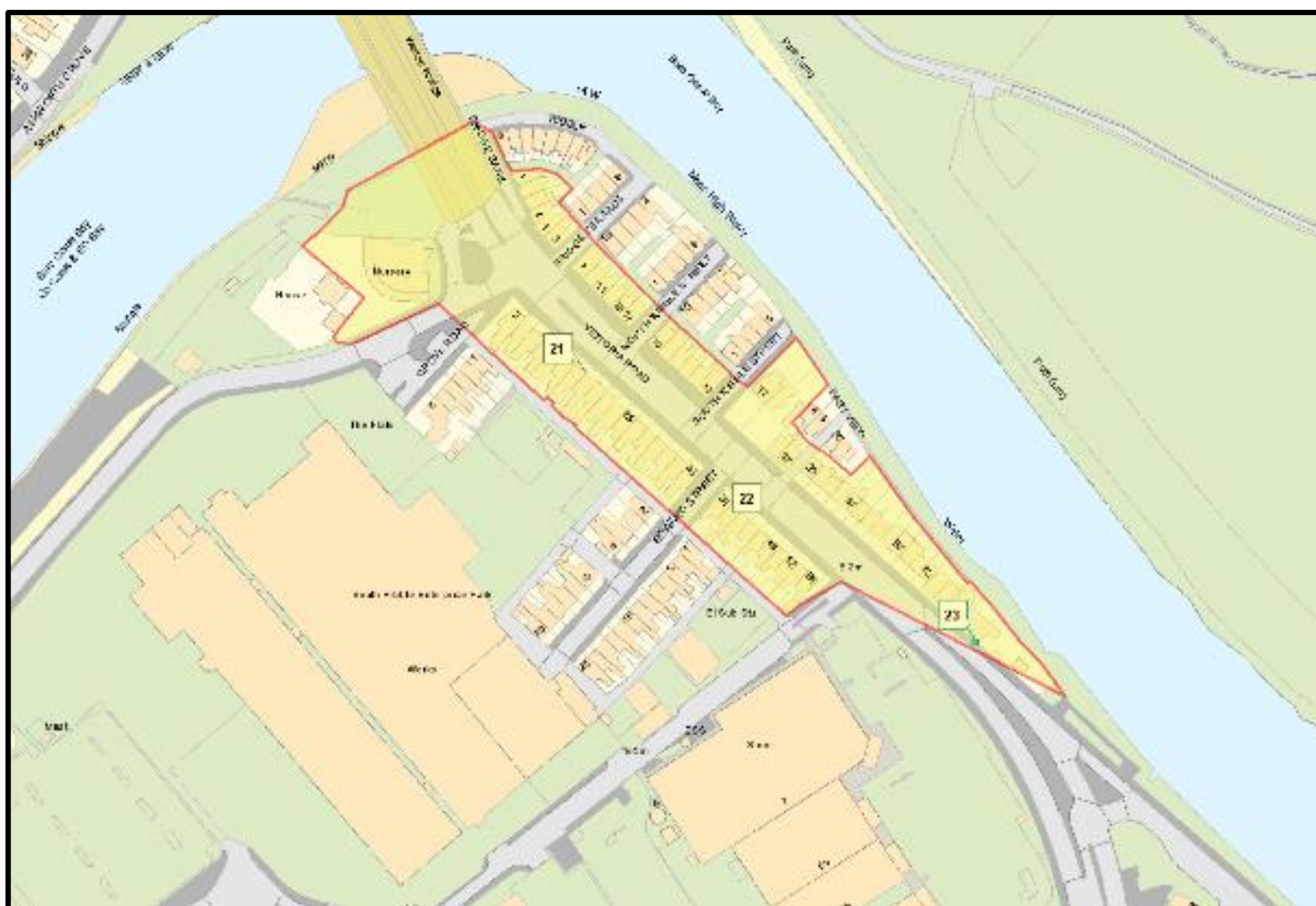
## Appendix D: Map(s) of Monitoring Locations and AQMAs

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

AQMA 1 – Penwortham

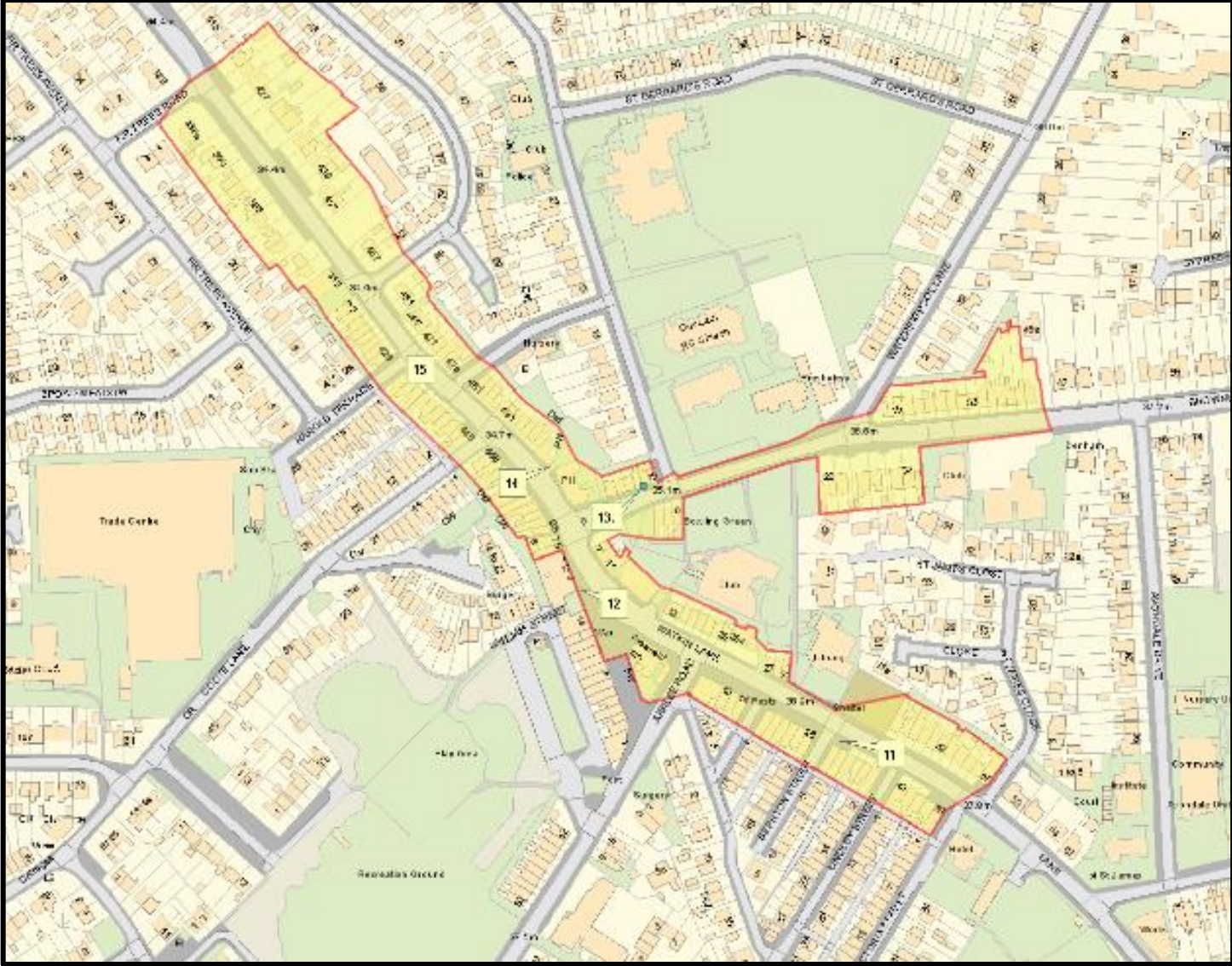


AQMA 2 – Walton-Le-Dale

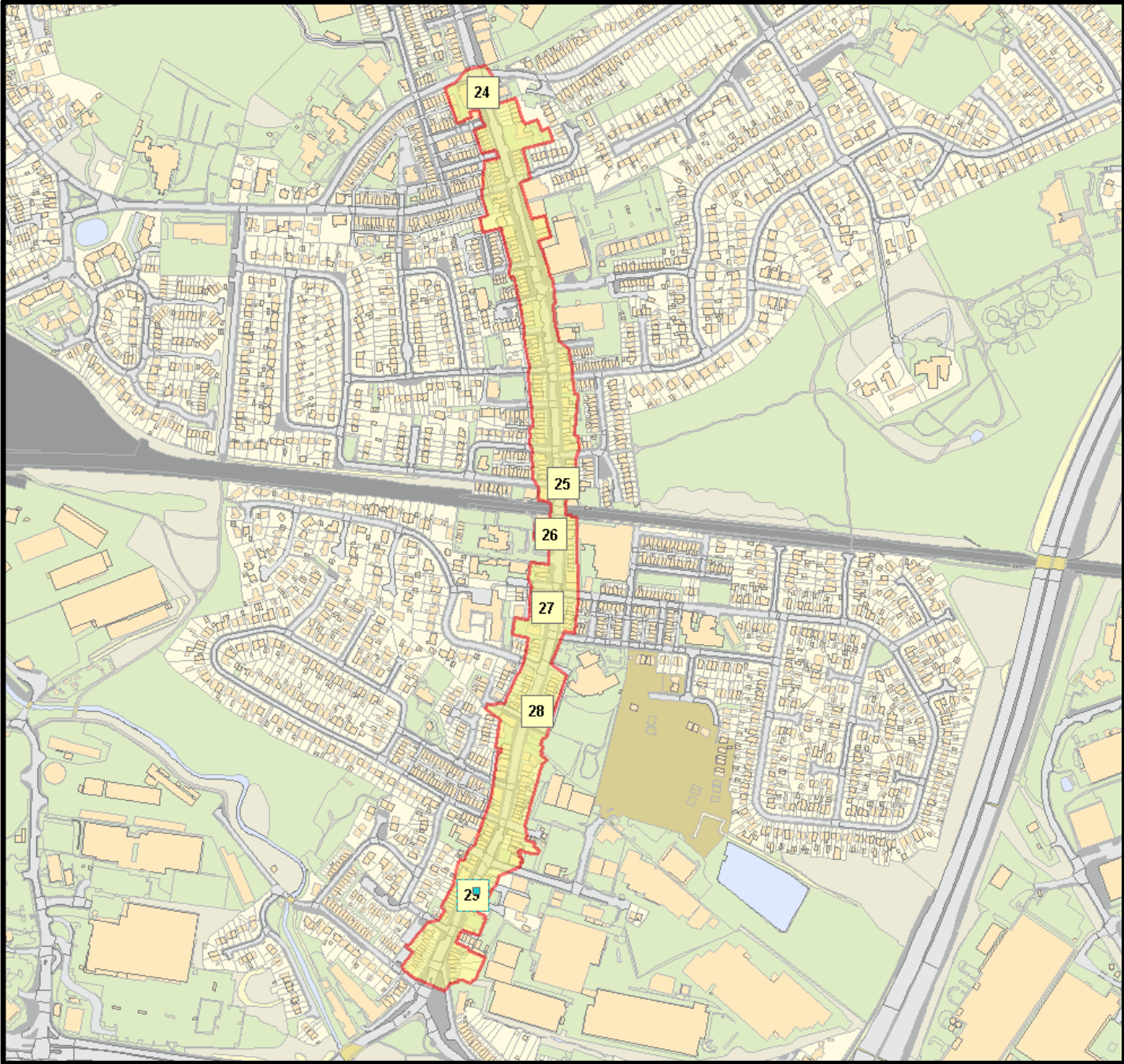




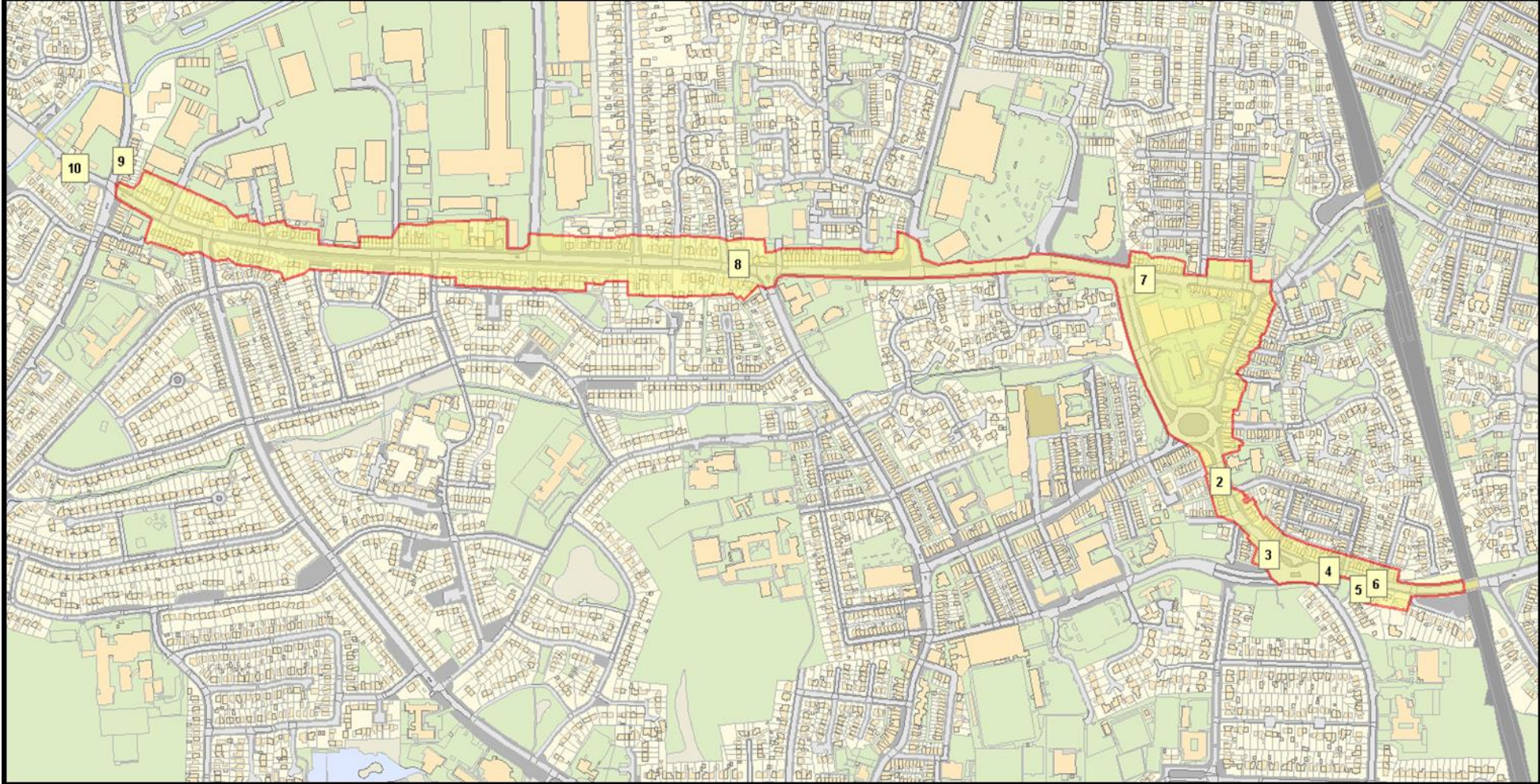
AQMA 3 – Lostock Hall



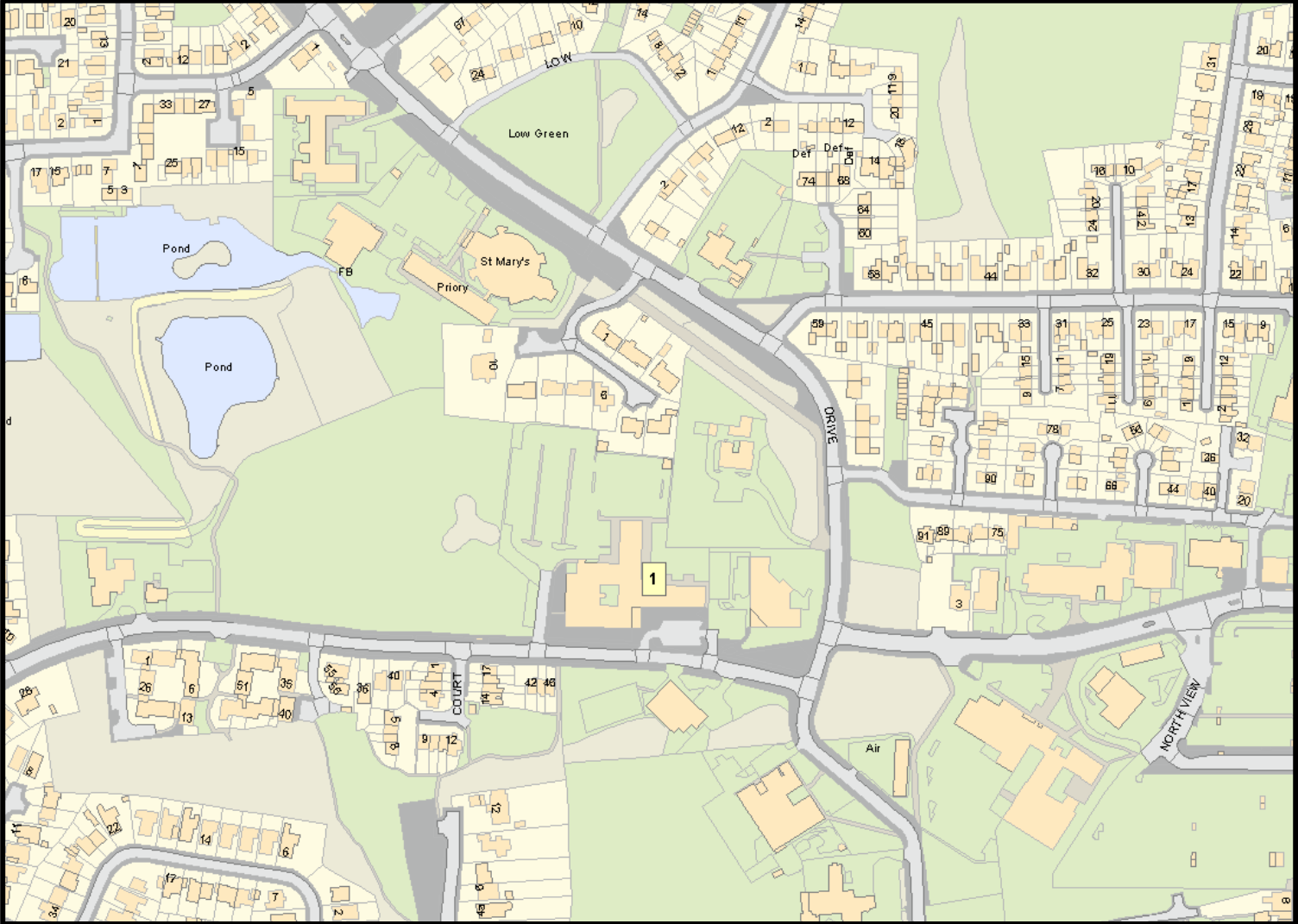
Bamber Bridge



AQMA 5 - Leyland



Leyland – Civic Centre



## Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England<sup>8</sup>

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

<sup>8</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## Appendix F: Impact of COVID-19 upon LAQM

COVID-19 has had a significant impact on society. Inevitably, COVID-19 has also had an impact on the environment, with implications to air quality at local, regional and national scales.

COVID-19 has presented various challenges for Local Authorities with respect to undertaking their statutory LAQM duties in the 2021 reporting year. Recognising this, Defra provided various advice updates throughout 2020 to English authorities, particularly concerning the potential disruption to air quality monitoring programmes, implementation of Air Quality Action Plans (AQAPs) and LAQM statutory reporting requirements. Defra has also issued supplementary guidance for LAQM reporting in 2021 to assist local authorities in preparing their 2021 ASR. Where applicable, this advice has been followed.

Despite the challenges that the pandemic has given rise to, the events of 2020 have also provided Local Authorities with an opportunity to quantify the air quality impacts associated with wide-scale and extreme intervention, most notably in relation to emissions of air pollutants arising from road traffic. The vast majority (>95%) of AQMAs declared within the UK are related to road traffic emissions, where attainment of the annual mean objective for nitrogen dioxide (NO<sub>2</sub>) is considered unlikely. On 23rd March 2020, the UK Government released official guidance advising all members of public to stay at home, with work-related travel only permitted when absolutely necessary. During this initial national lockdown (and to a lesser extent other national and regional lockdowns that followed), marked reductions in vehicle traffic were observed; Department for Transport (DfT) data<sup>9</sup> suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

This reduction in travel in turn gave rise to a change of air pollutant emissions associated with road traffic, i.e. nitrous oxides (NO<sub>x</sub>), and exhaust and non-exhaust particulates (PM). The Air Quality Expert Group (AQEG)<sup>10</sup> has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK reductions in NO<sub>2</sub> annual mean concentrations were between 20 and 30% relative to pre-pandemic levels, which represents an absolute reduction of between 10 to 20µg/m<sup>3</sup> if expressed relative to annual mean averages. During this period, changes in PM<sub>2.5</sub> concentrations were less marked than those of NO<sub>2</sub>. PM<sub>2.5</sub> concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. Through analysis of AURN monitoring data for 2018-2020, AQEG have detailed that PM<sub>2.5</sub> concentrations during the initial lockdown period are of the order 2 to 5µg/m<sup>3</sup> lower relative to those that would be expected under business-as-usual conditions.

As restrictions are gradually lifted, the challenge is to understand how these air quality improvements can benefit the long-term health of the population.

### Impacts of COVID-19 on Air Quality within South Ribble Borough Council

Following the March 2020 lock down traffic movements through the borough reduced significantly, although as restrictions were lifted in the late summer of 2020 visitor numbers, traffic along the motorways through the borough and general industrial and commercial activity have increased.

This reduction in traffic follow has result in significant reductions in Nitrogen Dioxide levels as can be seen by the monitoring results, despite levels already being low to begin with.

- Reductions of NO<sub>2</sub> concentrations of between 19 and 34% were experienced at roadside diffusion tube monitoring sites within the borough over the course of the year, with an average reduction of approx. 25%.

### Opportunities Presented by COVID-19 upon LAQM within South Ribble Borough Council

No LAQM related opportunities have arisen as a consequence of COVID-19 within South Ribble

<sup>9</sup> Prime Minister's Office, COVID-19 briefing on the 31<sup>st</sup> of May 2020

<sup>10</sup> Air Quality Expert Group, Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK, June 2020

## **Challenges and Constraints Imposed by COVID-19 upon LAQM within South Ribble Borough Council**

During the Covid-19 pandemic work planned on to be undertaken on Air Quality was significantly hampered, due in part to the physical restrictions imposed on the Country and in particular the northwest of England and due to the diversion of resources and staffing to responding to the pandemic.

## 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 Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

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