2019 Air Quality Annual Status Report (ASR)

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

June 2019

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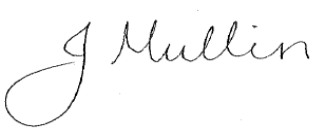
Signature	
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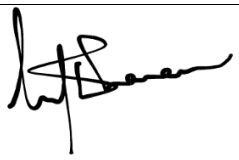
Signature	

Executive Summary: Air Quality in Our Area

The authority has seen a significant rise in both elected member and public concern over the last year in relation to air quality issues, while at the same time substantive action has been undertaken to try and improve air quality, including the adoption of a new borough wide Air Quality Action Plan.

Air Quality in South Ribble

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 principle 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, all declared for the potential exceedance of the annual average Nitrogen Dioxide objective value.

Trend data over the last four years indicates that levels were reducing however the results from 2018 show a slight increase over the previous year at nearly all locations.

Exceedances of the annual mean objective value have been identified over 2018 in AQMA 3, Lostock hall with the other areas being close to the objective value.

The revised 'South Ribble Borough Council Air Quality Action Plan' was finalised, adopted and published in December 2018 following a detailed consultation period. Work has begun on many of the actions contained within it.

Air Quality has also been identified within the Council's Corporate Plan as a key priority for the Council helping to raise awareness throughout the Council, with the recently elected new administration identifying air quality as a significant issue.

[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

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

Actions to Improve Air Quality

In December 2018 the new, revised borough wide South Ribble Action plan was formally adopted by the Council. This Action Plan includes 58 actions to improve air quality across the borough.

Work has begun on these actions with some measures already being completed.

In addition, the Council applied, in partnership with other Lancashire authorities, for a number of air quality related grants. The authority was success in a joint bid under the OLEV Round 2 ULEV Taxi Infrastructure Competition and was awarded a combined grant of £630,000 to provide electric vehicle charging infrastructure for taxis.

Conclusions and Priorities

Disappointingly the results from the 2018 monitoring programme have shown a slight increase in Nitrogen Dioxide levels at many monitoring locations across the borough. Although these increases are small.

Pollution levels are still high at many locations with the Lostock Hall AQMA exceeding the objective level.

Through the revision of the borough wide Action Plan and the general national increase in awareness over the harmful effects of air quality, the level of engagement seen over the last year with both elected members and the public has increased significantly. Air Quality remains a key element of the Council's corporate plan.

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, and to continue 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. Further information will be made available on the Council's website in the near future.

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.

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1 Local Air Quality Management

This report provides an overview of air quality in South Ribble during 2018. 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 can be found in **Error! Reference source not found.** 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.

A summary of AQMAs declared by South Ribble Borough Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://www.southribble.gov.uk/content/air-quality-0 . Alternatively, see Appendix D: Map(s) of Monitoring Locations and AQMAs, which provides for a map 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		
						At Declaration	Now	Name	Date of Publication	Link
AQMA1	Declared August 2005	NO2 Annual Mean	Penwortham	An area encompassing a number of residential properties at the junction of Cop Lane, Liverpool Road and Priory Lane	NO	44.7 µg/m^3	32 µg/m^3	South Ribble Borough Council, Air Quality Action Plan, 2018	2018	https://www.southribble.gov.uk/content/air-quality-action-plan
AQMA2	Declared August 2005	NO2 Annual Mean	Walton-le-Dale	An area encompassing a number of residential properties along Victoria Road.	NO	52 µg/m^3	32 µg/m^3	South Ribble Borough Council, Air Quality Action Plan, 2019	2018	https://www.southribble.gov.uk/content/air-quality-action-plan
AQMA3	Declared August 2005	NO2 Annual Mean	Lostock Hall	An area encompassing residential properties at	NO	48 µg/m^3	40 µg/m^3	South Ribble Borough Council, Air Quality	2018	https://www.southribble.gov.uk/content/air-

				the Tardy Gate Junction.				Action Plan, 2020		quality-action-plan
AQMA4	Declared August 2005	NO2 Annual Mean	Bamber Bridge	An area encompassing a number of residential properties along Station Road.	NO	44.9 µg/m^3	35 µg/m^3	South Ribble Borough Council, Air Quality Action Plan, 2021	2018	https://www.southribble.gov.uk/content/air-quality-action-plan
AQMA5	Declared Dec 2017	NO2 Annual Mean	Leyland	An area encompassing a number of residential properties along Turpin Green Lane, through Churchill Way to Golden Hill Lane. Also encompassing properties along Chapel Brow.	NO	41 µg/m^3	37 µg/m^3	South Ribble Borough Council, Air Quality Action Plan, 2022	2018	https://www.southribble.gov.uk/content/air-quality-action-plan

☐ **South Ribble 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 South Ribble Borough Council

Defra's appraisal of last year's ASR concluded

These results continue to confirm previous comments, that in future, pollution concentrations will be expected to fall, unless there are roads with additional congested traffic. The ASR notes on one hand that there are a large number of local housing developments planned, whilst on the other there are plans for strategic transport improvements in the borough to reduce traffic congestion.

This suggests the Council will need to review the future monitoring programme, to ensure that new developments and changes to the local traffic management are captured, with an emphasis on ensuring pollution hotspots are detected, including considering new monitoring locations when necessary.

As it stands there is now only a single AQMA with a marginal exceedance in AQMA3. Further monitoring across all AQMAs will be required to validate the status of each AQMA on an annual basis, with a consideration of revoking AQMAs when pollution levels fall consistently below objective levels.

We note the formation of a new steering group in relation to taking forward the development of the action plan. Action plan measures should continue to be reviewed and updated annually.

The measures within the action plan reflects a strong level of commitment within the Council to address air quality issues. We welcome the ongoing work with the County Council in relation to developing the next Local Transport Plan and work with Public Health to consider mitigation of air pollution within local plans, and raise public awareness.

The AQMA maps would benefit from the inclusion of details of the monitoring sites in the AQMAs including sites labelled linked to results tables.

On the basis of the evidence provided by the local authority the conclusions reached are acceptable for all sources and pollutants, with the provisos listed in the commentary below.

Following the completion of this report, South Ribble District Council should submit an Annual Status Report in 2019.

As reported last year, ASR June 2018, the South Ribble Air Quality Action Plan was under review. This review was completed and a new Action Plan adopted by the Council in December 2018. The new Action Plan, which can be view on the Council website, *https://www.southribble.gov.uk/content/air-quality-0,* contains a total of 58 separate actions to be pursued by a number of partner organisations over the following years.

At the time of writing a number of actions within the plan have progressed although these are strictly achievements within the 2019 reporting year. Details of all measures completed, in progress or planned are set out in Table 2.2.

Key completed measures are:

- Require a suitable Air Quality Assessment for all appropriate planning applications.
- Ensure adequate Electrical Vehicle charging infrastructure is included on all appropriate planning decisions (on the whole).
- Require a suitable Travel plans for all appropriate planning applications.
- Require a suitable cycle storage and changing facilities for all appropriate planning applications.
- Continuation of the internal '*Bike to Work*' salary sacrifice scheme.
- Elected members training.
- Continuation of the air quality monitoring programme across the borough.

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

- To develop, complete, publicise and encourage the use of the Lancashire based Air Quality Guidance Document for Developers, and electric vehicle guidance document for developers.
- To require in line with Lancashire based guidance as identified within the document.
- Completion of two of the major road infrastructure improvements within the borough.
- Instigate and complete the first phase of the anti-idling campaign across the borough.

- Develop educational material for schools and businesses.
- Provision of additional elected members training relating to air quality issues.
- Air quality to be considered as part of the decision making process on ever report to leadership team, portfolio holder, cabinet, and council.
- Provision of electric vehicle charging points at the Council's main offices.

South Ribble Borough Council's priorities for the coming year are

- Progress the actions identified within the adopted Air Quality Action Plan.
- Raise awareness of Air Quality among staff, elected members and the community.
- Finalise the planning guidance documents.
- Develop the working relationship with partner organisations
- Instigate a tree planting program
- Review traffic light sequencing, particularly in declared AQMA's

In addition, the Council are currently working with colleagues from Chorley Borough Council and Preston City Council to highlight air quality within the revision of the '*Central Lancashire Core Strategy Local Development Framework'* to ensure suitable and robust air quality policies are included within the document with a view to enhancing and protecting air quality across the three council's through the planning process.

The principal challenges and barriers to implementation that South Ribble Borough Council anticipates facing are lack of resources in terms of staffing and financial restraints to move the adopted action plan forward, both internally and external with partner organisations. However this has been identified by elected members at South Ribble, who are currently committed to the progression of the action plan measures and an improvement in air quality.

In addition, a significant barrier to progression of the action plan measures may come from the commitment various partner's (both internal and external) are prepared to contribute towards the individual measures, particularly when this will involve resources.

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.

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	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	Lancashire Authorities EHL AQ Subgroup	-	Currently being developed.	Completion of the guidance document. Publication of the Guidance document. Inclusion of the Guidance Document within the Central Core Strategy	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	Draft Guidance written, aim to complete guidance document by Dec 2019	Mar-20	Staffing resources
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	SRBC Planning	-	Central Core Strategy currently being developed.	Inclusion of the Guidance Document within the Central Core Strategy	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	Draft Guidance written, aim to complete guidance document by Dec 2020	Apr-22	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	SRBC Planning	-	Central Core Strategy currently being developed.	Inclusion of the Strategy Document within the Central Core Strategy	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	Draft Guidance being written, aim to complete guidance document by Dec 2021	Apr-22	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	SRBC Planning/EH	-	underway	AQA required for relevant developments - new guidance to be introduced	Additional mitigation measures incorporated in planning developments - trying to maintain the status quo	Requests for AQA being made on relevant applications, advice given to developers to use new guidance	Apr-22	Development of the Central Core Strategy
5	Develop an 'Electric Vehicle Charging Points Guidance for Development' guidance document and have this included within the revised Central Lancashire Core Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	SRBC EH	-	underway	Completion of the guidance document. Inclusion in the Central Core Strategy	Reduced vehicle emissions from new developments - maintaining the status quo	Work has begun on the draft document	Apr-22	Staffing resources to develop the guidance. 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	SRBC EH / Planning	-	underway	Inclusion of EVR points on all relevant planning applications	encourage uptake of electric vehicles - maintain status quo	Planners have started to include EVR point conditions on most relevant planning applications	ongoing	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	SRBC EH / Planning	-	underway	Inclusion of travel plans on all relevant planning applications	encourage uptake of alternative forms of transport - maintain status quo	Planners have started to include EVR point conditions on most relevant planning applications	ongoing	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	SRBC EH / Planning	-	underway	Inclusion of secure cycle storage on relevant planning applications.	encourage uptake of alternative forms of transport - maintain status quo	Planners have started to include secure cycle storage of relevant planning decisions	ongoing	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	SRBC EH / Planning	-	underway	Inclusion of adequate changing facilities as part of planning applications.	encourage uptake of alternative forms of transport - maintain status quo	Planners have started to include the requirements for adequate changing facilities on planning permissions.	on going	Planning
10	Promotion of living walls / green roofs	Other	Other	SRBC	unknown	Not started					
11	Investigate ways to limit the use of solid fuel heating in developments	Promoting Low Emission Plant	Other Policy	SRBC EH	unknown	Not started					
12	Improved Planning enforcement	Policy Guidance and Development Control	Other policy	SRBC Planning	-	ongoing			New additional enforcement offier appointed.	ongoing	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	LCC Highways	-	Completed	Completion and opening of the new roads	Re-direct traffic away from areas of poor air quality	Work is underway, Penwortham by-pass almost complete, The Cawsey link road almost complete and set to open in July 2019, Duelling of A582 underway	various	Funding
14	To review all traffic light sequencing to reduce the amount of standing traffic	Transport Planning and Infrastructure	Other	LCC Highways / SRBC EH	Progressing	unknown	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.	Improved traffic flow in the area to reduce idling, stop/start and traffic congestion	initial dicussions held with LCC Highways	Mar-23	Co-operation with LCC Highways - funding, prioritisation
15	To investigate the provision of a link road between Centurion Way and Tomlinson Road	Transport Planning and Infrastructure	Other	SRBC Planning / EH	Progressing due to planning application on adjacent land	unknown	Development of the link road.	Remove traffic from a declared AQMA	a planning app has been submitted covering part of the link road land. Initial discussions have been held with the applicant. LCC Highways are not in favour of the idea despite signing up to it.	unknown	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	LCC Highways / SRBC EH	Not started Apr 2020	unknown	Review of all road layouts within the declared AQMAs	Reduced vehicle emissions	N/A	unknown at this time	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	SRBC EH / LCC Highways	ongoing	ongoing	Improved signage	Reduced traffic	LCC Highways have confirmed that SRBC will need to pay	unknown	Funding
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	Highways England / SRBC EH	Stopped - funding from SBC impractical	N/A	New signage in place	Re-direct traffic away from declared AQMA	Highways England have been contacted. They are happy to erect new signs but SRBC will have to pay for them £70K+	N/A	Funding

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	SRBC EH / Public Health Lancashire / Chorely BC	ongoing	2020/21	production of advice literature (inc social media)	reduced vehicle emissions	Discussions with colleagues at LCC and Chorley BC	unknown	Resources
20	Improve the cycle infrastructure within the borough, especially along routes to schools and employment sites	Transport Planning and Infrastructure	Cycle network	LCC Highways / SRBC - Green links	ongoing	2021/22	Green Links project completed	reduced vehicle trips	Public consultation exercise on Green Links	unknown	resources, funding, commitment from LCC Highways
21	Maintain & Sweep cycle routes on a regular basis throughout the borough	Transport Planning and Infrastructure	Cycle network	LCC Highways / SRBC Neighbourhoods	stalled	N/A	clean well maintained cycle routes	reduced vehicle trips	discussion with LCC Highways	N/A	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	SRBC EH	ongoing	on going	Number of EVR points	reduced vehicle emissions	Taxi grant, planning applications, civic centre car park charging points	on going	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	SRBC - EH / Neighbourhoods / Estates	on going		number of charging points provided	reduced vehicle emissions	Discussions held, Taxi grant	unknown	resources

24	Offer free or reduced parking tariffs for electric vehicles	Promoting Low Emission Transport	Priority parking for LEV's	SRBC Neighbourhoods	progressing	N/A	New charging policy	reduced vehicle emissions	discussions held	20/21	resources, willingness with council
25	Anti-Idling Campaign in declared AQMA's and outside schools, colleges and leisure centres	Traffic Management	Anti-idling enforcement	SRBC - EH / Neighbourhoods / Estates	-	Jan-19	Number of schools visited for enforcement	reduced vehicle emissions	Banners produced and being distributed to schools for advertising, advertising campaign written, schools contacted	2019/20	Resources
26	Encourage the greater use of public Transport	Promoting Travel Alternatives	Other	SRBC	Not Started			reduced vehicle emissions			
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 recharging, Gas fuel recharging	SRBC EH / Licensing	Progressing		Number of LEV in taxi fleet	reduced vehicle emissions	OLEV Taxi bid, Electric Blue Evolve program	on going	Taxi drivers, charging infrastructure
28	Further reduce the age limit of taxis within the borough	Promoting Low Emission Transport	Taxi Licensing conditions	SRBC EH / Licensing / AQ Sub-group	Progressing	unknown	New taxi policy	reduced vehicle emissions	Lancashire based program being developed.	on going	Licensing committee
29	Stop taxis and buses idling within AQMA's and outside schools & Colleges	Traffic Management	Anti-idling enforcement	SRBC EH	Progressing	2019-20	Anti-idling enforcement visits	reduced vehicle emissions	See Anti-Idling campaign	on going	Resources
30	To consider a reduced taxi license fee for electric vehicles	Promoting Low Emission Transport	Taxi emission incentives	SRBC EH / Licensing	Not Started	-	reduced emissions	reduced vehicle emissions	-	-	Licensing committee

31	To work with both bus and taxi companies to apply for any grant bids available	Promoting Low Emission Transport	Other	SRBC	Progressing	on going	reduced emissions	reduced vehicle emissions	Applied for previous round of grants and unsuccessful.	on going	
32	Implement an 'Electrify campaign – encouraging businesses to only use electric taxis	Traffic Management	Other	SRBC	Not started			reduced vehicle emissions			Charging infrastructure
33	Encouraging Car Sharing within the borough	Traffic Management	Other	SRBC	Not Started	-	reduced vehicle trips	reduced vehicle emissions	Advertised via Clean Air Day		
34	Development and delivery of educational programmes to schools	Public Information	Other	SRBC EH / PHL / Chorley BC	Progressing	20/21	reduced vehicle trips	reduced vehicle emissions	Discussions with LCC / Chorley to develop programme	on going	Resources / schools
35	Development of educational material for businesses	Public Information	Other	SRBC EH / PHL / Chorley BC	Progressing	20/21	reduced vehicle trips	reduce vehicle trips	Discussions with LCC / Chorley to develop programme	on going	Resources / business
36	Development and run a campaign to reduce school traffic e.g. walk/cycle to school	Promoting Travel Alternatives	Promotion of cycling	SRBC EH / Members	Not Started	20/21	reduced vehicle trips	reduce vehicle trips	Discussions with LCC / Chorley to develop programme	on going	Resources
37	Investigate the provision of personal travel plans for residents and employees within the borough	Promoting Travel Alternatives	Personalised Travel Planning	SRBC EH	Not Started		reduced vehicle trips	reduce vehicle trips		on going	Resources

38	Promote cycling within the borough, including cycle to work day, salary sacrifice scheme	Promoting Travel Alternatives	Promotion of cycling	SRBC EH / Sports Development	Progressing		reduced vehicle trips	reduce vehicle trips	Clean Air Day, Bike to Work scheme, planning applications	on going	Resources
39	Promote walking within the borough, including promotion of walking routes, the Leyland Loop	Promoting Travel Alternatives	Promotion of walking	SRBC EH / Sports Development	Progressing		reduced vehicle trips	reduce vehicle trips	Clean Air Day, planning applications	on going	Resources
40	Encourage 'walk to school' and the use of 'walking buses' across the borough for all schools	Promoting Travel Alternatives	Promotion of walking	SRBC EH	Discussions held but not started	-	No of walk to school/buses	reduced vehicle trips	discussions held with LCC	on going	resources, schools parents
41	Encourage elected members to car share and use alternative forms of transport, in particular to council meetings and functions	Traffic Management	Other	SRBC Cabinet	ongoing	ongoing	Members car shared on offial duties	reduced emissions	Discussed at length - unlikely to happy, possibly a hybrid	unknown prob end 2019/20	Members
42	Replace the mayoral car with an electric car	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	SRBC Cabinet		Stalled	Provision of an electric majoral car		Discussions held. Decision has been made not too purchase an electric car (however this may change)	N/A	ELT / member commitment

43	Provide education and information relating to air quality through members learning hours, leaflets and councillor connect	Public Information	Other	SRBC EH / Cllrs	progressing	2020/21	production and roll out of educational material	reduced emissions	Discussions held with LCC & Chorley BC	on going	resources
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	SRBC - EH / Democratic Serrvices	-	19/20	AQ considered on all reports	-	AQ to be considered on every cabinet and council report (ELT still to go)	on going	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	SRBC - ELT	-	Stalled	Provision of an electric pool car		N/A discussion made not to change vehicle	N/A	ELT commitment
46	Systematically replace the depot vans with electric vehicles	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	SRBC - Neighbourhoods Cllrs	-	Stalled			Consideration of elec vehicles made and discounted		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	SRBC - Neighbourhoods / Cllrs	started	N/A	program to exchange vehicles required and to be followed	reduced emissions	Discussions held with grounds team- no intentions to change vehicles at this time	N/A	Willingness to consider alternatives / funding

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	SRBC Neighbourhoods	started	ongoing	Provision of EVR points at council buildings	Encourage uptake of LEV	4 bays provided for Civic Centre, markings still required	Apr-20	Funding - ELT willingness to progress at alternative sites
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	SRBC Neighbourhoods							
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	SRBC ELT / HR	completed	Stalled	Provision of a suitable salary sacrifice scheme	Up to - based on mileage claims made to the Council from use of private cars	Report submitted to ELT in February 2019	N/A	ELT agreement

51	Provide secure lockable cycle storage facilities at the civic and depot	Promoting Travel Alternatives	Promotion of cycling	SRBC EH / Neighbourhoods	started	ongoing	Provide secure cycle storage at Civic Centre and Moss Side Depot	reduced commuter mileage, encourage uptake of cycling	Secure cycle provision installed at the Civic Centre	N/A	ELT commitment
52	Provide suitable changing rooms and storage facilities for use of staff	Promoting Travel Alternatives	Other	SRBC - ELT	ongoing	Summer/Autumn 2019	Provision of changing facilities at Civic Centre	reduced commuter mileage, encourage uptake of cycling / walking	Funding has been provided as part of a larger facilities revamp	Dec-19	-
53	Continue with the 'bike to work' salary sacrifice scheme	Promoting Travel Alternatives	Promotion of cycling	SRBC HR	on going	on going	Provision of the bike to work scheme	reduced commuter mileage, encourage uptake of cycling	Scheme is being provided	on going	-
54	Provide cycle reassurance training for any member of staff, elected members who wish to receive it	Promoting Travel Alternatives	Promotion of cycling	SRBC Sports Development	on going	on going	Provision of training. Uptake of training	reduced commuter mileage, encourage uptake of cycling	training is being offered	on going	-
55	Encourage staff to use alternative modes of travel e.g. cycling and walking	Promoting Travel Alternatives	Other	SRBC	progressing	on going	increased use of alternative travel options	reduce vehicle trips	Secure cycle storage, promotion at Clean Air Day, changing facilities planned	on going	resources, facilities staff willingness to change
56	Promote car sharing among staff	Traffic Management	Other	SRBC	progressing	2020/21	Increase in car sharing among staff	Reduced vehicle emissions	Raised awareness and promoted at Clean Air Day	ongoing	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	SRBC ELT / HR	-	on going	Change of Policy	Encourage uptake of alternative forms of transport	Report written for ELT	Jul-19	ELT agreement
58	Develop an internal travel plan and offer individual travel planning guidance to staff and elected members	Promoting Travel Alternatives	Workplace Travel Planning	SRBC	Not Started	unknown	-	-	-	-	Resources

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.

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

A review of the national background maps has been undertaken and this has confirmed no areas of likely exceedance of the objective level for $PM_{2.5}$. A number of measures proposed within the South Ribble Air Quality Action Plan will also help to reduce $PM_{2.5}$ emissions levels, these include:

- The continuation of the borough wide Smoke Control Area.
- The inclusion of $PM_{2.5}$ 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 $PM_{2.5}$ 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 $PM_{2.5}$ levels.

2.4 Lancashire County Council Update

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

1. Encourage 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. Through 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.
- 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 access new funding schemes as they become available.
- Connecting East Lancashire is a 'smarter travel choices' campaign designed to encourage healthier and greener ways of travelling in East Lancashire. A dedicated team of Business Travel Planners work with individuals and organisations across east Lancashire to support a shift towards more sustainable and active forms of travel.
- The Safe and Healthy Travel team work with schools, workplaces and the community to encourage safe and sustainable modes of travel. Initiatives for schools are promoted though the Safer Travel Moodle and include: a series of cycling and walking safety training programmes; guidance and resources for teachers to encourage safe and active travel; and support for creating travel plans.

2. Support 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. Create 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. Stakeholder engagement and consultation will be carried out during 2019. Approaches to improving air quality could include:
    - Redesigning road networks to reduce congestion and separate vehicle emissions from places where people live, work and congregate;
    - Increasing access to cycling and walking infrastructure, and cleaner public transport;
    - Facilitating the move towards the use of low emission vehicles through upgrading public transport and public sector vehicle fleets and introducing new electric vehicle charge points;
    - Targeting areas with high levels of air pollution, including considering the introduction of Clean Air Zones.

The Local Highways and Transport Masterplans will be refreshed to align with the priorities of LTP4, which 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 transport and highways masterplans.
- The County Council's vehicle fleet will be fitted with a driver behaviour tracking system to monitor and influence driver behaviour. The aim of the tracking system is to improve driver performance, reducing fuel costs, road accidents and vehicle emissions.

4. Embed 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. Providing support to districts to develop policies that seek to ensure that new development does 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 Council seeks measures that facilitate cycling and walking, increase the use of public transport and provide access to electric vehicle charge points. The 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.
- The County Council is working with Lancaster and Birmingham Universities to develop evidence based guidance for the use of green infrastructure as an

approach to mitigating the health impacts of road transport emissions. The guidance will enable spatial planners, public services and the public to introduce the most effective infrastructure at the most appropriate sites. In time, there may be opportunities for further projects around this work.

5. Raise awareness and increase engagement

- The Lancashire Insight website provides information on the sources and health impacts of air pollution. Webpages include a Summary of Emissions Data, Monitoring of Air Quality and Health Impacts and an Air Quality and Health Dashboard.
- The County Council is the process of developing a clean air programme for schools. The scheme will include: guidance and support for schools on developing a clean air strategy; lesson plans, activities and resources for teachers; provision of LCC's cycling and walking programmes; and resources to deliver a clean air event, campaign and poster competition.
- The County Council's Lead Member for Health and Adult Services has established network for elected members from across Lancashire and Cumbria to come together to gain an understanding of the issues and the key messages to champion and advocate in their communities.

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

3.1 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 2019.

The future of the large commercial, industrial and residential development at Cuerden is still uncertain following the withdrawal of Ikea as the main developer.

Air quality has been considered for most of the above developments, with those using nationally recognised assessment methodology unsurprising 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. Towards the end of 2018 an automatic monitoring system, an AQ Mesh, was installed within the declared AQMA 1, Penwortham AQMA. This monitoring station has been funded by Lancashire County Council as part of the Penwortham by-pass project. One of the identified major road infrastructure projects for the borough. No results are available for the 2018 reporting year.

Progress is continuing on 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.

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

3.2 Summary of Monitoring Undertaken

3.2.1 Automatic Monitoring Sites

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

South Ribble Borough Council did not undertake any automatic (continuous) monitoring during 2018.An AQ Mesh continuous analyser has been installed within AQMA1, Penwortham, at a road side location as part of the Lancashire County Council road improvement project to build a by-pass around Penwortham. Results will be reported in next the ASR in 2020.

3.2.2 Non-Automatic Monitoring Sites

South Ribble Borough Council undertook non- automatic (passive) monitoring of NO_2 at 27 sites during 2018. **Error! Reference source not found.** in Appendix A shows the details of the sites.

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

3.3 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.

3.3.1 Nitrogen Dioxide (NO_2)

Table A. 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 full 2018 dataset of monthly mean values is provided in Appendix B.

Briefly describe any exceedances of the air quality objectives here, considering annual means greater than 60µg/m^3, which indicates that an exceedance of the 1-hour mean objective is also likely at these sites.

3.3.2 Particulate Matter (PM_{10} & $PM_{2.5}$)

South Ribble Borough Council does not monitor PM_{10} or $PM_{2.5}$ 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 ($PM_{2.5}$)

3.3.3 Sulphur Dioxide (SO_2)

South Ribble Borough Council does not monitor SO_2 levels. However a check of the Defra background maps indicates no likely exceedances of the objective levels for either of these two pollutants.

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)
1	Civic Centre, Leyland	Urban Background	353626	421783	NO_2	NO	N/A	N/A	N	2.35
2	12 Turpin Green Lane/Charnock St, Leyland	Roadside	354527	422371	NO_2	YES	0	5.2	N	2.8
3	38 Turpin Green Lane, Leyland	Roadside	354588	422269	NO_2	YES	0	5.6	N	2.75
4	"Gentle Touch" 65 Turpin Green Lane, Leyland	Roadside	354678	422249	NO_2	YES	0	5.6	N	2.08
5	66 Turpin Green Lane, Leyland	Roadside	354730	422212	NO_2	YES	0	7.8	N	2.8
6	87 Turpin Green Lane, Leyland	Roadside	354744	422231	NO_2	YES	0	5.7	N	2.56
7	36 Golden Hill Lane	Roadside	354438	422645	NO_2	YES	0	2.9	N	2.4
8	130 Golden Hill Lane	Roadside	353890	422654	NO_2	YES	0	2.6	N	2.85
9	57 Leyland lane	Roadside	353048	422809	NO_2	NO	0	4.9	N	2.6
10	The Mill, Longmeanygate	Roadside	352970	422796	NO_2	NO	0	1.8	N	2.56

11	28-30 Watkin Lane, Lostock Hall	Roadside	354515	425695	NO_2	YES	4	2.4	N	2.8
12	Spar, Watkin Lane, Lostock Hall	Roadside	354368	425783	NO_2	YES	0	5.4	N	2.4
13	13 Brownedge Road, Lostock Hall	Roadside	354410	425835	NO_2	YES	0	2.4	N	2.9
14	Tardy Gate PH, Leyland Rd, Lostock Hall	Roadside	354353	425844	NO_2	YES	0	2.7	N	2.8
15	477 Leyland Road, Lostock Hall	Roadside	354296	425903	NO_2	YES	0	4.1	N	2.9
16	11 Library Liverpool Road, Penworthham	Roadside	352122	428449	NO_2	YES	4.9	2.6	N	2.05
17	"Robert&Co", 36e Liverpool Road, Penwortham	Roadside	351875	428427	NO_2	YES	0	9.8	N	2.75
18	Fleece Inn, 43 Liverpool Road, Penwortham	Roadside	351884	428404	NO_2	YES	0	2.4	N	2.75
19	14 Victoria Road, Walton-le-Dale	Roadside	355370	428571	NO_2	YES	0	6.4	N	2.6
20	40 Victoria Road, Walton-le-Dale	Roadside	355429	428518	NO_2	YES	4.4	2.7	N	2.5

21	69 Victoria Road, Walton-le-Dale	Roadside	355521	428467	NO_2	YES	0	2	N	2.8
22	146/Library, Station Road, Bamber Bridge	Roadside	356437	426303	NO_2	YES	0	2	N	2.65
23	243 Station Road, Bamber Bridge		356530	425840	NO_2	YES	0	6.1	N	2.62
24	244 Station Road, Bamber Bridge	Roadside	356506	425793	NO_2	YES	0	8.9	N	2.9
25	266 Station Road, Bamber Bridge	Roadside	356511	425692	NO_2	YES	4.1	2.9	N	3
26	309-311 Station Road, Bamber Bridge	Roadside	356000	425578	NO_2	YES	0	3	N	2.55
27	361 Station Road, Bamber Bridge	Roadside	356426	425364	NO_2	YES	0	1.6	N	2.52

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 NO2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2018 (%) (2)	NO_2 Annual Mean Concentration (µg/m³) (3)				
					2014	2015	2016	2017	2018
Civic Centre, Leyland	Urban Background	Diffusion Tube	91.6	91.6	18.00	11.63	15.30	13.57	15.07
12 Turpin Green Lane/Charnock St, Leyland	Roadside	Diffusion Tube	100	100	32.00	26.81	31.73	30.38	31.75
38 Turpin Green Lane, Leyland	Roadside	Diffusion Tube	91.6	91.6	33.00	29.00	32.26	32.66	32.77
"Gentle Touch" 65 Turpin Green Lane, Leyland	Roadside	Diffusion Tube	100	100	37.00	31.54	**41.45**	35.34	36.28
66 Turpin Green Lane, Leyland	Roadside	Diffusion Tube	100	100	28.00	24.20	28.04	25.25	28.32
87 Turpin Green Lane, Leyland	Roadside	Diffusion Tube	100	100	34.00	31.29	**40.81**	34.77	36.81
36 Golden Hill Lane	Roadside	Diffusion Tube	100	100	35.00	30.00	38.20	34.74	34.82
130 Golden Hill Lane	Roadside	Diffusion Tube	94.4	94.4	33.00	31.00	38.03	32.51	34.11
57 Leyland lane	Roadside	Diffusion Tube	100	100	36.00	21.80	28.59	25.09	26.85
The Mill, Longmeanygate	Roadside	Diffusion Tube	83.3	83.3	35.00	20.37	25.12	23.32	23.52
28-30 Watkin Lane, Lostock Hall	Roadside	Diffusion Tube	83.3	83.3	28.00	22.00	26.30	25.70	28.00

Spar, Watkin Lane, Lostock Hall	Roadside	Diffusion Tube	91.6	91.6	30.00	27.64	32.25	33.11	32.79
13 Brownedge Road, Lostock Hall	Roadside	Diffusion Tube	100	100	37.00	33.68	38.11	**40.03**	**40.33**
Tardy Gate PH, Leyland Rd, Lostock Hall	Roadside	Diffusion Tube	80.5	80.5	34.48	29.78	37.68	35.32	37.75
477 Leyland Road, Lostock Hall	Roadside	Diffusion Tube	100	100	34.00	30.00	32.26	27.73	30.91
11 Library Liverpool Road, Penworthham	Roadside	Diffusion Tube	100	100	28.00	23.00	28.20	28.20	27.20
"Robert&Co", 36e Liverpool Road, Penwortham	Roadside	Diffusion Tube	100	100	38.00	19.61	24.61	23.22	24.52
Fleece Inn, 43 Liverpool Road, Penwortham	Roadside	Diffusion Tube	100	100	32.00	27.30	31.07	29.02	32.33
14 Victoria Road, Walton-le-Dale	Roadside	Diffusion Tube	91.6	91.6	36.00	31.43	36.15	32.09	32.15
40 Victoria Road, Walton-le-Dale	Roadside	Diffusion Tube	97.2	97.2	36.00	29.00	31.60	27.70	26.60
69 Victoria Road, Walton-le-Dale	Roadside	Diffusion Tube	83.3	83.3	36.00	27.70	35.83	30.82	32.26
146/Library, Station Road, Bamber Bridge	Roadside	Diffusion Tube	83.3	83.3	30.00	26.00	32.46	29.19	32.09
243 Station Road, Bamber Bridge	Roadside	Diffusion Tube	100	100	29.00	23.32	30.35	28.72	29.22

244 Station Road, Bamber Bridge	Roadside	Diffusion Tube	91.6	91.6	24.00	19.14	25.02	24.80	22.88
266 Station Road, Bamber Bridge	Roadside	Diffusion Tube	66.6	66.6	30.00	27.00	28.10	26.20	26.10
309-311 Station Road, Bamber Bridge	Roadside	Diffusion Tube	91.6	91.6	26.00	22.00	24.70	22.90	25.63
361 Station Road, Bamber Bridge	Roadside	Diffusion Tube	100	100	35.00	32.06	39.90	35.09	35.19

CLICK HERE THEN PASTE COMPLETED DATA ROWS FROM EXCEL TEMPLATE

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

☒ **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**.

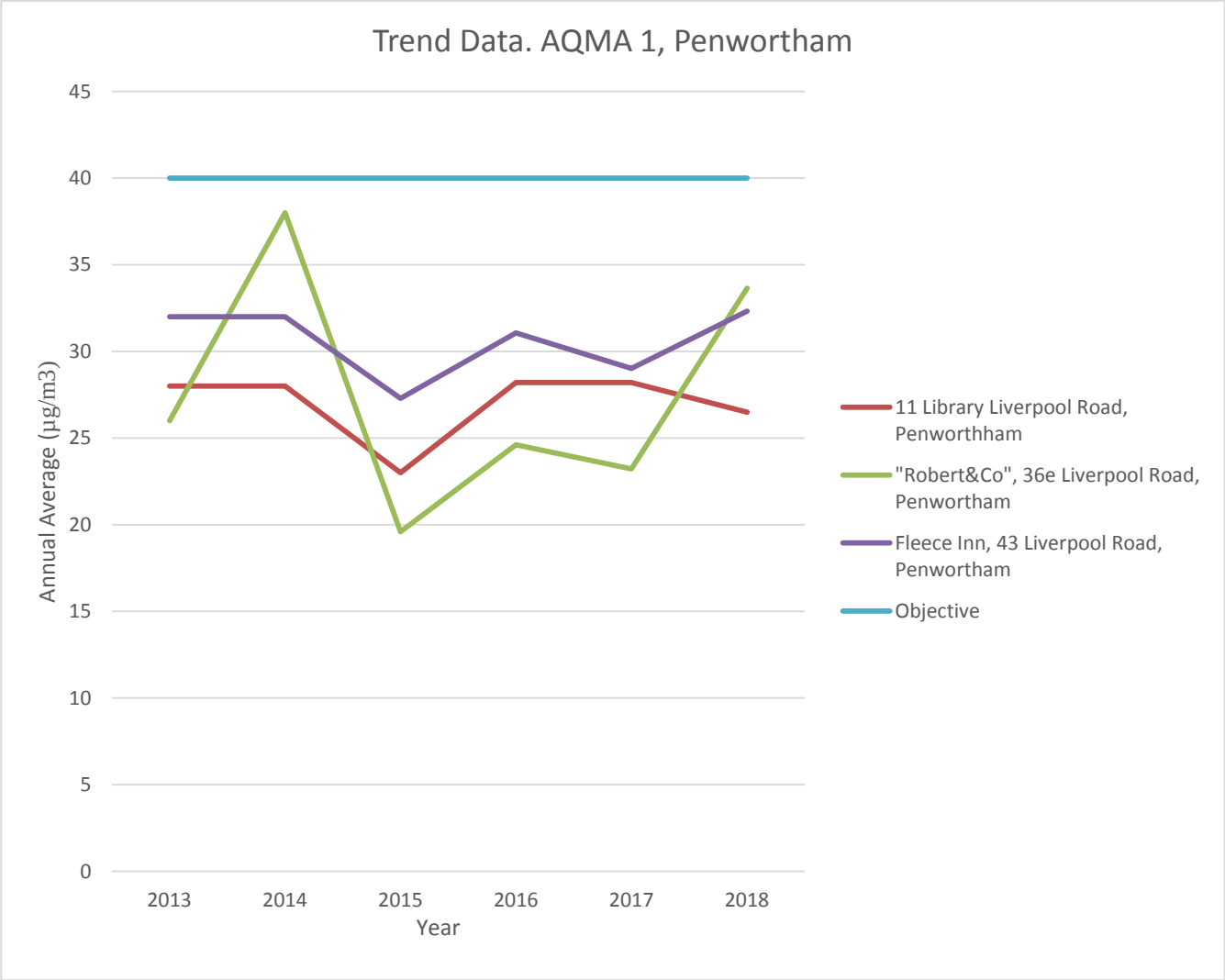
NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined.**

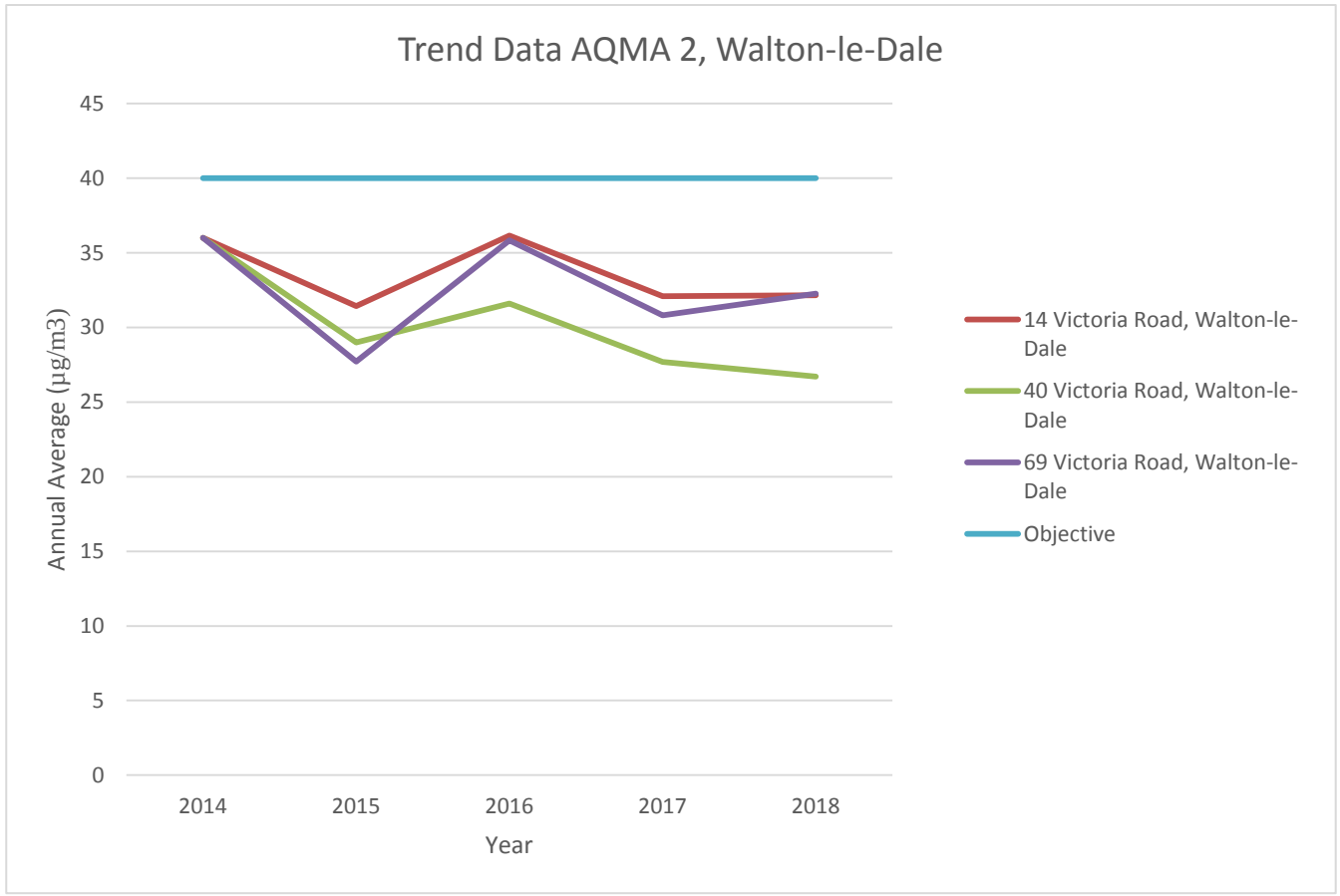
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

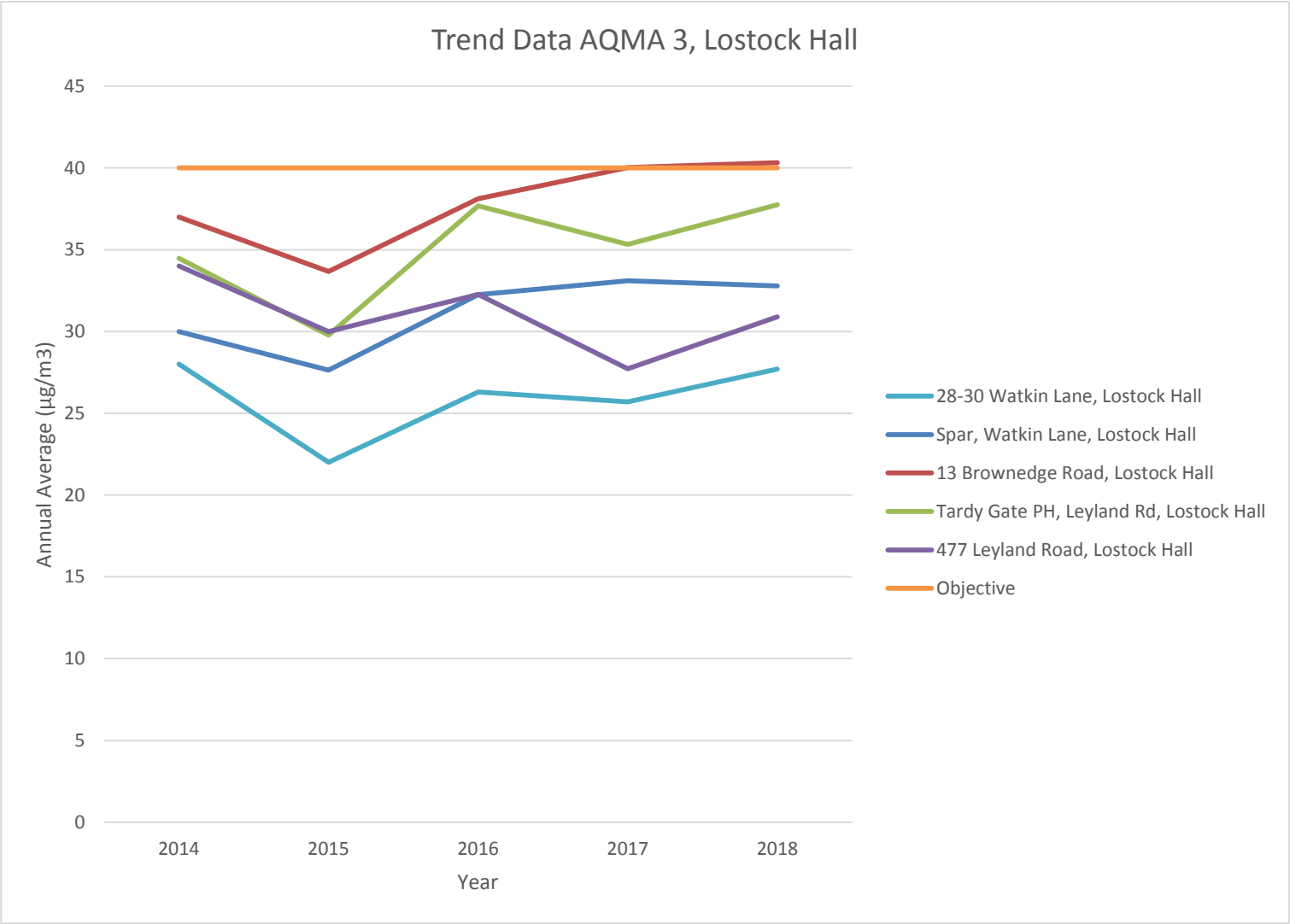
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

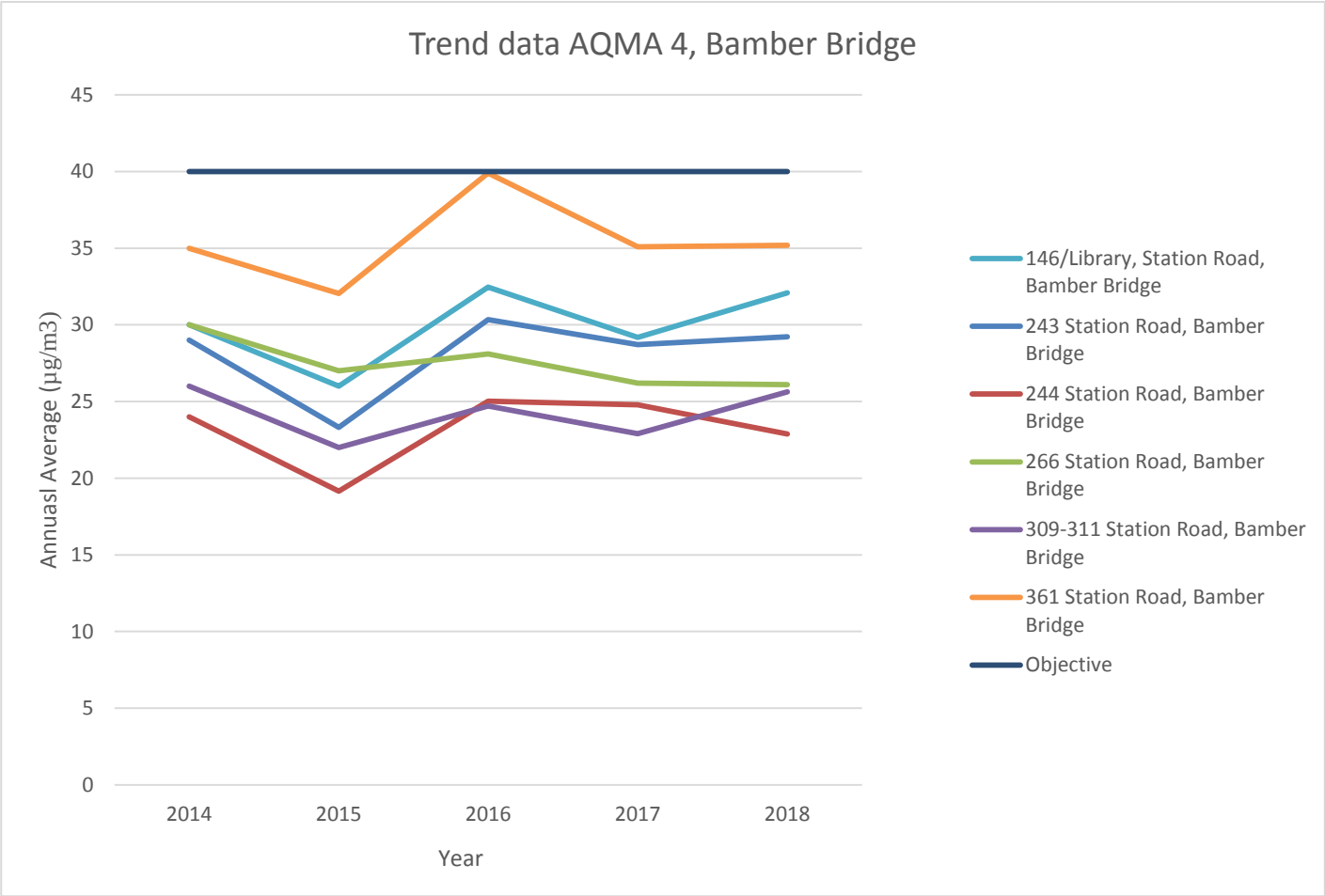
(3) Means for diffusion tubes have been corrected for bias and distance corrected. See Appendix C for details

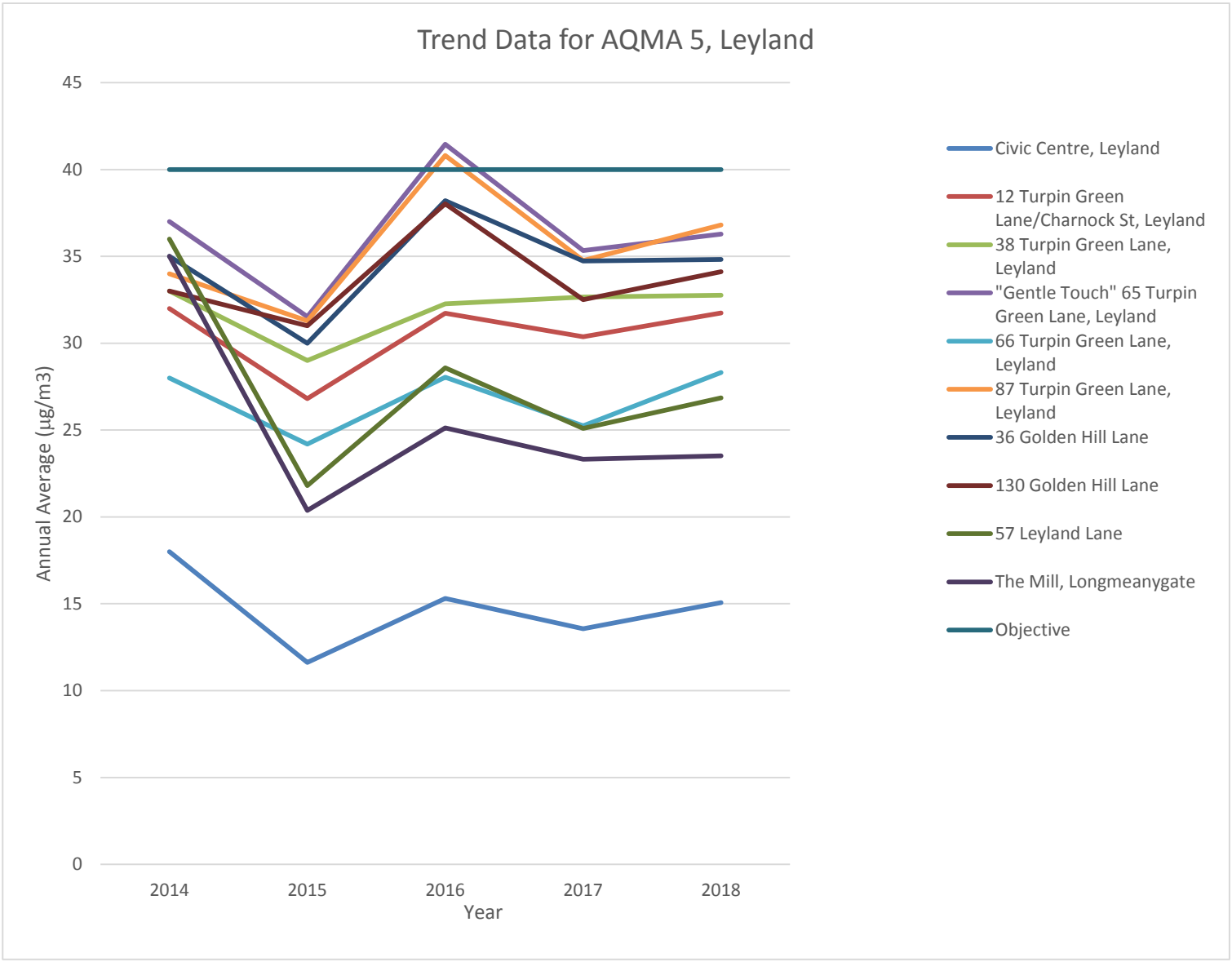
Figure A.1 – Trends in Annual Mean NO_2 Concentrations




Trend Data AQMA 2, Walton-le-Dale
Annual Average (µg/m3)
45
40
35
30
25
20
15
10
5
0
2014
2015
2016
2017
2018
Year
14 Victoria Road, Walton-le-Dale
40 Victoria Road, Walton-le-Dale
69 Victoria Road, Walton-le-Dale
Objective


Trend Data AQMA 3, Lostock Hall
Annual Average (µg/m3)
45
40
35
30
25
20
15
10
5
0
2014
2015
2016
2017
2018
Year
28-30 Watkin Lane, Lostock Hall
Spar, Watkin Lane, Lostock Hall
13 Brownedge Road, Lostock Hall
Tardy Gate PH, Leyland Rd, Lostock Hall
477 Leyland Road, Lostock Hall
Objective


Trend data AQMA 4, Bamber Bridge
Annuasl Average (µg/m3)
45
40
35
30
25
20
15
10
5
0
2014
2015
2016
2017
2018
Year
146/Library, Station Road, Bamber Bridge
243 Station Road, Bamber Bridge
244 Station Road, Bamber Bridge
266 Station Road, Bamber Bridge
309-311 Station Road, Bamber Bridge
361 Station Road, Bamber Bridge
Objective


Trend Data for AQMA 5, Leyland
Annual Average (µg/m3)
45
40
35
30
25
20
15
10
5
0
2014
2015
2016
2017
2018
Year
Civic Centre, Leyland
12 Turpin Green Lane/Charnock St, Leyland
38 Turpin Green Lane, Leyland
"Gentle Touch" 65 Turpin Green Lane, Leyland
66 Turpin Green Lane, Leyland
87 Turpin Green Lane, Leyland
36 Golden Hill Lane
130 Golden Hill Lane
57 Leyland Lane
The Mill, Longmeanygate
Objective

Appendix B: Full Monthly Diffusion Tube Results for 2018

Table B.1 – NO_2 Monthly Diffusion Tube Results - 2018

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 (0.92) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
Civic Centre, Leyland	19	22	17	14	11	11	10	10	13	20	20	23	16	14.6	
Civic Centre, Leyland	16	25	20	14	14	11	11		13	17	22	25	17	15.7	
Civic Centre, Leyland		21	18	16	13	10	11	12	12		23	25	16	15.0	
12 Turpin Green Lane/Charnock St, Leyland	35	38	40	36	27	25	30	29	30	42	41	41	35	31.7	
38 Turpin Green Lane, Leyland		35	36	37	28	29	30	35	32	42	32	56	36	32.8	
"Gentle Touch" 65 Turpin Green Lane, Leyland	38	43	42	40	48	35	35	33	36	40	38	45	39	36.3	
66 Turpin Green Lane, Leyland	28	39	35	28	29	24	22	23	39	36	32	35	31	28.3	

87 Turpin Green Lane, Leyland	37	43	44	40	40	40	45	36	24	48	40	44	40	36.8	
36 Golden Hill Lane	38	43	44	36	32	31	37	34	34	44	40	43	38	35.1	
36 Golden Hill Lane	42	38	41	39	32	29	36	37	34	47	40	41	38	34.9	
36 Golden Hill Lane	36	40	35	38	37	30	37	34	32	45	43	43	37	34.4	
130 Golden Hill Lane	46	39	44	36	34	32	30	32	30	43	46	46	38	35.1	
130 Golden Hill Lane	41	40	43	37		34	33	26	28	43	44	46	38	34.9	
130 Golden Hill Lane	52	38	28	17		34	33	30	31	37	40	46	35	32.4	
57 Leyland Lane	32	34	34	29	25	20	23	21	24	32	36	40	29	26.8	
The Mill, Longmeanygate	29			26	24	23	20	20	21	30	30	32	26	23.5	
28-30 Watkin Lane, Lostock Hall		52	34	33		27	34	26	31	41	38	38	35	27.2	28.0
Spar, Watkin Lane, Lostock Hall	34	38	37	35	37	30	38	33	33	42	34		36	32.8	
13 Brownedge Road, Lostock Hall	46	46	47	44	44	34	49	40	37	52	40	46	44	40.3	
Tardy Gate PH, Leyland Rd, Lostock Hall	36	46	48	43	42	35	36	34	33	49	48	46	41	38.6	
Tardy Gate PH, Leyland Rd, Lostock Hall	38	47	46	42	40	36	35	33	33	50		42	40	37.0	
Tardy Gate PH, Leyland Rd, Lostock Hall				40		35	41	31	34			45	38		

477 Leyland Road, Lostock Hall	31	39	38	36	33	28	32	24	26	38	40	37	34	30.9	
11 Library Liverpool Road, Penworthham	37	43	46	37	33	25	29	27	28	39	38	43	35	27.2	27.2
"Robert&Co", 36e Liverpool Road, Penwortham	24	29	32	26	24	21	26	20	20	29	30	38	27	24.5	
Fleece Inn, 43 Liverpool Road, Penwortham	35	47	41	38	30	28	29	27	28	41	41	36	35	32.3	
14 Victoria Road, Walton-le-Dale		78	27	33	28	24	39	23	30	34	36	32	35	32.2	
40 Victoria Road, Walton-le-Dale	36	38	38	31	29	24	37	30	30	37	38	36	34	31.0	
40 Victoria Road, Walton-le-Dale	40	36	39	34	26	22	34	30	28	38	36	39	33	30.8	
40 Victoria Road, Walton-le-Dale	39	38	42	33	25	25	37	32	29	38	36		34	31.3	26.6
69 Victoria Road, Walton-le-Dale	30		39	36	34	29	40	29	31	45		37	35	32.3	
146/Library, Station Road, Bamber Bridge	33	40	40	38	32			26	28	37	37	37	35	32.1	
243 Station Road, Bamber Bridge	36	35	39	32	25	23	29	26	26	38	33	38	32	29.2	
244 Station Road, Bamber Bridge	24		30	24	20	16	20	19	30	30	30	32	25	22.9	

266 Station Road, Bamber Bridge			38	34	24	25	33		18	40	36		31	26.1	26.1
309-311 Station Road, Bamber Bridge		45	31	25	20	21	22	21	22	31	30	39	28	25.6	
361 Station Road, Bamber Bridge	39	39	45	37	36	29	34	32	30	47	42	50	38	35.2	

☐ **Local bias adjustment factor used (confirm by selecting in box)**

☒ **National bias adjustment factor used (confirm by selecting in box)**

☐ **Annualisation has been conducted where data capture is <75% (confirm by selecting in box)**

☒ **Where applicable, data has been distance corrected for relevant exposure (confirm by selecting in box)**

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

(2) Distance corrected to nearest relevant public exposure.

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

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 figured 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 March 2019 spreadsheet. An update is due at the June of June 2019.

Unlike previous years there is, at the time of writing, only a few studies that have been included within the bias adjustment spreadsheet. Of the eight studies included so far (usually around 20-25 studies) there appears to be one distinct outlier result from Redcar and Cleveland Borough Council. This study has resulted in a significant reduction in the bias adjustment figure. However, a discussion has been held with the Local Air Quality Management Helpdesk who have advised that the published figure should still be used. The data included has been through a robust process to ensure precision of the monitoring data, and while the diffusion tube results from the above study were significantly different to the co-located continuous monitoring they were consistent.

The bias adjustment figure will be reviewed following the publication of the June 2019 adjustment spreadsheet to ascertain whether the bias adjustment figure used within this report should be altered and hence the reported diffusion tube results.

The results of the AIR NO2 Proficiency Testing Scheme and a field intercomparison exercise precision survey indicated a good overall level of precision with collocated studies for the Gradko diffusion tubes.

National Diffusion Tube Bias Adjustment Factor Spreadsheet

Spreadsheet Version Number: 03/19

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 2019

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)
Gradko	50% TEA in acetone	2018	R	City of London	12	84	94	-10.7%	G	**1.12**
Gradko	50% TEA in acetone	2018	B	City of London	10	38	32	20.9%	G	**0.83**
Gradko	50% TEA in acetone	2018	R	RBWM	12	39	36	7.8%	G	**0.93**
Gradko	50% TEA in acetone	2018	R	RBWM	12	35	34	2.2%	G	**0.98**
Gradko	50% TEA in acetone	2018	SU	Redcar and Cleveland Borough Council	9	18	10	83.3%	G	**0.55**
Gradko	50% TEA in acetone	2018	R	West Berkshire	10	40	37	10.5%	G	**0.91**
Gradko	50% TEA in acetone	2018	KS	Marylebone Road Intercomparison	11	91	85	6.5%	G	**0.94**
Gradko	50% TEA in acetone	2018	UB	Reading Borough Council	12	20	26	-22.6%	G	**1.29**
Gradko	50% TEA in acetone	2018		**Overall Factor[3] (8 studies)**				**Use**		**0.92**

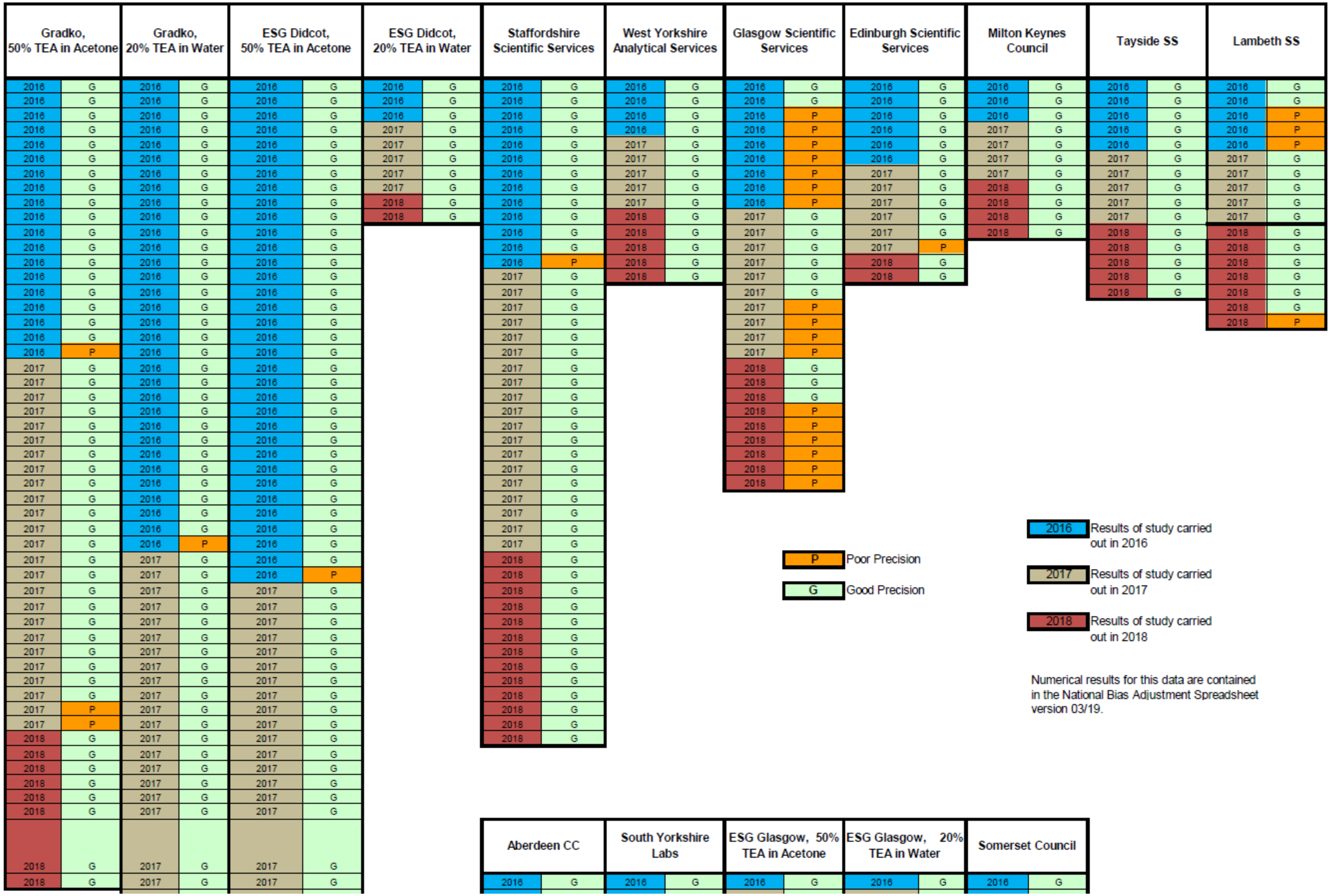
Table 1: Laboratory summary performance for AIR NO_2 PT rounds AR0019, 21, 22, 24, 25, 27, 28 and 30

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent AIR NO_2 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 AR019	AIR PT AR021	AIR PT AR022	AIR PT AR024	AIR PT AR025	AIR PT AR027	AIR PT AR028	AIR PT AR030
Round conducted in the period	April – May 2017	July – August 2017	September – October 2017	January – February 2018	April – May 2018	July – August 2018	September – October 2018	January – February 2019
Aberdeen Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	75 %
Cardiff Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Edinburgh Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
SOCOTEC	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	87.5 % [1]
Exova (formerly Clyde Analytical)	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Glasgow Scientific Services	50 %	0 %	100 %	100 %	100 %	50 %	100 %	100 %
Gradko International [1]	100 % [1]	100 % [1]	100 % [1]	100 % [1]	100 %	100 %	100 %	75 %
Kent Scientific Services	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Kirklees MBC	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Lambeth Scientific Services	NR [2]	NR [2]	100 %	NR [2]	NR [2]	NR [2]	25 %	50 %
Milton Keynes Council	75 %	0 %	75 %	100 %	75 %	100 %	100 %	100 %
Northampton Borough Council	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]	NR [3]
Somerset Scientific Services	100 %	100 %	75 %	100 %	100 %	100 %	100 %	100 %
South Yorkshire Air Quality Samplers	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Staffordshire County Council	100 %	100 %	100 %	50 %	100 %	100 %	100 %	100 %
Tayside Scientific Services (formerly Dundee CC)	NR [2]	100 %	NR [2]	100 %	NR [2]	100 %	NR [2]	100 %
West Yorkshire Analytical Services	100 %	100 %	100 %	50 %	75 %	100 %	100 %	100 %

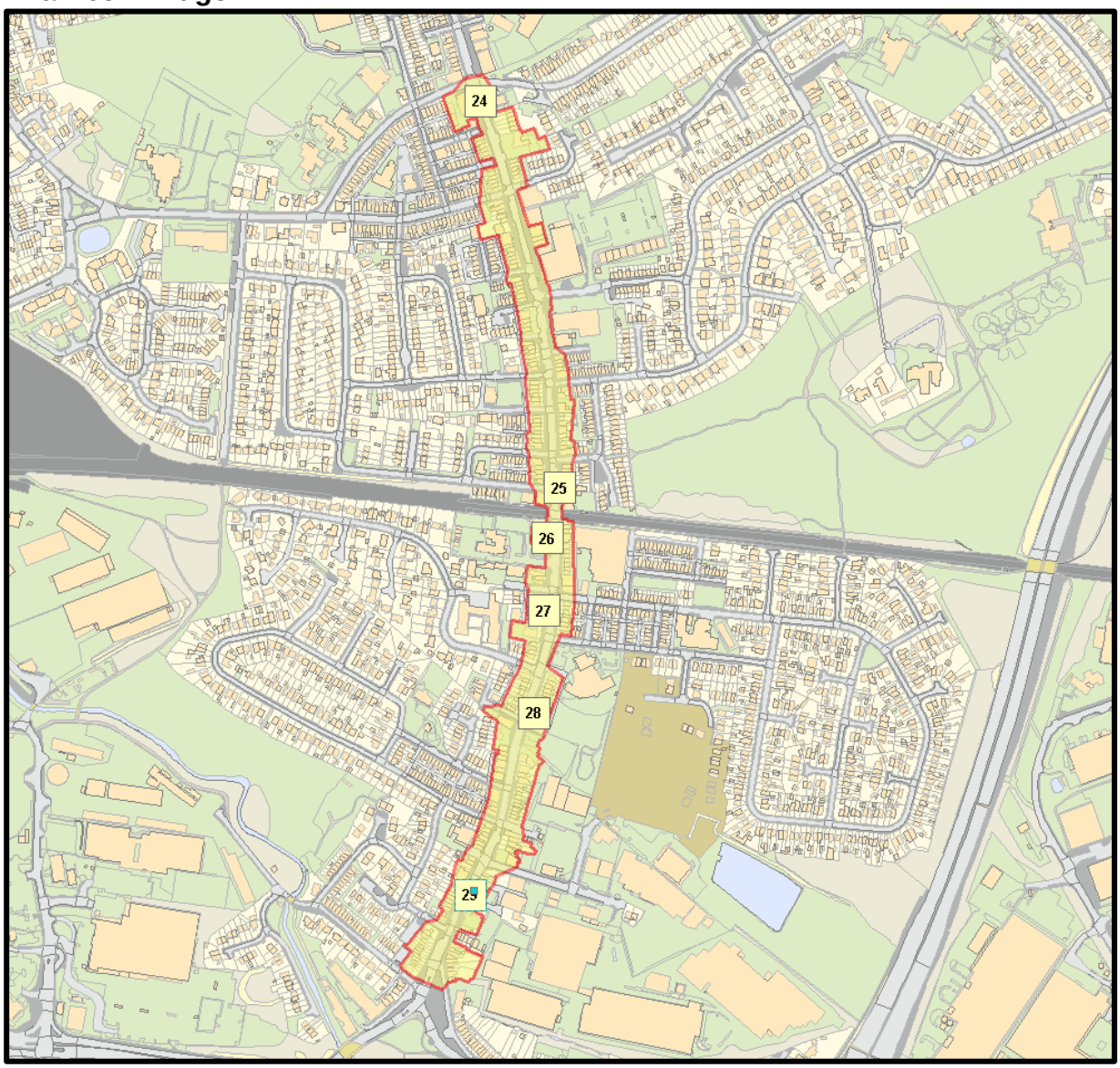
[1] Participant subscribed to two sets of test results (2 x 4 test samples) in each AIR PT round.
[2] NR No results reported
[3] Northampton Borough Council, Kent Scientific Services, Cardiff Scientific Services, Kirklees MBC and Exova (formerly Clyde Analytical) no longer carry out NO2 diffusion tube monitoring and therefore did not submit results.

2016 - 2018 Summary of Precision Results for Nitrogen Dioxide Diffusion Tube Collocation Studies, by Laboratory

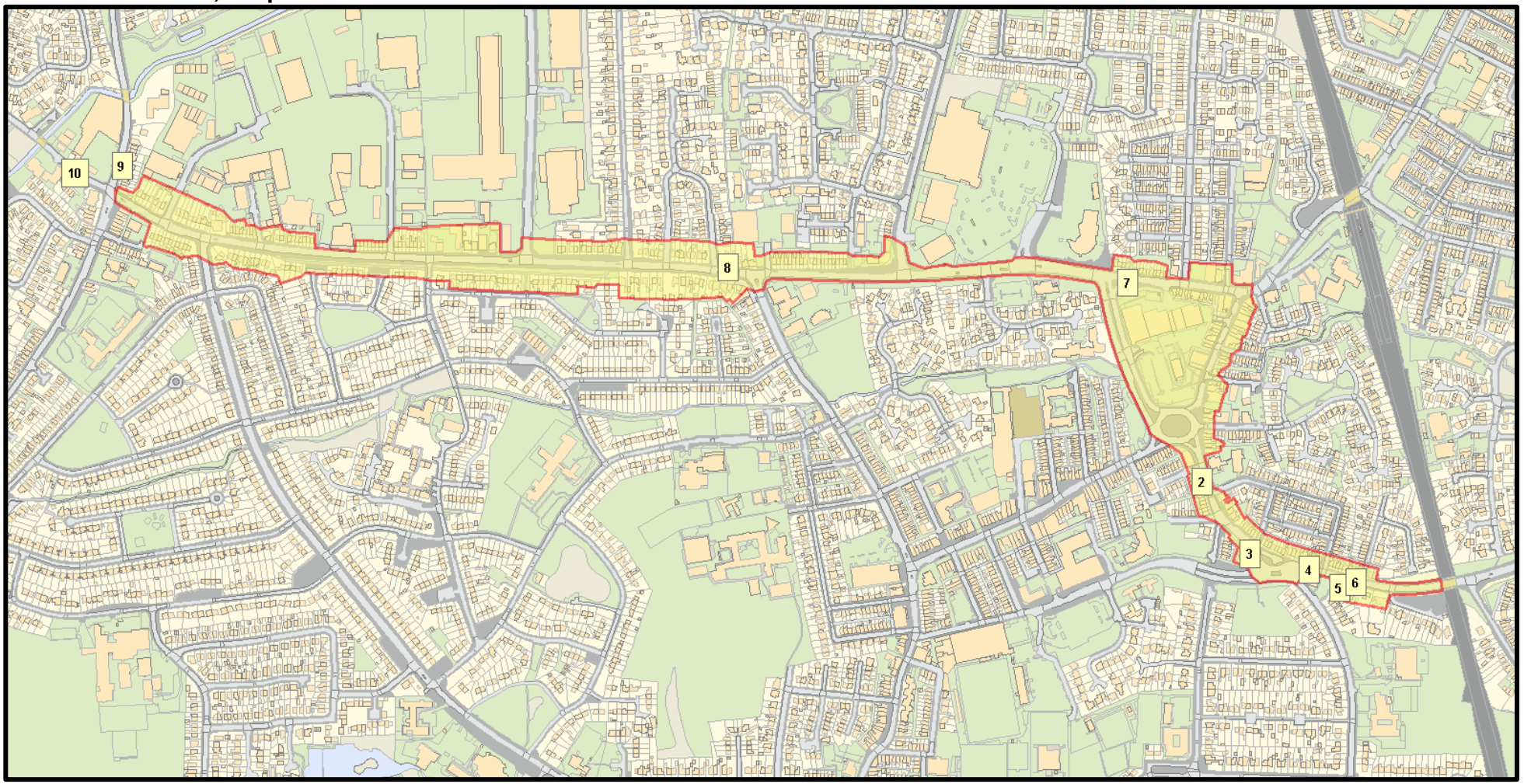


Appendix D: Map(s) of Monitoring Locations and AQMAs

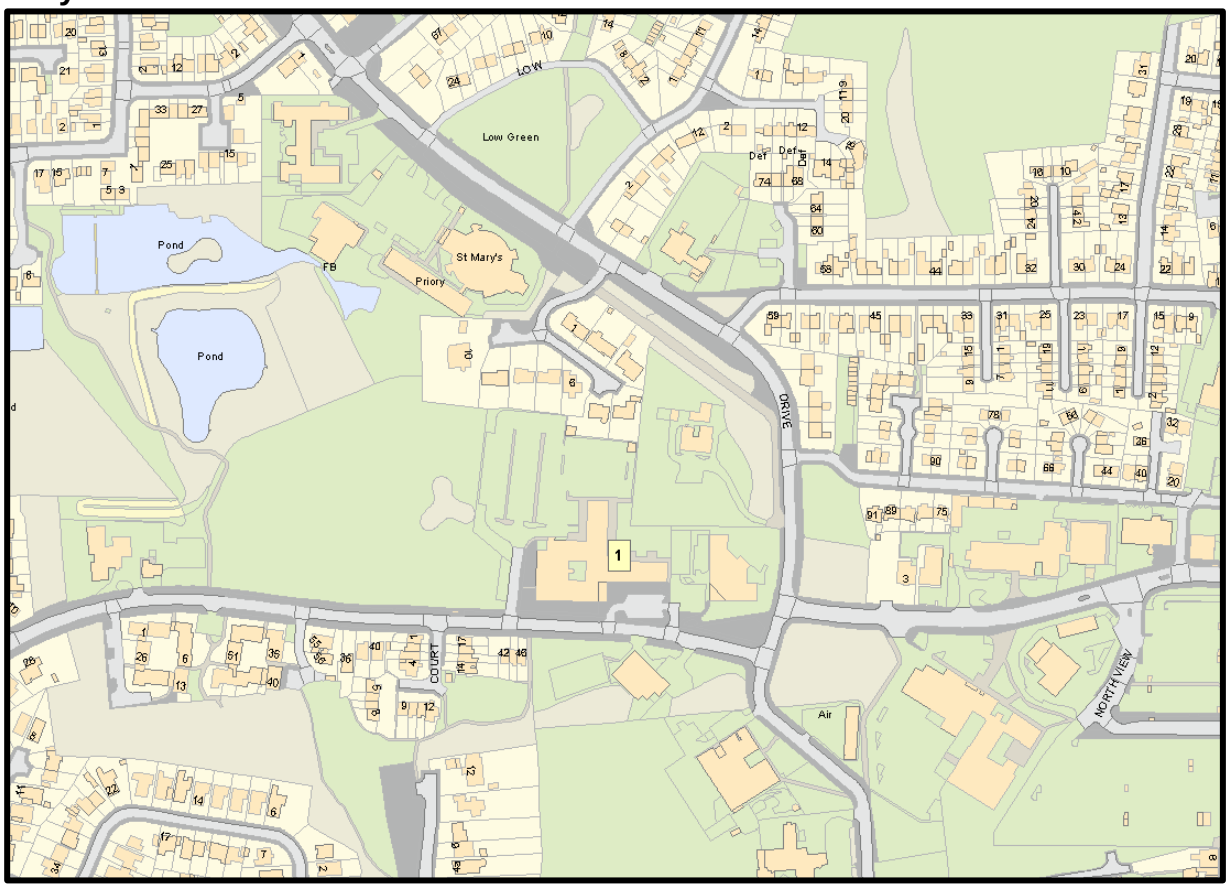
Bamber Bridge



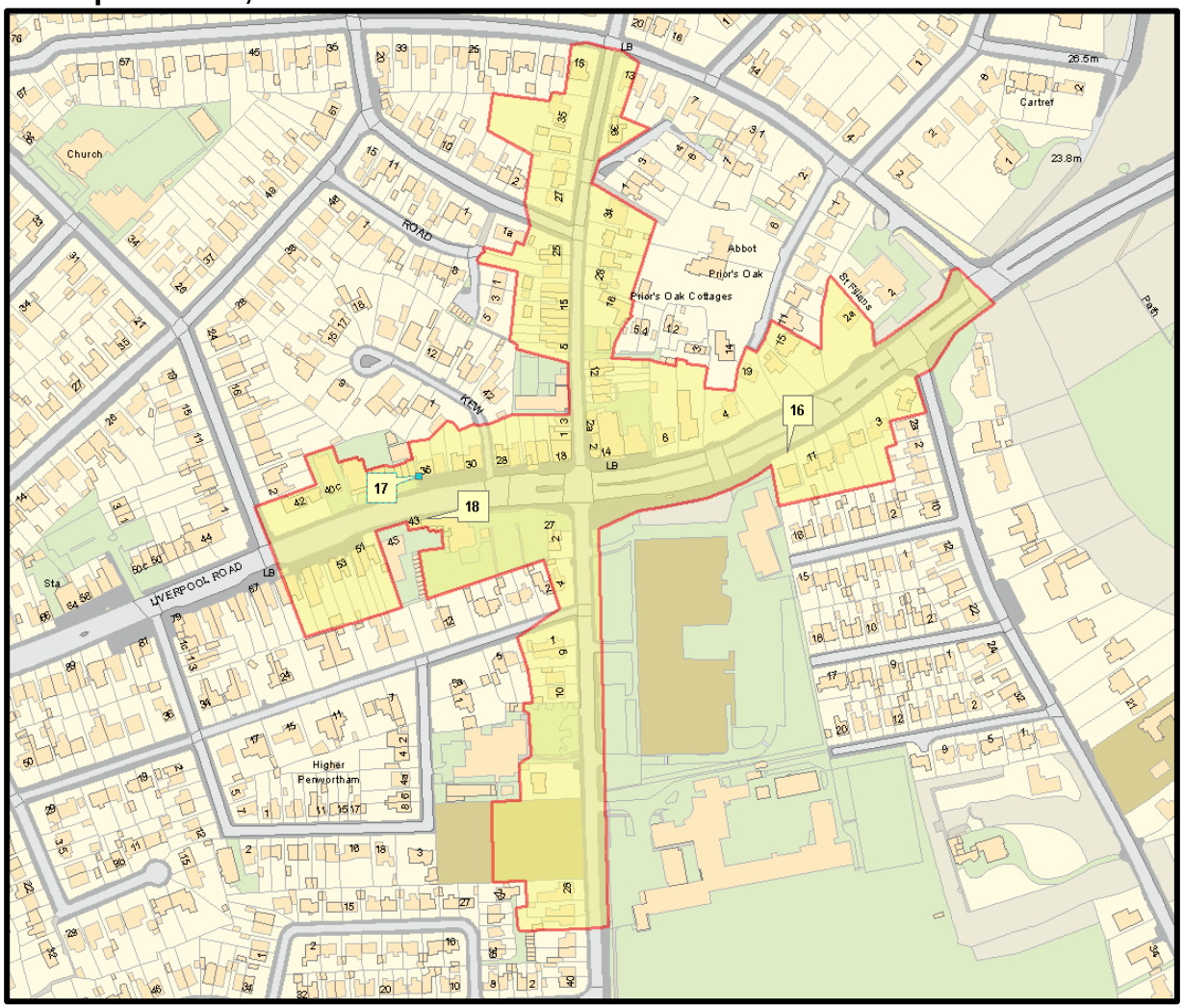
Golden Hill Lane, Turpin Green Lane



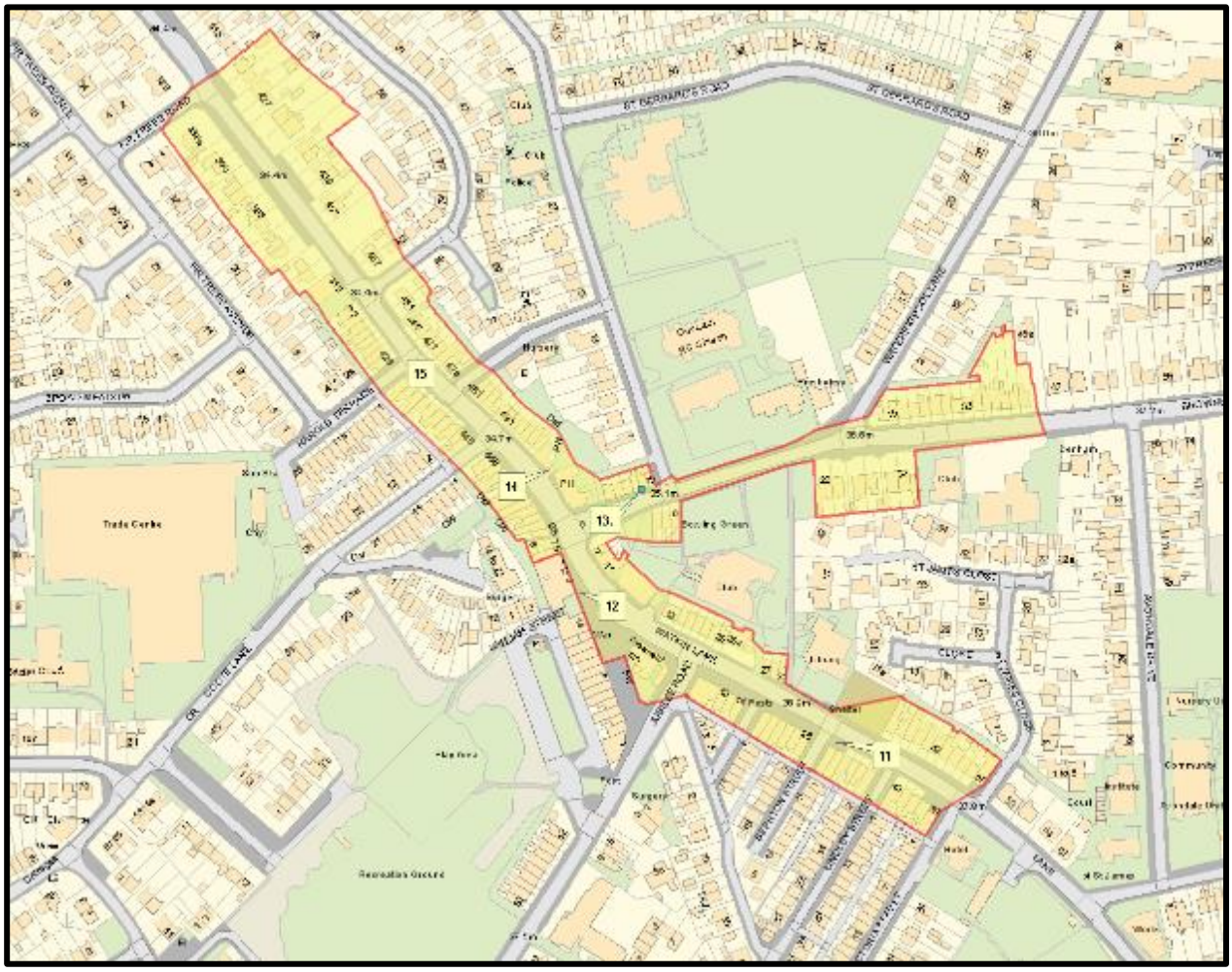
Leyland


Low Green
Pond
Pond
FB
St Mary's
Priory
DRIVE
COURT
NORTH VIEW
Air
1

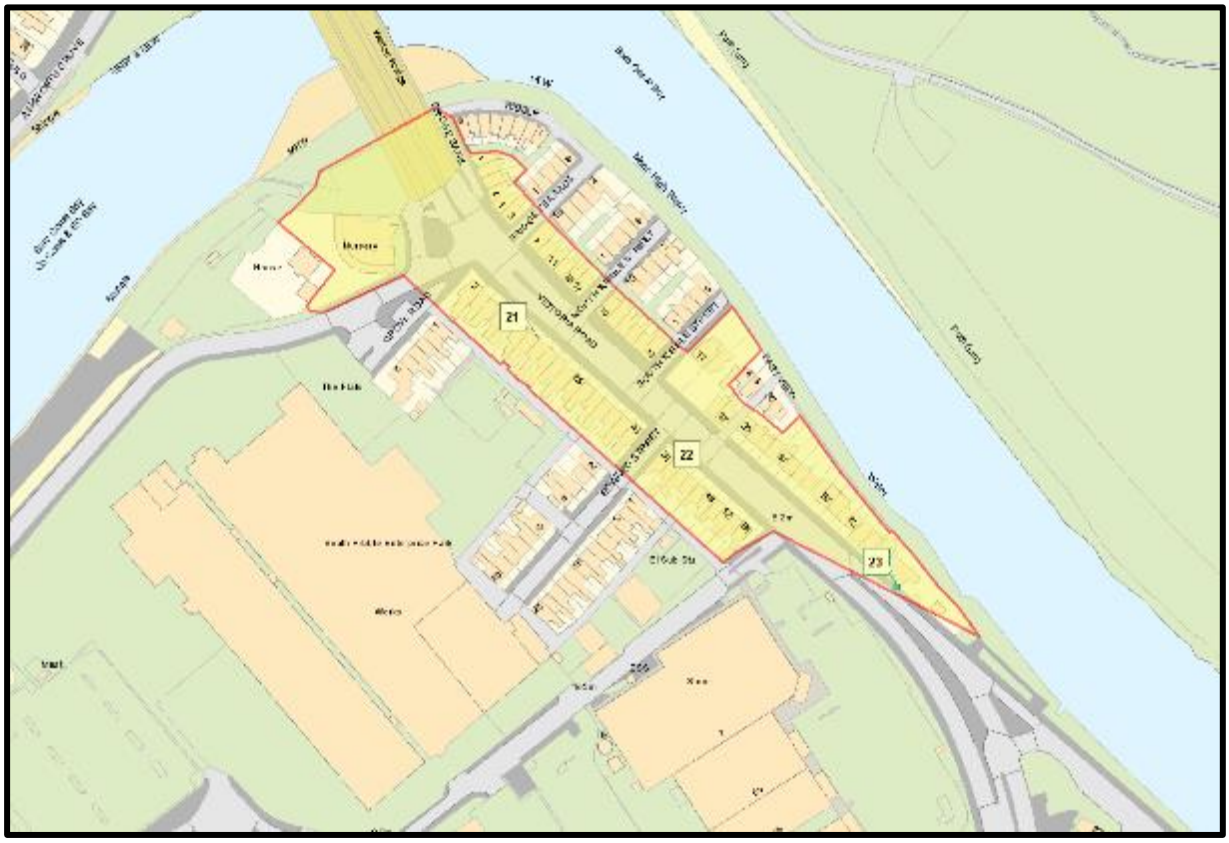
Liverpool Road, Penwortham



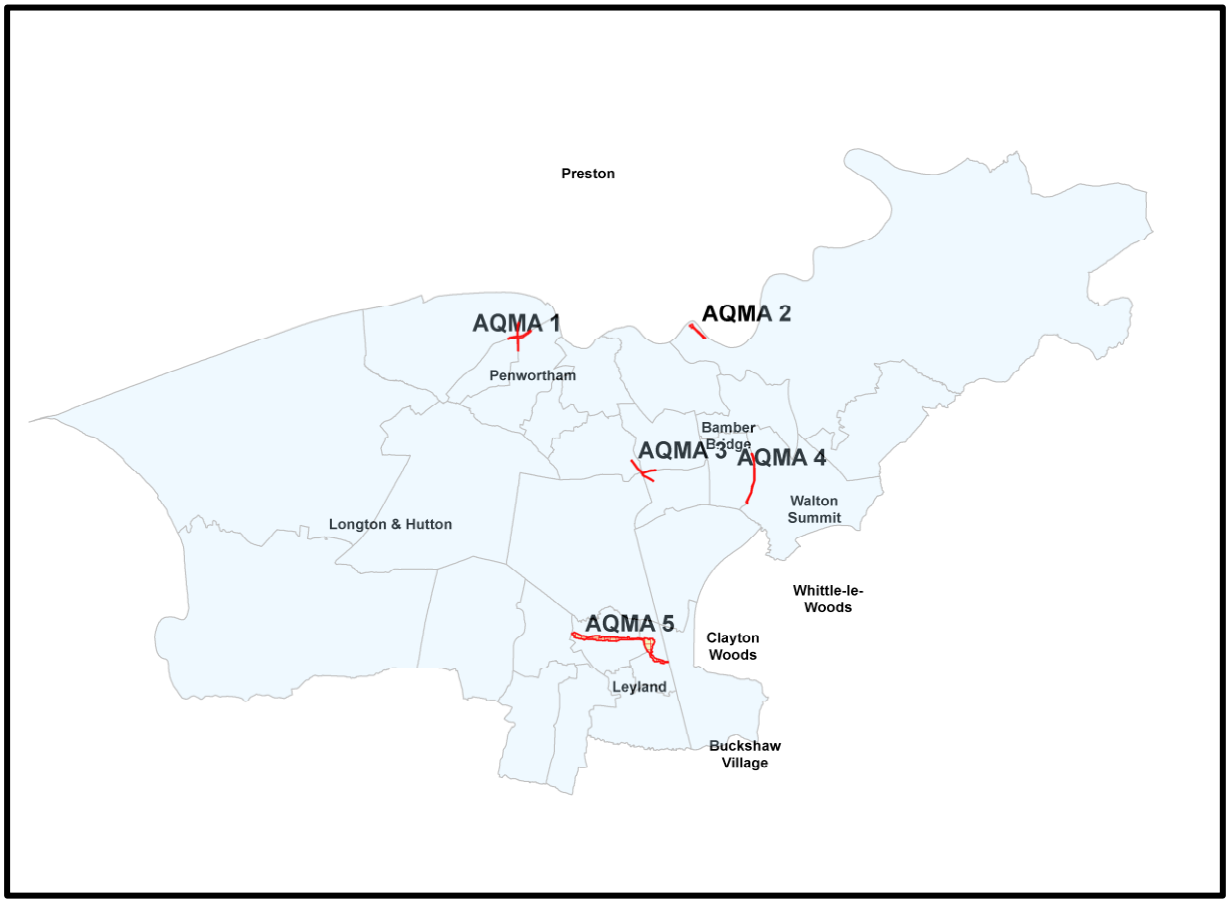
Lostock Hall



Victoria Road, Walton-le-Dale



Declared AQMA's



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[4]	
	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

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

Glossary of Terms

Please add a description of any abbreviations included in the ASR – An example is provided below.

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
…	…

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