North Yorkshire Council

Environment Executive Members

12 September 2024

Air Quality Action Plan (AQAP) 2024

Report of the Assistant Director – Regulatory, Registration, Bereavement, Coroners

1.0 PURPOSE OF REPORT

1.1 To seek approval for the submission of the NYC AQAP in accordance with the statutory duty placed upon the council by Part IV of the Environment Act 1995.

2.0 SUMMARY

- 2.1 The North Yorkshire Council Air Quality Action Plan (2024 2029) is a statutory document that updates and combines the AQAPs from the former Borough and District Councils within North Yorkshire.
- 2.2 AQAPs are required to convey the measures being undertaken to reduce pollution levels in designated Air Quality Management Areas (AQMAs).
- 2.3 It is mandatory to declare an AQMA if pollutant levels exceed objective concentrations dictated by the Government's UK Air Quality Strategy and implemented by the Air Quality (England) Regulations 2000 (2002 as amended).
- 2.4 Currently the AQMAs in North Yorkshire are as follows. All are for traffic related nitrogen dioxide apart from the village of Staithes which was declared for PM10 particulates present in smoke from domestic solid fuel burning.
 - 1. Knaresborough Bond End,
 - 2. Harrogate Wetherby Road,
 - 3. Selby The Crescent / New Street,
 - 4. Scarborough The village of Staithes
 - 5. Bedale Town Centre TO REVOKE,
 - 6. Knaresborough York Place TO REVOKE,
 - 7. Ripon Low/High Skellgate TO REVOKE,
 - 8. Malton Town Centre TO REVOKE.
- 2.5 The AQAP outlines the intention of North Yorkshire Council to revoke four out of the eight AQMAs, due to pollution levels falling below objective limits for 5 years or more, which is a DEFRA requirement. Should the current trend of pollution compliance continue this year, the council will also be obliged to revoke the AQMAs in Wetherby Rd, Harrogate and Bond End, Knaresborough in 2025. A review of the measures undertaken in Selby and Staithes has also been undertaken which will require further work with partners and additional monitoring to achieve compliance with the objectives.
- 2.6 A vehicle source apportionment has been undertaken for the retained AQMAs 1,2 and 3 to determine the proportion of NO2 attributable to each traffic type. This is a DEFRA requirement and may be useful when working with partners in identifying ways to reduce pollutant levels. An officer's Air Quality Steering Group has therefore been set up to discuss ways of tackling air pollution in a holistic manner with a view to embedding air quality into council plans and policies in the same way as climate change, which shares many of the same contributing factors.

- 2.7 Members of the steering group are therefore drawn from departments including Highways, Transport Planning, Planning, Public Health, Licensing and Climate Change. The steering group is the principal method of consulting with other departments within NYC. As Public Health are now directly involved with this process, it enables reports to be signed-off by the Director of Public Health, in compliance with a DEFRA recommendation. A list of consultees recommended by DEFRA is contained in table 4.1 of the AQAP and a public consultation is currently underway on the NYC website.
- 2.8 It is proposed to locate a particulate monitor in the Staithes AQMA to assess the current PM10 levels. These levels will hopefully have reduced following reports of solid fuel heating being replaced by gas in housing association properties and also because of the introduction of The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 which restricts the sale of the most polluting of fuels.
- 2.9 It has to be emphasised that although the Regulatory Services' Scientific Team compiles these statutory reports, it is largely from other service areas that the solutions must come. As it is now a legal requirement for other council departments to contribute to the Local Air Quality Management process, we are working closely with partners to reduce current pollution levels and to minimise negative impacts from future developments.
- 2.10 It is requested that this AQAP be approved for submission by the Corporate Director Environment.

3.0 BACKGROUND

3.1 Prepared in accordance with DEFRA's Local Air Quality Management regime under Part IV of the Environment Act 1995. An Air Quality Action Plan is required to demonstrate the measures in place to reduce pollutant levels in declared Air Quality Management Areas to below UK air quality objective limits. A draft report was approved at the Environment Director's Assistant Director meeting on 25 March 2024. The report was submitted to DEFRA by the 30 March deadline and subsequently accepted.

4.0 DETAILED PRESENTATION OF THE SUBSTANTIVE ISSUE

4.1 Legal requirement under Part IV of the Environment Act 1995.

5.0 CONSULTATION UNDERTAKEN AND RESPONSES

5.1 Consultation underway with statutory consultees and public. Public consultation is on website and closes on 27 September 2024.

6.0 CONTRIBUTION TO COUNCIL PRIORITIES

6.1 The air quality improvement aspects of this plan are integral to achieving the council's themes of Place and Environment and Health and Wellbeing as well as encouraging economically sustainable growth by requiring the whole organisation to work together to achieve the requirements of the plan.

7.0 ALTERNATIVE OPTIONS CONSIDERED

7.1 n/a

8.0 IMPACT ON OTHER SERVICES/ORGANISATIONS

8.1 The Environment Act 2021 places a duty on all council departments to co-operate in achieving air quality targets.

9.0 FINANCIAL IMPLICATIONS

9.1 Financial implications are mainly officer time which is covered by existing budgets. There are some costs associated with installing new monitors on street lighting columns which are expected to be no more than £5,000 and can be covered from Scientific Equipment Budget.

10.0 LEGAL IMPLICATIONS

10.1 Statutory function.

11.0 EQUALITIES IMPLICATIONS

11.1 Poor air quality can be associated with areas where social inequalities are more prevalent. We are working with partners to identify and address these issues, although in general air quality is good and continues to improve across the majority of North Yorkshire.

12.0 CLIMATE CHANGE IMPLICATIONS

12.1 There are positive crossovers with Climate Change due to complementary plans to achieve reductions in pollution emissions by promoting low-carbon alternatives.

13.0 POLICY IMPLICATIONS

13.1 The Environment Act 2021 places a duty on all council departments to co-operate in achieving air quality targets. It is hoped that individual departmental policies and strategies will consider the air quality implications of projects and developments (including cumulative development), not only to prevent a deterioration in air quality, but also to improve it.

14.0 REASONS FOR RECOMMENDATIONS

14.1 Statutory function.

15.0 RECOMMENDATIONS

- 15.1 It is recommended that the Corporate Director of Environment, in consultation with the Executive Member for Managing our Environment:
 - i) Approve the AQAP subject to any minor changes required following receipt of any further consultation responses on 27 September.
 - ii) Approve submission to DEFRA by the deadline 30 September 2024

APPENDICES:

Appendix A - The North Yorkshire Council Air Quality Action Plan (AQAP) 2024

BACKGROUND DOCUMENTS:

North Yorkshire Council Air Quality Annual Status Report 2024

Callum McKeon
Assistant Director – Regulatory, Registration, Bereavement, Coroners
County Hall
Northallerton
03 September 2024

Report Author – Dr Kevin Carr – Divisional Officer, Scientific Presenter of Report – Vikki Flowers and Kevin Carr

Note: Members are invited to contact the author in advance of the meeting with any detailed queries or questions.



North Yorkshire Council Air Quality Action Plan

(2024 - 2029)

Supersedes Previous District Specific Action Plans 2018 – 2023

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

Information	North Yorkshire Council Details				
Local Authority Officers	Amanda Fuller, Emily Revill, Sophie Nicholson				
Department	Scientific Services				
Address	North Yorkshire Council, County Hall, Racecourse Lane, Northallerton, North Yorkshire DL7 8AD				
Telephone	0300 131 2 131				
E-mail	scientific@northyorks.gov.uk				
Report Reference Number	NYC AQAP 2024-2029				
Date	September 2024				

Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality (AQ) in the North Yorkshire Council area between 2024 and 2029, with specific emphasis on addressing air quality concerns in Air Quality Management Areas (AQMAs) to achieve compliance with AQ objectives.

On 1st April 2023, the new unitary authority of North Yorkshire Council (NYC) was formed by the amalgamation of the seven former Borough and District Councils of Richmondshire, Selby, Craven, Harrogate, Hambleton, Scarborough, and Ryedale with North Yorkshire County Council.

This report represents the first combined Air Quality Action Plan (AQAP) for the County of North Yorkshire. This action plan supersedes all previous action plans from the former district Councils incorporated into NYC, which ran initially between 2012 and 2018 and in some district areas up to 2023. The measures detailed within this updated action plan are largely localised measures relevant to the AQMAs listed in Table 2.1, with some district wide initiatives aimed at improving air quality across the whole County of North Yorkshire.

Projects delivered through the past action plans include:

- Harrogate Engineering scheme at Bond End, Knaresborough (2018)
- Hambleton The new A684 Bedale bypass to relieve traffic congestion and pollution levels (2016) – AQMA 5 now being revoked
- Ryedale Malton junction improvement and reduction in traffic flow schemes
 (2012) AQMA 7 now being revoked
- Selby New Street Area Traffic Management improvements to address congestion issues (2017) – AQMA 6 being retained for further monitoring
- Local school travel plans Clean Air Day Campaigns and 'Leave your car at home days.'

- Air Quality Education at Primary Schools
 - A more recent 'Poster Competition' in Richmond School was undertaken by the age group 6-10 years to raise awareness of air quality issues in the community; here is one of the stand-out posters, more can be found in appendix H:



- Anti idling campaigns outside schools and at Traffic light junctions.
- Taxi licence initiatives
- Cycle to work schemes

Additions for the 2024 to 2029 AQAP include:

• Further to NYC's passive diffusion tube monitoring network at 212 stations for NOx, we are undertaking additional monitoring for NOx, PM₁₀ and Particulate Matter (PM) using recently purchased 6 x Aeroqual AQS1 monitors, and 3 x existing Zephyr monitors. As the pollutants of concern are mainly traffic related, this will help NYC measure particulates and provide more up to date and real-time information. This project and the associated data will help inform on projects we are to undertake alongside Public Health and Transport colleagues and provide further impetus to join up action between various authority departments; as well as provide more detail and accuracy of the effectiveness of measures and interventions put in place to tackle air quality issues in AQMA areas. In addition, this will provide the basis for this authority to report on our commitment to take action, to achieve interim and longer-term

government target concentrations for particulates (PM_{2.5}) which are outlined below:

- The Environment Act 2021¹ (Part1) sets out the long-term goals for achieving cleaner air, to reduce the environmental impacts of air pollution. In addition, the Clean Air Strategy 2019² has outlined a comprehensive set of actions required across all parts of government to improve air quality and maximise public health benefits. The Environment Act sets out the following environmental targets for PM_{2.5}:
 - Annual Mean Concentration Target ('concentration target') a target of 10 micrograms per cubic metre (μg m³) to be met across England by 2040
 - Population exposure Reduction Target ('exposure reduction target') a
 35% reduction in population exposure by 2040 (compared to a base year of 2018).
- Promoting Low Emission Transport including procuring alternative refuelling infrastructure to promote Low Emission Vehicles, with recharging points,
- Replacing conventional NYC fleet vehicles with EV alternatives, where feasible to do so between 2019 and 2040. Mandatory consideration of alternative 'Company Vehicle Procurement' with the first phase having included replacement of front-line service vehicles and pool cars.

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 and older people, and those with heart and lung conditions. There is also often a strong correlation with

¹ Environment Act 2021 (legislation.gov.uk)

² Clean Air Strategy 2019 - GOV.UK (www.gov.uk)

inequality issues because areas with poor air quality are also often the less affluent areas^{3,4}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion⁵. North Yorkshire Council is committed to reducing the exposure of people in North Yorkshire to poor air quality to improve overall health.

North Yorkshire Council have developed actions that can be considered under the following themes and 9 broad topics, which are discussed throughout the report:

Theme 1: Public Health and Wellbeing

Theme 2: Policy Guidance and Development Control

Theme 3: Promoting Low Emission Transport and Charging Infrastructure

Theme 4: Promoting Travel Alternatives to Private Vehicles, Public Transport

Theme 5: Public Information and Education on Air Quality

Theme 6: Transport Planning, Infrastructure and Traffic Management

Theme 7: Local Planning, Policy, and Development Management

Theme 8: Vehicle Fleet Efficiency

Theme 9: Environmental Permit Management Regime

Our priorities are to continue with the existing monitoring programmes throughout North Yorkshire, to review monitoring locations and seek further opportunities to improve air quality across the localities.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control, however, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed

³ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

⁴ Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

⁵ Defra. Air quality appraisal: damage cost guidance, 2023

in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond North Yorkshire Council's direct influence.

This action plan takes a collaborative approach across our now much larger Council area, with the establishment of a new *Council Steering Group* with members that include the Climate Team, Public Health, Highways and other transportation department sections, to ensure that the measures detailed within the action plan provide a holistic approach to tackling the sources of poor air quality in North Yorkshire.

Responsibilities and Commitment

This AQAP was prepared by the Scientific Team in Regulatory Services at North Yorkshire Council with the support and agreement of the following officers and departments:

- NYC Public Health
- NYC Highways and Traffic management, Transport Planning
- NYC Planning policy, Sustainability and Economic Development
- NYC Climate Action Officers

This section will be fully updated at the end of September, following the consultation period.

This AQAP has been compiled by, **Amanda Fuller**, **Emily Revill and Sophie Nicholson** and checked by **Dr Kevin Carr**, **Divisional Officer**, **Scientific**.

It has been approved by:

Karl Battersby, Corporate Director – Environment Louise Wallace, Director of Public Health

This AQAP will be subject to an annual appraisal of progress and will be reported in the Annual Status Reports (ASRs) produced by North Yorkshire Council as part of our statutory Local Air Quality Management duties. `vii

If you have any comments on this AQAP, please send them to Amanda Fuller at:

North Yorkshire Council,
County Hall, Racecourse Lane,
Northallerton,
North Yorkshire DL7 8AD

0300 131 2 131

scientific@northyorks.gov.uk

Table of Contents

E	xecuti	ve S	Summary	i
	Respo	nsik	pilities and Commitment	V
1	Int	rod	uction	1
2	Su	mm	nary of Current Air Quality in North Yorkshire Council	2
	2.1	Lo	cation and Context	2
	2.2		verview of Air Quality Management Areas and Associated Monitoring	0
	2.3		eneral Air Quality Trends in the North Yorkshire Council (NYC) Area	
	2.3	.1	Smoke Control Areas	. 16
3	No	rth	Yorkshire Council's Air Quality Priorities	. 18
	3.1	Pu	blic Health Context	19
	3.2	Pla	anning and Policy Context	23
	3.2	.1	The National Planning Policy Framework	. 24
	3.2	.2	North Yorkshire Councils Local Plans	. 24
	3.2	.3	Transport Strategy and Objectives	. 25
	3.2 Qu		National Highways to work with Local Authorities to Improve Air 27	
	3.3	So	urce Apportionment	28
	3.3	.1	New Street, Selby – AQMA 6	. 29
	3.3	.2	Wetherby Road, Harrogate (AQMA 2)	. 31
	3.3	.3	Bond End, Knaresborough (AQMA 1)	. 32
	3.4	Re	equired Reduction in Emissions	34
	3.5	Ke	y Priorities	36
4	De	velo	opment and Implementation of North Yorkshire Council's AQAP	. 38
	4.1 Cc	nsu	ıltation and Stakeholder Engagement	38

4	1.2	Steering Group	38
5	AC	AP Measures	41
Ap	pend	ix A: Response to Consultation	47
Аp	pend	ix B: Reasons for Not Pursuing Action Plan Measures	48
Аp	pend	ix C: AQMA Maps	49
Аp	pend	ix D: Local Plans and policies that relate to Air Quality	57
Аp	pend	ix E: Five-year monitoring results for the AQMAs	65
Аp	pend	ix F – Graphs showing 5-year trends of Diffusion tube monitoring	
loc	atior	s in AQMAs	68
Ap	pend	ix G: Clean Air Day Posters	75
Glo	ssar	y of Terms	76
Ref	ieren	ces	77

		•			
		\sim			-
	ist		Ta		
_	I-OL	VI.		v	
		\mathbf{v}		\sim	

Table 2.1 - A	QMA Location details4
	nnual Bias Adjusted Mean No2 Concentrations for AQMAs still under
Table 2.3 - P	Populations Affected within AQMAs11
Table 2.4- Ba	ackground Particulate Matter Concentrations14
Table 2.5 - %	6 Contribution by source for PM1015
Table 2.6 - %	6 Contribution by Source for PM2.515
Table 2.7 - S	moke Control Areas in North Yorkshire Council Area17
Table 3.1 - H	lighest Recorded annual Mean concentration in each AQMA30
Table 3.2 - R	Reduction in NOx concentrations required at Selby AQMA31
Table 4.1 – 0	Consultation Undertaken38
Table 5.1 – A	Air Quality Action Plan Measures42
List of Fig	ures
Figure 1	Highest bias-adjusted mean concentration of NO ₂ measured in the
North Yorksh	nire AQMAs for the monitoring period 2019- 20239
Figure 2	The Air Pollution effects on People throughout their Lifetime18
Figure 3	Sources of Air Pollution and associated Percentage Contributions20
Figure 4	Selby - Source Apportionment27
Figure 5	Wetherby Road, Harrogate – Source Apportionment28
Figure 6	Bond End, Knaresborough – Source Apportionment29

1 Introduction

This report outlines the actions that North Yorkshire Council will deliver between 2024 – 2029 to achieve compliance within AQMAs through the reduction of concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the North Yorkshire Council area.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within North Yorkshire Council's Annual Status Report (ASR).

The North Yorkshire Council AQAP (2024-2029) will include:

- A clear vision and direction for the North Yorkshire Air Quality Action plan (AQAP).
- Strategic and focussed measures across the County to continue to improve air quality with particular emphasis in declared Air Quality Management Areas (AQMAs).
- This AQAP brings together all air quality management areas across former district areas and incorporates a consolidated and consistent plan of action towards achieving the air quality objective (AQO) standards.
- 4. Consultation and engagement process with all stakeholders and delivery partners on key actions and measures within the new unitary authority.

2 Summary of Current Air Quality in North Yorkshire Council

2.1 Location and Context

From the 1 April 2023 all District and Borough Councils in North Yorkshire were combined to create a new unitary authority, North Yorkshire Council. This report represents the first North Yorkshire Air Quality Action Plan, incorporating all Air Quality Management Areas (AQMAs) across North Yorkshire.

North Yorkshire is a large non-metropolitan county, a geographical area incorporating the historic towns of Harrogate, Richmond, Scarborough, Malton, Skipton, and Selby with the County Town of Northallerton. There are also large stretches of deep rurality from the West of the Yorkshire Dales to the unique coastline of the East, with a county population of over 600,000 people (Census 2021). The rurality of the North Yorkshire area is reflected by the fact that there are two National Parks within its boundary.

The major source of pollution within North Yorkshire is from road transport, both NO₂ and PM₁₀. The major road systems that run the length and breadth of the county include the A1, A66, the A19 and A59, plus various highway schemes and bypasses that encompass the rural and urban areas. The East Coast main line Railway also intersects the county, connecting people with the North and the South of the UK.

Whilst the longer-term trend is showing a reduction in pollution concentrations, and four AQMAs are planned for revocation in the North Yorkshire area in 2024, there are some elevated results in remaining AQMA's that necessitate further monitoring, analysis, and tightening of measures to bring the annual air quality standard consistently well below the required objective of **40µg/m**³.

2.2 Overview of Air Quality Management Areas and Associated Monitoring Network

North Yorkshire Council's monitoring network extends to 212 passive sample stations across the wider district area. In this first year of unitary authority management, we

North Yorkshire Council AQAP - 2024

have been adapting to the changes whilst maintaining our statutory responsibilities to reduce the risk of harm from environmental hazards to air through our monitoring network and associated actions and measures contained within the AQAP, and to bring together all air quality duties previously held across the seven former district areas.

Whilst there have been very few changes to the sample stations or the declared AQMAs during 2023, consistent monitoring levels and a consistent downward trend of NOx results have been observed across the wider NY area. Some minor elevated results have been observed in two declared AQMAs, which are discussed later in the report, but overall, the AQMA results are demonstrating the effectiveness of action plan measures to reduce NOx concentrations, such as better traffic management, more public knowledge gained on AQ issues and alternative fuel transportation options.

Monitored areas that have exceeded the UK's National Air Quality Objective (AQO), required an Air Quality Management Area (AQMA) to be declared. North Yorkshire inherited *eight declared AQMAs*, seven for NO₂ and one for PM₁₀. The following table represents all previously declared *eight AQMAs*; *four AQMAs* that will be retained for further monitoring, and *four AQMA's* planned for revocation during 2024, within the North Yorkshire Council area.

Table 2.1 AQMA Location, year of declaration, level of exceedance of Air Quality Objective (AQO) and those planned for revocation or further monitoring.

AQMAs	Location	Source of exceedances	Year Declared	Exceedance level in 2023 measured against AQO of 40µg/m³	Retained/ Revocation
AQMA 1 Knaresborough AQMA No. 1 Bond End, Knaresborough	The Royal Oak, 1-23 Bond End and 104-138 High Street, Knaresborough	Road Transport related	November 2010	Annual Mean exceedance of NO ₂ Not exceeded 33.9	Retained
AQMA 2 Harrogate AQM No. 1 Order 2017 Wetherby Rd, Harrogate	The Flat above 110 Wetherby Road	Road Transport related	October 2017	Annual Mean exceedance of NO ₂ Not exceeded 27.9	Retained
AQMA 3 Ripon AQMA No.1 Low and High Skellgate, Ripon	1-6 & 29-36 Low Skellgate, 8A Heaths Court, all properties High Skellgate, and 1-4 & 28-34 Westgate, Ripon	Road Transport related	November 2010	Annual Mean exceedance of NO ₂ Not exceeded 28.4	Planned for Revocation
AQMA 4 Knaresborough AQM No. 2 Order 2017 York Place, Knaresborough	2-26 York Place, 1-6 Casson Place and 1-6 Tannery Court, Knaresborough	Road Transport related	October 2017	Annual Mean exceedance of NO ₂ Not exceeded 25.9	Planned for Revocation

AQMAs	Location	Source of exceedances	Year Declared	2023 measured against AQO of 40μg/m³	Remain/ Revoked
AQMA 5 The Hambleton District Council (Bedale) AQM Order 2017	Bridge Street and Marketplace, Bedale	Road Transport related	November 2017	Annual Mean exceedance of NO ₂ Not exceeded 17.1	Planned for Revocation
AQMA 6 AQMA No. 1 New Street, Selby	New Street, Selby	Road Transport related	February 2016	Annual Mean exceedance of NO ₂ Not exceeded 39.8	Retained
AQMA 7 Malton Air Quality Management Area	An area in the centre of Malton encompassing several properties along the B1248 (Castlegate and Yorkersgate, between Sheepfoot Hill and Market Street) and the B1257 (Wheelgate and Old Maltongate, between Finkle Street and 20m east of the junction with East Mount). Including parts of Church Hill.	Road Transport related	December 2009	Annual Mean exceedance of NO2 Not exceeded 25.8	Planned for Revocation
AQMA 8 Scarborough AQMA	Most of the village of Staithes	Domestic Heating	August 2018 (Amended)	Exceedance of PM ₁₀ No current monitoring undertaken	Retained

It is a requirement that if pollutant levels fall below the UK national air quality objective levels for a period of 5 consecutive years, an AQMA must be revoked.

Therefore, North Yorkshire Council have proposed that the following four AQMAs be revoked that were previously declared for exceedances of the nitrogen dioxide (NO₂) annual mean objective of 40µg/m³ but have now been compliant for the last 5 years. Further information regarding the location data can be found in Appendix F:

- Low and High Skellgate, Ripon (AQMA 3 Ripon AQMA No.1 Low and High Skellgate, Ripon)
- York Place, Knaresborough (AQMA 4 AQM No. 2 Order 2017 York Place, Knaresborough)
- Castlegate, Malton (AQMA 7 Malton Air Quality Management Area)
- Bridge Street Marketplace, Bedale (AQMA 5 The Hambleton District Council (Bedale)
 AQMA Order 2017)

The following two AQMAs have achieved an annual mean concentration 10% below 40µg/m³ of the Air Quality Standard (AQS) objective during 2023 and it is expected that a continued downward trend in air quality concerns in both these areas will be achieved during 2024. Should further monitoring reflect this prediction and be consistently below the AQS objective for 5 consecutive years then NYC will seek to revoke these AQMAs also. This will be reported on in the 2025 ASR:

AQMA 1 (Bond End Knaresborough) - The AQMA at Bond End,
Knaresborough was declared in November 2010 for exceedances of the
nitrogen dioxide annual mean objective. Concentrations between 2010 and
2018 remained static and non-compliant. At the end of 2018, a North
Yorkshire County Council scheme was completed, involving the removal of
traffic lights at two junctions, and replacement with two mini roundabouts.

The first year following the completion of the scheme (2019), the monitoring results showed a large decrease of 11.8µg/m³, at the monitoring location with the highest concentration in 2018. Following the first year there has continued

- to be a steady decrease, with the highest concentration in 2023 being 33.9 $\mu g/m^3$. See Table 2.2.
- AQMA 2 (Wetherby Road, Harrogate) The AQMA was declared in 2017 for exceedances of the nitrogen dioxide annual mean objective. In 2018 the annual mean objective was breached, with concentrations decreasing or remaining constant from that time, with a concentration of 27.9 μg/m³ being recorded in 2023.

The AQMA in Selby did *not* consistently achieve below the 10% of the AQS objective during 2023 with a recording of 39.8µg/m³ at one location site (S7 at 21 New Street), this being a higher concentration than in the previous year of 2022 (see Table 2.2). The highest change in this AQMA was also seen at location S5 (3 New Street) with an increase of 2.7µg/m³. Monitoring within this AQMA and further scrutiny of the appropriate measures and actions to effectively address a reduction in NOx concentrations to bring the AQMA within acceptable parameters will continue.

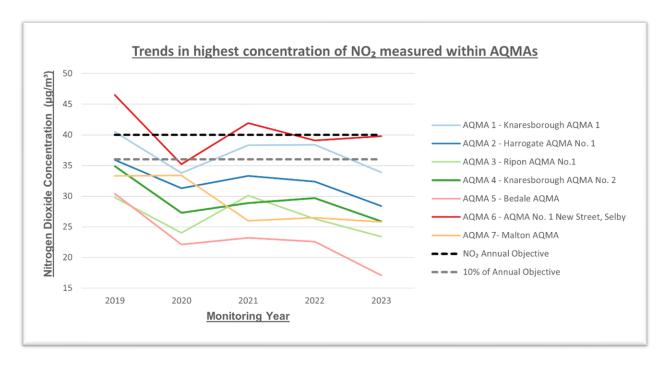
 AQMA 6 (AQMA no.1 New Street, Selby) - The AQMA was declared in 2016 for exceedances of the nitrogen dioxide annual mean objective. In 2017, three monitored locations breached the objective, since 2020 only one location has breached the annual mean objective, however concentrations appear to have plateaued for now.

Table 2.2: Annual Bias-adjusted mean NO₂ concentrations with AQMAs 1, 2 and 6 which are to remain under review.

AQMA	Diffusion Diffusion Tube Tube ID location		Annual Bias-adjusted Mean NO ₂ Monitoring Results (μg/m³)					
	1 450 15	location	2019	2020	2021	2022	2023	
AQMA 1	H13	21 Bond End, Knaresborough	40.5	30.7	38.5	38.4	31.2	
Knaresborough AQMA No. 1	H14	9 Bond End, Knaresborough	38.6	33.8	36.8	38.3	33.9	
Bond End, Knaresborough	H16	10 Bond End, Knaresborough	31.2	25.6	29.5	27.3	23	
	H17	16-18 Bond End, Knaresborough	24.3	18.7	21.3	19.9	18.3	

H18
H51
High Street, 37 30.9 33.7 33.1 30.5
Knaresborough
H15, H59, 117 High Street, 35.2 29.8 31.6 32.2 27 Knaresborough
H24 Woodlands Pub, Hookestone Drive 25.4 20.8 22.7 23.1 19.3
AQM No. 1 Order 2017 Wetherby Rd, Woodlands Pub, Wetherby Road 35.9 31.3 31.7 31.8 27.9
Harrogate Woodlands Pub, Lamppost, 26.8 22.1 24 23.5 19 Wetherby Road
S6
Hairdresser, New 26.4 20.6 24.6 22.7 22.5
Hairdresser, New 26.4 20.6 24.6 22.7 22.5 Street S26 Skin & Furs, New Street S5a, S5b, Roko Furniture, New Street S5c New Street 39.2 29.6 33.3 30.1 32.8
Hairdresser, New Street S26
Hairdresser, New 26.4 20.6 24.6 22.7 22.5 Street S26 Skin & Furs, New Street S5a, S5b, Roko Furniture, New Street New Street. S7a, S7b, 21 New Street 40.6 24.6 22.7 22.5 22.5 22.5 24.9 29.6 24.6 22.7 22.5 22.5 24.9 24.9 24.9 24.9 24.9 24.9 24.9 24.9
Hairdresser, New Street S26
Hairdresser, New Street S26 Skin & Furs, New Street S5a, S5b, Roko Furniture, S5c New Street S7a, S7b, Selby Hairdresser, New 26.4 20.6 24.6 22.7 22.5 AQMA 6 AQMA No. 1 New Street, S7c S8 30 New Street 29.2 21.1 24.7 23.5 22.3 S4 Eye of Bri, New 43.6 32.2 39.2 37.1 36.8
Hairdresser, New Street S26 Skin & Furs, New Street S5a, S5b, Roko Furniture, New Street S7a, S7b, 21 New Street S8 30 New Street S8 30 New Street S9.2 21.1 24.7 23.5 22.3 S4 Eye of Bri, New Street S3a, S3b, Tutti's, New Street S3a, S3b, Tutti's, New Street S26 Skin & Furs, New 4 30.3 27.2 27.6 4 30.3 27.2 27.6 39.2 29.6 33.3 30.1 32.8 41.9 39.1 39.8 39.8 30 New Street S4 Eye of Bri, New Street S3a, S3b, Tutti's, New Street S3a, S3b, Tutti's, New Street S6.4 20.6 24.6 22.7 22.5 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 27.2 27.6 4 30.3 20.1 32.8 4 30.3 30.1 32.8 4 30.3 30.1 32.8 4 30.3 30.1 32.8 4 30.3 30.1 32.8 4 30.3 30.1 32.8 4 30.3 30.1 32.8 4 30.3 30.1 32.8 4 30.3 30.1 32.8 5 30.1 30.1 32

Figure 1: Highest bias-adjusted mean concentration of NO₂ measured in the North Yorkshire AQMAs for the monitoring period 2019- 2023



An AQMA was previously declared in the coastal village of Staithes, within the former Scarborough district in 2004 for the exceedance of the following pollutants in connection with the burning of solid fuel for domestic heating:

- 01/08/2024 Sulphur dioxide SO₂ 15-minute and 1-Hour and 24-Hour Mean
- 01/08/2024 Particulate Matter PM₁₀ Annual and 24-Hour Mean

Following a monitoring investigation in 2010-11 the AQMA was amended in 2018 as levels of SO₂ were found to be within the compliant objective levels. PM₁₀ levels however, continued to be exceeded therefore the AQMA was retained for the following:

• 29/08/2018 Particulate Matter PM₁₀ – Annual and 24-Hour Mean.

Chemical speciation analysis of the measured particulates showed that an estimated 36% of the PM₁₀ concentration was made up of sodium chloride, the most likely source to be sea salts. If natural sources could be discounted when considering air quality objectives, the PM₁₀ objective would be met in Staithes. The European Air Quality Directive gives member states the option to discount natural sources of PM₁₀,

but this option has not been exercised by the UK government in the current UK Air Quality Regulations⁶. Confirmation of this has been given by the LAQM helpdesk operated by Bureau Veritas, who have advised that the regulations do not differentiate between various source components, and because of exceedance of the PM₁₀ objective, the AQMA will have to remain in place.

Staithes, Scarborough (PM₁₀) (AQMA 8 – Scarborough).

Since this investigation in 2010-11 no further monitoring has taken place, therefore, it is unclear as to what the current situation is with PM₁₀. Although the sea salt component of PM₁₀ cannot be taken into account, potential changes which may have reduced the PM₁₀ levels since the previous report are:

- Housing associations to install mains gas (or electrical alternatives) in southern part of Staithes
- Introduction of the Air Quality Domestic Solid Fuels standards (England)
 Regulations 2020.

NYC are currently investigating any actions that may have recently progressed regarding domestic heating and the potential impact of the above measures in this AQMA. Additionally, NYC will be installing a Zephyr air quality monitor to determine current PM₁₀ levels.

The following table shows the estimated population numbers affected in the remaining AQMAs - data taken from the ONS⁷ on population numbers. Air pollution is the greatest environmental risk to public health and whilst these areas are not considered areas of social deprivation, according to the Ministry of Housing Communities and Local Government ⁸(DCLG) Indices of Deprivation, actions to

⁶ The Air Quality Standards Regulations 2010 (legislation.gov.uk)

⁷ Population estimates for England and Wales - Office for National Statistics (ons.gov.uk)

⁸ Indices of Deprivation 2015 and 2019 (communities.gov.uk)

reduce pollution levels in these areas is vital to reducing potential poor health outcomes.

The estimated population for each AQMA is shown in Table 2.3. This data has been estimated by multiplying the number of properties by 2.4. According to the Office for National Statistics (ONS), "The average household size in England and Wales in 2021 was 2.4 people per household". 2021 census data was not used as it is provided at a postcode level which is too broad to pick out each individual address.

Table 2.3: Number of properties and estimated population within AQMAs 1, 2, 6 and 8

AQMA	Properties affected	Population
AQMA 1 Knaresborough AQMA No. 1 Bond End, Knaresborough	38	91
AQMA 2 Harrogate AQM No. 1 Order 2017 Wetherby Rd, Harrogate	1	2.4
AQMA 6 AQMA No. 1 New Street, Selby	35	84
AQMA 8 Scarborough AQMA (PM10)	327	785

The comprehensive network of monitoring within the wider NYC areas helps with reviewing and reporting on the effectiveness of the Action Plan and the measures in place to reduce NO₂, PM₁₀ and PM_{2.5} concentrations.

 Further information regarding the monitoring locations and background information in 2023 can be found in the latest ASR here:
 Air quality in your area | North Yorkshire Council

2.3 General Air Quality Trends in the North Yorkshire Council (NYC) Area

Overall, North Yorkshire has *very few areas of major concern* in relation to air quality, with the main source of pollution being from road transport emissions, i.e., nitrogen oxides/ nitrogen dioxide (NOx/NO₂). The NYC Annual Status Report (ASR) contains results of passive monitoring at 212 sample stations, with all sites reporting compliance against the annual mean Air Quality Standard (AQS) objective (40µg/m³) during the 2023 monitoring year.

Most sites have shown a general downward trend over the last 5 years. This may partly have been due to improvements in traffic flow combined with the increasing numbers of electric vehicles on the roads and the start-stop technology on modern vehicles, combined with the impact of the Covid lockdown(s) and changing social and working practices, such as more people working from home and reducing the number of vehicle journeys.

The majority of monitoring sites for 2023 will continue for 2024. The number and locations of monitoring sites across the whole area will be reviewed in 2024/25 and diffusion tube suppliers will be reviewed by the new Scientific Team to enable a consistent approach and management in future years (as and when current contracts expire). There are no new significant areas of concern within our council areas, but we continue to be diligent, continue monitoring, looking for any new developments, changes in commercial activity and potential traffic hot spots that may impact on air quality. In addition to diffusion tube monitoring, we will be supporting the delivery of national PM_{2.5} targets through other project initiatives discussed later in the report.

Particulate matter is everything in the air that is not a gas, and the size of airborne particles governs their behaviour. Particulate matter is either emitted directly from sources, known as primary PM_{2.5}, or formed in the air from chemical reactions between other pollutants, known as secondary PM_{2.5}. Primary PM_{2.5} is emitted from human activities, like burning fuels, braking and various industrial processes, as well as from natural sources like sea spray and dust. Domestic combustion contributed

27% of emissions in 2021⁹ and industrial combustion of biomass fuels accounts for 18%¹⁰.

No monitoring of Particulate matter (either PM₁₀ or PM_{2.5}) is currently undertaken in North Yorkshire. This will be undertaken when the Aeroqual AQS1 are installed. A scoping exercise is currently underway to assess suitable site locations for the monitors.

Table (2.4) shows the background particulate matter concentrations for both PM2.5 and PM10 taken from the DEFRA 2018 reference year background maps¹¹. This has allowed an estimate to be derived for particulate matter within North Yorkshire based on the data for 2023.

⁹ Emissions of air pollutants in the UK - Summary - GOV.UK (www.gov.uk)

¹⁰ Air quality strategy: framework for local authority delivery - GOV.UK (www.gov.uk)

¹¹https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018

Based on the background reference maps North Yorkshire is below the $10\mu g/m^3$ annual mean concentration target with an average mean concentration of $6.2\mu g/m^3$ for PM_{2.5}. It also meets the national air quality objective for PM₁₀ at $10.4\mu g/m^3$ with the limit being either a 24 hour mean of $50\mu g/m^3$ not to be exceeded more than 35 times a year or an annual mean concentration of $40\mu g/m^3$.

Table 2.4 Background Particulate Matter Concentrations for PM2.5 and PM10

Former District Area	Background PM2.5 concentration (µg/m³)	Background PM10 concentration (µg/m³)
Craven	5.2	7.7
Hambleton	6.5	11.4
Harrogate	6	9.8
Richmond	5.3	8.2
Ryedale	6.5	11.5
Scarborough	6.2	10.4
Selby	7.5	13.5
North Yorkshire average	6.2	10.4

Tables 2.5 and 2.6 show the estimated % contribution of sources of PM to affect local air quality for the former district areas of North Yorkshire for both PM2.5 and PM10. This is taken from the DEFRA background maps for the 2023 year.

The data shows that secondary PM and residual salt are the predominant sources of particulate matter in North Yorkshire. With domestic, and industry and road having a minor contribution for both PM_{2.5} and PM₁₀.

Table 2.5 The % Contribution by Source for PM10

Former				% Contribution by source for PM10						
District Area	Road	Brake & Tyre	Road abrasion	Industry	Domestic	Rail	Other	Secondary PM	Residual salt	Point sources
Craven	0.05	0.1	0.1	2.3	0.8	0.01	0.2	52.7	44.2	0.2
Hambleton	0.1	0.6	0.1	2.6	0.5	0.1	0.1	40.1	55.5	0.3
Harrogate	0.06	0.3	0.2	2.6	1	0.01	0.2	44.4	51.1	0.3
Richmond	0.06	0.1	0.1	2.1	0.3	0	0.1	50.3	47.1	0.1
Ryedale	0.02	0.1	0.1	2.3	0.4	0.01	0.1	41.6	54.9	0.1
Scarborough	0.02	0.1	0.1	1.4	0.5	0.02	0.1	45.2	52.6	0.1
Selby	0.1	0.4	0.2	3.5	0.9	0.1	0.3	35.1	58.1	1.3

Table 2.6 The % Contribution by Source for PM2.5

Former District Area	% Contribution by source for PM2.5										
	Road	Brake & Tyre	Road abrasion	Industry	Domestic	Rail	Other	Secondary PM	Residual salt	Point sources	
Craven	0.03	0.1	0.1	1.1	1.1	0.01	0.3	68.5	28.7	0.1	
Hambleton	0.3	0.2	0.1	1.6	0.8	0.1	0.2	61.4	34.8	0.4	
Harrogate	0.1	0.3	0.3	1.7	1.6	0.02	0.3	63.4	32.7	0.4	
Richmond	0.04	0.1	0.1	1.3	0.5	0.03	0.1	68.7	29.7	0.1	
Ryedale	0.03	0.1	0.1	1.5	0.6	0.02	0.2	63.8	33.7	0.2	
Scarborough	0.03	0.1	0.1	1	0.9	0.01	0.2	65.7	31.4	0.1	
Selby	0.1	0.4	0.2	2.8	1.7	0.1	0.6	54.8	36.7	2.1	

2.3.1 Smoke Control Areas

The Environment Act 2021¹² which amended the Clean Air Act 1993, gives local authorities greater powers to enforce smoke control areas. It is hoped that this will help to improve air quality as domestic burning of wood and coal in domestic open fires and solid fuel stoves contributes 38% to Particulate Matter emissions in the UK, with industrial combustion (non-domestic burning) also contributing 16%¹³.

Based on the Defra Background map data as shown in tables 2.4, 2.5 and 2.6, North Yorkshire is below the limits for PM_{2.5} and PM₁₀, with domestic burning and industrial sources having a minor contribution to the PM in North Yorkshire. However, recent studies clearly indicate that there is no safe level of air pollution, with evidence demonstrating that particulate matter has a significant impact on human health.

There are currently 10 smoke control areas within North Yorkshire which are outlined in table 2.7 below. North Yorkshire Council will review the current smoke control areas and utilising the new Aeroqual S1 monitors which will monitor PM once they are installed, may identify areas where smoke control areas may need to be reviewed to improve and/or reflect current air quality.

¹² Environment Act 2021 (legislation.gov.uk)

¹³ Defra. Air quality: explaining air pollution – at a glance (2019)

Table 2.7 Smoke Control Areas in North Yorkshire

Name	Former District	Location affected	Within AQMA	
South Craven Smoke Control Area	Craven	Crosshills, Sutton-in- Craven, Glusburn, Glusburn Green	No	
Skipton Smoke Control Area	Craven	Skipton	No	
Harrogate Smoke Control Area	Harrogate	Harrogate	No	
Tockwith Smoke Control Area	Harrogate	Tockwith	No	
Selby Smoke Control Area no.1	Selby	Selby	Yes – AQMA no.6 New Street, Selby	
Selby Smoke Control Area no. 2	Selby	Selby	No	
Selby Smoke Control Area no.3	Selby	Selby	No	
Brayton Smoke Control Area	Selby	Brayton	No	
Sherburn-in-Elmet Smoke Control Area	Selby	Sherburn-in-Elmet	No	
South Milford Smoke Control Area	Selby	South Milford	No	
Thorpe Willoughby Smoke Control Area	Selby	Thorpe Willoughby	No	

3 North Yorkshire Council's Air Quality Priorities

This section presents the main priorities and the approach to be taken by North Yorkshire Council to continue to improve air quality within its administrative area.

The main factor affecting air quality in the council's area is related to transport emissions.

Priorities will focus on the following:

- An overarching AQAP tailored to encompass all former 7 districts within North
 Yorkshire Council in collaboration with the Transport, Planning, Public Health,
 and Sustainability colleagues to reduce emissions, to link in with strategies
 and policy and to improve awareness of air quality.
- Revocation of 4 existing AQMAs for previous exceedance of NO₂ which is mandatory after achieving below the annual mean objective for 5 consecutive years in all areas.
- Further monitoring of 1 existing AQMA for the previous exceedance of PM₁₀, to understand current levels of PM₁₀. Once sufficient data has been collected and it is known what changes in domestic heating have taken place in this area, we anticipate recommending revocation of this AQMA. This will be followed up in next year's ASR 2025.
- Continue to review and assess local air quality across North Yorkshire and to fulfil our legal obligations.
- To continue to concentrate on those measures presented in this report that will target the predominant sources of emissions in all areas of NYC.
- Reviewing development schemes and improvement works.
- Conduct further assessment of the Selby AQMA and work with partners to implement additional pollution reducing measures.

3.1 Public Health Context

Air pollution is associated with several adverse health impacts. Local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5 µm or less).

The PM_{2.5} indicator in the Public Health Outcomes Framework (PHOF) (England) provide further impetus to join up action between the various local authority departments which impact on the delivery of air quality improvements.

Poor air quality is a significant public health issue. Public Health England (2022) estimates between 28,000 and 38,000 deaths each year are attributed to human-caused air pollution and in addition many people suffer avoidable chronic ill health because of air pollution¹⁴.

In April 2021, following an inquest into the death of Ella Kissi-Debrah; a 9-year-old girl from Lewisham, the Coroner Philip Barlow concluded that Ella died of asthma, contributed to by excessive air pollution exposure. The first case of its kind in the UK to rule exposure to air pollution as a contributing factor in a death. The prevention of future deaths report produced by the coroner highlighted the public's low awareness of national and local pollution levels including the health impacts. It calls local authorities and healthcare professions to better communicate these risks and what people can do about them¹⁵.

The health effects of pollutants will depend on many factors as to the level of harm an individual is exposed to. This includes the dose, duration, how an individual comes into contact with the pollutant, in addition to factors such as age, sex, diet, family traits, lifestyle and state of health.

https://assets.publishing.service.gov.uk/mwginternal/de5fs23hu73ds/progress?id=i8m5J5egGiRk9LeevlwAnFThInUFKlpi6fR82MnB2s8,&dI

¹⁴ Chief Medical Officer's Annual Report 2022:

¹⁵ https://www.judiciary.uk/wp-content/uploads/2021/04/Ella-Kissi-Debrah-2021-0113-1.pdf

Air pollution affects people throughout their lifetime **Elderly** Adults Children accelerated decline lung function Pregnancy coronary heart disease lung cancer slower development diabetes of lung function lung cance dementia development problems chronic obstructive pulmonary heart attack, heart failure disease (as chronic bronchitis) more wheezing and coughs and strokes diabetes start of atherosclerosis

Figure 2 – The Air Pollution effects on People throughout their Lifetime¹⁶

Air pollution can affect the eyes, nose and throat, the heart and associated blood vessels and the lungs and respiratory system. Short-term exposure (over hours or days) can lead to a range of health impacts including lung function, coughing, wheezing and shortness of breath, exacerbation of asthma, increases in respiratory and cardiovascular hospital admissions and mortality. Over long timescales (years or lifetimes) exposure can lead to reduced life expectancy, due to cardiovascular diseases, respiratory diseases, and lung cancer. More recent research has associated air pollution with affecting the brain causing dementia and cognitive decline; diabetes and affecting early life leading to various birth outcomes, for example, low birth weight and developmental problems.

Air pollution can affect anyone's health; nevertheless, some individuals can be more susceptible than others. These include:

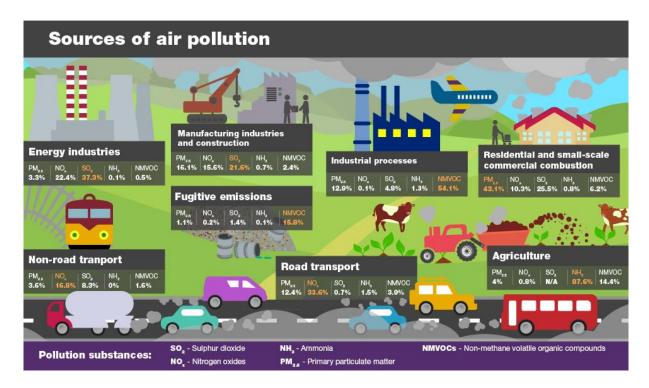
- children
- the elderly
- individuals with existing cardiovascular or respiratory diseases

¹⁶ Public Health England – Health Matters

- pregnant women
- communities in areas of higher pollution, such as close to busy roads
- low-income communities

The Public Health Outcome Framework (PHOF) is a set of indicators compiled by the Department of Health and Social Care (DHSC) to measure how effectively the activities of each local authority are addressing the determinants of health. Within the PHOF there is one indicator which specifically measures air pollution, D01 fraction of mortality attributable to particulate air pollution. Estimates of mortality in England (2022 data) range from 2.7% (Isles of Scilly) to 8.3% (City of London). For the North Yorkshire Unitary Authority, the indicator value is 4.3%, which is lowest in the Yorkshire and Humber region, alongside North Lincolnshire. The average for England is 5.8%.

Figure 3 – The Sources of Air Pollution and associated Percentage Contributions¹⁷



To help facilitate this, Defra commissioned research to develop a toolkit to help local authorities and public health professionals tackle air pollution in their area with a particular focus on PM_{2.5}. The toolkit provides a one-stop guide to the latest evidence on air pollution, guiding local authorities to use existing tools to appraise the scale of the air pollution issue in its area. It also advises local authorities how to appropriately prioritise air quality alongside other public health priorities to ensure it is on the local agenda.

2024 Saw the creation of the new Combined Authority between City of York and North Yorkshire, headed by an elected mayor. It is anticipated that closer work between both authorities on air quality issues will result.

¹⁷ Public Health England – Health Matters

3.2 Planning and Policy Context

Land use planning and decisions play a significant role in managing and improving air quality by setting out the broad locations for development, supported through a robust localised planning application regime, to ensure that air quality is adequately considered. North Yorkshire Council has several localised development frameworks, core strategies and policies that are still in use and applicable across the former districts, which will remain in place, pending a more detailed review of the planning framework.

A new steering group has been established with the objective of reviewing the existing policies and strategies and to consolidate the strategic objectives relevant to air quality. Land-use is key in improving air quality and as part of this review, this will ensure that all development and planning change is fully considerate of encouraging the use of sustainable forms of transport such as public transport, walking, and cycling and reducing the adverse impact of society on the environment (e.g., reducing pollution) and responding to the implications of climate change.

Policies that promote higher quality building standards, reduce energy use and are inclusive of low emissions strategies and processes, will also bring opportunities for cleaner technologies (such as Air Source Heat Pumps (ASHPs)) and policies that promote sustainability. Specifically, planning policies should sustain compliance with, and contribute towards, meeting UK limit values or national objectives for air pollutants¹⁸, taking into account the presence of Air Quality Management Areas (AQMAs) and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in an Air Quality Management Area is consistent with the local air quality action plan.

North Yorkshire Council AQAP - 2024

¹⁸ Land Use Planning & Development Control: Planning for Air Quality January 2017

3.2.1 The National Planning Policy Framework

The National Planning Policy Framework, revised in December 2023, sets out that transport issues should be considered from the earliest stages of plan-making and development proposals so that the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains.

Paragraph 192 of the NPPF specifically says that: Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. As far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

3.2.2 North Yorkshire Councils Local Plans

This version of the AQAP reflects those current plans, policies, and guidance in place across the wider North Yorkshire area. Until a North Yorkshire Local Plan is adopted, the local plans for the former district council areas remain in effect. The overarching North Yorkshire Local Plan is currently being developed and is anticipated to come into effect from 2028 onwards.

All local plans identify the need to ensure new developments are assessed for air quality and must not have a detrimental effect on air quality within AQMAs and are also consistent with the local AQAPs (Air Quality Action plans). In addition, the plans recommend innovative measures that may be required to address any potential impacts on air quality across the Council's area, including:

- Craven 2012 2032 Local Plan Development growth must avoid severe residual cumulative impacts of traffic congestion, design and layout must promote reductions in use.
- Hambleton 2019 2035 Local Plan requiring Air Quality assessments as part of an environmental impact assessment and indicating any potential for adverse AQ effects.
- Harrogate 2014 2035 Local Plan development applicants must submit an AQ assessment and/or dust assessment report and associated mitigation measures where this may affect existing AQMAs. Where construction proposals demonstrate a negative impact on air quality, mitigation measures are sometimes supported by damage costs. This has been particularly effective at one major development in Harrogate, where, under a section 106 agreement, developer contributions (a community levy) will fund future air quality projects. Support will be given for sustainable developments consistent with the AQAP.
- Ryedale 2012 2027 Local Plan Reducing air quality emissions from buildings through renewable energy provision and sustainable building standards in line with policy.
- Scarborough 2023 2040 Local Plan monitoring and seeking to maintain good ambient air quality standards.

The former district local plan policies that relate to air quality listed above are further detailed in Appendix C.

3.2.3 Transport Strategy and Objectives

The NYC local transport plan document sets out the council's priorities, plans, and strategies for managing, maintaining, and improving all aspects of the local transport system for the next 30 years. Transport was a North Yorkshire County Council (NYCC) function before the local government review (LGR) so the local transport plan was approved by the County Council in February 2016 and will run until 2045.

The Objectives adopted for LTP4 are:

- Economic Growth Contributing to economic growth by delivering reliable and efficient transport networks and services.
- Road Safety-Improving Road and transport safety.
- Access to Services Improving equality of opportunity by facilitating access to services.
- Environment and Climate Change Managing the adverse impact of transport on the environment.
- Healthier Travel Promoting healthier travel opportunities.

The LTP4 is important to maintaining and improving air quality within North Yorkshire as all the declared AQMAs within the county are resultant of traffic emissions along principal road routes except for the Staithes AQMA which is in relation to solid fuel burning.

In conjunction with the LTP4, there is also a bus service improvement plan (BSIP). This was published in October 2021, after the Department for Transport published the National Bus Strategy which required all Local Transport Authorities to develop a Bus Service Improvement Plan. North Yorkshire Council and bus operators came together to form an Enhanced Partnership in Spring 2022. The role of the Enhanced Partnership, which comprises a decision-making Board and a stakeholder Forum, is to deliver bus service improvements developed from the Bus Service Improvement Plan.

The key objectives of the North Yorkshire BSIP are:

- To meet the needs of local communities.
- Enable people to be active and independent and businesses to flourish.
- Provide excellent customer service.
- Is easy to use and offers simple payment and fares.

The bus services will enable sustainable, greener, and healthier travel choices. It is expected that this will result in fewer car journeys, reduce carbon emissions, and improve air quality in North Yorkshire.

3.2.4 National Highways to work with Local Authorities to Improve Air Quality

In 2022, the Department for Transport (DfT) announced that they expected all local transport authorities to have in place a fit-for-purpose, and up-to-date Local Transport Plan (LTP), which sets out a strategic vision and case for investment in transport in their area. The DfT reported that the previously relaxed requirements for 5 yearly updates to LTPs (Local Transport Plan) had led to a reduced understanding of the strategic requirements for transport both nationally and locally, and therefore, all local transport authorities should ensure they had a suitable LTP in place by the end of the current parliamentary period (late 2024).

Following the appointment of the new Mayor in the York and North Yorkshire Combined Authority Mayoral Elections in 2024, it is expected that a joint LTP for York and North Yorkshire will be produced in due course.

3.3 Source Apportionment

This action plan includes data from three separate air quality studies commissioned for the former district areas of Selby, Harrogate, and Knaresborough. The source apportionment studies focus on the main sources of emissions in relation to Nitrogen Dioxide NO₂. A source apportionment exercise was carried out by North Yorkshire Council in 2024, using monitoring data from 2022 to develop appropriate and more targeted measures to improve air quality within the AQMAs and inform the action plan, it is useful to identify the different source categories that contribute to the overall concentrations of a certain pollutant within the area of exceedance.

It was not possible to undertake a source apportionment exercise for the AQMA in Staithes, Scarborough as there was no available data regarding the previous exceedance of the AQO, plus there being only one contributing factor to this, domestic heating.

Source apportioned NOx emissions have been calculated taking account of the different proportions of emissions emitted by different vehicle types alongside the background concentrations. Background concentrations were taken from the Defra Background Mapping for the grid references in which the AQMAs are located. Using the process set out in the air quality technical guidance (TG22) the backgrounds have been split into regional and local backgrounds.

The different ratios have been calculated using the Emission Factor Toolkit (EFT) version 10.1 available at (https://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html). The air quality technical guidance (TG22) identifies that by using the EFT the information will be limited to emissions outputs for the road link by the point for which source apportionment is being completed in comparison to detailed modelling.

Traffic data was provided by the Highways Department at North Yorkshire Council for the AQMAs in Knaresborough, Selby, Norton and Malton and the traffic data for the Harrogate AQMA was taken from the Department for Transports, Road Traffic Statistics. The data was from the 2022 manual count for site number 92219.

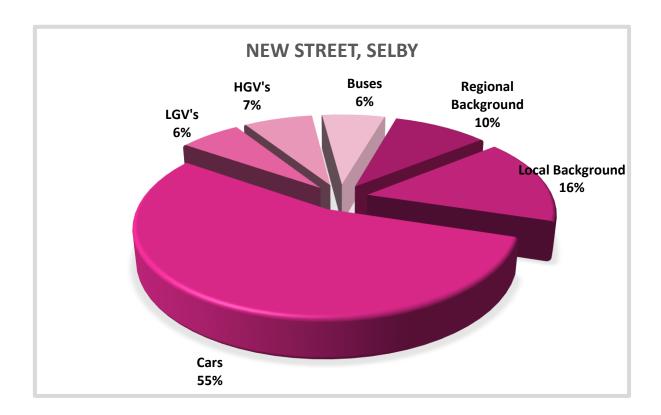
In the Harrogate and Selby analysis, cars were identified to be the main source of emissions, whereas the source apportionment for Knaresborough has identified LGV's as the main source of emissions.

This identified within the AQMAs the percentage source contributions which were as follows:

3.3.1 New Street, Selby - AQMA 6

Figure 4. NO₂ Source Apportionment - Selby

	Regional	Local				
	Background	Background	Cars	LGV's	HGV's	Buses
Concentration						
μg/m3	3.80	6.11	21.46	2.45	2.76	2.52
%						
contribution	9.73	15.63	54.86	6.27	7.06	6.45



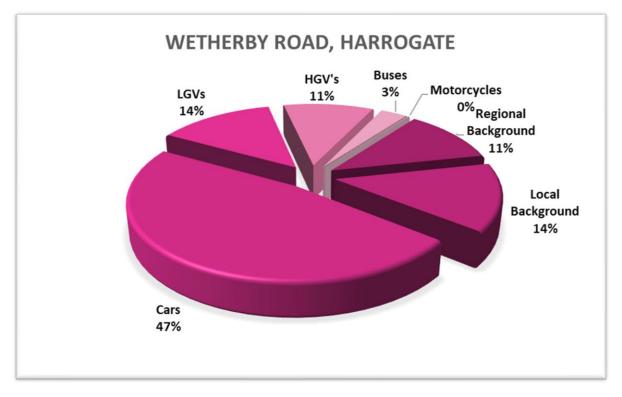
The predominant sources of emissions, as illustrated in the above data, are from road transportation. The source apportionment exercise taken from 2022 data, shows North Yorkshire Council AQAP - 2024

the different source categories that contribute to overall concentrations of nitrogen dioxide (NO₂); with cars representing 55% of vehicles and LGV's, HGV's and buses making up 19%. The required reduction in NO₂ concentrations to comply with the annual mean objective in this AQMA are discussed in Table 3.2.

3.3.2 Wetherby Road, Harrogate (AQMA 2)

Figure 5. NO₂ Source Apportionment – Harrogate

	Regional Background	Local Background	Cars	LGV's	HGV's	Buses	Motorcycle
Concentration							
μg/m3	3.61	4.46	15.06	4.29	3.35	0.99	0.02
%							
contribution	11.36	14.04	47.39	13.49	10.54	3.11	0.06



3.3.3 Bond End, Knaresborough (AQMA 1)

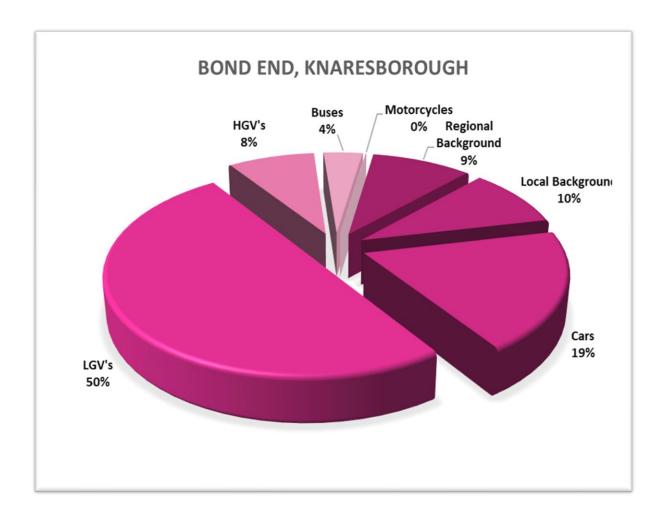
The traffic counts illustrated below for Bond End, Knaresborough, do not match with previously undertaken traffic counts in the area. There is a higher percentage of LGVs, now almost 50%, where previous traffic counts have reported cars being the majority vehicle on the roads.

We have made enquiries with the Highways department regarding classification of vehicles, which reported that the vehicle classification adheres to the Department for Transport (Dft) UK classification scheme.

This is being highlighted as it affects the Source Apportionment exercise for Bond End, Knaresborough. The current source apportionment identifies LGV's as being responsible for 50% of emissions. The source apportionment still holds merit as it identifies that HGV's AND Buses are not the main contributors in this area, and account for only 12% of emissions.

Figure 6. NO₂ Source Apportionment - Knaresborough

	Regional Background	Local Background	Cars	LGV's	HGV's	Buses	Motorcycle
Concentration							
μg/m³	3.62	3.66	7.32	19.14	3.14	1.41	0.01
%							
contribution	9.44	9.54	19.11	49.98	8.20	3.69	0.04



3.4 Required Reduction in Emissions

The required reduction in emissions calculations has not been carried out for Bond End, Knaresborough, or Wetherby Road, in Harrogate due to the concentrations in these areas being less than $36 \,\mu\text{g/m}^3$ (10% less than the annual mean objective). The highest concentrations recorded in 2023 are shown in table 3.1 below, illustrating compliance with the AQO; alongside these is the highest recorded concentration at New Street, Selby, which does *not* achieve the required 10% below the annual mean air quality objective.

Table 3.1 Highest recorded annual mean concentration in each AQMA

AQMA	Highest Recorded annual mean concentration in 2023 (μg/m³)
Bond End, Knaresborough	33.9
Wetherby Road, Harrogate	30.9
New Street, Selby	39.8

Table 3.2 below shows the reduction in NO₂ concentrations and road NO_x emissions required at the AQMA at New Street, Selby based on 2023 measured values above. The required reduction in emissions has been calculated in accordance with Chapter 7 (Box 7.6) of the LAQM Technical Guidance 2022 (LAQM TG.22) using DEFRA's latest NOx to NO₂ Calculator Tool v10.1. The target value used in these calculations is to achieve 36 μ g/m³ and be consistently 10% below the 40 μ g/m³ objective for consideration of future revocation of the Selby AQMA, based on monitoring data alone.

Table 3.2 The reduction in NO2 concentrations and road NOx emissions required at the AQMA at New Street, Selby

	NO ₂ Concentration	ons (μg/m³)	Road NOx Emissions (%)
Location	2023 Measured Concentration	Reduction Required	Reduction Required
New Street, Selby	39.8	-3.8	14.2

With the aim of reducing the emissions in the Selby AQMA we have used the emissions factor toolkit (V8.1) to calculate the reduction required by removing the HGV traffic travelling through this AQMA. This was done using 2024 traffic data and assuming no further HGV traffic was added to the calculated figures. This has resulted in a potential reduction in NOx of 4.24ug/m³ (6.8%). Whilst this goes a good way to reducing the pollution within this AQMA a reduction of 7.2% from other targeted measures are needed to meet the 14.2% reduction desirable, and therefore achieving 10% below (36 ug/m³) the annual mean objective of 40ug/mg³.

Past AQAPs for Selby have reported on a Traffic Regulation Order being in place since 2005. This states the prohibition of heavy commercial vehicles (<7.5t) for the area of New Street and part of The Crescent (unless being used for a specific purpose) which is the key congestion spot of the AQMA. There have been suggestions that this is being regularly breached so we will be speaking with Highways and Trading Standards regarding enforcement procedures in this area.

Other reasoning for this AQMA not achieving compliance relates to the characterisation of the road network, its proximity to York and a consistently high number of local traffic journeys in this area as previously identified. This is a four-way junction with a swing bridge access point crossing the Ouse River, at the opposite side of the junction exit. The canyon style building configuration at this junction, creates an unfortunate capture point for emissions when prolonged vehicle numbers and waiting times increase at the traffic lights, or the swing bridge is in operation.

Other suggestions at this stage include, reworking the traffic signals and an antiidling campaign with signage to encourage drivers to turn off their engine when idle. As previously mentioned, the new Scientific Team have purchased several real-time monitoring air quality sensors, one of which is planned for installation within the Selby AQMA. We are currently working with the transport and highways department to find a suitable and effective column location for installation. But with precise air quality monitoring data, this will provide more clarity on the issues with pollution in this AQMA and enable more targeted measures to be put in place to deal with the sources and timings of the problem.

3.5 Key Priorities

North Yorkshire Council's main priorities in line with our priority themes to address air quality involve:

- Selby AQMA Continue to work on a plan of action with highways and traffic management departments to formulate a proactive plan with the aim of reducing emissions and bringing this AQMA into compliance.
- Continue to monitor all remaining AQMAs to assess whether the predicted reduction in concentrations will continue to be achieved
- Transport and Planning Work with strategic partners, traffic management and planning to mitigate any potential areas of concern and to seek opportunities for alternatives and improvement areas.
- Continue to monitor at other locations across the district to highlight any
 potential exceedances of air quality objectives and where traffic congestion is
 perceived to be a problem.
- Continue to encourage the uptake of alternative forms of transport to the car, through our active travel plan, improving cycling and walking opportunities, and expanding our network of EV charging points across the districts for both residents and visitors to the area.
- Raise awareness of the importance of good air quality, inform on the health impacts of poor air quality and provide guidance and information to our residents on how they can protect themselves and be part of the solution.

• To identify and reduce levels of PM_{2.5} in accordance with the requirements of the Environment Act 2021¹⁹ which sets out the long-term targets in respect of the annual mean level of PM_{2.5} in ambient air (meaning outside air), being equal to or less than 10 micrograms per cubic metre by 31st December 2040. Regulation 5 makes provision about how this is to be measured. Part 3 makes provision in relation to the population exposure reduction target.

As part of our role to understand potential levels of pollutants and to deliver clean air to our communities, NYC have purchased 6 x Aeroqual AQS1 Air Quality Stations which will be configured to measure NO₂, CO, PM (PM10, PM_{2.5}, PM₁ and TSP). This will go towards fulfilling the statutory requirement of the Environment Act 1995 as amended by the Environment Act 2021 and as part of NYC's Air Quality Strategy and measures for improving ambient air quality every 5 years, a duty that has now been expanded to include National Highways.

The purchase of this equipment was funded directly by North Yorkshire Council and progress updates will be provided in future ASRs and/or in future reviews of the AQAP.

¹⁹ Environment Act 2021 (legislation.gov.uk)

4 Development and Implementation of North Yorkshire Council's AQAP

4.1 Consultation and Stakeholder Engagement

In developing and updating this AQAP, we have worked with local authorities, agencies, businesses, and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 4.1. In addition, we have undertaken the following stakeholder engagement:

- Sharing of the Draft Air Quality Action Plan (AQAP) amongst major stakeholders and partners within NYCC
- Public consultation through NYC website

Appendix A: Response to Consultation Table 4.1 – Consultation Undertaken

Consultee	Consultation Undertaken
The Secretary of State	
The Environment Agency	
The highways authority	
All neighbouring local authorities	
Other public authorities as appropriate, such as Public Health officials	
Bodies representing local business interests and other organisations as appropriate	

4.2 Steering Group

A combined Steering Group has been formed that is composed of NYC officers from key service and delivery areas that can influence and impact air quality

North Yorkshire Council AQAP - 2024

improvements. This should be led by senior officers within NYC to ensure engagement at political and senior management levels across the Council and with external agencies and partners has impact and momentum. The Steering Group will include representatives from:

- NYC Environmental Health and/or Scientific Team
- NYC Trading Standards
- NYC Planning Policy and Development
- NYC Climate Action officers
- NYC Highways and Traffic Management
- NYC Public Health Officer.
- NYC Economic Development

The objectives of the AQAP Steering Group will be to provide oversight of the overall direction of the measures and actions associated with AQAP. The members are made up of a multi-disciplinary group of stakeholders responsible for reporting on air quality, public health, transportation, and traffic management. Views will also be sought from community groups and the general public.

The Steering Group will be responsible for the implementation and monitoring of the delivery of the AQAP to ensure measures are on track and report progress back to Defra.

The steering group will outline relevant timescales, monitor progress, assess risks, and report on those measures put in place to target the reduction of AQ issues in the wider district area as well as in AQMAs. This also includes reporting on budgetary considerations and identifying any challenges faced.

The first meeting of the new Steering Group met in February 2024 and will continue to meet quarterly. There will also be a 'working group' that will be established (as required), to address specific issues in specific areas, with particular attention to measures within AQMAs. The main agenda items covered and any outcomes and progress from the Steering Group meetings will be recorded, and salient points covered in future ASR's.

Other authority departments (and potentially other neighbouring authorities) may be engaged, including local businesses and community groups as required to ensure stakeholder consensus and consideration of those relevant issues affecting communities are included.

Representation from the Regulatory Services Scientific Team will be made at the local Transport Board meetings to feed in Air Quality considerations at the preliminary stages. These meetings are scheduled monthly.

Following the 'bringing together' of all the former district authorities and now the combined authority body of York City Council and North Yorkshire Council, with one elected authority Mayor, comes further decision-making powers and potential funding to shape policies and projects at a regional and local level. This will facilitate a more cohesive approach to tackling air quality, helping to make North Yorkshire a better and healthier place to live, work and do business.

5 AQAP Measures

Table 5.1 shows the North Yorkshire Council AQAP measures. It contains:

- a list of the actions that form part of the plan
- the responsible individual and departments/organisations who will deliver these actions
- estimated cost of implementing each action (overall cost and cost to the local authority) where it is quantifiable
- expected benefit in terms of pollutant emission and/or concentration reduction
- the timescale for implementation
- how progress will be monitored
- and barriers to success such as combined authority set up delays, NYC transformation and re-organisation

NB: Please see future ASRs for regular annual updates on implementation of these measures

Table 5.1 – Air Quality Action Plan Measures

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completio n Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
1	Procuring alternative Refuelling infrastructu re to promote Low Emission Vehicles, EV recharging	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2040	North Yorkshire Council	NYC/ Gov funding	NO	Partially Funded	£100k - £500k	Implementation	ТВА	3161 public charge points by 2030, with NYC providing half this number.	Ongoing program to provide EV charging points across NYC's estate and car parks. Ongoing program to provide EV charging points across NYC's estate and car parks.	A countywide Electric Vehicle (EV) Infrastructure Rollout Strategy is in place. The strategy builds upon the previous Electric Vehicle Charge Point (EVCP) Deployment Study (2020) and work undertaken by NYC concerning the climate change agenda. Potential Funding and available infrastructure barriers.
2	Provision of Air Quality Information - Air Quality Campaign s and Education - signpostin g information on walking and cycling groups and other community groups and projects.	Public Information	Via the Internet/social media/communit y noticeboards and groups. Clean Air Day campaigns and School Competitions.	2023	2025	North Yorkshire Council / DEFRA / Local Schools/ Community Groups/ Councillors	NYC	NO	Funded	< £10k	Implementation	Reduced NOx emissions from limiting Vehicle use.	Sign up rate, measured and community input.	Advertising campaigns/ Poster competition / Clean Air Day Campaign / Signposting on NYC website for clean air Burn Better, Breath Better. Public awareness.	https://www.northyork s.gov.uk/environment- and- neighbourhoods/pollut ion/air-quality/air- quality-your-area

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completio n Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
3	Replacing convention al NYC fleet vehicle with EV alternative s.	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2019	2040	North Yorkshire Council	NYC	NO	Funded	£100k - £500k	Implementation	TBA		NYC have started to replace conventional fleet vehicles with EV. The first Phase has involved replacing Front line services vehicles and pool cars.	Funding and available infrastructure and technology.
4	Local Transport Plan 4 (LTP4)	Policy Guidance and Development Control	Other policy	2016	2040	North Yorkshire Council	NYC	NO	Not Funded		Implementation			The LTP will be updated and replaced in the next 12-18 months with a joint local transport Plan for York and North Yorkshire.	Objectives include Environment and Climate Change – managing the adverse impact of transport on the environment and Healthier Travel – promoting healthier travel opportunities known as 'active travel'.
5	National and Local Planning Policy and Guidance	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2023	2040	Yorkshire Dales National Park (YDNP) / NYC	YDNP	NO	Not Funded		Implementation			Planning regime implemented	https://www.yorkshi redales.org.uk/park- authority/living-and- working/planning- policy/local-plan- 2023-40/
6	Anti-idling campaign s	Traffic Management	Anti-idling enforcement	2022	2028	North Yorkshire Council	NYC	NO	Partially Funded	£10k - 50k	Implementation	ТВА	Reduction in NOx from continued monitoring.	Campaigns have been promoted periodically to raise awareness and remain on-going.	Compliance and monitoring.
7	Undertak e enforcem ent of New Street, Selby weight restriction	Freight and Delivery Management	Route Management Plans/ Strategic routing strategy for HGV's	2023	2025	North Yorkshire Council, Trading Standards and Police	NYC	NO	Funded	£10k - 50k	Planning	ТВА		Selby District Council planned to undertake enforcement activity around contraventions of the vehicle weight limit restrictions on New Street, in partnership with North Yorkshire County Council, Trading Standards and the Police were planned for 2022	Subject to resource which unfortunately was not available. This work will be revisited now when NYC restructure is complete

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completio n Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
8	Real-time Air Monitorin g for Particulat es	Public Information	Other	2023	2025	North Yorkshire Council / Schools / Community involvement	NYC	NO	Funded	£100k - £500k	Planning	ТВА	TBA	In Progress, planning stage.	Selection of appropriate locations/have required install infrastructure.
9	Improving Cycle Routes and Facilities	Transport Planning and Infrastructure	Cycle network	2023	2028	North Yorkshire Council and Local infrastructure Developers	NYC and Local infrastructure Developers	NO	Not Funded	£100k - £500k	Planning			This is an ongoing work programme, with many routes now identified through the LCWIP process	Funding.
10	Enforcem ent of the Air Quality (domestic Solid Fuel Standard s) (England) Regulatio ns 2020	Public Information	Via the Internet	2023	2040	North Yorkshire Council – Trading Standards – Env. Health / DEFRA	NYC	NO	Not Funded		Implementation		Enforcement records.	All sellers identified in NYC area. Continued advice during 2024/25 to achieve compliance for sellers and the General Public. A review will then take place on any noncompliance and (subject to funding) a test purchase progundertaken, with a view to escalation of formal action.	Visibility on NYC website & social media platforms, appetite for change and economical challenges
11	Transfor mation Scheme - (Strategic Improvem ents in towns of Harrogate , Selby, and Skipton)	Traffic Management	Strategic highway improvements and Re- prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2023	2030	NYC/West Yorkshire Combined Authority/ Transforming Cities Fund (TCF)	NYC/ WYCA/ TCF	NO	Funded	> £10 million	Planning	TBA	TBA	Planning Consultations carried out with some planning applications approved.	https://www.northyo rks.gov.uk/uk- shared-prosperity- fund/sport-and- active-travel- programme

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completio n Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
12	TAXI Policy Updates	Promoting Low Emission Transport	Taxi Licensing conditions	2023	2040	North Yorkshire Council	NYC	NO	Not Funded		Implementation		Reduction of NOx. Number of vehicles converted.	Issued policy and all vehicles subject to review. Further policy review also underway to incorporate further measures.	Hackney Carriage Private Hire Policy 2023 (northyorks.gov.uk)
13	Develop Policies to Support Better Air Quality	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance. Low emission strategy, other policies, regional groups	2024	On-going	NYC	NYC	No	Not funded yet	TBC	Planning	TBC	TBA		
14	Control Domestic Emission S	Promoting Low Emission Plant	Regulations, Planning Policy	2024	On-going	NYC	NYC	No	n/a	n/a			Strategic measure to assist with reduction of AQ pollution in AQMAs	Increase in insulation in new homes and better EPC ratings.	Costs and buy in.
15	Review of Smoke Control Areas	Promoting Low Emission Plant	Regulations, Planning Policy	2024	On-going	NYC	NYC	No	n/a	n/a	Planning	TBC	Implementation of new enforcement methods / reduction of the amount of nuisance complaints	Exploratory phase	Government's future Air Quality Plans: a) An extension of existing SCA's smoke emission standards to apply to the whole of England b) The provision of new powers for local authorities to respond to instances of nuisance smoke pollution with improvement and enforcement action
16	Bus Service Improvem ent Plan	Policy Guidance and Development Control	Other policy	2021	2040	NYC	NYC	No	Funded	TBC	On-going	TBC	customer	£12 million spending from funding from DfT and NYC in 2023/24.	A new mayoral combined authority was established in February 2024 meaning North Yorkshire and City of York will receive devolved funding for transport,

Measure No.	Measure	Category	Classification	Estimated Year Measure to be Introduced	Estimated / Actual Completio n Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
													 Increase passenger numbers countywide 3% by 2030. Improve punctuality in the three main urban centres of Harrogate, Selby, and Scarborough Maintain and improve the current >95% reliability across all services in North Yorkshire. 25% fleet zero emissions by 2030 and 60% by 2035. 		education, and business support, alongside a Mayoral Investment Fund worth £540m (£18m per year over 30 years).
17	Zebra Buses Harrogat e	Promoting Low Emission Transport	Other	2023	2024	Private Company/ Local Authority, DfT	Private Company, DfT	No	Funded	£10m/>£10 m	Implementation	Reductions in NO ₂ and PM	Number of electric buses replacing existing diesel buses	Buses were ordered order in 2023, about to be delivered and are expected to operate on routes in the next few months.	End, Route 7 (Harrogate, Wetherby and Leeds) passing through the AOMA at

Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Consultee	Category	Response

Section to be completed after consultation has taken place.

Appendix B: Reasons for Not Pursuing Action Plan Measures

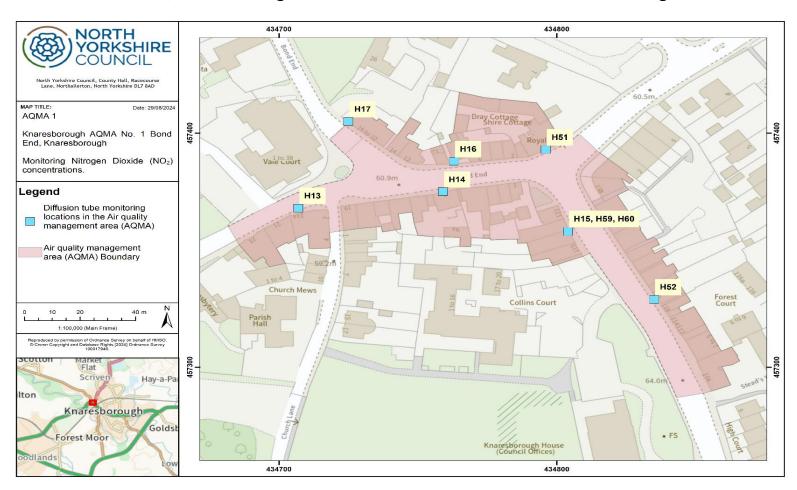
Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
Traffic Management		

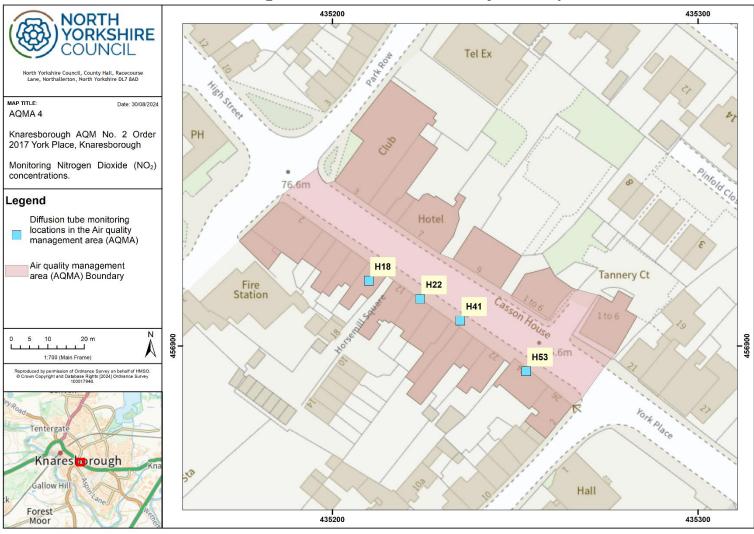
To be completed following consultation.

Appendix C: AQMA Maps

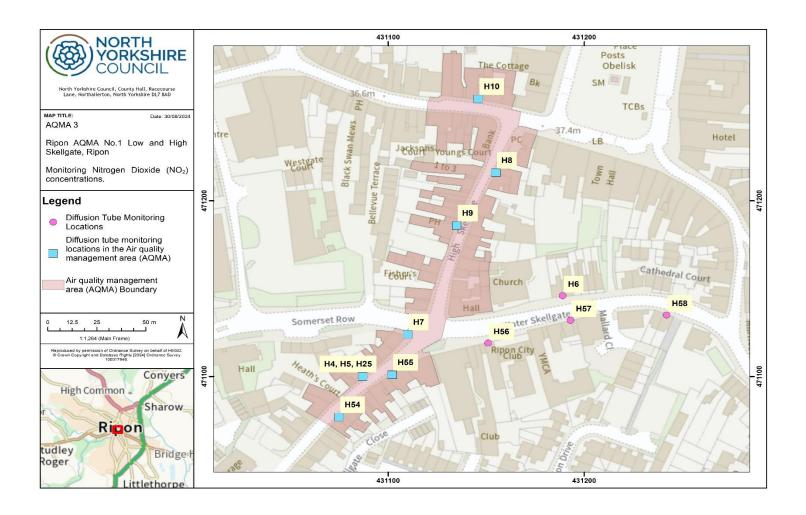
AQMA 1 - Bond End, Knaresborough - AQMA to be retained for Continued Monitoring



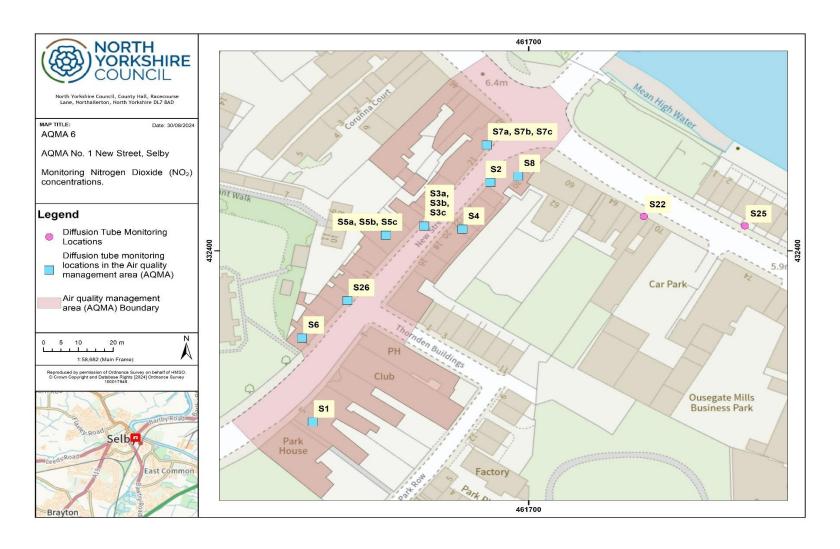
AQMA 4 – York Place Knaresborough – To be Revoked due to 5-year compliance with the AQO



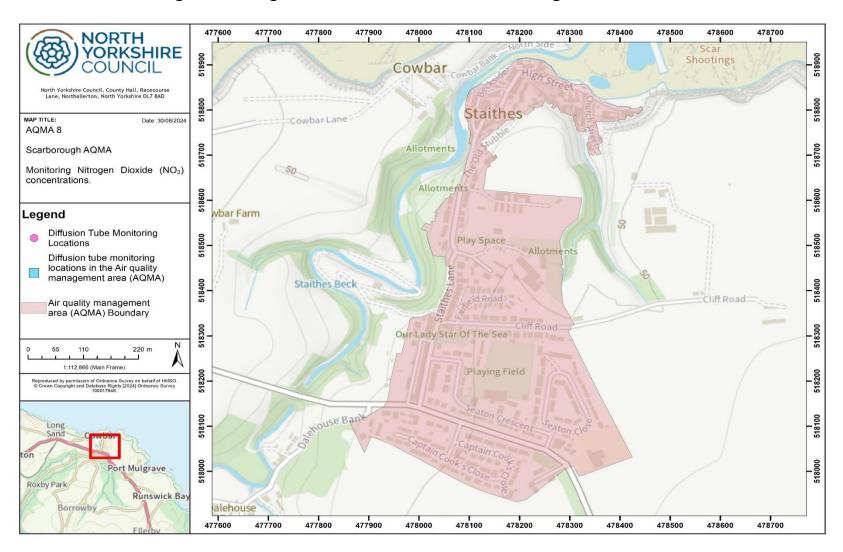
AQMA 3 Ripon - To be Revoked due to 5 years compliance with the AQO.



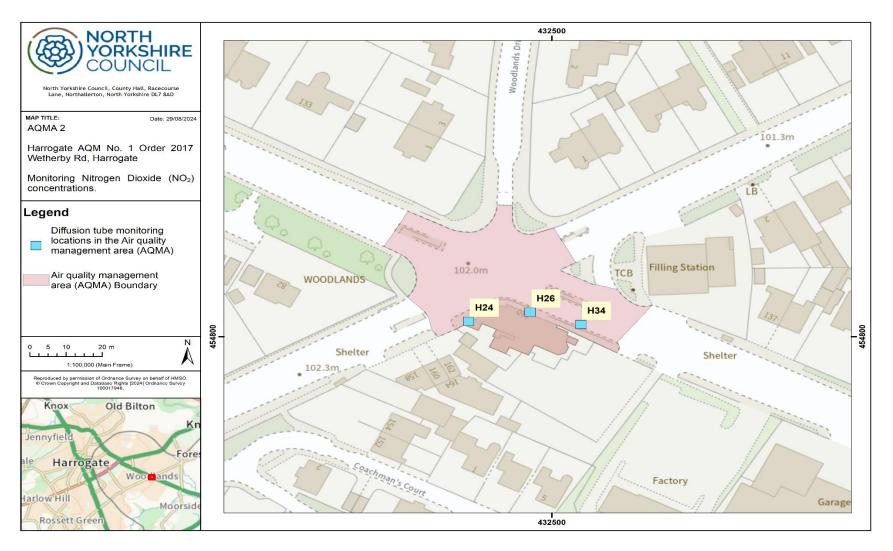
AQMA 6 - Selby - AQMA to be retained for Continued Monitoring



AQMA 8 - Scarborough, The Village of Staithes - Reinstated monitoring for PM₁₀



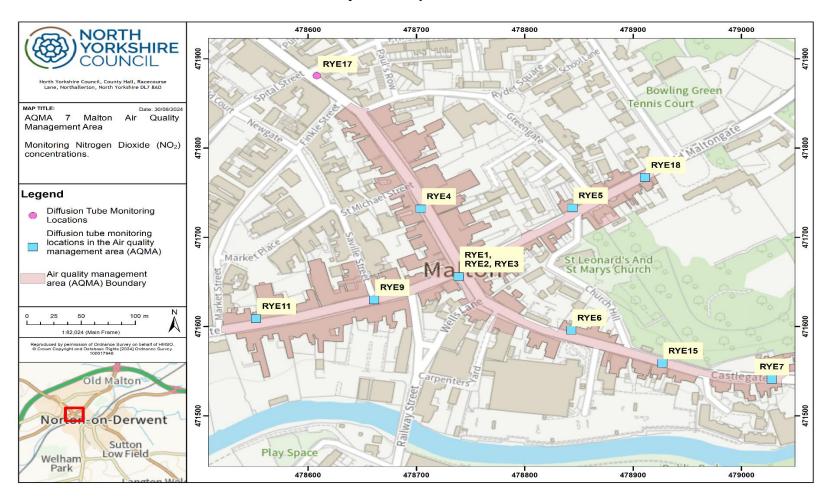
AQMA 2 – Wetherby Road, Harrogate – Continued Monitoring



AQMA 5 - Bridge Street, Bedale - To be Revoked due to 5-year compliance with the AQO



AQMA 7 - Malton - To be Revoked due to 5-year compliance with AQO



Appendix D: Local Plans and policies that relate to Air Quality

Former District Area	Local Plan	Policy within local plan relating to Air Quality	Policy	Link
Craven	2012 - 2032	Policy ENV7: Land and Air Quality	 Growth in Craven will help to safeguard and improve air quality in the following ways: a) Development will avoid severe residual cumulative impacts of traffic congestion and wherever possible, will help to ease existing traffic congestion. b) The location, layout and design of development will encourage walking, cycling and the use of public transport, and green travel plans will promote reductions in car use. c) The location, layout and design of development will avoid or reduce harmful or unpleasant emissions from buildings, and mitigation measures will be introduced where necessary. 	https://www.cravendc.gov.uk/m edia/2465/craven_local_plan_ draft_22914.pdf
Hambleton	2019 - 2035	RM 4: Air Quality	The Council will seek to protect and improve air quality within the district. Proposals will be categorised based on the extent to which there is potential for adverse air quality impacts. Categorisation will be based on factors including the: a) scale and nature of the proposed development. b) type and volume of traffic generation and whether production of a travel plan, travel assessment or travel statement are required, in relation to the requirements of policy CI2 'Transport and Accessibility'; c) requirement for assessments, such as an environmental impact assessment or habitats regulations assessment, that could indicate the potential for adverse air quality impacts. d) location of the site in relation to designated air quality management areas (AQMA), clean air zones (CAZ) or identified areas of air quality concern; and	https://democracy.hambleton.g ov.uk/documents/s15267/Ham bleton%20Local%20Plan%20P ublication%20Draft.pdf

			e) extent to which people or sensitive receptors may be exposed to poor air quality. The categorisation, consideration factors and air quality impact assessment, where required, will determine whether mitigation measures are necessary and the form they need to take. Development will only be supported where the location of the proposed development does not adversely affect a special area of conservation (SAC), special protection area (SPA) or Ramsar site within or close to the local plan area by way of increased air pollution. This includes increases in traffic on roads within 200m of a SAC, SPA or Ramsar site that is vulnerable to nitrogen deposition/ acidification. Where mitigation measures are necessary the proposal will only be supported where they will be implemented and, as necessary, maintained. Where adequate mitigation measures are not possible, compensatory measures may be appropriate.	
Harrogate	2014–2035	Policy NE1: Air Quality	 Applicants must submit an air quality assessment and/or a dust assessment report and identify mitigation measures to ensure no significant adverse effects where development may: a) Affect the air quality management areas (AQMAs) at Bond End, Knaresborough; High and Low Skellgate, Ripon; Woodlands Junction at Hookstone Chase, Harrogate; and York Place, Knaresborough; or at any other AQMAs designated over the course of the plan period. b) Create emissions of dust during demolition, earth moving and construction, or through site operations associated with mineral extraction, waste disposal or agriculture. c) Impact on the air quality of a special area of conservation (SAC), special protection area (SPA), or site of special scientific interest (SSSI), or on a non-statutory site where there is a relevant sensitivity; or 	https://infrastructure.planningin spectorate.gov.uk/wp- content/ipc/uploads/projects/E N020024/EN020024-000615- North%20Yorkshire%20Counci l%20- %20Responses%20to%20the %20Examining%20Authority% E2%80%99s%20Written%20Q uestions%20(ExQ1).%204.pdf

		Air Quality Supplementary Planning Document (SPD)	d) Create significant amounts of traffic, as determined through a transport assessment and/or air quality modelling specific to the proposal. Mitigation measures should ensure consistency with the council's Air Quality Action Plan and the Habitats Regulation Assessment where impacts are related to the diversity of ecosystems; and where impacts are traffic related, the current North Yorkshire Local Transport Plan. Provides additional supporting information for developers where development may have an adverse impact on air quality, and what should be considered when undertaking an air quality assessment or traffic assessment and what mitigation measures could be required to minimise the impact.	https://www.northyorks.gov.uk/sites/default/files/2023-03/Air%20quality%20SPD%202021%20-%20accessible.pdf
Richmondshire	2012–2028	Core Policy CP3: Achieving Sustainable Development	 Support will be given for sustainable development which promotes: a) the efficient use of land and infrastructure including developments with a sustainable and complementary mix of uses. b) the conservation of scarce resources and reduction of their use, and encouragement of the use and re-use of sustainable resources. c) the health, economic and social well-being, amenity, and safety of the population. d) a reduction in social inequalities and disadvantages within the community. e) the quality of natural resources including water, air, land, and biodiversity and minimises the impacts of airborne pollution; f) the protection of the best and most versatile agricultural land; g) the natural drainage of surface water mitigating the effects of flash flooding of rivers, drains and drought; h) the vitality of the area; i) a high quality and adaptability of development; 	https://www.richmondshire.gov. uk/media/5219/core-strategy- 2012-28.pdf

 j) the character and quality of local landscapes and the wider countryside. k) the distinctiveness, character, townscape and setting of settlements. l) the historic, environmental, and cultural features of acknowledged importance. m) the provision of essential services to the public. n) the reduction of waste, the promotion of recycling and the provision of suitable and accessible sites which foster sustainable waste management.
Development proposals will be encouraged to re-use or adapt existing buildings. Where this is not practicable or is shown to be a less sustainable solution, proposals should seek to reuse existing materials, where possible. Development will be encouraged to utilise previously developed land first (brownfield land), where that land is in a sustainable location and is not of high environmental value, in preference to greenfield sites. The use and development of land will be assessed against the community's housing, economic and social requirements. The sustainability and enhancement of the natural and built environment, minimisation of energy consumption and the need to travel will also be key factors. Development that would significantly harm the natural or built environment, or that would generate a significant adverse traffic impact, without appropriate mitigation, will not be permitted. Development Proposals will be expected to provide an appropriate risk assessment and remediation strategy that addresses any issues of land contamination or land instability arising from past uses or activities. Where relevant non-mineral development is proposed within Mineral Safeguarding Areas defined by the mineral planning authority, the local planning authority will expect consideration to be afforded to the extraction of the mineral resource prior to development.

			Development and the provision of services should, as far as possible, be located so as to minimise the need to travel. Convenient access via foot, cycle and public transport should exist or be provided, where possible, encouraging the use of these modes of travel for local journeys and reducing the need to travel by private car and improving the accessibility of services to all. Transport schemes that lead to improvements in accessibility will be supported. The potential for more sustainable means of transport related to the uses and users of the development must be addressed. This includes the preparation of travel plans and consideration of the scope to utilise local sourcing of materials and supply chains. The use of locally reclaimed and the reuse of more sustainable building materials will be supported, where appropriate, where this does not harm the character and appearance of historic and environmental assets.	
Ryedale	2012 - 2027	SP 17 Managing Air Quality, Land and Water Resources	 Air Quality will be protected and improved by: Locating and managing development to reduce traffic congestion and air pollution and promote the use of alternative forms of travel to the private car. Supporting measures to encourage non- car-based means of travel or the use of low emission vehicles. Reducing air quality emissions from buildings through renewable energy provision and sustainable building standards in line with policy SP18. Requiring development proposals within or adjoining the Malton Air Quality Management Area to demonstrate how effects on air quality will be mitigated and further human exposure to poor air quality reduced. All development proposals within or near to the Air Quality Management Area which are likely to impact upon air quality, which are sensitive to poor air quality, or which would conflict with any Air Quality Action Plan will be accompanied by an Air Quality Assessment. Only permitting development if the individual or cumulative impact on air quality is acceptable and appropriate mitigation measures are secured. 	https://democracy.ryedale.gov. uk/documents/s8323/Local%2 0Plan%20Strategy Final versi on.pdf

Selby	2022 - 2040	Policy NE7 – Air Quality	 A. Development will not be supported where it; 1. Results in further significant air quality deterioration, or the need to declare further Air Quality Management Areas (AQMAs); and 2. Results in any increase in the number of people exposed to poor air quality; and 3. Conflicts with elements of an Authority Air Quality Action Plan (AQAP). B. Developments will only be permitted if the impact on air quality is acceptable, and mechanisms are in place to mitigate adverse impacts and prevent further exposure to poor air quality. This will help to protect human health. C. This will be achieved by: a) All developments promoting the uptake of low emission mitigation (such as through electric vehicle charging provision) and supporting sustainable travel to reduce air quality impacts. b) Developments in or affecting an Air Quality Management Area or where pre-application discussions have indicated that the development could result in the designation of an Air Quality Management Area or where the grant of planning permission would conflict with, or render unworkable, elements of the Authority Air Quality Action Plan, applicants must submit an Air Quality Assessment and/or a Dust Assessment Report and identify mitigation measures to ensure no significant adverse effects where development may: i) Involve agricultural developments which have the potential to produce ammonia emissions and particulates which could affect residents; or ii) Create emissions of dust during demolition, earth moving and construction, or through site operations associated with mineral extraction, waste disposal or agriculture; or 	https://democracy.selby.go v.uk/documents/s16614/Ap pendix%201%20Publicatio n%20Local%20Plan.pdf
-------	-------------	-----------------------------	---	---

			iii) Impact on the air quality of a Special Area of Conservation (SAC), Special Protection Area (SPA), or Site of Special Scientific Interest (SSSI), or on a non- statutory site where there is a relevant sensitivity. iv) Create significant amounts of traffic (the level at which it has the potential to increase local air pollution, either individually or cumulatively), as determined through a Transport Assessment and/or air quality modelling specific to a planning application; or A. Mitigation measures should ensure consistency with the Council's Air Quality Action Plan and the Habitats Regulation Assessment where impacts are related to the diversity of ecosystems, and where impacts are traffic related, the North Yorkshire Local Transport Plan.	
Scarborough	2023 - 2040	Policy ENV 3 Environmental Risk	Environmental Risk Proposals will be expected to mitigate against the implications of environmental risk and the effects of climate change. This will be achieved by: a) avoiding development in high flood risk areas by following a sequential approach in giving priority to lowest risk areas as identified by the North-East Yorkshire Strategic Flood Risk Assessment or any subsequent update or replacement. Where the Sequential Test cannot be passed, the Exception Test should be utilised to demonstrate whether the development's wider benefits to the community outweigh the flood risks, whether the development can be made safe, and whether it has, wherever possible, reduced flood risk overall; b) seeking opportunities from new development that may help to reduce the causes and impacts of flooding, and safeguarding land which is needed for flood risk management purposes (as identified in DEFRA's Programme of flood and coastal erosion risk management schemes and other Environment Agency or Lead Local Flood Authority documents);	https://www.northyorks.gov.uk/sites/default/files/fileroot/planning_migrated/planning_policy/DRAFT_LOCAL_PLAN_JAN_20_230.PDF

c)	ensuring water supply and water resources are managed and
	water efficiency measures are incorporated to reduce
	resource need, in line with the Environment Agency's
	licensing strategies.
(d)	using mitigation measures such as Sustainable Drainage
	Systems where possible to facilitate development in areas of
	sensitive drainage and to meet the requirements of the Water
	Framework Directive.
e)	ensuring development has adequate provision for foul and
	surface water disposal in advance of occupation.
f)	ensuring development does not lead to pollution of controlled
	waters in line with the requirements of the Water Framework
	Directive.
g)	requiring development to manage waste from the site (both
	during construction and operation) in a sustainable way
	consistent with the waste hierarchy.
h)	requiring the remediation or mitigation of contaminated or
	unstable land to reduce unacceptable risks to the
	environment through development.
i)	monitoring and seeking to maintain good ambient air quality
	standards; and
	ensuring development does not contribute to or exacerbate
	coastal erosion and/or landslip and ensuring development is
	not exposed to the risks of coastal erosion and/or coastal
	flooding.

Appendix E: Five-year Diffusion Tube monitoring results for the AQMAs

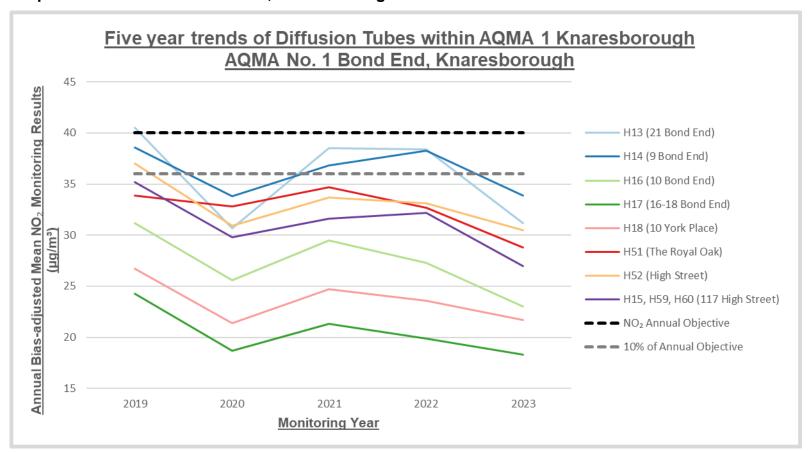
AQMA	Diffusion	Diffusion Tube location	Annual Bias-adjusted Mean NO ₂ Monitoring Results			s (µg/m³)	
AQIVIA	Tube ID	Diffusion Tube location	2019	2020	2021	2022	2023
	H13	21 Bond End, Knaresborough	40.5	30.7	38.5	38.4	31.2
	H14	9 Bond End, Knaresborough	38.6	33.8	36.8	38.3	33.9
	H16	10 Bond End, Knaresborough	31.2	25.6	29.5	27.3	23
AQMA 1 Knaresborough AQMA No. 1	H17	16-18 Bond End, Knaresborough	24.3	18.7	21.3	19.9	18.3
Bond End, Knaresborough	H18	10 York Place, Knaresborough	26.7	21.4	24.7	23.6	21.7
Kilalesbolougii	H51	The Royal Oak, Knaresborough	33.9	32.8	34.7	32.7	28.8
	H52	High Street, Knaresborough	37	30.9	33.7	33.1	30.5
	H15, H59, H60	117 High Street, Knaresborough	35.2	29.8	31.6	32.2	27
AOMA O Harra rata AOM	H24	Woodlands Pub, Hookestone Drive	25.4	20.8	22.7	23.1	19.3
AQMA 2 Harrogate AQM No. 1 Order 2017	H26	Woodlands Pub, Wetherby Road	35.9	31.3	31.7	31.8	27.9
Wetherby Rd, Harrogate	H34	Woodlands Pub, Lamppost, Wetherby Road	26.8	22.1	24	23.5	19
	H7	1 Low Skellgate, Ripon	24.9	19.2	22.5	19.5	18.3
AQMA 3 Ripon AQMA	H8	24 High Skellgate, Ripon	29.8	23.1	30.1	26.3	23.4
No.1 Low and High Skellgate,	H9	9 High Skellgate, Ripon	28.7	22.1	27.1	25.6	23.2
Ripon	H10	3a Westgate, Ripon	27.4	22.4	25.3	21.5	19.6
	H4, H5, H25	5 Low Skellgate, Ripon	35	28.9	33.3	32.4	28.4

	H54	30 Low Skellgate, Ripon	28.2	22.3	27.6	24.9	22.1
	H55	35 Low Skellgate, Ripon	28.5	24	25.3	26.3	22.8
AQMA 4 Knaresborough	H22	14 York Place, Knaresborough	34.9	27.3	28.9	29.7	25.9
AQM No. 2 Order 2017	H41	16 York Place, Knaresborough	28.3	23.9	27.7	26.3	23.1
York Place, Knaresborough	H53	The Old Tannery, York Place, Knaresborough	26.8	23.3	26.1	24.9	21.5
	HDC28	Bridge Street, Bedale	20.7	16.5	19.1	18.5	17.1
AQMA 5 The Hambleton District Council (Bedale)	HDC29	White Bear Hotel, Bedale	30.4	22.1	23.2	18.1	13.5
AQM Order 2017	HDC30	Commerce House, Bedale	23.3	17.1	15.8	16.1	15.2
	S6	Preston Baker / Hairdresser, New Street	26.4	20.6	24.6	22.7	22.5
	S26	Skin & Furs, New Street		4	30.3	27.2	27.6
	S5a, S5b, S5c	Roko Furniture, New Street	39.2	29.6	33.3	30.1	32.8
AQMA 6 AQMA No. 1	S7a, S7b, S7c	21 New Street	46.5	35.2	41.9	39.1	39.8
New Street, Selby	S8	30 New Street	29.2	21.1	24.7	23.5	22.3
	S4	Eye of Bri, New Street	43.6	32.2	39.2	37.1	36.8
	S3a, S3b, S3c	Tutti's, New Street	36	25.8	33	30.6	30.8
	S1	Fringe Hair, New Street	32.1	24.2	28.3	26.8	26.4
	RYE1, RYE2, RYE3	Butcher Corner, Malton	33.2	31.3	24.6	23.7	23.4

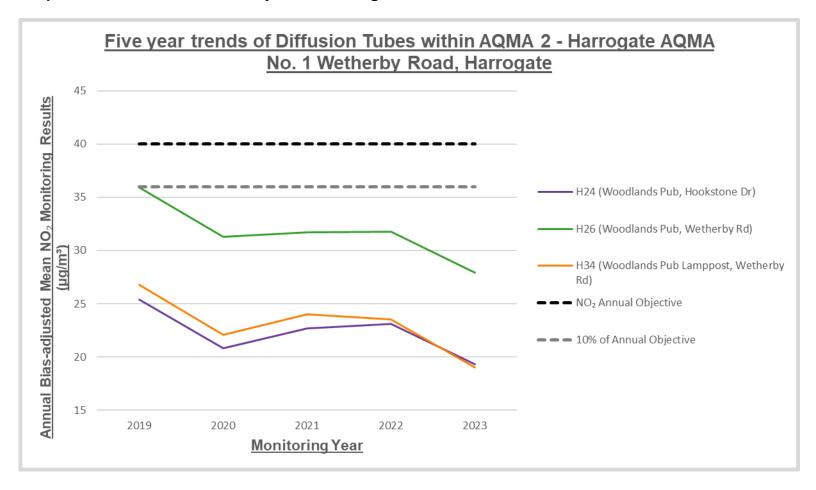
AQMA 7 Malton Air	RYE4	Wheelgate (1)	23.6	24.1	24.6	26.5	23.8
Quality Management Area	RYE5	Old Maltongate (1)	32.3	30	23.1	24.8	22
	RYE6	Castlegate (1)	31.9	30.4	18.9	19.5	18.9
	RYE7	Castlegate (2)	33.3	33.4	24.4	25.7	25.8
	RYE9	Yorkersgate (1)	20.5	16.5	26	26.1	21.8
	RYE11	Yorkersgate (2)	21.8	20.3	13.7	18.7	18.3
	RYE15	Castlegate (3)	18.2	17.5	25.1	25.1	25
	RYE18	Old Maltongate (2)	15.4	19.1	24.3	25	24.3

Appendix F – Graphs showing 5-year trends of Diffusion tube monitoring locations in AQMAs

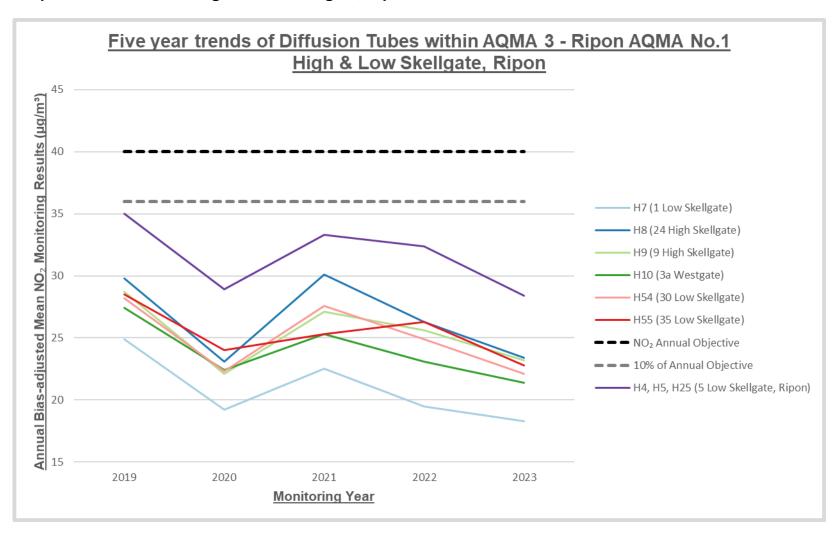
Graph 1 – AQMA no.1 – Bond End, Knaresborough



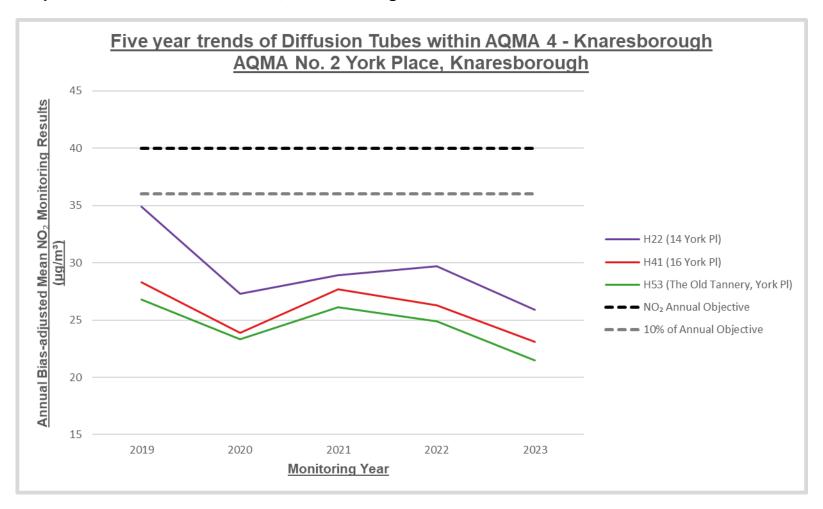
Graph 2 - AQMA no.2 - Wetherby Road, Harrogate



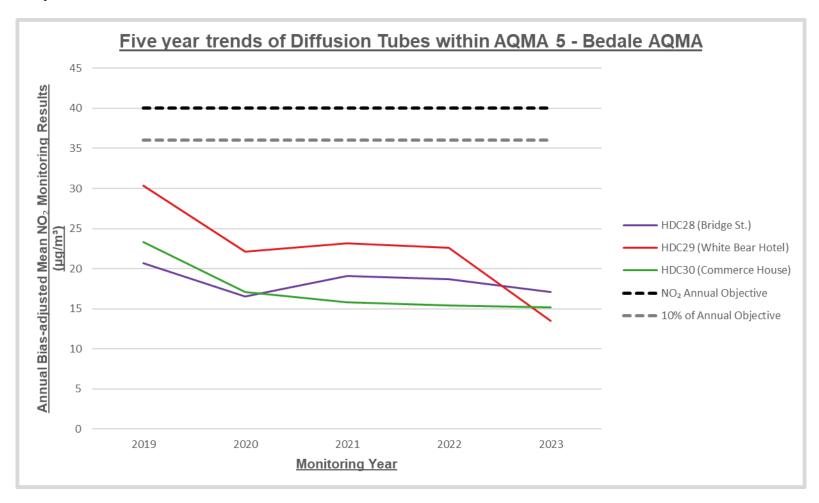
Graph 3 - AQMA no.3 - High & Low Skellgate, Ripon



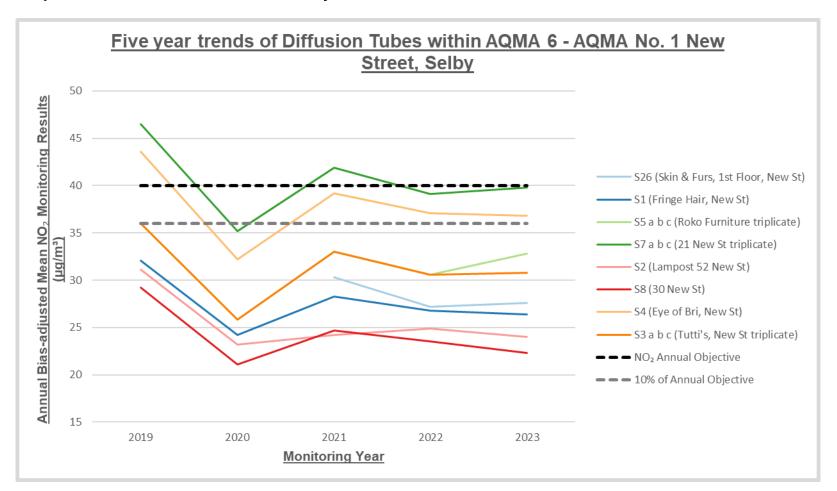
Graph 4 - AQMA no.4 - York Place, Knaresborough



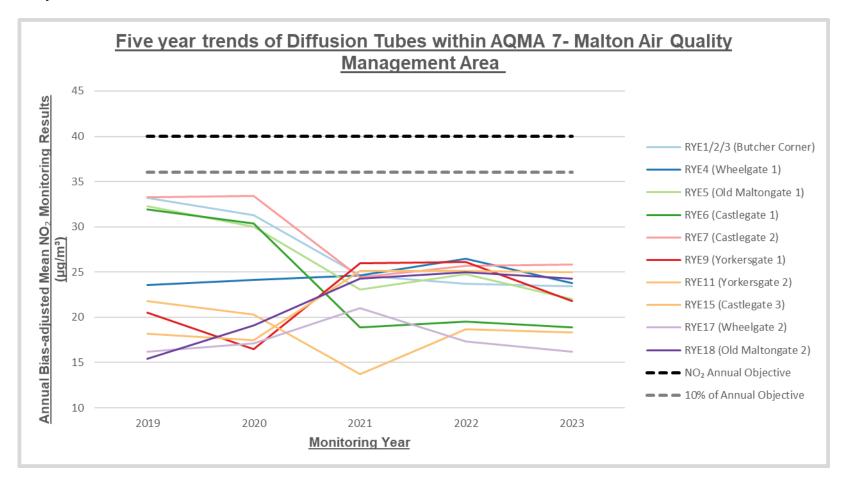
Graph 5 - AQMA no.5 - Bedale AQMA



Graph 6 – AQMA no.6 – New Street, Selby



Graph 7 - AQMA no.7 - Malton AQMA



Appendix G: Clean Air Day Posters from School Project







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
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
ASHP	Air Source Heat Pump
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport UK
EU	European Union
LAQM	Local Air Quality Management
LGR	Local Government Review
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

References

- Defra. Clean Air Strategy. (2019)
 https://assets.publishing.service.gov.uk/media/5c3b9debe5274a70c19d905c/clean-air-strategy-2019.pdf
- Benedict W Wheeler, Y. B.-S. (2005). Environmental equity, air quality, socioeconomic status, and respiratory health: a linkage analysis of routine data from the Health Survey for England. J Epidemiol Community Health, 59:948–954. doi: 10.1136/jech.2005.036418.
- Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis. (2006) https://ukair.defra.gov.uk/assets/documents/reports/cat09/0701110944_AQin
- Defra. Abatement cost guidance for valuing changes in air quality. (2023)
 - https://www.gov.uk/government/publications/assess-the-impact-of-air-quality/air-quality-appraisal-damage-cost-quidance
- Office for National Statistics. Population estimates for England and Wales. (2022)
 - https://www.beta.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationestimatesforenglandandwales/mid2022
- Office for National Statistics. Indices of Deprivation 2015 and 2019. http://dclgapps.communities.gov.uk/imd/iod_index.html
- Defra. Emissions of air pollutants in the UK Summary. (2024)
 https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-summary
- Defra. Air quality strategy: framework for local authority delivery. (2023)
 https://www.gov.uk/government/publications/the-air-quality-strategy-for-england/air-quality-strategy-framework-for-local-authority-delivery
- Defra. Background Mapping data for local authorities 2018
 - https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018
- Defra. Emissions Factors Toolkit v10.1
 - https://lagm.defra.gov.uk/air-quality/air-quality-assessment/emissions-factors-toolkit/
- Chief Medical Officer's Annual Report 2022: https://assets.publishing.service.gov.uk/mwginternal/de5fs23hu73ds/progress?id=i8m5J5egGiRk9LeevIwAnFThInUFKlpi6fR82MnB2s8,&dl
- Philip Barlow. Regulation 28: Report to Prevent Future Deaths (2021). https://www.judiciary.uk/wp-content/uploads/2021/04/Ella-Kissi-Debrah-2021-0113-1.pdf
- Public Health England. Health matters: air pollution. (2018)
 https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution
- Institute of Air Quality Management. Land-Use Planning & Development Control: Planning for Air Quality. (2017)
 - https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf
- Defra. Local Air Quality Management Technical Guidance (TG22). (2022)
 - https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf
- Defra. Local Air Quality Management Policy Guidance (PG22)
 - https://laqm.defra.gov.uk/wp-content/uploads/2023/11/LAQM-Policy-Guidance-2022.pdf
- Defra. Air quality: explaining air pollution at a glance (2019)
- <a href="https://www.gov.uk/government/publications/air-quality-explaining-air-pollution/air-quality-explaining-air-pollution-air-quality-explaining-air-quality-explaining-air-pollution-air-quality-explaining-air-quality-explaining-air-quality-explaining-air-pollution-air-quality-explaining-air-pollution-air-quality-explaining-air-qu