

Public Document Pack



**Service Director – Legal, Governance and
Commissioning**

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Tuesday 17 October 2023

Notice of Meeting

Dear Member

Environment and Climate Change Scrutiny Panel

The **Environment and Climate Change Scrutiny Panel** will meet in the **Meeting Room 3 - Town Hall, Huddersfield** at **2.00 pm** on **Wednesday 25 October 2023**.

This meeting will be live webcast. To access the webcast please go to the Council's website at the time of the meeting and follow the instructions on the page.

The items which will be discussed are described in the agenda and there are reports attached which give more details.

A handwritten signature in black ink, appearing to read "Julie Muscroft".

Julie Muscroft

Service Director – Legal, Governance and Commissioning

Kirklees Council advocates openness and transparency as part of its democratic processes. Anyone wishing to record (film or audio) the public parts of the meeting should inform the Chair/Clerk of their intentions prior to the meeting.

The Panel members are:-

Member

Councillor Jo Lawson (Chair)
Councillor Timothy Bamford
Councillor Hannah McKerchar
Councillor Matthew McLoughlin
Councillor Will Simpson
Councillor John Taylor
Jane Emery (Co-Optee)
Garry Kitchin (Co-Optee)

Responsible For:

Agenda

Reports or Explanatory Notes Attached

Pages

1: Membership of the Panel

To receive apologies for absence from those Members who are unable to attend the meeting.

2: Minutes of the Previous Meeting

1 - 8

To approve the Minutes of the meeting of the Panel held on the 30th August 2023.

3: Declaration of Interests

9 - 10

Members will be asked to say if there are any items on the Agenda in which they have any disclosable pecuniary interests or any other interests, which may prevent them from participating in any discussion of the items or participating in any vote upon the items.

4: Admission of the Public

Most agenda items take place in public. This only changes where there is a need to consider exempt information, as contained at Schedule 12A of the Local Government Act 1972. You will be informed at this point which items are to be recommended for exclusion and to be resolved by the Panel.

5: Deputations/Petitions

The Panel will receive any petitions and/or deputations from members of the public. A deputation is where up to five people can attend the meeting and make a presentation on some particular issue of concern. A member of the public can also submit a petition at the meeting relating to a matter on which the body has powers and responsibilities.

In accordance with Council Procedure Rule 10, Members of the

Public must submit a deputation in writing, at least three clear working days in advance of the meeting and shall subsequently be notified if the deputation shall be heard. A maximum of four deputations shall be heard at any one meeting.

6: Public Question Time

To receive any public questions.

In accordance with Council Procedure Rule 11, the period for the asking and answering of public questions shall not exceed 15 minutes.

Any questions must be submitted in writing at least three clear working days in advance of the meeting.

7: Council Owned Tree and Woodland Management Policy 11 - 16

The Panel will consider the finalised draft replacement Council Owned Tree and Woodland Management Policy.

Contact:

Joe Robertson, Woodland Development Officer

8: Update on Local Air Quality Management 17 - 206

The Panel will consider the 2023 Air Quality Annual Status Report (ASR) and will receive a presentation providing an update on Local Air Quality Management.

Contact:

Chris Sheilds, Senior Environmental Health Officer- Air Quality

9: Work Programme 2023/2024 207 - 214

The Panel will consider its work programme for 2023/24.

Contact:

Jodie Harris, Principal Governance and Democratic Engagement Officer

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Contact Officer: Jodie Harris

KIRKLEES COUNCIL

ENVIRONMENT AND CLIMATE CHANGE SCRUTINY PANEL

Wednesday 30th August 2023

Present: Councillor Will Simpson (Chair)
Councillor Timothy Bamford
Councillor Matthew McLoughlin
Councillor John Taylor
Councillor Hannah McKerchar
Gary Kitchen (Co-optee)

Councillor Elizabeth Smaje
Councillor Gwen Lowe
Councillor Yusra Hussain

In attendance: Graham West, Service Director - Highways and Streetscene
Will Acornley, Head of Operations
Natalie Clark, Programme Manager - Environmental Strategy and Climate Change (Operational Services)
Nick Jenkin, Business Development Manager.

Apologies: N/a

1 Membership of the Panel

In the absence of the Chair, nominations to appoint a Chair for the meeting were invited from members of the Panel.

RESOLVED: It was agreed that Councillor Will Simpson be appointed to stand as Chair for the meeting and it was noted that no apologies were received.

2 Minutes of the Previous Meeting

The Panel considered the Minutes of the meeting of the Panel held on 4 July 2023.

RESOLVED: That the Minutes be approved.

3 Interests

No Interests were declared.

4 Admission of the Public

Economy and Neighbourhoods Scrutiny Panel – 10 January 2023

All items were considered in the public session.

5 Deputations/Petitions

No deputations or petitions were received.

6 Public Question Time

No public questions were received.

7 Re-Profile of Kirklees Resource and Waste Strategy 2021-2030

The Panel considered the report, Re-profile of the Kirklees Resource and Waste Strategy 2021- 30, which was presented by Natalie Clark, Programme Manager - Environmental Strategy and Climate Change (Operational Services) and Will Acornley - Head of Operations. It was advised that:

- The Kirklees Resource and Waste Strategy 2021-30 was approved and adopted at full Council in September 2021.
- The Strategy set out how the Council aimed to achieve its vision of “a clean, green, sustainable future for Kirklees with zero waste to landfill and where waste was valued as a resource through re-use, recycling, and recovery.”
- The key aims were to:
 - Use a Place-based approach which was engaging, straightforward and visible.
 - Achieve 70% recycling at the Household Waste and Recycling Centres by 2025 (as of 22-23 the position was 49-50% average).
 - Achieve 55% Recycling of municipal waste by 2025 (as of 22-23 the position was around 26.3% provisionally).
 - Achieve 90% diversion from landfill and this target had been met and exceeded at 91%.
 - Reuse or recycle as much bulky waste collections as possible.
 - Deliver a clean, green, sustainable future for Kirklees, set a precedent of good practice.
- There had been many positive initiatives delivered as part of the strategy such as the:
 - Introduction of a recycling service to schools and businesses via the trade waste service.
 - Introduction of the ‘Recycling Hero’s’, a scheme which was launched to recognise those in the community who were recycling and reusing.
 - Addition of plastic pots, tubs and trays (PTTs) to the kerbside recycling collection service.
 - Composting Subsidy Scheme, which had been offered to residents.
 - New bookable bulky waste collection service and the launch of a Reuse Shop in Huddersfield town centre.
- Since the strategy was adopted in 2021 the financial climate had changed considerably.
- The strategy assumed that promised reforms and funding streams from central Government would allow the development and investment noted in the strategy.

Economy and Neighbourhoods Scrutiny Panel – 10 January 2023

- Due to delays and uncertainty from central Government, there were some elements that now needed to be reprofiled to meet the new timeframes provided and to allow time to understand what funding would be available.
- The strategy required significant investment to implement however the re-profiling sought to reduce this cost.
- It was proposed to revise the strategy's key targets as follows:
 - Achieve a recycling rate of at least 70% at Household Waste and Recycling Centres by 2030.
 - Recycle at least 65% of municipal waste by 2035.
 - Achieve a 95% diversion from landfill rate by 2030.
- The forecasted spend under the original action plan was £2.9m capital spend and the revised initiatives estimated to decrease spend to around £800k.
- Included within the presentation was a timeline for the revised strategy approval, initial delivery milestones and a list of overarching risks and dependencies.
- This was scheduled to be presented to Cabinet on 17th October 2023, where approval for the revision would be sought.

The Panel noted the presentation and expressed gratitude to the team for their work and ambition within the challenging financial context. In the discussion to follow the Panel asked several questions which were responded to as follows.

In response to a question from the Panel around 'Tetra packs and capacity for collection, Will Acornley advised that was linked into collection consistency work, but this was a difficult material to recycle. Discussions were ongoing with the current contractor (SUEZ) to address the issue, but Will agreed that it was important that recycling bins were available for use at all times (not full) and agreed to investigate the frequency of which they were emptied.

In response to a question from the Panel in relation to the potential impact the Reuse shop may have on local charities (i.e.- reducing donations), Will Acornley agreed that it was important to obtain some data in relation to this but reassured the Panel that engagement was held regularly with third sector leaders with the ambition of creating a supportive network of charity organisations instead of a competitive environment.

In response to the Panel's questions around contamination, the impact of this, and targets for addressing this, Graham West, Service Director - Highways and Streetscene advised that work undertaken to provide additional facilities was significant but there had to be a culture change to reduce contamination. The diversion of loads that had been contaminated was costly and unsustainable and recycling facilities would have to be removed if they continued to be abused to avoid the diversion and loss of loads going forwards.

Will Acornley highlighted that it had been a difficult 2-3 years for Kirklees's communities, (i.e.- the Covid-19 pandemic, the increases in cost-of-living etc...) and in being understanding of this the Council had introduced a trial which aimed to encourage culture change through education rather than taking an approach of strict enforcement. The trial outcomes were to be reviewed to assess if this had encouraged behaviour change towards the end of the year. In terms of targets, it

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was advised that there was a lot of uncertainty around larger decisions which made it difficult to set targets and it was a risk to invest in services which may not be taken forward following legislative changes. The Panel noted the response and further requested that information in respect of the projected impact of contamination be provided.

In response to the Panel's concerns around the year-on-year recycling rate projections in comparison with the national average, Will Acornley explained the data set out in the presentation in more detail and it was noted that in comparison with other local authorities, the biggest differences between Kirklees and the top performers were the types of materials that could be recycled such as free garden waste services, and food waste recycling. There were plans to introduce these facilities, but this would require significant investments. Graham West, Service Director - Highways and Streetscene highlighted the ambition around the enforcement and agreed that comparison be undertaken between Kirklees and other Local Authorities with a similar demographic.

In response to a question from the Panel in respect of the detail in the report Graham West agreed that more information such as the impact on net zero targets and the presentation slides be provided to the Panel prior to the meeting going forward. In response to a question from the Panel around enforcement in relation to contamination Graham West advised that detailed assessment of the content of bins had been undertaken to identify the sources of contamination.

In response to the Panel's question around business recycling, Will Acornley advised that the offer of access to the recycling service had been expanded to trade customers. It was agreed that a mechanism to allow businesses to express their interest in this would be investigated. In response to the Panel's question around Vape collection and engaging with businesses, Will Acornley agreed that it was important to ensure that engagement with local businesses around collection points, and ideas to provide advice to customers on sale be explored further.

In response to a question from Councillor Smaje, Chair of Scrutiny around how residents whom were unable to travel to dispose garden waste be supported, Will Acornley advised that free bulky waste collections were offered to a limited number of people on the assisted collections list and that it may be possible to link this with vulnerable residents who could no longer access the garden waste site to support residents who were vulnerable/become vulnerable and reduce the risk of contamination. It was also agreed that the 5-year time frame for the period dignity scheme would be investigated further.

In response to further questions from the Panel with regards to contamination, the impacts of this and other mitigating measures (such as sorting contaminated items at the recycling facility or recovering damaged materials) Will Acornley advised that complex and costly facilities were required to sort on site, which the Kirklees site did not have and as a result the current approach was to reduce the contamination at the kerbside. In response to a question from the Panel around the possibility of recovering damaged material, Will Acornley advised that contaminated waste could not be recovered under normal operation.

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In response to a question from the Panel around the Reuse shop, and the potential for future expansion to more rural areas in Kirklees, Will Acornley advised that the focus was currently on household waste sites but some initial concerns in rural areas included the risk of fly-tipping.

RESOLVED: The Panel noted the Re-profile of the Kirklees Resource and Waste Strategy 2021- 30, and it was recommended that:

- (1) Work be undertaken around increasing capacity for the emptying of community recycling points.
- (2) Data be obtained to understand any potential impacts the reuse shop may have on local charities.
- (3) Data be provided to the Panel in respect of the projected impact of contamination.
- (4) Comparison between Kirklees and other Local Authorities with a similar demographic be undertaken in respect of contamination rates.
- (5) Information in respect of any impact on net zero targets be included in scrutiny reports going forwards.
- (6) The presentation material be provided to the Panel in advance of the meeting.
- (7) A mechanism to allow businesses to express their interest in the recycling service be investigated further.
- (8) Engagement with local businesses around collection points be implemented.
- (9) The possibility of (i) enabling vulnerable residents to dispose of garden waste through assisted bulky waste collections and (ii) the 5-year timeframe for the 'Period Dignity Scheme' be investigated.

8 Snow Wardens Volunteer Scheme

The Panel considered a report on the Snow Wardens Volunteer Scheme presented by Nick Jenkin, Business Development Manager. It was advised that:

- The Snow Warden Scheme was a volunteer scheme which ran across Kirklees.
- It enabled the Council to equip residents with grit, equipment and PPE which would allow them to clear snow from residential areas that gritters would not cover.
- The Scheme was flexible, where residents were able to decide how much time they would like to dedicate to the scheme, allowing them to choose their own hours and locations of work.
- The first year of the trial attracted 27 volunteers to the scheme across 9 wards.
- There was a cost of £39.77 per grit kit and there was 1 grit delivery for each warden, with no further requests due to a mild winter.
- Kit delivery times were up to a week during the holiday period.
- The scheme adopted a Cllr first application process through ward meetings.
- Positive feedback had been received from wardens, with recommendations given on changes to equipment for implementation in year 2.
- The Year 2 recommendations were to:

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- Begin direct communications to residents in addition to communicating via elected members, to attract more residents into the scheme.
- Lift the volunteer limit to 100 across the district, to allow for the bulk order of stock and in turn reducing costs by a third.
- Remove the shaker from the resident kit and replace with a scoop as identified through resident feedback.
- Increase the initial grit volume from 10kg to 30kg.
- Move to a collection first model to decrease delivery costs and allow more training with volunteers.

The Panel noted the presentation and welcomed the scheme. In the discussion to follow the Panel raised key points around communications, and it was agreed that a consistent approach be taken to communications and raising awareness of the scheme across the Council, including the provision of social media guidance, and the use of handouts to be provided to members to share with residents and help to promote the scheme within communities. It was also agreed that the idea of promoting the scheme in rural areas through community events such as agricultural shows be explored further.

In response to a question around how many volunteers used their kit and how this might have impacted on the outcomes of the trial, Nick Jenkin advised that 20 volunteers had confirmed that they had used their kits. In response to the Panel's comment about the lack of financial detail in the report it was advised that there was not enough information at this stage of the trial to provide approximate financial implications.

In response to a question from the Panel around direct communication with residents and the suggestion of use of email, Nick Jenkin advised the key methods of communication were through 'Gritter Twitter,' the website and community networks. Nick further noted that email would not be used at this stage as the number of volunteers was currently capped at 100 during the trial period. Graham West Service Director - Highways and Streetscene added that increasing the number of volunteers would be introduced upon completion of the trial in a gradual and managed way. Graham also highlighted the ambition to engage more community groups and Parish Councils in the scheme.

Cllr Gwen Lowe, (Cabinet Portfolio Holder) also expressed support for the Snow Warden Scheme and noted agreement with the Panel's comments around the promotion of the scheme at community events.

RESOLVED: The Panel noted the Snow Wardens Volunteer Scheme and recommended that a consistent approach be taken to communications and raising awareness of the scheme across the Council through the provision of (i) social media guidance, (ii) handouts for elected members to share with residents and (iii) the promotion of the scheme through community events.

9 Work Programme 2023/24

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The Panel considered its Work Programme for the 2023/24 municipal year. It was noted that the Fleet Replacement item and the Waste procurement items be coupled in the same meeting if timescales allow.

RESOLVED: The Panel noted the work programme.

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KIRKLEES COUNCIL

COUNCIL/CABINET/COMMITTEE MEETINGS ETC

DECLARATION OF INTERESTS

Environment & Climate Change Scrutiny Panel

Name of Councillor

Item in which you have an interest	Type of interest (eg a disclosable pecuniary interest or an "Other Interest")	Does the nature of the interest require you to withdraw from the meeting while the item in which you have an interest is under consideration? [Y/N]	Brief description of your interest

Signed:

Dated:

NOTES

Disclosable Pecuniary Interests

If you have any of the following pecuniary interests, they are your disclosable pecuniary interests under the new national rules. Any reference to spouse or civil partner includes any person with whom you are living as husband or wife, or as if they were your civil partner.

Any employment, office, trade, profession or vocation carried on for profit or gain, which you, or your spouse or civil partner, undertakes.

Any payment or provision of any other financial benefit (other than from your council or authority) made or provided within the relevant period in respect of any expenses incurred by you in carrying out duties as a member, or towards your election expenses.

Any contract which is made between you, or your spouse or your civil partner (or a body in which you, or your spouse or your civil partner, has a beneficial interest) and your council or authority -

- under which goods or services are to be provided or works are to be executed; and
- which has not been fully discharged.

Any beneficial interest in land which you, or your spouse or your civil partner, have and which is within the area of your council or authority.

Any licence (alone or jointly with others) which you, or your spouse or your civil partner, holds to occupy land in the area of your council or authority for a month or longer.

Any tenancy where (to your knowledge) - the landlord is your council or authority; and the tenant is a body in which you, or your spouse or your civil partner, has a beneficial interest.

Any beneficial interest which you, or your spouse or your civil partner has in securities of a body where -

(a) that body (to your knowledge) has a place of business or land in the area of your council or authority; and

(b) either -

the total nominal value of the securities exceeds £25,000 or one hundredth of the total issued share capital of that body; or

if the share capital of that body is of more than one class, the total nominal value of the shares of any one class in which you, or your spouse or your civil partner, has a beneficial interest exceeds one hundredth of the total issued share capital of that class.



Name of meeting: Environment and Climate Change Scrutiny Panel

Date: 27/10/2023

Title of report: Council Owned Tree and Woodland Management Policy

Purpose of report: For Scrutiny Panel to consider the finalised draft replacement Council Owned Tree and Woodland Management Policy, prior to it progressing to Cabinet.

Key Decision – A key decision is an executive decision to be made by Cabinet which is likely to result in Council spending or saving £500k or more per annum, or to have a significant positive or negative effect on communities living or working in an area compromising two or more electoral wards. Decisions having a particularly significant effect on a single ward may also be treated as if they were key decisions.	Yes If yes give the reason why affects all wards
Key Decision - Is it in the <u>Council's Forward Plan (key decisions and private reports)</u>?	Key Decision – Yes Private Report/Private Appendix – No
The Decision - Is it eligible for call in by Scrutiny?	Yes
Date signed off by <u>Strategic Director</u> & name	11/10/23 David Sheperd Strategic Director for Growth & Regeneration
Cabinet member <u>portfolio</u>	Cllr Y Hussain, Culture & Greener

1. Summary

A review of the Council's existing tree and woodland management policy identified that it requires reviewing and updating. This review work resulted in a redevelopment of the existing documents to provide a new progressive policy, reflecting new national policy and better aligned with current Kirklees' commitments and corporate goals.

Engagement has been undertaken, including a presentation to Environment and Neighbourhoods Scrutiny Panel in January 2023, for comments on the early draft, with the new document package now drawn together into a finalised draft. Including Policy Statements, an updated Risk Framework, Management Standards and Service Standards.

2. Information required to take a decision

In 2020 the council adopted a Tree Policy, a Tree Risk Framework, and a Tree Management Guidance document. Which, as a suite of documents, sets out the council's proposed method of managing its tree stock for the district's communities and to discharge its statutory duties.

This document suite now requires reviewing and updating to strengthen its focus on the benefits of trees, to bring it in line with current national policy and best practice, to help focus service delivery and to allow more effective and strategically focused use of resources.

On this basis, officers have been working to re develop the council policy documents. To provide a new progressive policy, better aligned with new national policy, the Council's current commitments, other policy areas and Kirklees' corporate goals. A copy of which is included in the supporting papers.

In general, the emerging draft document is made up of the following key sections:

- Revised policy statements, to provide a scaffold for the wider document and a foundation for the council's management principles and goals, aligned with wider national and local policies.
- A revised and updated risk framework, aligned with current industry best practise, taking account of recent case law and legislation. Setting a system of inspections and operational methods that meet the legal requirement, but which utilise current resources more effectively.
- Management Standards setting the council's detailed position on the maintenance and management of its trees. The situations where the council will undertake work and those areas where it can not undertake works.
- New Service Standards setting out priorities, response times for enquiries received and timeframes for works to be completed in different situations. Along with setting proformas to be used for submitting enquiries, to ensure that they can be processed and prioritised effectively, efficiently in a standardised format.

These revised documents are key to setting consistent principles surrounding the management of council trees and are a messaging opportunity to aid the management of expectations. Allowing clearer information for both officers of the council and members of the public to be signposted to.

If adopted it is intended that the provisions, and information, contained in this new policy document suite are used as the basis of an expanded web facility This will better communicate the council's position, allowing service users to better self-help and engage with the Council's Arboricultural Team, streamlining the enquiry submissions and handling process.

The draft has been through engagement process with colleagues in Climate Change, Risk and Insurance, Planning- Conservation, Design, Trees and Ecology and the Arboricultural Team. It has then subsequently been out for comment with a range of Services areas as interested parties, including Planning Policy, Highways, Homes and Neighbourhoods, Corporate Facilities Management, Kirklees Direct and The White Rose Forest as the regional Community Forest partner.

In January 2023, the initial draft was also taken to the Environment and Neighbourhoods Scrutiny Panel for comment. With the comments received now addressed, as follows:

- 1) "To add to the policy the aim to increase tree numbers and tree cover." *wording has now been clarified and expanded to better reflect the existing council's commitment to the White Rose Forest regional planting targets.*
- 2) "For officers to speak to Councillor enquiries regarding the development of the proforma". *Officers have engaged with enquiry colleagues to further develop the enquiry proforma and processes.*
- 3) "The wording around removing deadwood in the policy be revised to reflect that deadwood would only be removed when deemed hazardous". *Wording has now been amended to better reflect this position.*
- 4) "The wording on point 8.3 be revised to better reflect the procedure in relation to the right to light and the discretion around alleviating problems where funding was available." *Wording has been amended and expanded to better reflect the process around shade issues.*
- 5) "It was important to ensure the diversity of trees when growing and forming woodlands." *Wording has been amended, and text added, to link the current national standards for diversity of trees and woodlands. Specifically clearer links have been made to documents like the UK Forest Standard that governs these areas.*
- 6) "The wording in the policy be amended to make clear that the procurement of trees was sourced locally through Leeds City Council". *Wording has been strengthened and better linked to legislation and national guidance relating to bio security and local provenance of tree material. However, specific reference to Leeds City Council as a supplier has not been included. On consideration of this point, it was seen to be inappropriate to make reference, or commitment, to a specific supply within our policy. This is dealt with via our procurement procedures and may be subject to change within the lifetime of the Policy.*
- 7) "More information relating to Ash Dieback be presented to the Panel at a future meeting in relation to funding streams and resources". *This is being dealt with separately and more information relating to this will be presented at Scrutiny in due course.*
- 8) "The Policy be presented back to Scrutiny prior to Cabinet". *The final draft document is being progressed through to Cabinet via Scrutiny Panel.*

All necessary amendments and revisions identified through the engagement process have now been addressed. With the finalised draft policy in a position to progress to consideration for adoption.

3. Implications for the Council

Officers believe that continuing to rely on the current policy, with the gaps that it now contains, would leave Kirklees out of step with the change in national and public position

surrounding the trees, leaving the council open to challenge, and would result in continued difficulties and inconsistency with service delivery across service areas. Preventing the council from moving forwards with a progressive and strategically lead management of its tree stock.

3.1 Working with People

The Council's management of its trees and woodlands portfolio affects all the communities that the Council serves. The safety of citizens is especially important and the new policy documents put the management of risk from council trees to members of the public as a key factor. Benefiting residents and visitors to the district alike.

The value of the Council's tree stock and the benefits trees bring to the people, in relation to climate change, health benefits, biodiversity value and economic benefits are also key aspects of the new policy. To ensure the Council is managing its trees to increase the benefits they provide for current communities and for generations to come.

The new document suite will also allow for better information to be shared via a new web resource. to facilitate service users being able to access better information to self-help and to access the councils tree services more efficiently.

3.2 Working with Partners

The management of trees within the Kirklees district crosses over multiple service areas. Therefore, involving key interested partners at the early stages of drafting was key to ensuring the Council Owned Tree and Woodland Management Policy is fit for purpose and linked to other Council policies and commitments as necessary. See section 5. Engagement, for further details.

3.3 Place Based Working

The new policy document takes account of the diverse district which the council covers and allows for resources to be utilised in the best way possible to achieve positive outcomes for all communities. By fostering a consistent joined up tree management approach across the Kirklees Services Areas the policy uses intelligence and information to focus on wider community needs

3.4 Climate Change and Air Quality

Tackling the climate emergency, reducing emissions, and improving air quality are key long-term priorities for the Council to improve the quality of life for residents and create a borough that is healthier, more sustainable and fairer for everyone.

These are a key areas of the Council Owned Tree and Woodland Management Policy. Setting management principles that will capitalise on trees' ability to capture and store carbon, absorb and reduce air pollutants, reduce urban heating, slow run off of water there by reducing the risk of flooding and proven benefits around increasing mental and physical health of individuals. All of which will contribute to the Council's goals around tackling climate change.

3.5 Improving outcomes for children

Managing the benefits trees bring to the district, via the new policy documents, will have a positive impact for future generations and children in the district today. Providing them with access to safe and healthy environments to live in, and grow in, now and in to the future.

3.6 Financial Implications for the people living or working in Kirklees

The new policy document will facilitate more efficient use of Council resource, allowing current resources to better delivery services to residents and communities.

4. Consultation

N/A

5. Engagement

From the beginning of drafting the new policy documents engagement was, and has been ongoing with: Risk and Insurance, Planning- Conservation, Design, Trees and Ecology, Energy and Climate Change and The Arboricultural Team.

Further engagement was undertaken with: Highways, Planning Policy, Legal Services, Kirklees Direct, Homes and Neighbourhoods, Corporate Facilities Management, and the White Rose Forest, as the regional Community Forest partner.

Comments received related to rewording, or amendments to specific sections, and addition of text to link the draft tree management policy to other areas, such as Planning Policy.

In January 2023, the initial draft was also taken to the Environment and Neighbourhoods Scrutiny Panel for comment. The Comments provided by the Panel and the actions taken to address them have been detailed in the finalised draft, as above. The comments provided by the Panel, and actions taken to address them have been detailed in the final draft, as above.

6. Next steps and timelines

To progress the new policy documents to Cabinet for consideration and a decision.

7. Officer recommendations and reasons

Officers recommend that Scrutiny note the draft Council Owned Tree and Woodland Management Policy prior to Cabinet.

Contact officer

Joe Robertson, Woodland Development Officer
Email: Joe.robertson@kirklees.gvo.uk Tel: 01484 22100

8. Background Papers and History of Decisions

- Council Owned Tree and Woodland Management Policy adopted July 2020
- Tree Works on Council Owned trees, Guidance Document revised 2020
- Kirklees Council Tree Risk Management Framework, adopted 2020
- Report to E&N Scrutiny Panel, 10th Jan 2023

9. Service Director responsible

Graham West, Service Director - Highways & Streetscene



2023 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995
Local Air Quality Management, as amended by the
Environment Act 2021

Date: June 2023

Information	Kirklees Council
Local Authority Officer	Chris Shields, Natalie Holdsworth
Department	Public Protection
Address	Environment & Climate Change Kirklees Council Civic Centre 1 High Street Huddersfield HD1 2NF
Telephone	01484 221000
E-mail	Chris.shields@kirklees.gov.uk Natalie.holdsworth@kirklees.gov.uk
Report Reference Number	Kirklees_2023_ASR_V1.0
Date	June, 2023

Executive Summary: Air Quality in Our Area

Air Quality in Kirklees

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

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

Kirklees has population of approximately 440,000 and is one of the larger local authority districts in England. The main population centres are Huddersfield, along with Dewsbury and Batley in North Kirklees. The air quality issues within Kirklees primarily involve emissions from the road network connecting the various communities in the district, along with emissions from traffic which travel between the West Yorkshire conurbation along the M62 and Greater Manchester. Emissions from industrial and domestic sources are still of importance however, and continue to be subject to the relevant regulation, where appropriate.

Previous assessment of the district's air quality revealed the breaching (exceedance) of health based air quality standards (objectives) at several locations. To date Kirklees has identified two primary airborne pollutants of concern. These are nitrogen dioxide (NO₂) gas and particulate matter (fine inhalable particles referred to PM₁₀ and PM_{2.5} particles). Nitrogen dioxide is strongly associated with traffic emissions and raised concentrations of this gas previously resulted in formal declaration of nine of Kirklees' ten air quality

¹ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

³ Defra. Air quality appraisal: damage cost guidance, January 2023

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

management areas (AQMAs), due to the breaching (exceedance) of the annual average objective (air quality standard) for this polluting gas, the other being declared due to exceedance of the 24-hour mean objective for PM₁₀ particles.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan⁵ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term PM_{2.5} targets. The National Air Quality Strategy, due to be published in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce PM_{2.5} in their areas. The Road to Zero⁶ details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Kirklees Council has taken forward several measures during the current reporting year of 2022 in pursuit of improving local air quality.

The council acknowledged the important links between climate change, the council's Climate Emergency and the cross-cutting nature of the workstreams between air quality and climate change. Consequently, Kirklees Council created an Air Quality, Electric Vehicle Infrastructure, Energy and Climate Change team to deliver on these priority agendas and increased resource availability in order to achieve the council's ambitions, including the linking of the Council's emerging Climate Change Action Plan (published in 2022)⁷ and Environmental Strategy to the eventual update of the Councils' Air Quality Action Plan, which runs from 2019 to 2024. In 2022, this team incorporated staff involved with developing the district's electric vehicle charging infrastructure, and this team is now

⁵ Defra. Environmental Improvement Plan 2023, January 2023

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

⁷ [Climate Change Action Plan for Kirklees](#)

working on various projects which will be reported in our next year's Annual Status Report (ASR).

Post pandemic in 2021 and 2022, NO₂ concentrations breached (exceeded) the air quality objectives (annual mean objective for NO₂) in:

- AQMA 5 – Eastborough, Dewsbury
- AQMA 7 – Liversedge / Heckmondwike
- AQMA 9 – Huddersfield Town Centre

Concentrations within all our other AQMAs declared due to raised concentrations of NO₂ gas complied with annual mean objective in these years.

In 2022 Kirklees Council continued to work undertake partnership working, both local and regionally to bring about reductions and the Air Quality team have taken the lead on delivery of electric vehicle charging infrastructure within the district. The key measures in 2022 were:

- Birkenshaw Roundabout Scheme - Work continued on a £40,000 project to install a skirt around the roundabout to improve flow and reduce stop-starts within one of our AQMAs.
- Procurement of £1 million capital public electric vehicle charging scheme and £1m towards electrification of council's own fleet. In January 2019, Kirklees Council declared a Climate Emergency and as part of that, allocated £2 million for electric vehicle schemes. This capital budget is split into two elements, one million for the council's own and the other million for a strategic public charge network. This work is now progressing.
- Updating West Yorkshire Low Emission Strategy (WYLES) document, including revision of the planning guidance section to take account of new Building Control regulations for electric vehicle charging infrastructure with new development.

Most importantly, we note that our current Air Quality Action Plan is for the five-year period 2019-24.

Conclusions and Priorities

From analysis of 2022 air quality data, we conclude that there have been exceedances of the annual mean NO₂ air quality objective within three of our ten AQMAs. Outside of these areas, the rest of Kirklees complied with the air quality objectives.

Real-time data NO₂, PM₁₀ and PM_{2.5} for 2022, indicated no exceedance of any air quality objectives, although this conclusion is based on an incomplete (and annualised) dataset, and these monitoring stations are not located in AQMAs where concentrations are exceeding the objectives.

Falls in roadside NO₂ concentrations in 2020 of 17-19%, of which 10% was estimated to be a result of COVID19 pandemic, were followed with an increase in 2021 of 12-15%. In 2022 there was an overall 4% decrease in roadside NO₂ annual mean concentrations throughout the district, a 3% decrease in concentrations within AQMAs 3–10, whilst in AQMAs 1 and 2 an increase of 3% in concentrations. The 2022 data therefore suggests a “levelling off” with roadside NO₂ concentrations in 2022 following the post pandemic increase in 2021.

Exceedance of legal, health based objectives both in 2021 and 2022 indicate that further measures may be required to ensure future compliance with air quality objectives within all our AQMAs.

Kirklees Council has taken forward several measures during the current reporting year of 2022 in pursuit of improving local air quality. Kirklees Council's priorities for the coming year are:

- Improve air quality around schools/town centres/AQMAs and increase knowledge about air quality and links with public health/active travel
- Start reviewing and updating our existing Air Quality Action Plan 2019-2024
- Consideration of revocation (removal) of some of AQMAs where concentrations have complied with legal air quality objectives for five years or more
- Delivery of electric vehicle and infrastructure projects
- Implementation of wider regional projects to assess distribution of PM_{2.5} (fine respirable particle) emissions and concentrations within West Yorkshire, along with identification of future action to reduce these emissions and concentrations.
- Replacement of our continuous air quality monitoring stations
- Complete the revision of the West Yorkshire Low Emission Strategy
- Support other services delivering actions around active travel, climate change and environmental regulation etc., which all have improved air quality benefit.

Whilst the measures, stated above and detailed in the tables of this report, will help to contribute towards compliance, Kirklees Council anticipates that further additional

measures not yet prescribed may be required in subsequent years to achieve compliance and enable the revocation of the councils current ten AQMAs.

Local Engagement and How to get Involved

If you require further information on local air quality, please use the following websites:

<http://www.kirklees.gov.uk/community/noisePollution/pollution.aspx>

<https://uk-air.defra.gov.uk/>

or contact the council on air.quality@kirklees.gov.uk

Local Responsibilities and Commitment

This ASR was prepared by the Air Quality, Electric Vehicle Infrastructure, Energy and Climate Change team of Kirklees Council with the support and agreement of the following officers and departments:

Energy and Climate Change team

Electric Vehicle Infrastructure team

Public Health

Transport Strategy

Highways

Environmental Health (Pollution and Noise Control Team)

Planning

Major Projects

This ASR has been approved by:

Shaun Berry, Operational Manager- Air Quality and Climate Change, Environmental Strategy and Climate Change, Kirklees Council

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

If you have any comments on this ASR please send them to Chris Shields at:

Address: Environment & Climate Change, Kirklees Council, Civic Centre 1, High Street
Huddersfield. HD1 2NF.

Telephone: 01484 221000

Email: air.quality@kirklees.gov.uk

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1 Local Air Quality Management

This report provides an overview of air quality in Kirklees Council during 2022. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Kirklees Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and also provide dates by which measures will be carried out.

A summary of AQMAs declared by Kirklees Council can be found in Table 2.1. The table presents a description of the ten AQMAs that are currently designated within Kirklees.

Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMAs and the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO₂ annual mean (AQMA 1, and 3 to 10)
- PM₁₀ 24-hour mean (AQMA 2)

In completing Table 2.1 we have calculated the number of years of compliance with the relevant air quality objectives for the last five year period only (2018-2022 inclusive). Furthermore, in calculating the 2022 data at the point of relevant exposure, we have undertaken additional distance correction calculations for the locations within AQMAs three and four respectively.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance : Declaration	Level of Exceedance : Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
AQMA 1 Bradley	Declared 17/10/08	NO2 Annual Mean	The designated area incorporates the Leeds Road (A62) - Bradley Road (A6107) junction	NO	73 µg/m3	31 µg/m3	Four	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx
AQMA 2 Scouthill	Declared 27/02/09	PM10 24 Hour Mean	Now revoked, the designated area incorporated part of Huddersfield Road (A644) in Scouthill	NO	43 Days	n/a	Five	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx

AQMA 3 Ainley Top	Declared 01/11/17	NO2 Annual Mean	The designated area incorporates Halifax Road (A629), Lindley Moor Road Bradley Road (A643), Warren House Lane and Stirling Wood Close, which is in close proximity to the Ainley Top Roundabout at Birchencliffe	YES	44 µg/m3	27 µg/m3	Five	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx
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AQMA 4 Birkenshaw	Declared 01/11/17	NO2 Annual Mean	The designated area incorporates Bradford Road (A651), Whitehall Road East (A58), Carlton Court, Grove Terrace, Swincliffe Crescent, Milford Grove, Tetley Drive and Manor Park Gardens, which is in close proximity to the M62 and A651-A58 Roundabout at Birkenshaw	YES	45 µg/m3	27 µg/m3	Five	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx
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AQMA 5 Eastborough	Declared 01/11/17	NO ₂ Annual Mean	The designated area incorporates Leeds Road (A653), Dewsbury Ring Road (A638), Wakefield Road (A638), Highgate Road, Highgate Terrace, Bank Street and Old Bank Road, which is in close proximity to Dewsbury Town Centre	NO	60 µg/m ³	44 µg/m ³	n/a	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx
AQMA 6 Edgerton	Declared 01/11/17	NO ₂ Annual Mean	The designated area incorporates Edgerton Road (A629) and Blacker Road, which is in close proximity to Huddersfield Town Centre	NO	54 µg/m ³	38 µg/m ³	Four	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx

AQMA 7 Liversedge	Declared 01/11/17	NO2 Annual Mean	The designated area incorporates Huddersfield Road (A62), Bradford Road (A638), Wakefield Road (A638), Wormald Street and Well Street, which is in Liversedge	NO	45 µg/m3	43 µg/m3	n/a	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx
AQMA 8 Outlane	Declared 01/11/17	NO2 Annual Mean	The designated area incorporates New Hey Road and Round Ings Road, which is in close proximity to the M62 at Outlane	YES	54 µg/m3	33 µg/m3	Three	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx
AQMA 9 Huddersfield Town Centre	Declared 01/11/17	NO2 Annual Mean	The designated area incorporates Roads bordering and within the Huddersfield	NO	55 µg/m3	41 µg/m3	n/a	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx

			d Ring Road						
AQMA 10 Thornton Lodge	Declared 06/06/19	NO2 Annual Mean	The designated area incorporates Manchester Road	NO	47 µg/m3	39 µg/m3	Four	Air Quality Action Plan for Kirklees Council Version 1.4 Published; Sept 2019	https://www.kirklees.gov.uk/beta/crime-and-safety/air-pollution.aspx

Kirklees Council confirm the information on UK-Air regarding their AQMA(s) is up to date.

Kirklees Council confirm that all current AQAPs have been submitted to Defra.

Progress and Impact of Measures to address Air Quality in Kirklees

Defra's appraisal of last year's ASR concluded:

The Annual Status Report sets out new information on air quality obtained by Kirklees Metropolitan Council as part of the Review & Assessment process required under the Environment Act 1995 (as amended by the Environment Act 2021) and subsequent Regulations.

Kirklees Metropolitan Council has 10 air quality management area (AQMA)s, within their jurisdiction.

The Council monitors nitrogen dioxide (NO₂) using non-automatic (passive) monitoring across a network of 104 diffusion tube sites. The Council monitors nitrogen dioxide (NO₂) using 2 automatic monitoring sites.

The Council has 10 AQMA)s within their jurisdiction. The Council have developed a list of measures within the ASR for the current reporting year to further improve local air quality within Kirklees Council. In terms of NO₂ diffusion tube data post-processing, QA/QC procedures have been applied for bias adjustment (using a national bias adjustment factor) with appropriate calculations provided. An annualisation factor has been applied to sites with data capture below 75%.

During the reporting period, there were 9 exceedances of the NO₂ annual mean objective value recorded at sites of relevant exposure. 6 of these were within the AQMA)s, 3 of these were outside of the AQMA)s. The maximum non-automatic site recorded NO₂ concentration was noted at 50.2 µg/m³ at site K40.

*On the basis of the evidence provided by the local authority the conclusions reached are **accepted** for all sources and pollutants.*

Commentary

The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are designed to help inform future reports:

1. *Reference to the Public Health Outcomes Framework has been made and this practice should continue going forward.*
2. *Trends have been presented with a robust comparison to the Air Quality Objectives.*
3. *QA/QC procedures are robust, with sufficient supporting evidence provided.*

Kirklees Council has taken forward a number of direct measures during the current reporting year of 2022 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Over 100 measures are included within Table 2.2, with the type of measure and the progress Kirklees Council have made during the reporting year of 2022 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in their respective Action Plans, namely The Air Quality Action Plan for Kirklees Council Version 1.4, which is available on the council's website⁸. Key completed measures are:

Birkenshaw Roundabout Scheme - Work continued on a £40,000 project to install a skirt around the roundabout to improve flow and reduce stop-starts.

Completed delivery of OLEV funded West Yorkshire Strategic Rapid Charger network for taxis and the general public (17 chargers within Kirklees)

Increase monitoring tools available to council (diffusion tubes / low cost sensors) and operating multiple low cost sensor technology to evaluate accuracy and effectiveness

Procurement of £1 million capital public electric vehicle charging scheme and £1m towards electrification of council's own fleet

In January 2019, Kirklees Council declared a Climate Emergency and as part of that, allocated £2 million for Electric vehicle schemes. This capital budget is split into two

⁸ [Air pollution | Kirklees Council](#)

elements, one million for the council's own and the other million for a strategic public charge network.

Updating West Yorkshire Low Emission Strategy (WYLES) document, including revision of the planning guidance section to take account of new Building Control regulations for electric vehicle charging infrastructure with new development.

Kirklees Council expects the following measures to be completed over the course of the next reporting year:

- Development Stage
 - Electric vehicle feasibility study for council fleet
 - Develop an electric vehicle strategy
 - Developing / restarting working Groups with key stakeholders (such as public health, active travel, anchor institutions and Councillor engagement)
- Procurement Stage:
 - West Yorkshire regional PM_{2.5} source apportionment and monitoring exercise to determine PM_{2.5} emission sources and concentrations within Kirklees and West Yorkshire
 - Upgrade and replacement of the Council's continuous air quality monitoring stations
- Delivery Stage:
 - Birkenshaw Roundabout Scheme
 - Electric vehicle schemes
 - "Low-cost" air quality monitoring technology

Complete assessment of the validity of sensor technology considering new developments (indicative MCERTS for particulate matter low cost sensors⁹, British Standards Institute proposals etc.). We then plan to deploy the monitors tactically to evaluate projects, localities previously not assessed for particulate matter and to evaluate impact from large changes to road network and other sources. This relates to the PM_{2.5} project detailed above

⁹ [MCERTS: performance standard for indicative ambient particulate monitors - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/mcerts-performance-standard-for-indicative-ambient-particulate-monitors)

- Complete updated West Yorkshire Low Emission Strategy (WYLES) document.

Kirklees Council's priorities for the coming year are:

- Improve air quality around schools/town centres/AQMAs and increase knowledge about air quality and links with public health/active travel.
- Start reviewing and updating our existing Air Quality Action Plan 2019-2024
- Consideration of revocation (removal) of some of AQMAs where concentrations have complied with legal air quality objectives for five years or more.
- Delivery of electric vehicle and infrastructure projects
- Implementation of wider regional projects to assess distribution of PM_{2.5} (fine respirable particle) emissions and concentrations within West Yorkshire, along with identification of future action to reduce these emissions and concentrations.
- Replacement of our continuous air quality monitoring stations
- Complete the revision of the West Yorkshire Low Emission Strategy
- Support other services delivering actions around active travel, climate change and environmental regulation etc., which all have improved air quality benefit.

Kirklees Council worked to implement these measures in partnership with the following stakeholders during 2022:

- Neighbouring local authorities
- The Highways authority (National Highways)
- Anchor Institutions (NHS Trusts / Universities)
- Energy and Climate Change team
- Electric Vehicle Infrastructure team
- Public Health
- Transport Strategy
- Highways
- Major Projects
- Environmental Health
- Planning.

The principal challenges and barriers to implementation that Kirklees Council anticipates facing are the reintroduction of schemes and measures which were either put on hold due to the pandemic or scaled back. Partner organisations' (internal and external) priorities may have changed in response to the post pandemic socio-economic climate and this may

impact on delivery of measures. This situation will be evaluated with our proposed redraft of the Air Quality Action Plan in due course.

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance, Kirklees Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of the nine AQMAs declared due to exceedance of the annual mean objective for NO₂. Please note, we have created an additional appendix to this document (Appendix F). Appendix F contains the text relating Table 2.2. column (Key Performance Indicators). Due the significant amount of text we present in this column we have taken the decision to move this text to a separate appendix to assist in ease of reading of this table.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
G.1	Adoption of the West Yorkshire Low Emissions Strategy (WYLES)	Policy Guidance and Development Control	Low Emissions Strategy	2015	Ongoing	Kirklees Environmental Health	Air Quality Grant	YES	Funded		Planning	NO2 & PM	See Appendix F	Active	<p>Currently adopted within the authority and integrated into Kirklees Council policy and work instructions.</p> <p>Further plans outlined in action G.22 for a review of the documents and how they are used.</p> <p>Funding received from Air Quality Grant. Available at; https://www.kirklees.gov.uk/beta/crime-and-safety/pdf/WYLES-strategy.pdf. This document is currently in the process of revision to take account of adoption of Building Control Approved Document S with regard to installation of electric vehicle charge points within new development, along with consideration of the requirements of the Environment Act 2021 and the draft revised National Air Quality Strategy</p>

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
G.2	Kirklees Council - workplace Active travel	Promoting travel alternatives	Workplace Travel Planning	2018	2030	Public Health in consultation with Transport Strategy	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>Previously implemented in 2009. Frequency of review and the actual plans are currently under review to ensure they remain relevant and include changes in technology & behaviour since previous iteration.</p> <p>Upon conclusion of the review, conclusions to be implemented and comms plan devised to promote actions within the plans.</p> <p>Once new plans have been adopted, ongoing regular review and promotion will be required to ensure this action is still relevant.</p> <p>Data for evaluation for this measure to be collected from Employee Travel Survey Results</p>

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
G.3	Kirklees Sustainable Travel to School Strategy	Promoting travel alternatives	School Travel Plans	2020	Ongoing within schools	Public Health / Economy and Infrastructure	Council Budget / Active Travel England / West Yorkshire Combined Authority	NO	Funded		Planning	NO2 and PM	See Appendix F	The Council is delivering the "modeshift stars" initiative with local schools, promoting cycling and walking to and from schools. Currently 38 local schools are "active" within the scheme, as part of an initial target of 50. The Council has also received Active Travel Funding to undertake a "Schools Streets" scheme at 5 local schools in 2023/24	Previously implemented in 2005. Committee set up to review the policy, construction process, pre-existing documents and implementation to reflect changes school operations, in technology and behaviour. Upon conclusion of the review, conclusions to be implemented and comms plan devised to promote actions within the plans. Currently under review. Once new plans have been adopted, ongoing regular review and promotion will be required to ensure this action is still relevant.
G.4	Bike-ability training provided to school children	Promoting travel alternatives	Promotion of cycling	2010	Ongoing	Kirklees Public Health	Council Budget / Active Travel England / West Yorkshire Combined Authority / DfT Access Fund	NO	Funded		Implementation	NO2 & PM	See Appendix F	This scheme is now operational after being put on hold during the pandemic, working with School Games Organisers placed within local schools who co-ordinate delivery	This scheme is an ongoing project to provide access and training to children on the use of cycling with the long term goals to promote cycling as a leisure activity and also a mode of transport. The Council will tender in 2023/24 for continuing this scheme

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
G.5	City Cycle Grant	Promoting travel alternatives	Promotion of cycling	2016	Ongoing within the district	Kirklees Public Health / West Yorkshire Combined Authority	Grant	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	This scheme is an ongoing project to provide assistance to funding purchases with the long term goals to promote cycling as a leisure activity and also a mode of transport. This scheme will be reviewed in due course
G.6	Green Parking Permit allowing free parking for ULEV Vehicles within Council owned car parks.	Promoting Low Emission Transport	Priority parking for LEV's	2008	2019	Kirklees Economy and Infrastructure	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Scheme has now issued 352 electric vehicle permits and 4 low emission vehicle permits	Currently this scheme is available for Kirklees residents and workers. This action is designed to reduce the cost of Electric Vehicles ownership and to increase the uptake of electric vehicle ownership within the domestic market. Further consideration being undertaken regarding the evaluation of the environmental benefit of the scheme
G.7	Service level agreements across West Yorkshire for ULEV Parking permits to allow free parking across the region	Promoting Low Emission Transport	Priority parking for LEV's	2019	Ongoing within the district	Kirklees Environmental Health	Estimated to be Council Budgets	NO	Partially Funded		Planning	NO2 & PM	See Appendix F	Concept	Currently scheme G.6 is available for Kirklees residents and workers. This project is to expand on the Kirklees Scheme to improve viability for users who move across district boundaries within West Yorkshire. This action is designed to reduce the cost of Electric Vehicles ownership and to increase the uptake of electric vehicle ownership within the domestic market. Builds on the success of our own permitting system and to further promote ULEVs

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G.8	City Car Club ran within Kirklees district	Alternatives to private vehicle use	Car Clubs	2009	Ongoing	Kirklees Economy and Resilience	3rd Party Business	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	City Car Club is currently available to local residents to use. The scheme reduces vehicle ownership while also providing access to a vehicle when required. Booking of the car is done via an available "app", with use of e-bikes a recent development
G.9	Finance & Promote Car Sharing Website	Promoting Travel Alternatives	Other	2007	2024	Kirklees Economy and Infrastructure	Local Transport Plan	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The West Yorkshire Combined Authority (WYCA) is currently tendering for the creation of a new car club for West Yorkshire and York - https://www.westyorks-ca.gov.uk/news-archive/car-club/
G.10	E.V Fleet Feasibility Study for council fleet	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission vehicles	2019	Ongoing	Kirklees Operational Service	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	There are two parts to this work. Firstly, working with the Energy savings Trust (EST), there has been a feasibility assessment of the fleet and development of a forward plan. Subsequent to this, work is ongoing to assess charging infrastructure requirements	Internal document, which will steer internal fleet purchasing options and help introduction of charging facilities at council depots. Delivery targets to be determined from outcome of survey.

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G.11	Conversion of applicable council fleet to electric vehicles	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission vehicles	2019	Ongoing within the district	Kirklees Operational Service	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	<p>It is estimated that there are now over 100 EVs (full EVs and hybrids) within the Council fleet, including the procurement of 35 Electric vans which were introduced in 2021/22. Due to current charging infrastructure limitations, a home charging scheme is being piloted to support service operations for up to 25 electric vans. As an ongoing commitment, we continue to trial new EV's as they become available on the market to assess their suitability for our operations. To date, this has included an electric refuse vehicle, 3.5t panel vans,</p> <p>Delivery targets to be determined from outcome of survey outlined in measure G.10</p> <p>It is estimated that there are now over 100 EVs (full EVs and hybrids) within the Council fleet, including the procurement of x 35 Electric vans which were introduced in 2021/22. Due to current charging infrastructure limitations, a home charging scheme is being piloted to support service operations for up to 25 electric vans.</p>	

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														cars and sweepers.	
G.12	Kirklees Bike to Work Scheme	Promoting Travel Alternatives	Promotion of cycling	2017	2024	Kirklees Public Health	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>This scheme is an ongoing project to provide assistance to funding purchases with the long term goals to promote cycling as a leisure activity and also a mode of transport.</p> <p>Grant accessed to purchase 3 push bikes for staff Active travel in Kirklees Council. The grant continues to be promoted by West Yorkshire Combined Authority to workplaces in the Kirklees district. Due to COVID-19, system has yet be developed to make the bikes available to Kirklees Council staff and will be reviewed in due course</p>

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G.13	Update Kirklees Air Quality Strategy	Policy Guidance and Development Control	Other Policy	2018	Ongoing process	Kirklees Environmental Health	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Completed	Kirklees Council originally adopted an Air Quality Strategy in 2006. This document has been updated to reflect technology, policy and scientific changes in the Air Quality Sector. Consideration will be given to updating this document following passing of the Environment Act 2021, and subsequent local authority emphasis on actions to reduce PM _{2.5} emissions. This document is in conjunction with the action plan and reviewed periodically in line with Action Plan review process.

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G.14	Assess planning applications in accordance with procedures in the WYLES Planning Guidance Document and require the relevant mitigation included on development	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2015	Ongoing	Kirklees Planning & Environmental Health	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>The Planning Guidance document is a key document contained within G.1. This document is currently used to assess all planning applications and integrated into Local Plan policy documents</p> <p>As such all planning applications will be assessed against the West Yorkshire Low Emission Strategy Planning Technical Guidance Document and mitigation requirements for each application will be determined according to criteria outlined within the aforementioned document. The planning guidance is available at;https://www.kirklees.gov.uk/beta/crime-and-safety/pdf/WYLES-air-quality-and-emissions-planning-technical-guide.pdf</p> <p>Currently reviewing the document</p>

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G.15	Create a Green Procurement Toolkit	Policy Guidance and Development Control	Sustainable Procurement Guidance	2019	Ongoing within the district	Kirklees Procurement	Estimated to be Council Budgets	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	<p>The Green Procurement Toolkit is a key outcome from action G.1. A pre-requisite Procurement Guidance document was included part of the West Yorkshire Low Emission Strategy and is to be used to facilitate the creation of a toolkit that ensures a number of environmental impacts is a key consideration in procurement exercises.</p> <p>WYLES contains green procurement. WYLES Procurement Guidance Document is available at; https://www.kirklees.gov.uk/beta/crime-and-safety/pdf/WYLES-procurement-guide.pdf</p>
G.16	Subsidised Bus/Rail Card for Kirklees Council Staff	Promoting Travel Alternatives	Workplace Travel Planning	Pre 2006	Ongoing within the Authority	Kirklees Operational Services	West Yorkshire Combined Authority Travel Plan Network	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>The passes are made available in accordance with Council Travel plans, action G.2 and because the council is a member of the travel plan network available to businesses in the West Yorkshire Region (see action G.43). As part of the travel plan network, discounted Bus/Rail Cards are available for Kirklees Council employees to purchase. The council also have company rail cards, allowing officers to use public transport in their duties as a council officer. This mode of transport is preferred for low mileage trips or town centre meetings and is a primary tool to reduce the councils fleet emissions.</p>

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G.17	Kirklees Policy on Employee Transport (Employee Handbook)	Policy Guidance and Development Control	Other policy	2015	Ongoing Process as funding becomes available	Kirklees Operational Services	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	This is the primary policy document to control employee travel both as part of their commute or within their working capacity. The document outlines best practice for travel options within the work place and also promotes alternative commute options in accordance with council travel plans, action G.2. As such, the document recommendations continue to be relevant and in accordance with the council's ambitions to reduce emissions.

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G.18	Retro-fitting Applicable vehicles within the Bus Fleet with Emissions Abatement Equipment	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2013 & 2018	2020	West Yorkshire Combined Authority & Kirklees	Clean Bus Technology Fund	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>Bus fleets within the district are key for model shift and vehicle number controls at the AM and PM peaks. As such it is important that the bus fleet remains a transport option available to the public, but also does incorporate relevant technology to ensure lowest emissions possible. The Clean Bus Technology Fund provides financial incentive to private bus operators to continue to improve their own fleet. Therefore, the council will continue to seek funding within this sector to assist with a full conversion of all Euro V & Euro IV buses within the Kirklees district. Previously, through partnership working with West Yorkshire, we have achieved the following: 2013 - £1m CBTF retrofit of 119 School Buses. School buses were retrofitted in 2014/15 and branding added to sides of the buses to promote pollution reduction 2018 - £4.1m CBTF plan to retrofit 300 Buses within WY.</p>
G.19	Electric Vehicle Strategy	Policy Guidance and Development Control	Other policy	2019	Ongoing within the district	Kirklees Environmental Health	Local Transport Plan	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	<p>The strategy is being created to determine the infrastructure needs within the Kirklees District and to outline an approach to facilitate the move from the combustion engine towards Electric vehicle in both the domestic and commercial sectors within the district. It is hoped to complete the Strategy by the end of 2023. The draft Strategy will have an emphasis of improving infrastructure within residential areas and will align also with the emerging WYCA EV Strategy</p>

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G.20	West Yorkshire ECO-Stars Scheme	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2016	2020	Kirklees Environmental Health	Local Transport Plan	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	The WY ECO Stars scheme is now complete. A decision has to be taken regionally whether to pursue further funding to continue the scheme
G.21	West Yorkshire Electric Vehicle Taxi Scheme	Promoting Low Emission Transport	Taxi emission incentives	2018	2021	West Yorkshire Combined	OLEV Taxi Grant	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Currently Kirklees Council have undertaken a number of E.V charging projects to install chargers and also run a green parking permit to reduce the cost of E.V ownership. This project contributes towards the council's ambition towards Electric vehicle adoption in both the domestic and commercial sectors within the district. Installation of 34 Rapid Charging Bays within Kirklees. 17 Taxi Bays and 17 Public Bays now completed
G.22	West Yorkshire Low Emission Strategy Officer	Other	Other	2019	2019	Kirklees Environmental Health	Air Quality Grant	YES	Funded		Completed	NO2 & PM	See Appendix F	Complete	Work now completed with drafting of the West Yorkshire Low Emission Strategy

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G.23	Joint Strategic Assessment for Air Quality	Policy Guidance and Development Control	Other policy	2018	2031	Kirklees Public Health	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	Currently the strategy adopted within the authority and integrated into Kirklees Council policy and work instructions. This is a 10 year policy document. Available at https://observatory.kirklees.gov.uk/jsna/wider-conditions/air-quality/ . This will be reviewed in due course following passing of the Environment Act 2021 and Government consultation on the National Air Quality Strategy in 2022
G.24	Corporate Carbon Reduction Targets	Other	Other	2020-2021	2021	Kirklees Economy and Infrastructure	Council Budget	NO	Funded		Completed	Primary Target: CO2	See Appendix F	Completed	<p>Kirklees Council has declared a Climate Emergency and in the process of constructing an action plan to achieve CO2 reduction goals. Prior to this Kirklees Council has been working towards CO2 targets outlined in target column. This is an ongoing process with aim of constant reduction, targets of which are subject to change as a result Climate Emergency Board decisions.</p> <p>2010 target of 40% reduction due to be reported on for 18/19 in 20. These targets have now been achieved. The forthcoming revision of the Councils' Air Quality Action Plan (2019-2024) will take account of the Councils revised Net Zero / Climate Ready targets for 2038. https://www.kirklees.gov.uk/beta/climate-emergency/pdf/kirklees-climate-change-action-plan.pdf</p>

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G.25	West Yorkshire Energy Accelerator Project	other	other	TBC	Once adopted, use of the SPD would be an ongoing activity	Kirklees Economy and Infrastructure	Source of funding to be confirmed	NO	Not Funded		Completed	Secondary reductions in NO2 & PM	See Appendix F	Completed	<p>Kirklees Council has declared a Climate Emergency and in the process of constructing an action plan to achieve CO2 reduction goals. This project will contribute towards achieving the targets set out in the Climate Emergency process.</p> <p>The project also has the potential to reduce industrial emissions covered in the Air Quality Objectives. Air Quality and Carbon reduction have the shared aim of reducing emissions and Kirklees Council are committed to partnership working to reduce both pollutants rather than individual focus.</p> <p>The Council continues to work closely with WYCA and the regional Energy Hub to access equivalent schemes and funding opportunities due to the air quality and climate change co-benefits.</p>
G.26	Air Quality to be included in a relevant Supplementary Planning Guidance Document	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2020	2021	Kirklees Planning & Environmental Health	Council Budget	NO	Funded		Planning	Primary Target: CO2Secondary reductions in NO2 & PMNO2 & PM	See Appendix F	Active	<p>Kirklees Council adopted its Local Plan in 2019. Following this, Environmental Health and Planning aim to work collaboratively to develop a Supplementary Planning Document (SPD), which will include a robust air quality section which integrates the aims, process and mitigation options outlined in the WYLES Planning Guidance Document.</p>

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G.27	Trialling Hybrid and E.V Bin Wagon	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission vehicles	2020	2019	Kirklees Commercial, Regulatory & Operational Services	Council Budget	NO	Funded		Implementation	NO2	See Appendix F	E-RCV – In 2022, order placed for an electric RCV. The purchasing of this vehicle is to enable the Council to thoroughly test this new EV technology on our operations, providing our own datasets to analyse the vehicle's performance; to assist with making informed business decisions in the future.	Upon completion of the study, a report will be constructed and shared with other within the industry.
G.28	Feasibility Study on use of E.V Mobile Maintenance Equipment	Promoting Low Emission Transport	Company Vehicle Procurement -Prioritising uptake of low emission vehicles	2019	Ongoing activity once implemented	Kirklees Commercial, Regulatory & Operational Services	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	Internal document, which will steer purchasing options and help introduction of E.V M.M. E's. Delivery targets to be determined from outcome of survey.
G.29	Feasibility of delivery of Council Officer Car Lease Scheme and delivery (limiting the available options by emission output)	Promoting Low Emission Transport	Public Vehicle Procurement -Prioritising uptake of low emission vehicles	2020	2024	Kirklees Commercial, Regulatory & Operational Services	Estimated to be Council Budgets	NO	Partially Funded		Planning	NO2 & PM	See Appendix F	Proposed	Collaborative working between Transport services and Environmental Health to determine viability of providing low emission transport to employees within the local authority

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G.30	Grey Fleet Telematics Trial	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2018	Ongoing within the district	Kirklees Commercial, Regulatory & Operational Services	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active Trial	Currently trialling a dongle that plugs into the vehicle cigarette lighter port and track via GPS and reports to an app. Initially used to data gather and support future projects to reduce grey millage fleet miles. Analysis of the data will allow the authority to identify short journeys and potentially promote use of public transport
G.31	Master naught Telematics System	Vehicle Fleet Efficiency	Other	2017	2019	Kirklees Commercial, Regulatory & Operational Services	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Use of the Master naught data allows the Authority to promote better driving and has already shown a reduction in fleet miles and fuel consumption. Further use of the telematics system can be used for identifying training needs. As such, use of the telematics system is an ongoing process within the lifespan of this action plan.

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G.32	Pool Bike Feasibility Study	Promoting Travel Alternatives	Promotion of cycling	2019	2024	Kirklees Public Health	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>Kirklees Council public health have set up a pilot project of pool bikes to promote model shift option for shorter journeys. Exploring the viability of pool bike usage as part of a council fleet</p> <p>Kirklees Active Travel Staff Group established prior to COVID-19 to develop feasibility of pool bike implementation. Public Health engaged with third sector provider to explore options for establishing a pool bike library/ bike loan library, bike training and bike maintenance service for Kirklees Council and extend to other anchor organisations /businesses. WYCA provide the City Connect webpage (https://www.cyclecityconnect.co.uk/) to assist the active travel agenda</p>
G.33	Robust Travel Survey to determine better travel plans internally	Other	Other	2019	2022	Kirklees Public Health	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>Kirklees Council Internal travel survey for all council employees to help better inform further decision making and influence future projects. Last staff travel survey undertaken in 2022</p>
G.34	Installation of pollution sensor technology within our AQMA's in conjunction with recognised monitoring to demonstrate validity of new devices	Traffic Management	Other	2019	2024	Kirklees Council UTC & Environmental Health	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	<p>This study will be used as part of a rationalisation project to provide the most accurate, cost effective monitoring network to assist the council to safeguard residents and the environment</p>

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G.35	Engagement within the district with regional plans on alternative Low Emission Fuel Sources	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2020	Ongoing	Kirklees Environmental Health	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Completed	<p>Ongoing regional work exploring introduction of low emission fuel sources into West Yorkshire</p> <p>This is a future project currently going through project planning phase</p> <p>Kirklees continue to be engaged with WYCA LCR Energy Strategy and delivery plan (now superseded by the WYCA Climate Change Plan)</p> <p>Going forward, this will be considered within the forthcoming Air Quality Action Plan revision, particularly around the roles of electric vehicles, public transport and active travel</p>
G.36	Review how Environmental Health delivers regulatory requirements of the Clean Air Act	Policy Guidance and Development Control	Other policy	2020	2030	Kirklees Environmental Health	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Proposed	<p>Kirklees District is currently a smoke control area and investigates complaints & enforces where required. The process will be reviewed to put the council in a good position for future changes to solid fuel legislation. This process is an ongoing iterative process and planned changes to the Clean Air Act will need to be included into future working practices, as a result of the passing of the Environment Act 2021.</p>

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G.37	Implementation of the Medium Combustion Plant Directive through the planning process	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2018	2020	Kirklees Environmental Health / Environment Agency	Environment Agency / Council budgets	NO	Funded		Planning	PM	See Appendix F	Active	Kirklees Council to work with Environment Agency to discharge requirements of the Medium Combustion Plan Directive staggered process
G.38	Zoning project to identify errant Environmental Permitting businesses	Other	Other	2019	Active	Kirklees Environmental Health	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Proposed	Kirklees Council routinely inspects businesses requiring permits as prescribed in the Environmental Permitting Regulations. This measure is a piece of work that aims to identify businesses that require permits, but currently do not possess one.

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G39	Kirklees Walking and Cycling Strategic Framework	Promoting Travel Alternatives	Promotion of walking	2030	Ongoing	Public Health	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Proposed	<p>This is a policy document to outline the council's ambition to promote walking and cycling and also contain a number of measures to assist in achieving the aim. This policy document is currently under construction and once completed will be the primary policy framework for delivering walking and cycling. Therefore, upon adoption, use of this document will be an ongoing process.</p> <p>The framework will eventually sit under the Council's proposed Transport Strategy.</p>
G.40	Kirklees Neighbourhood Housing Solid Fuel Policy	Policy Guidance and Development Control	Other policy	2018	Ongoing	Kirklees Neighbourhood Housing	KnH Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>Policy prohibits installation of solid fuel stoves. Chimneys are blocked up when gas fires are removed in order to prevent solid fuel use. Completion date has been set as ongoing because of the continuous nature of the action.</p>

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G.41	West Yorkshire Travel Plan Network	Policy Guidance and Development Control	Other policy	2016	Ongoing review process of strategy as funding becomes available	West Yorkshire Combined Authority	West Yorkshire Combined Authority Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	<p>West Yorkshire Travel Plan network visit local businesses and assist with improving employee travel option and promote model shift. Revisits and frequent promotions to members of the network once assessment has been conducted. AQMA areas are a priority for business engagement. Completion date has been set as ongoing because of the continuous nature of the action.</p> <p>This project is a continuous, though subject to funding requirements. More information can be found at https://www.the-lep.com/business-support/sustainability/travel-plan-network/</p>
G.42	Development of a Comms Strategy to promote air quality, modal shift and successful emission reduction projects	Public Information	Other	2019	Ongoing	Kirklees Environmental Health Kirklees Communications and Marketing	Estimated to be Council Budgets	NO	Funded		Planning	NO2 & PM	See Appendix F	on hold	<p>Once the strategy is developed, further targets can be formulated to measure the success of promoting air quality within the district. More costly methods of promotion may not be viable at time on inception but can be considered as funding becomes available.</p>

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G.43	Collaborative working with NHS Trusts within District	Other	Other	2019	Ongoing	Kirklees Environmental Health NHS Trusts	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	Kirklees Council has 2 NHS Trust, Mid Yorkshire and Huddersfield Calderdale Trust. As a key partner in the district the council will work with them to promote / deliver low emission projects and policy Require a continued engagement programme
G.44	Collaborative working with University of Huddersfield	Other	Other	2019	Ongoing	Kirklees Environmental Health University of Huddersfield	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	Kirklees Council has already begun to develop a number of projects with the university. As a key partner in the district the council will continue to work with them to promote / deliver low emission projects and policy Require a continued engagement programme
G.45	Collaborative working with Commercial Bus Companies within the district	Other	Other	2019	Ongoing	Kirklees Environmental Health WYCA Local Bus Companies	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	Kirklees Council has already begun to develop a number of projects with the bus partners and the combined authority. As a key partner in the district the council will continue to work with them to promote / deliver low emission projects and policy Require a continued engagement programme
G.46	Collaborative working with National Highways	Other	Other	2019	Ongoing	Kirklees Environmental Health, National Highways	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	As a key partner in the district the council will work with them to promote / deliver low emission projects and policy Two of our AQMAs (AQMA 4, Birkenshaw and AQMA 8, Outlane), are directly affected by emissions from the M62 motorway, whilst others are located close to, or impact by traffic accessing the strategic road network.

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G.47	De-centralised Energy Use	policy Guidance and Development Control	Other policy	TBC	TBC	Kirklees Economy and Infrastructure	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Active	<p>The plan for this project is to undertake studies into future energy needs and how de-centralised energy supply will impact on emissions.</p> <p>This is a principle as opposed to a project, e.g., HEAT Network is one project, longer term we need to move to local energy sources rather than on the grid and another could be new housing developments getting their energy from ground source heat pumps. Working with planners to include details in their SPD. Decarbonisation of heat generation networks will also have air quality co-benefits</p>
G.48	Smart Systems to manage energy use within Local Authority Buildings	Promoting Low Emission Plant	Public Procurement of stationary combustion sources	TBC	TBC	Kirklees Economy and Infrastructure	Source of funding to be confirmed	NO	Not Funded		Planning	Primary Target: CO2	See Appendix F	Active	<p>The plan for this project is to integrate smart technology into council buildings to reduce energy usage.</p> <p>This is a future project currently going through project planning phase.</p> <p>Have Building Energy Management systems (BEMS) in all corporate buildings - needs funding for someone to manage - should be self-financing. Going forward, this action may be "refreshed" to take account of ongoing developments in this field and seek appropriate funding. The Council now has an Energy Task Force to consider these issues with the aim of reducing energy use across the Council estate.</p>

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G.49	Study the impact of Green Infrastructure	Other	Other	TBC	TBC	Kirklees Environmental Health	Local Transport Plan	NO	Not Funded		Planning	Primary Target: CO2	See Appendix F	Active	Planning Stage begun in 2020 to work in partnership with West Yorkshire. The plan for this project is to undertake a study looking into different vegetation and the impact of green screening along roadsides. This project includes analysing the viability of Moss Trees. This is a future project currently going through project planning phase
G.50	Generate a pollution based calculation similar to that currently used in carbon reduction calculations	Other	Other	TBC	TBC	Kirklees Economy and Infrastructure	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	The plan for this project is to create an easier process for calculating emission impacts from projects and schemes. WYCA carbon impact methodology is being developed - should standardise the calculation for transport schemes. Aim for compatible methodology to be used or all emissions. Exploratory discussions were held with a provider in 2022 regarding a proposed scheme, but the Council could not commit to this at that time.
G.51	Research gathering to inform development of neighbourhood plans as part of Local Plan integration	Other	Other	TBC	TBC	Kirklees Planning	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	The plan for this project is to collect data that can be used to inform the development of the Council's neighbourhood plans. This is a future project currently going through project planning phase

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G.52	Development Clusters Research and Solution Systems	Other	Other	TBC	TBC	Kirklees Planning	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	<p>The plan for this project is to collect data that can be used to inform the development of the Council's Development Clusters. This is a future project currently going through project planning phase.</p> <p>Require Environmental Health to propose schemes/clusters so they can be evaluated, and an SPD drawn up to enable the funding to be drawn from the planning process.</p>
G.53	Feasibility Study of current Traffic Model and identify further highways improvement projects	Traffic Management	Other	TBC	TBC	Kirklees Economy and Infrastructure	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	<p>The plan for this project is to review the traffic model, validate and make improvements where required. This is a future project currently going through project planning phase.</p> <p>Linked to developing a forward plan of schemes. Intention to form part of Kirklees transport strategy.</p>
G.54	Voluntary Clean Air Zone Feasibility Study	Policy Guidance and Development Control	Low Emissions Strategy	TBC	TBC	Kirklees Environmental Health	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	<p>The plan for this project is to undertake a feasibility assessment to determine the costs and impacts of both a Chargeable and Non-Charging Clean Air Zone. This is a future project currently going through project planning phase.</p>

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G.55	Study into the impact of topography onto clean bus technology	Traffic management	Other	TBC	TBC	Kirklees Environmental Health	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	The plan for this project is to undertake a research project that looks into the impact topography on ULEV Bus Technology. This is a future project currently going through project planning phase
G.56	Project to engage with public on solid fuel regarding compliance into UK Clean Air Strategy	Public Information	Other	TBC	TBC	Kirklees Environmental Health	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	The plan for this project is to devise and run a comms project for both the domestic and commercial sector to promote clean air and smokeless solid fuel practices. This is a future project currently going through project planning phase
G.57	Feasibility study into changing internal governance and decision making to further incorporate air quality	Policy Guidance and Development Control	Other	TBC	TBC	Kirklees Environmental Health	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	The plan for this project is to undertake an assessment of council working practices and identify areas where improvement could reduce emissions and benefit air quality. This is a future project currently going through project planning phase
G.58	Feasibility Study into On street electric vehicle charging solutions	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2023	TBC	Environmental Health	Source of funding to be confirmed	NO	Not Funded		Implementation	NO2 & PM	See Appendix F	Active	The plan for this project is to undertake an assessment of current E.V infrastructure and devise a funding plan for delivery for future infrastructure. Mapping exercises have been undertaken in collaboration with the Energy Savings Trust to identify suitable locations in the district. There is continued engagement with the Council's Highways Dept., with the aspiration to seek funding to develop a future rollout programme.

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G.59	Creation of a delivery plan for Kirklees EV Charging	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2024	Kirklees Environmental Health	Local Transport Plan	NO	Partially Funded		Planning	NO2 & PM	See Appendix F	Active	This will be contained with the EV Strategy (see G19) and will identify national, regional and local funding sources in order to take forward the identified schemes and actions.
G.60	Provision of EV Charging in all communities of Kirklees	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2022	2030	Kirklees Environmental Health	Council Budget	NO	Partially Funded		Planning	NO2 & PM	See Appendix F	Active	The plan for this project is to provide charging to each council ward to meet ULEV demands. This will be contained within the EV Strategy (see G19).
G.61	Improvements to the Cycling Network, linking all the Kirklees Towns and with neighbouring districts	Transport Planning and Infrastructure	Cycle network	TBC	TBC	Kirklees Economy and Infrastructure	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	The plan for this project is to maintain the current cycling infrastructure and identify where there are gaps between cycle only routes between the major Kirklees towns. Where towns are not connected, this project aim is to connect them with cycle only infrastructure. This is a future project currently going through project planning phase

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G.62	Use of Technology and publicity to incentivise and increase Active travel during commute and business activities	Public Information	Other	TBC	TBC	Kirklees Public Health Environmental Health Transport University of Huddersfield	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	<p>The plan for this project is to work with Huddersfield University and a 3rd party company to develop an app that monitors travel and recommend mode of transport. This is a future project currently going through project planning phase. Partnership with Huddersfield University.</p> <p>Development of this project would require partnership with an appropriate business partner, as yet identified</p>
G.63	Project to promote and incentivise working at home to reduce commuter miles	Promoting Travel Alternatives	Encourage / Facilitate home-working	TBC	TBC	Kirklees Council Environmental Health	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	<p>The plan for this project is to run a comm project to promote working from home, both within the council and for 3rd party companies. This is a future project currently going through project planning phase. Project would promote to companies the benefits of working from home, with the added benefit of emissions reduction.</p>
G.64	E.V research project to identify appropriate demographics and locations within the district.	Promoting Low Emission Transport	Promoting Low Emission Transport	2022	2024	Kirklees Environmental Health & Public Health	Local Transport Plan	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Active	<p>This will be contained within the EV Strategy (see G19).</p>

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G.65	Feasibility study into the integration of National and Local UTMC	Traffic Management	UTC, Congestion management, traffic reduction	TBC	TBC	Kirklees UTMC & National Highways	Source of funding to be confirmed	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Proposed	Project will look at the feasibility of integrating local and national UTMC, which would allow for whole network reactivity during traffic events. This is a future project currently going through project planning phase
G.66	Feasibility study into the use of anti-idling measures as a control on emissions, giving focus to areas of poor air quality	Traffic Management	Other	2022	2024	Environmental Health	Council Budget	NO	Not Funded		Planning	NO2 & PM	See Appendix F	Active	Proposal to undertake feasibility study into the introduction of anti-idling, prioritising areas where there is evidence, through monitoring, there are air quality problems.
G.67	E.V Salary Sacrifice Scheme	Promoting Low Emission Transport	Other	2020	2024	Environmental Health	Council Budget	NO	Not Funded		Implementation	NO2 & PM	See Appendix F	Active	Provide affordable EVs to council staff to benefit grey fleet and domestic traffic. This will be contained within the EV Strategy (see G19).
G.68	£1million E.V Infrastructure Project	Transport Planning and Infrastructure	Other	2020	2024	Environmental Health	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Install E.V charging infrastructure at strategic locations to promote uptake of E.V. This will be contained within the EV Strategy (see G19).
AQMA1.1	Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Management System within AQMA 1	Traffic Management	UTC, Congestion management, traffic reduction	2013	2013	Kirklees Highways UTC	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	Reduction of pollutants in AQMA 1 of 12ug/m3 and given rise to further works to improve the system. This was stage 1 of a multistage improvement project with the aim to reduce emissions through the use of technology to improve flow at junctions. Other stages of the project are discussed in actions AQMA.1.3 and P.9

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AQMA1.2	Feasibility Study to Alter SCOOT to incorporate actual Air Quality pollution levels	Traffic Management	UTC, Congestion management, traffic reduction	2017	2017	Kirklees Highways UTC	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	This project was a pre-requisite for the development of project AQMA.1.3 and resulted in collaborative working with our business partners to develop a virtual emissions model to improve UTMC.
AQMA1.3	Kirklees "Virtual Emissions Monitoring Project" to rationalise SCOOT system	Traffic Management	UTC, Congestion management, traffic reduction	2018	2019	Kirklees Highways UTC / 3rd Party Partner	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	Stage 2 of a multistage Air Quality UTMC improvement project. Stage 3 contained within P.9 and awaiting funding
AQMA1.4	Cooper Bridge Road Improvements Project	Traffic Management	Other	2021	2021	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Planning	The project is a highways improvement scheme within the AQMA and is currently at outline Business Case Stage
AQMA1.5	Resource Smart Corridor	Traffic Management	UTC, Congestion management, traffic reduction	2020	2021	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a highways improvement scheme within the AQMA and is currently at Business Case Stage
AQMA1.6	Kirklees Northern Orbital Route	Traffic Management	UTC, Congestion management, traffic reduction	No date set	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Concept	The project is a highways improvement scheme within the AQMA and is a future project currently going through project planning phase
AQMA1.7	Trial of Smart UTMC Technology systems within relevant AQMA's	Traffic Management	UTC, Congestion management, traffic reduction	2021	2022	Kirklees Environmental Health / UTC	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a Traffic Light improvement scheme within the AQMA and is a future project currently going through project planning phase
AQMA2.1	A640 Road improvements (Mirfield to Dewsbury)	Traffic Management	UTC, Congestion management, traffic reduction	Estimated >2021	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Concept	The project is a highways improvement scheme within the AQMA and is at very early stages. Pre outline business case stage

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AQMA2.2	Program of Deep Cleaning to Paths and Road within the AQMA	Traffic Management	UTC, Congestion management, traffic reduction	2014	Ongoing	Kirklees Environmental Health	Council Budget	NO	Funded		Implementation	Short Term PM10 Exceedances	See Appendix F	Active	AQMA now compliant after this measure was put into place. Number of exceedance days fell from 36 to 6.
AQMA2.3	Extension of Ravensthorpe Train Station	Alternatives to private vehicle use	Other	2018	2019	West Yorkshire Combined Authority	Central Transport Fund	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	The project is a Network Rail improvement scheme within the AQMA and is at delivery stage
AQMA2.4	Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system	Traffic Management	UTC, Congestion management, traffic reduction	Estimated 2020	2021	Kirklees Highways UTC / 3rd Party Partner	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Stage 2 of a multistage Air Quality UTMC improvement project. Stage 3 contained within P.9 and awaiting funding
AQMA2.5	Kirklees Northern Orbital Route	Traffic Management	UTC, Congestion management, traffic reduction	No date set	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Concept	The project is a highways improvement scheme within the AQMA and is a future project currently going through project planning phase
AQMA2.6	Trial of Smart UTMC Technology systems within relevant AQMA's	Traffic Management	UTC, Congestion management, traffic reduction	2021	2022	Kirklees Environmental Health / UTC	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a Traffic Light improvement scheme within the AQMA and is a future project currently going through project planning phase
AQMA3.1	A629 Road improvements as part of Halifax to Huddersfield Road Scheme	Traffic Management	UTC, Congestion management, traffic reduction	2020	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a highways improvement scheme within the AQMA and is currently at Business Case Stage
AQMA3.2	Assessment of Cycling Infrastructure between Ainley Top and Huddersfield Town Centre	Promoting Travel Alternatives	Promotion of cycling	2020	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a cycling / highways improvement scheme within the AQMA and is currently at Business Case Stage

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AQMA3.3	Feasibility into the development of System Activated Planned Cycles	Promoting Travel Alternatives	Promotion of cycling	No set date	TBC	Kirklees UTC	Estimated to be Council Budgets	NO	Funded		Planning	NO2 & PM	See Appendix F	Concept	The project is a UTMC improvement scheme within the AQMA and is a future project currently going through project planning phase
AQMA4.1	Study into the impact of speed control along the national highway as an emissions reduction tool.	Transport Planning and Infrastructure	Other	2020	TBC	Environmental Health / National Highways	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	Study into the impact of speed control along the national highway as an emissions reduction tool. This is a future project currently going through project planning phase
AQMA 4.2	Trial of NOx absorbent material integrated into roundabout design	Traffic Management	UTC, Congestion management, traffic reduction	2020	2020/21	Environmental Health	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	The project is to redesign Whitehall Road East / West roundabout install green infrastructure where applicable into highway design to bring about NO2 concentrations. Roundabout realignment works have now commenced
AQMA5.1	Free City Bus for Dewsbury Town Centre	Alternatives to private vehicle use	Other	2006	Ongoing	Kirklees Economy and Infrastructure	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Dewsbury freetownbus Metro (wymetro.com)
AQMA5.2	A640 Road improvements (Mirfield to Dewsbury)	Traffic Management	UTC, Congestion management, traffic reduction	Estimated >2021	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Concept	The project is a highways improvement scheme within the AQMA and is at very early stages. https://www.kirklees.gov.uk/beta/transport-roads-and-parking/mirfield-to-dewsbury-to-leeds.aspx Pre outline business case stage
AQMA5.4	Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Management System	Traffic Management	UTC, Congestion management, traffic reduction	2019	2021	Kirklees Highways UTC	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	This is stage 1 of a multistage improvement project with the aim to reduce emissions through the use of technology to improve flow at junctions. Other stages of the project are discussed in actions AQMA.5.5 and P.9

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AQMA5.5	Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system	Traffic Management	UTC, Congestion management, traffic reduction	Estimated 2020	TBC	Kirklees Highways UTC / 3rd Party Partner	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Stage 2 of a multistage Air Quality UTMC improvement project. Stage 3 contained within P.9 and awaiting funding
AQMA5.6	Trial of Smart UTMC Technology systems within relevant AQMA's	Traffic Management	UTC, Congestion management, traffic reduction	2021	2022	Kirklees Environmental Health / UTC	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a Traffic Light improvement scheme within the AQMA and is a future project currently going through project planning phase.
AQMA 5.7	Installation of Green Screen at Eastborough J&I School	Other	Other	2020	2020/21	Kirklees Environmental Health	Council Budget	NO	Funded		Aborted	NO2 & PM	See Appendix F	Active	The design of the Green Screen is to improve visual amenity and also provide a barrier between the school playground and the ring road. Further inspection of the site in 2022 highlighted difficulties in potentially installing the green screen
AQMA6.1	A629 Road improvements as part of Halifax to Huddersfield Road Scheme	Traffic Management	UTC, Congestion management, traffic reduction	2020	2021	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a highways improvement scheme within the AQMA and is currently at Business Case Stage - https://www.kirklees.gov.uk/beta/transport-roads-and-parking/a629.aspx

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AQMA6.2	Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Management System	Traffic Management	UTC, Congestion management, traffic reduction	2019	2021	Kirklees Highways UTC	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	This is stage 1 of a multistage improvement project with the aim to reduce emissions through the use of technology to improve flow at junctions. Other stages of the project are discussed in actions AQMA.5.5 and P.9
AQMA6.3	Kirklees "Virtual Emissions Monitoring Project" to rationalise SCOOT system	Traffic Management	UTC, Congestion management, traffic reduction	Estimated 2020	2021	Kirklees Highways UTC / 3rd Party Partner	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Stage 2 of a multistage Air Quality UTMC improvement project. Stage 3 contained within P.9 and awaiting funding
AQMA6.4	Trial of Smart UTMC Technology systems within relevant AQMA's	Traffic Management	UTC, Congestion management, traffic reduction	2021	2022	Kirklees Environmental Health / UTC	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a Traffic Light improvement scheme within the AQMA and is a future project currently going through project planning phase.
AQMA7.1	Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Management System	Traffic Management	UTC, Congestion management, traffic reduction	2019	2021	Kirklees Highways UTC	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Complete	This is stage 1 of a multistage improvement project with the aim to reduce emissions through the use of technology to improve flow at junctions.
AQMA7.2	Kirklees "Virtual Emissions Monitoring Project" to rationalise SCOOT system	Traffic Management	UTC, Congestion management, traffic reduction	Estimated 2020	2021	Kirklees Highways UTC / 3rd Party Partner	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Stage 2 of a multistage Air Quality UTMC improvement project. Stage 3 contained within P.9 and awaiting funding
AQMA7.3	Trial of Smart UTMC Technology systems within relevant AQMA's	Traffic Management	UTC, Congestion management, traffic reduction	2021	2022	Kirklees Environmental Health / UTC	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a Traffic Light improvement scheme within the AQMA and is a future project currently going through project planning phase

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AQMA8.1	Study into the impact of speed control along the national highway as an emissions reduction tool.	Transport Planning and Infrastructure	Other	2020	TBC	Environmental Health / National Highways	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	Study into the impact of speed control along the national highway as an emissions reduction tool. This is a future project currently going through project planning phase
AQMA9.1	Free City Bus for Huddersfield Town Centre	Alternatives to private vehicle use	Other	2006	Ongoing	Kirklees Economy and Infrastructure	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Huddersfield freetownbus Metro (wymetro.com)
AQMA9.2	Huddersfield Heat Network Scheme	Other	Other	2020	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planned	NO2 & PM	See Appendix F	Active	Currently at Business Case Stage
AQMA9.3	Resource Smart Corridor	Traffic Management	UTC, Congestion management, traffic reduction	2020	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planned	NO2 & PM	See Appendix F	Active	The project is a highways improvement scheme within the AQMA and is currently at Business Case Stage
AQMA9.4	Huddersfield Southern Gateway Transport Scheme	Traffic Management	UTC, Congestion management, traffic reduction	2021	2025	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planned	NO2 & PM	See Appendix F	Active	The project is a highways improvement scheme within the AQMA and is currently at Business Case Stage. https://www.kirklees.gov.uk/beta/transport-roads-and-parking/huddersfield-southern-corridors.aspx
AQMA9.5	Huddersfield Ring Road Junction Improvements	Traffic Management	UTC, Congestion management, traffic reduction	2021	2023	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planned	NO2 & PM	See Appendix F	Active	The project is a highways improvement scheme within the AQMA and is currently at Business Case Stage https://www.kirklees.gov.uk/beta/transport-roads-and-parking/huddersfield-southern-corridors.aspx XXXX
AQMA9.6	Feasibility Study in to Pedestrianizing Areas of Town Centre for Cycling Access	Promoting Travel Alternatives	Promotion of cycling	2021	TBC	Kirklees Economy and Infrastructure	Council Budget	NO	Funded		Planned	NO2 & PM	See Appendix F	Concept	

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
AQMA9.7	Trans-Pennine Express Improvement Scheme	Alternatives to private vehicle use	Other	2022	TBC	Network Rail, West Yorkshire Combined Authority, Kirklees Council	Central Transport Fund	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Currently at Business Case Stage https://www.networkrail.co.uk/running-the-railway/railway-upgrade-plan/key-projects/transpennine-route-upgrade/
AQMA9.8	Kirklees "Virtual Emissions Monitoring Project" to rationalise SCOOT system	Traffic Management	UTC, Congestion management, traffic reduction	Estimated 2020	2021	Kirklees Highways UTC / 3rd Party Partner	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Stage 2 of a multistage Air Quality UTMC improvement project. Stage 3 contained within P.9 and awaiting funding
AQMA9.9	Input into the development of the Town Centre Master Plan	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2020	2021	Kirklees Environmental Health / Development Control	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	The Huddersfield Blueprint Kirklees Council
AQMA9.10	Trial of Smart UTMC Technology systems within relevant AQMA's	Traffic Management	UTC, Congestion management, traffic reduction	2021	2022	Kirklees Environmental Health / UTC	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a Traffic Light improvement scheme within the AQMA and is a future project currently going through project planning phase
AQMA10.1	Huddersfield Southern Gateway Transport Scheme	Traffic Management	UTC, Congestion management, traffic reduction	2021	TBC	Kirklees Economy and Infrastructure	Central Transport Fund	NO	Funded		Planned	NO2 & PM	See Appendix F	Active	The project is a highways improvement scheme within the AQMA and is currently at Business Case Stage https://www.kirklees.gov.uk/beta/transport-roads-and-parking/huddersfield-southern-corridors.aspx
AQMA10.2	Install multi-node SCOOT into traffic light system in AQMA	Traffic Management	UTC, Congestion management, traffic reduction	2018	2019	Kirklees Highways UTC	Council Budget	NO	Funded		Completed	NO2 & PM	See Appendix F	Active	This is stage 1 of a multistage improvement project with the aim to reduce emissions through the use of technology to improve flow at junctions.

Measure No.	Measure	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
AQMA10.3	Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system	Traffic Management	UTC, Congestion management, traffic reduction	Estimated 2020	TBC	Kirklees Highways UTC / 3rd Party Partner	Council Budget	NO	Funded		Implementation	NO2 & PM	See Appendix F	Active	Stage 2 of a multistage Air Quality UTMC improvement project. Stage 3 contained within P.9 and awaiting funding
AQMA10.4	Trial of Smart UTMC Technology systems within relevant AQMA's	Traffic Management	UTC, Congestion management, traffic reduction	2021	2022	Kirklees Environmental Health / UTC	Council Budget	NO	Funded		Planning	NO2 & PM	See Appendix F	Active	The project is a Traffic Light improvement scheme within the AQMA and is a future project currently going through project planning phase

PM_{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

The Public Health Outcomes Frameworks– D1 indicator, Fraction of mortality attributable to particulate air pollution has recently been updated to a “new method” of calculation by the UK Health Security Agency (UKHSA)^{10 11}. Consequently, we are reporting these data within this and future ASRs. Based on the new method calculation mortality in Kirklees for 2021 (currently the last year of reporting) is estimated to be at 5.2%, which is below the England average of 5.5%, but above the regional average of 5.0%.

As such, Kirklees Council is taking the following measures to address PM_{2.5}:

- Included PM_{2.5} as key indicator for the Health and Wellbeing Board
- Collaborative working between Public Health, Environmental Health, Planning and Highways to conduct a 2015 baseline Air Quality Model for the whole Kirklees District for PM_{2.5} as part of local plan works.
- PM_{2.5} monitors have been installed at two locations within the district. Due to a previous database corruption and subsequent lack of funded service and maintenance contracts, data capture was previously limited to a period in 2020 during the last five years. Following purchase of appropriate service and maintenance support, data are available for the last four months of 2022 and subsequently reported in this ASR. Furthermore, a PM_{2.5} monitor was installed at the Dewsbury Ashworth Grange AURN monitoring site in the Kirklees district in 2022, and subsequently these data are all also detailed in this report.

¹⁰ Formerly Public Health England

¹¹ [Public Health Outcomes Framework - Data - OHID \(phe.org.uk\)](https://publichealthoutcomesframework.org.uk/)

- Kirklees Council has purchased five sensors to increase monitoring capability of PM_{2.5} within the district and intend to purchase further sensors, which will include a comparison of subsequent databases with data from local reference monitors to further establish optimum use of sensor PM_{2.5} data, along with a project to determine the most effective way of sharing this information with local stakeholders. This forms part of wider regional project involving the West Yorkshire Combined Authority (WYCA) and West Yorkshire local authorities and will also link into another regional project investigating the spatial distribution of non-road PM_{2.5} emissions, along with consideration of appropriate measures to reduce these emissions. These projects will be reported in next years' ASR. Some of this work has been part-funded by Defra air quality grant.
- The WYCA regional work is partly in response to the assessing of compliance with the new PM_{2.5} targets¹² within West Yorkshire.
- Kirklees Council is a smoke control area and continues to enforce smoke control legislation within the district.
- Kirklees Council plan to review current practices under smoke control in order to reflect changing guidance and new legislation, when produced, following passing of the Environment Act 2021 and consultation on the Government's draft Air Quality Strategy in 2022.

¹² [Air Quality Targets in the Environment Act - Defra, UK](#)

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

This section sets out the monitoring undertaken within 2022 by Kirklees Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Kirklees Council undertook automatic (continuous) monitoring at two roadside sites during 2022. Table A.1 in Appendix A shows the details of the automatic monitoring sites.

Due to the age of real-time monitors within the district, which resulted in major breakdowns and loss / corruption of data, Kirklees Council undertook the process of modernising the data collection system and equipment in February 2020. Further issues occurred with the two continuous monitoring stations however, which were only resolved with the further overhaul of the stations and subsequent procuring of a service and maintenance contract in the second half of 2022.

Consequently, annualised data are only available for the period September to December 2022 and detailed elsewhere in this chapter.

In addition, we are now reporting data from the Government's Automatic Urban and Rural Network (AURN) monitoring station within Kirklees within our ASRs. This is the urban background monitoring station at Dewsbury Ashworth Grove. Continuous NO_x-NO-NO₂ monitoring commenced in 2018 at this site, with the subsequent installation of FIDAS particulate monitor (PM₁₀ and PM_{2.5}) in July 2022. Consequently, we are taking the opportunity to report these data as this urban background monitoring site is a good indicator of urban background concentrations (and subsequent exposure) within Kirklees.

In addition to our real-time monitors, Kirklees Council previously purchased five Zephyr "low-cost" sensors to provide real-time data. Upon completion of testing and understanding outputs the Council will begin reporting the data in appropriate reports / medium.

This will include a comparison of subsequent databases with data from local reference monitors to further establish optimum use of sensor PM_{2.5} data, along with a project to determine the most effective way of sharing this information with local stakeholders.

Use of these Zephyrs will also form part of wider Defra Air Quality grant funded regional project involving the West Yorkshire Combined Authority (WYCA) and West Yorkshire local authorities. This will also link into another regional project investigating the spatial distribution of non-road PM_{2.5} emissions, along with consideration of appropriate measures to reduce these emissions. These projects will be reported in next years' ASR.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Kirklees Council undertook non- automatic (i.e., passive) monitoring of NO₂ at over 100 sites during 2022. Table A.2 in Appendix A presents the details of the non-automatic sites.

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

Individual Pollutants

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

3.1.3 Nitrogen Dioxide (NO₂)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e., the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2022 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Due to the age of real-time monitors within the district, which resulted in major breakdowns and loss / corruption of data, Kirklees Council undertook the process of modernising the data collection system and equipment in February 2020. Further issues occurred with the two continuous monitoring stations however, which were only resolved with the further overhaul of the stations and subsequent procuring of a service and maintenance contract in the second half of 2022.

Consequently, annualised data are available for the period September – December 2022 and detailed elsewhere in this chapter. In addition, we are now reporting data from the Government's Automatic Urban and Rural Network (AURN) monitoring station within Kirklees within our ASRs. This is the urban background monitoring station at Dewsbury Ashworth Grove. Continuous NO_x-NO-NO₂ monitoring commenced in 2018 at this site.

Figure A.1 in Appendix A shows aggregated concentration trends over the last ten years for our diffusion tube locations throughout the district. Figure A.2 in Appendix A shows the percentage change in annual mean NO₂ concentrations on a year on year basis, again for our diffusion tube monitoring locations.

Within these figures these data have been divided into three categories, these being i) average of all our diffusion tubes; ii) the average of diffusion tubes within our most recently declared AQMAs (2017 and 2019) and iii) average of diffusion tubes within our longstanding AQMAs (declared in 2008 and 2009). The "overall" component consists of data from both within and outside of our AQMAs.

In accordance with Figure A.2 and Table A.2b in Appendix A we note over the general trend since 2016 is that of falling NO₂ annual mean concentrations across the district in line with an average of 13% over the period 2015-2019, and within AQMAs this was higher at between 14-19%.

Using the data, concentrations within our AQMAs and the district have fallen year on year by 2-8% on average for the period 2015-2019.

Table A.2b in Appendix A then shows the impact of the pandemic and post pandemic periods on NO₂ annual mean concentrations. Our 2021 and 2022 ASRs discussed in detail the reduction in concentrations due to the pandemic lockdowns. In 2021 increases of 12-15% for NO₂ annual mean concentrations indicated returns to broadly similar traffic

emissions compared to pre-pandemic due to return to more typical levels of societal activity, coupled with the remains of pandemic behaviour change such as home delivery and use of personal vehicles over public transport. These changes in concentrations in 2020 and 2021 were replicated elsewhere in the UK.

We have therefore undertaken the same exercise as described above for our 2022 diffusion data. Compared to 2021 data, Figure A.2 and Figure A.2b demonstrate an overall 4% decrease in diffusion tube NO₂ annual mean concentrations throughout the district in 2022 compared to 2021, a 3% decrease in concentrations within AQMAs 3–10% whilst in AQMAs 1 and 2 a 3% increase in concentrations is suggested.

We therefore conclude that there is has been a levelling off with road traffic emissions in 2022 following the post pandemic increase in traffic in 2021.

Further analysis of annual mean NO₂ diffusion tube data (following appropriate bias adjustment, annualisation and distance correction) has now been undertaken for each of our AQMAs, declared due to exceedance of the annual mean objective. Figures A.3 to Figure A.10 in Appendix A detail NO₂ annual mean concentrations for the five-year period from 2018 to 2022 within our nine AQMAs originally declared for exceedance of the annual mean objective.

In 2022, three diffusion tube monitoring locations within the Kirklees district exceeded the annual mean NO₂ objective after bias adjustment, annualisation and distance correction, these being K28 (AQMA 9), K40 (AQMA 5) and K48 (AQMA 7). Coincidentally, distance corrected data in 2021 also highlighted exceedance within these three AQMAs. Using distance corrected diffusion tube data for the five year period 2018-2022, we note compliance within AQMAs 1, 3 and 4, whilst AQMAs 6,8, and 10 have all shown exceedance for at least one of the last five years. AQMAs 6, 8 and 10 exhibited exceedances in 2018 at receptor facade, with exceedance also in AQMA 8 in 2019.

We note paragraph 4.10 of LAQM Policy Guidance (PG) 2022, which states:

“Authorities wishing to revoke or reduce an AQMA can do so following review. For revocation this should demonstrate that air quality objectives are being met and will continue to do so. In other words they should have confidence that the improvements will be sustained. Further information is provided in the Technical Guidance, but typically this is after three years or more compliance. It is not advisable for the revocation of an AQMA to be based solely upon compliance in a year not representative of long-term trends. For example, compliance being reached in 2020

may not be representative of long-term trends in pollutant concentrations due to the change in activity observed across the UK as a result of COVID-19. Where 2020 is one of many consecutive years of compliance, this may be considered for revocation. If authorities wish to make any changes to AQMAs, whether declaration, amendment or revocation, based upon 2020 data, please contact the LAQM helpdesk to discuss your approach.”

Over the coming twelve months therefore, we will actively consider the feasibility for revocation of several of AQMAs declared for exceedance of the annual mean objective for NO₂. We would however welcome commentary from Defra, as part of this ASR appraisal on the use of appropriately appropriate bias adjusted, annualised and distance corrected diffusion tube data as part of the detailed assessment process prior to formal revocation.

We previously reported in previous ASRs our intention to amend our AQMA 1 (Bradley / Leeds Road junction). We will now however postpone any detailed assessment for this AQMA with a view for either variation or revocation, to wait for further information. The area encompassing this AQMA is subject to a proposed major road scheme, partially to alleviate current levels of congestion. Therefore, whilst the scheme is expected to be beneficial regarding reduction in overall road traffic emissions within the AQMA, we await the formal air quality assessment to confirm that the scheme does not result in significant increase in concentrations in certain areas within this AQMA due to proposed changes in highways configurations. We will continue to report on this AQMA in future ASRs.

Outside of our AQMAs there are no exceedances of the objectives where relevant exposure exists in 2022.

Table A.5 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

Annualised continuous monitoring data from 2022 indicated no exceedances of the NO₂ hourly mean air quality mean objective. Furthermore, as all annual mean diffusion tube concentrations were below 60 µg/m³, it is unlikely that the 1-hour mean objective will have been exceeded in 2022 and these locations¹³ also, based on current guidance¹³.

¹³ [Relationship between the Annual Mean and 1-hour NO₂ Objectives | LAQM \(defra.gov.uk\)](https://www.defra.gov.uk/air-quality/laqm/relationship-between-the-annual-mean-and-1-hour-no2-objectives)

3.1.4 Particulate Matter (PM₁₀)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the air quality objective of 40µg/m³.

Table A.7 in Appendix A compares the ratified continuous monitored PM₁₀ daily mean concentrations for the past five years with the air quality objective of 50µg/m³, not to be exceeded more than 35 times per year.

Annualised continuous monitoring data from 2022 indicated no exceedances of the PM₁₀ annual mean and PM₁₀ daily mean objectives.

3.1.5 Particulate Matter (PM_{2.5})

Table A.8 in Appendix A presents the ratified and adjusted monitored PM_{2.5} annual mean concentrations for the past five years.

Due to the age of real-time monitors within the district, which resulted in major breakdowns and loss / corruption of data, Kirklees Council undertook the process of modernising the data collection system and equipment in February 2020. Further issues occurred with the two continuous monitoring stations however, which were only resolved with the further overhaul of the stations and subsequent procuring of a service and maintenance contract in the second half of 2022. Consequently, data are available for the period September – December 2022 and detailed elsewhere in this report. In addition, we are now reporting data from the Government's Automatic Urban and Rural Network (AURN) monitoring station within Kirklees within our ASRs. This is the urban background monitoring station at Dewsbury Ashworth Grove, following installation of FIDAS particulate monitor (PM₁₀ and PM_{2.5}) in July 2022. Consequently, we are taking the opportunity to report these data as this urban background monitoring site is a good indicator of urban background concentrations (and subsequent exposure) within Kirklees.

We are currently unable to comment on longer term trends regarding PM₁₀ and PM_{2.5} due to the lack of data. Nor can Kirklees comment on the impact of the pandemic on PM₁₀ and PM_{2.5} concentrations.

We note that, whilst PM_{2.5} concentration data have not been available locally previously, national mapping notes that concentrations with the district are compliant with existing objectives. Furthermore, we can present 2022 PM₁₀ and PM_{2.5} data from the Dewsbury Ashworth Grove AURN site and the Council's two Huddersfield roadside sites, following

annualisation of these data in accordance with Box 7.9 of LAQM. TG (22), annualising continuous monitoring data. All data show compliance with the relevant objectives in 2022.

3.1.6 Sulphur Dioxide (SO₂)

Kirklees Council does not undertake monitoring of sulphur dioxide gas within the district.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
CM1	Dewsbury Ashworth Grove	Urban Background	424060	421912	NO ₂ , PM ₁₀ , PM _{2.5}	No	Chemiluminescent FIDAS	13	0	2
CM2	RS3 - Bradley	Roadside	417255	420761	NO ₂ ; PM ₁₀	Yes, AQMA 1	Chemiluminescent; Met-One BAM	3	3	1.5
CM3	RS6 - Ainley Top	Roadside	411739	419007	NO ₂ ; PM ₁₀	Yes, AQMA 3	Chemiluminescent; Met-One BAM	8	5	1.5

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K1	Dewsbury Bus Station	Other	424506	421535	NO2	No		0.8	No	2.0
K2	Bus Station - Huddersfield	Other	414214	416504	NO2	AQMA 9		4.1	No	2.0
K3	Edgerton Road	Roadside	413504	417439	NO2	AQMA 6	2.0	2.4	No	2.0
K4	Princess Street, Batley	Roadside	424464	424395	NO2	No	4.3	1.8	No	2.0
K5	Huddersfield Road Ravensthorpe	Roadside	422443	420380	NO2	No	1.6	1.9	No	2.0
K6	Leeds Road - Cooper Bridge	Roadside	417878	421054	NO2	AQMA 1	7.6	4.0	No	2.0
K6a	Leeds Road - Cooper Bridge-historic	Roadside	417872	421050	NO2	AQMA 1	5.2	6.0	No	2.0
K7	Westgate Huddersfield	Urban Centre	414434	416744	NO2	AQMA 9	0.5	0.5	No	2.5
K8	Bradford Road Fartown 1-Charmaines	Roadside	414498	417798	NO2	No	13.7	2.0	No	2.0
K9	Bradley Road	Kerbside	417280	420482	NO2	AQMA 1	13.4	0.7	No	2.0
K10	George Street Lindley	Roadside	411861.22	418270.28	NO2	No	6.8	1.4	No	2.0
K11	Chapel Hill Huddersfield	Roadside	414359	416277	NO2	AQMA 9	3.5	5.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K12	Whitechapel Road Cleckheaton	Kerbside	417302.12	425960.9	NO2	No		1.0	No	2.5
K13	Whitehall Road East	Roadside	420377	427871	NO2	AQMA 4	2.1	2.6	No	2.0
K14	Oastler Avenue	Urban Background	413667	416467	NO2	No		1.7	No	2.0
K15, K16, K17	Ainley Top 3	Other	411715	419032	NO2	AQMA 3	8.0	6.0	Yes	1.5
K18	Huddersfield Road Birstall - lampost 246	Roadside	422686	426229	NO2	No	4.2	1.9	No	2.0
K19	Opposite Shepherds Boy PH, Huddersfield Road, Scouthill on Telegraph pole 2	Roadside	423563	421014	NO2	AQMA 2	6.5	2.7	No	2.0
K20	Rockley Street Dewsbury	Roadside	424858	421904	NO2	AQMA 5	12.0	2.0	No	2.0
K21	Castlegate Huddersfield	Roadside	414149	416686	NO2	AQMA 9	6.9	2.1	No	2.0
K22	Leeds Road Bradley 3	Kerbside	417424	420490	NO2	AQMA 1	22.5	0.1	No	2.0
K23	Leeds Road Mirfield 2	Roadside	418483	420978	NO2	No	14.1	1.6	No	2.0
K24	Lindley Moor Road	Roadside	409775	418397	NO2	No	6.7	2.2	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K25, K26, K27	Leeds Road - RS3 - 3	Other	417255	420360	NO2	AQMA 1	1.5	7.0	Yes	1.8
K28	Ring Road Huddersfield-Southgate	Roadside	414745	416710	NO2	AQMA 9	0.1	3.1	No	2.0
K29	Dewsbury Bus Station 2	Other	424425	421499	NO2	No		2.5	No	2.0
K30	Dewsbury Bus Station 3	Other	424457	421510	NO2	No		2.5	No	2.0
K31	Blacker Road 1	Roadside	413400	417495	NO2	No	8.3	2.7	No	2.0
K32	Blacker Road 2	Roadside	413513	417481	NO2	No	5.0	2.6	No	2.0
K33	Wakefield Rd / Huddersfield Road	Roadside	420727	423668	NO2	AQMA 7	4.3	2.4	No	2.0
K34	Frost Hill Liversedge	Roadside	420845	423770	NO2	AQMA 7	0.3	1.9	No	2.0
K35	Leeds Road Liversedge	Roadside	420853	423866	NO2	No	9.4	1.9	No	2.0
K36	Huddersfield Road Mirfield 1	Kerbside	420304	419766	NO2	No	2.9	0.9	No	2.0
K37	Bradford Road, Birkenshaw-lamppost 100	Roadside	420356	427810	NO2	AQMA 4	2.5	2.2	No	2.0
K38	Whitehall Road West-lamppost 46	Roadside	420222	427764	NO2	No	18.3	1.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K39	Bradford Road, Batley	Roadside	424526	424326	NO2	No	1.7	2.1	No	2.0
K40	Leeds Road Dewsbury-outside 35	Roadside	424922	421972	NO2	AQMA 5	1.2	1.6	No	2.0
K41	Chain Bar Roundabout	Roadside	418285	426630	NO2	No	12.5	3.4	No	2.0
K42	Leeds Road Dewsbury - 2-outside 39	Roadside	424969	422002	NO2	No	5.6	1.9	No	2.0
K43	John Street Dewsbury	Roadside	425093	422024	NO2	No	6.0	1.9	No	2.0
K44	Caulmswood Road Eastborough	Roadside	425179	422116	NO2	No	façade	façade	No	2.0
K45	Bradford Road Fartown 2	Roadside	414483	417726	NO2	No	5.7	5.0	No	2.0
K46	Willow Lane Fartown-lamppost 03 opposite Perrys	Roadside	414402	417806	NO2	No	9.7	2.5	No	2.0
K47	Roundings Road Outlane	Other	407942	417261	NO2	AQMA 8	0.0	14.4	No	2.0
K48	Flush Liversedge	Roadside	421039	423673	NO2	AQMA 7	0.0	2.6	No	2.0
K49	Manchester Road Thornton Lodge 2	Roadside	413659	416182	NO2	AQMA 10	3.5	3.7	No	2.0
K50	Manchester Road Thornton Lodge 1	Roadside	413414	415981	NO2	AQMA 10	1.6	2.5	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K51	High Street Heckmondwike	kerbside	421898	423576	NO2	No	4.9	0.5	No	2.0
K52	Penistone Road Waterloo	Roadside	417627	416472	NO2	No	7.8	2.4	No	2.0
K53	Yates Lane Milnsbridge	Roadside	411564	415902	NO2	No	1.6	1.7	No	2.0
K54	Wakefield Road Dewsbury	Roadside	425196	421566	NO2	No	2.7	3.2	No	2.0
K55	Huddersfield Road Holmfirth	Roadside	414187	408264	NO2	No	3.2	1.7	No	2.0
K56	Wakefield Road Huddersfield	Roadside	415009	416420	NO2	AQMA 9		2.8	No	2.0
K57	Cambridge Road 1	Roadside	414291	417281	NO2	No		2.2	No	2.0
K58	St John's Road	Roadside	414350	417270	NO2	No		2.6	No	2.0
K59	Westbourne Road, Marsh - Outside Marsh DIY	Roadside	412944	417244	NO2	No	3.7	2.5	No	2.0
K60	Huddersfield Road, Birstall Smithies - the greyhound public house - lamppost 231	Roadside	422435	425889	NO2	No	7.5	2.3	No	2.0
K61	Bradford Road - Birkenshaw .	Roadside	420441	427353	NO2	AQMA 4		3.3	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	Lamppost 85-BD19 4AY									
K62	Manor Park Gardens - Birkenshaw-lamppost001	Roadside	420472	427360	NO2	AQMA 4	9.2	1.2	No	2.0
K63	White Hall Road West 1- Birkenshaw-lamppost 61	Roadside	419866	427561	NO2	AQMA 4	7.0	2.9	No	2.0
K64	Whitehall Road West 2 - Birkenshaw-lamppost 60	Other	419914	427588	NO2	AQMA 4		0.1	No	2.0
K65	Whitehall Road West 3 - Birkenshaw - lamppost 56	Roadside	419981	427623	NO2	AQMA 4		3.0	No	2.0
K66	Milford Grove - Birkenshaw-lamppost 004	Other	420349	427434	NO2	No		1.3	No	2.0
K67	Moor Lane 1 - Birkenshaw-lamppost 27	Roadside	421128	427298	NO2	No		0.4	No	2.0
K68	Grange Road Batley lamp post 10	Roadside	425185	423684	NO2	No	5.0	4.5	No	2.0
K69	Bradford Road - Cleckheaton - Airstation	Roadside	418237	426555	NO2	No		1.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K70	Huddersfield Road - Scouthill - Airstation	Roadside	423247	420761	NO2	AQMA 2	6.6	3.2	No	2.0
K71	Lindley Moor Road 2	Roadside	411007	419190	NO2	AQMA 3	11.6	2.7	No	2.0
K72	Lindley Moor Road 3	Roadside	410227	418653	NO2	No	6.6	2.4	No	2.0
K73	Lindley Moor Road 4	Roadside	410080	418568	NO2	No		1.8	No	2.0
K74	Lindley Moor Road 5	Roadside	410095	418559	NO2	No	1.7	3.4	No	2.0
K75	Blackmoorfoot Road - Thornton Lodge	Roadside	413153	415894	NO2	No	2.7	1.5	No	2.0
K76	Manchester Road - Thornton Lodge 3	Roadside	413198	415957	NO2	AQMA 10	5.0	1.3	No	2.0
K77	Manchester Road - Thornton Lodge 4	Roadside	413455	416013	NO2	AQMA 10	1.2	2.2	No	2.0
K78	Thornton Lodge Road - Thornton Lodge	Roadside	413464	415983	NO2	AQMA 10		2.0	No	2.0
K79	Gelder Road, Birstall, lamppost 001	Roadside	423903	427756	NO2	No		3.0	No	2.0
K80	Grange Road Batley lamp post 22	Roadside	425566	423696	NO2	No	5.8	4.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K81	Gelderd Road, Hawthorne House, lamppost 276	Roadside	422991	426992	NO2	No		1.8	No	2.0
K82	Grange Moor	Roadside	422036	415941	NO2	No	1.7	1.5	No	2.0
K83	Flockton	Roadside	424203	414975	NO2	No	3.2	1.4	No	2.0
K84	Denby Dale	Roadside	422923	408553	NO2	No	2.3	1.8	No	2.0
K85	Shepley	Roadside	419380	409777	NO2	No		1.5	No	2.0
K86	Kings Mill Lane	Roadside	415164	416323	NO2	No	4.7	4.7	No	2.0
K87	Mill St West Dewsbury lamp post 9	Roadside	424409	421271	NO2	No	2.4	2.9	No	2.0
K88	Huddersfield Road, Birstall. Lamppost 229	Roadside	422403	425845	NO2	No		2.5	No	2.0
K89	Whitehall Road West, Hunsworth. Lamppost 76	Roadside	419362	427203	NO2	No		1.7	No	2.0
K90	Whitehall Road West, Hunsworth. Lamppost 80	Roadside	419262	427060	NO2	No		1.8	No	2.0
K91	Halifax Road, Edgerton, outside Harlequins	Roadside	412647	418008	NO2	No	14.0	1.9	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	nursery- lamppost 58									
K92	Bradford Road, Cleckheaton	Roadside	418656	426078	NO2	No	3.9	1.8	No	2.0
K93	Wyke Lane, Oakenshaw	Roadside	427802	427802	NO2	No	façade	25.0	No	2.0
K94	Leeds Road, Shawcross	Roadside	426242	423106	NO2	No	2.1	4.1	No	2.0
K95	Hollowgate, Holmfirth	Roadside	414170	408118	NO2	No	1.0	1.0	No	2.0
K96	Victoria Street, Holmfirth	Kerbside	414227	408161	NO2	No		0.8	No	2.0
K97	New Hey Road, Mount	Roadside	409762	418019	NO2	No		11.5	No	2.0
K98	Huddersfield Road, Holmfirth	Roadside	414092	408133	NO2	No	0.8	2.3	No	2.0
K99	Owl Lane, Shawcross	Roadside	426312	422830	NO2	No		1.9	No	2.0
K100	Westbourne Road, Marsh	Roadside	412477	417290	NO2	No	5.5	1.9	No	2.0
K101	Trinity Street, Huddersfield	Roadside	413531	417137	NO2	No	4.9	2.5	No	2.0
K102	Stocks Bank Road, Mirfield	Roadside	418540	421188	NO2	AQMA 1		5.0	No	2.0
K103	Stocks Bank Road, Mirfield	Roadside	419426	420293	NO2	No	1.0	2.8	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
K104	Bradley Road, Bradley	Roadside	415810	420554	NO2	No	12.3	6.8	No	2.0

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	424060	421912	Urban Background	98.5	98.5	n/a	n/a	16	17	18
CM2	417255	420761	Roadside	n/a	n/a	n/a	n/a	25.5	n/a	n/a
CM3	411739	419007	Roadside	99.9	33.4	n/a	n/a	36.2	n/a	18.3

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

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

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Table A.4 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K1	424506	421535	Other	100	100.0	41.1	41.0	46.0	45.1	45.5
K2	414214	416504	Other	100	100.0	39.3	38.5	34.2	42.4	36.9
K3	413504	417439	Roadside	100	100.0	51.9	42.7	36.3	40.3	41.5
K4	424464	424395	Roadside	92	92.3	28.5	27.0	24.2	27.9	25.9
K5	422443	420380	Roadside	100	100.0	35.5	36.1	23.6	27.4	27.5
K6	417878	421054	Roadside	50	50.0	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	36.8
K6a	417872	421050	Roadside	50	50.0	36.3	37.9	27.0	34.9	32.5
K7	414434	416744	Urban Centre	100	100.0	38.5	40.8	28.9	36.7	40.0
K8	414498	417798	Roadside	100	100.0	36.1	36.0	30.5	33.4	32.7
K9	417280	420482	Kerbside	100	100.0	27.5	34.4	28.3	21.7	24.6
K10	411861	418270	Roadside	58	57.7	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	12.3
K11	414359	416277	Roadside	100	100.0	39.6	35.0	27.7	31.3	32.0
K12	417302	425961	Kerbside	58	57.7	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	16.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K13	420377	427871	Roadside	100	100.0	33.9	31.4	23.0	28.2	28.5
K14	413667	416467	Urban Background	100	100.0	16.2	17.7	13.9	14.5	13.0
K15, K16, K17	411715	419032	Other	92	100.0	37.7	36.5	29.4	33.8	30.7
K18	422686	426229	Roadside	100	100.0	37.9	36.8	32.2	35.8	34.4
K19	423563	421014	Roadside	100	100.0	38.8	31.6	29.6	35.7	35.4
K20	424858	421904	Roadside	100	100.0	34.0	28.4	29.5	33.1	32.3
K21	414149	416686	Roadside	100	100.0	42.5	34.7	33.4	39.3	37.8
K22	417424	420490	Kerbside	100	100.0	40.6	33.4	22.7	34.7	34.9
K23	418483	420978	Roadside	92	90.4	38.5	35.3	31.7	36.0	35.5
K24	409775	418397	Roadside	100	100.0	40.0	34.1	27.5	32.3	28.7
K25, K26, K27	417255	420360	Other	100	100.0	30.4	27.4	22.6	24.5	23.8
K28	414745	416710	Roadside	100	100.0	43.2	46.4	37.6	41.4	41.0
K29	424425	421499	Other	100	100.0	<u>N/A</u>	<u>N/A</u>	24.4	26.5	28.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K30	424457	421510	Other	100	100.0	<u>N/A</u>	<u>N/A</u>	25.6	31.4	30.1
K31	413400	417495	Roadside	100	100.0	33.8	30.5	17.1	25.0	24.6
K32	413513	417481	Roadside	100	100.0	45.9	35.5	-	36.1	38.1
K33	420727	423668	Roadside	100	100.0	34.3	31.1	26.8	31.4	30.2
K34	420845	423770	Roadside	100	100.0	38.4	33.6	29.9	30.5	33.6
K35	420853	423866	Roadside	100	100.0	44.4	45.3	34.7	44.3	44.7
K36	420304	419766	Kerbside	100	100.0	42.2	49.4	21.1	31.5	28.3
K37	420356	427810	Roadside	100	100.0	33.1	31.2	21.3	25.7	26.4
K38	420222	427764	Roadside	100	100.0	37.8	37.1	27.3	33.3	36.6
K39	424526	424326	Roadside	100	90.4	30.5	31.1	26.7	33.6	32.9
K40	424922	421972	Roadside	100	100.0	52.4	55.8	42.1	50.2	47.5
K41	418285	426630	Roadside	100	100.0	36.4	34.0	26.7	32.0	28.8
K42	424969	422002	Roadside	100	100.0	39.6	35.1	34.7	37.9	33.7
K43	425093	422024	Roadside	100	100.0	42.9	37.2	33.1	39.0	36.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K44	425179	422116	Roadside	100	100.0	35.1	30.8	24.9	30.1	31.0
K45	414483	417726	Roadside	100	100.0	36.3	36.4	25.1	33.2	34.3
K46	414402	417806	Roadside	100	100.0	37.0	34.8	29.2	22.5	21.3
K47	407942	417261	Other	100	100.0	44.9	40.5	32.0	34.4	32.8
K48	421039	423673	Roadside	100	100.0	36.1	36.1	38.1	41.2	43.0
K49	413659	416182	Roadside	100	100.0	38.1	33.1	33.1	36.4	33.6
K50	413414	415981	Roadside	100	100.0	45.3	38.2	33.1	39.8	40.6
K51	421898	423576	kerbside	100	100.0	38.9	34.5	28.6	30.0	31.2
K52	417627	416472	Roadside	100	100.0	34.2	30.7	20.9	27.4	28.1
K53	411564	415902	Roadside	100	100.0	29.4	53.7	24.6	30.6	28.0
K54	425196	421566	Roadside	100	92.3	33.9	32.1	29.4	37.2	38.0
K55	414187	408264	Roadside	100	100.0	34.2	29.9	23.8	25.2	25.7
K56	415009	416420	Roadside	100	100.0	39.5	34.9	30.3	37.4	36.1
K57	414291	417281	Roadside	100	100.0	29.7	22.2	18.5	20.1	20.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K58	414350	417270	Roadside	92	92.3	44.9	39.6	34.9	37.4	35.9
K59	412944	417244	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	22.2	29.0	25.5
K60	422435	425889	Roadside	100	100.0	35.1	29.7	23.2	28.3	27.9
K61	420441	427353	Roadside	100	100.0	31.6	26.4	22.1	25.5	27.7
K62	420472	427360	Roadside	100	100.0	33.6	27.3	24.3	26.7	26.2
K63	419866	427561	Roadside	100	100.0	51.6	45.1	36.5	42.5	24.1
K64	419914	427588	Other	100	100.0	44.3	41.1	28.4	32.6	43.7
K65	419981	427623	Roadside	100	100.0	26.7	24.8	19.8	18.7	34.9
K66	420349	427434	Other	100	100.0	25.9	24.4	18.7	20.0	18.0
K67	421128	427298	Roadside	100	100.0	27.3	23.6	20.1	23.8	21.3
K68	425185	423684	Roadside	100	100.0	35.3	28.4	21.1	24.6	23.8
K69	418237	426555	Roadside	100	100.0	37.0	31.8	33.4	32.9	24.3
K70	423247	420761	Roadside	92	92.3	39.3	30.7	22.6	28.8	31.4
K71	411007	419190	Roadside	100	100.0	35.3	32.2	24.3	26.2	24.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K72	410227	418653	Roadside	100	100.0	46.7	34.2	19.4	31.0	26.1
K73	410080	418568	Roadside	100	100.0	30.5	23.7	20.1	21.5	28.6
K74	410095	418559	Roadside	100	100.0	37.8	<u>Insufficient Data</u>	25.5	28.9	20.0
K75	413153	415894	Roadside	100	100.0	35.0	28.5	25.4	28.9	27.1
K76	413198	415957	Roadside	100	100.0	46.9	38.9	33.2	42.6	27.1
K77	413455	416013	Roadside	100	100.0	28.0	24.1	18.4	21.3	41.9
K78	413464	415983	Roadside	100	100.0	42.5	<u>Insufficient Data</u>	30.2	33.2	21.1
K79	423903	427756	Roadside	100	100.0	43.3	24.4	22.7	25.7	31.5
K80	425566	423696	Roadside	100	100.0	36.6	29.8	28.4	29.5	26.5
K81	422991	426992	Roadside	100	100.0	20.3	17.5	16.1	16.6	28.2
K82	422036	415941	Roadside	100	100.0	29.4	24.7	18.9	21.6	16.2
K83	424203	414975	Roadside	100	100.0	28.4	20.6	18.6	20.6	23.1
K84	422923	408553	Roadside	100	100.0	23.9	21.1	16.3	17.5	19.1
K85	419380	409777	Roadside	100	100.0	32.6	29.1	22.8	26.3	17.9

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K86	415164	416323	Roadside	100	100.0	37.4	31.3	29.4	32.5	24.4
K87	424409	421271	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	24.5	31.1	31.4
K88	422403	425845	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	23.2	27.5	30.1
K89	419362	427203	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	21.8	27.1	28.2
K90	419262	427060	Roadside	92	92.3	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	29.0	27.6
K91	412647	418008	Roadside	83	84.6	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	21.1	27.9
K92	418656	426078	Roadside	92	90.4	<u>N/A</u>	<u>N/A</u>	23.5	27.3	24.0
K93	427802	427802	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	25.5	33.5	26.9
K94	426242	423106	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	21.0	24.0	32.2
K95	414170	408118	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	16.8	20.0	22.6
K96	414227	408161	Kerbside	100	100.0	<u>N/A</u>	<u>N/A</u>	14.0	16.6	20.1
K97	409762	418019	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	19.7	22.2	15.6
K98	414092	408133	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	18.7	21.4	21.3
K99	426312	422830	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	17.0	23.1	21.0

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
K100	412477	417290	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	22.8	27.1	21.0
K101	413531	417137	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	18.8	24.4	25.6
K102	418540	421188	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	19.4	23.3	25.2
K103	419426	420293	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	17.4	19.9	21.7
K104	415810	420554	Roadside	100	100.0	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	21.2

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

Diffusion tube data has been bias adjusted.

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

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.1 – Trends in Annual Mean NO₂ Concentrations

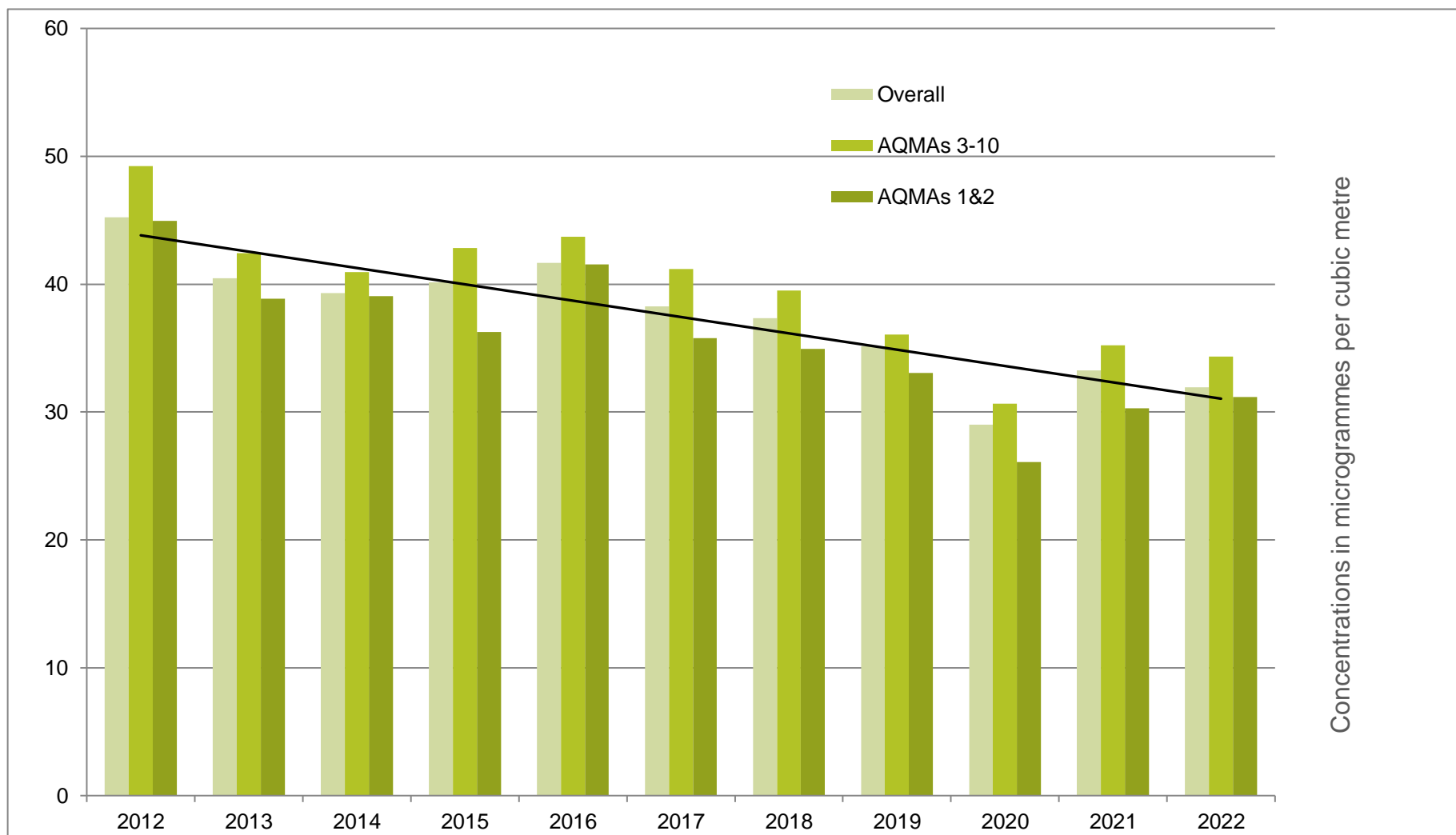


Figure A.2 – Percentage improvement changes in Annual Mean NO₂ Concentrations

A positive percentage change represents a reduction in annual mean NO₂ concentrations, whilst a negative percentage change represents an increase in annual mean NO₂ concentrations

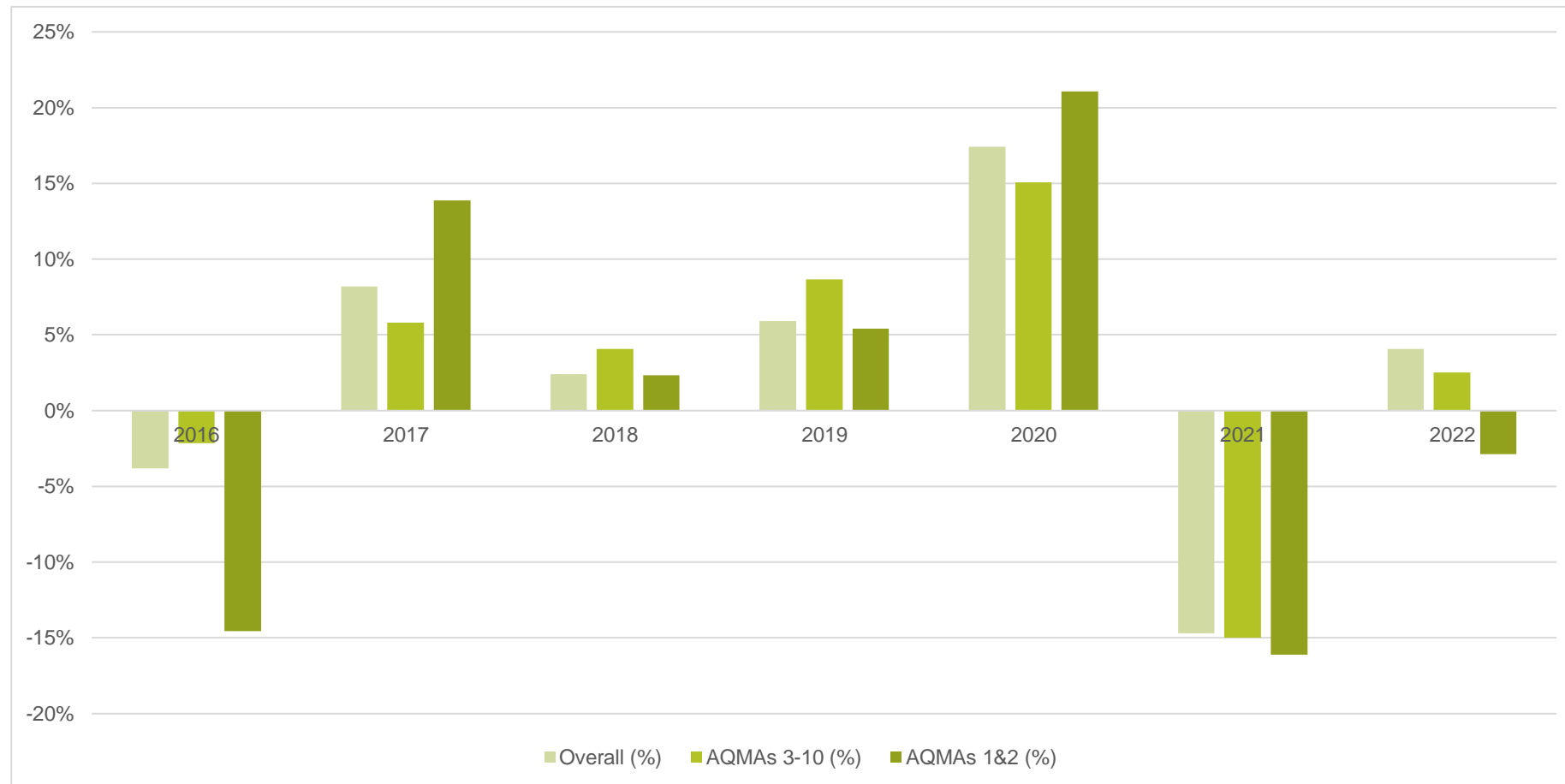


Table A.2b – Percentage reduction of Mean Annual NO₂ concentrations Pre, During & Post Pandemic

Percentage change in roadside NO ₂ concentrations	Over 8 years Pre 2020	Over 5 years Pre 2020	2020 (Pandemic)	2021 (Post Pandemic)	2022 (Post Pandemic)
Overall (%)	22%	13%	17%	-15%	4%
"New" AQMAs	26%	15%	15%	-15%	3%
"Pre-existing" AQMAs	33%	19%	19%	-12%	-3%

Figure A.3 – Trends in Annual Mean NO₂ Concentrations, AQMA 1

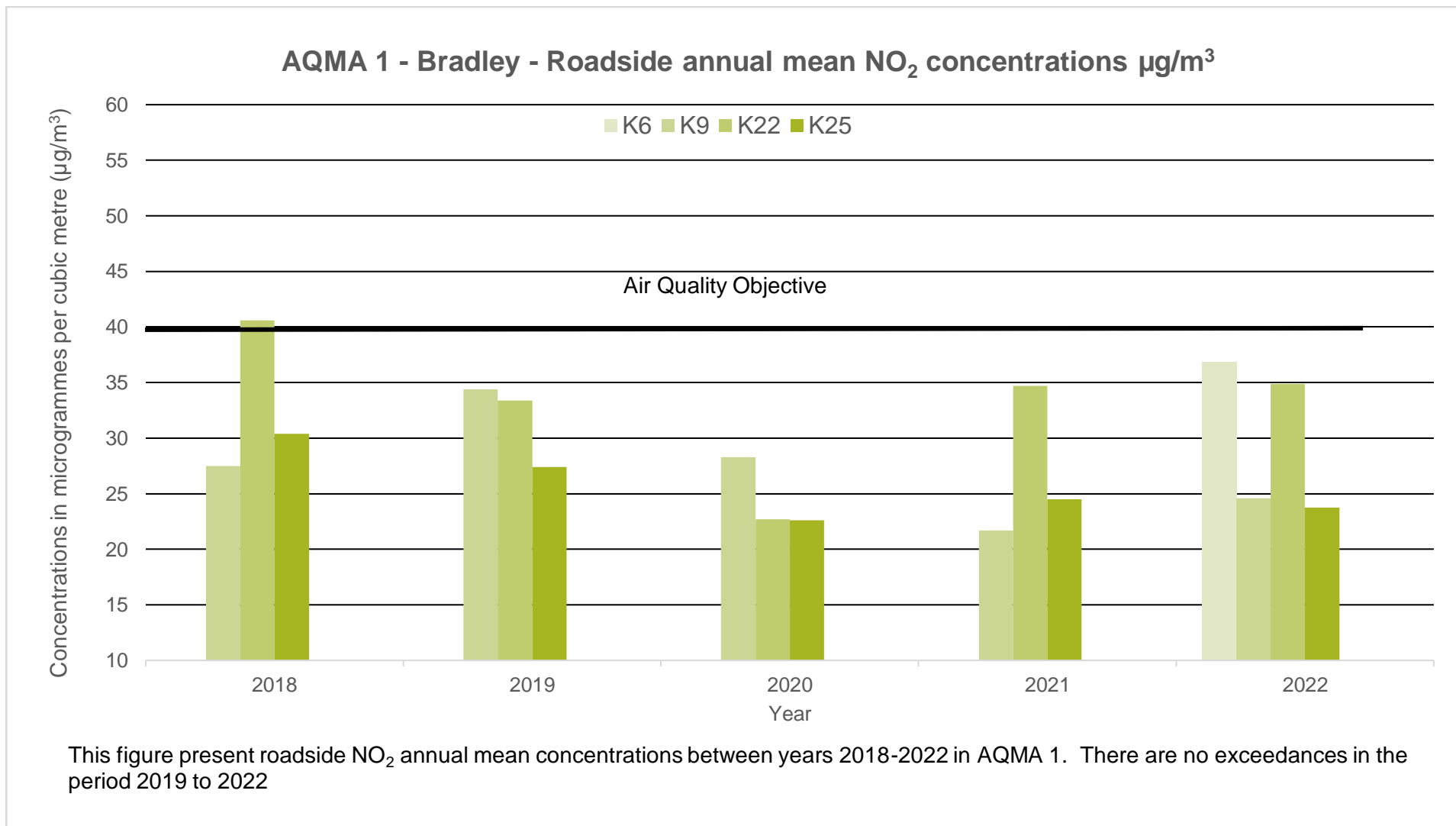


Figure A.4 – Trends in Annual Mean NO₂ Concentrations, AQMA 3

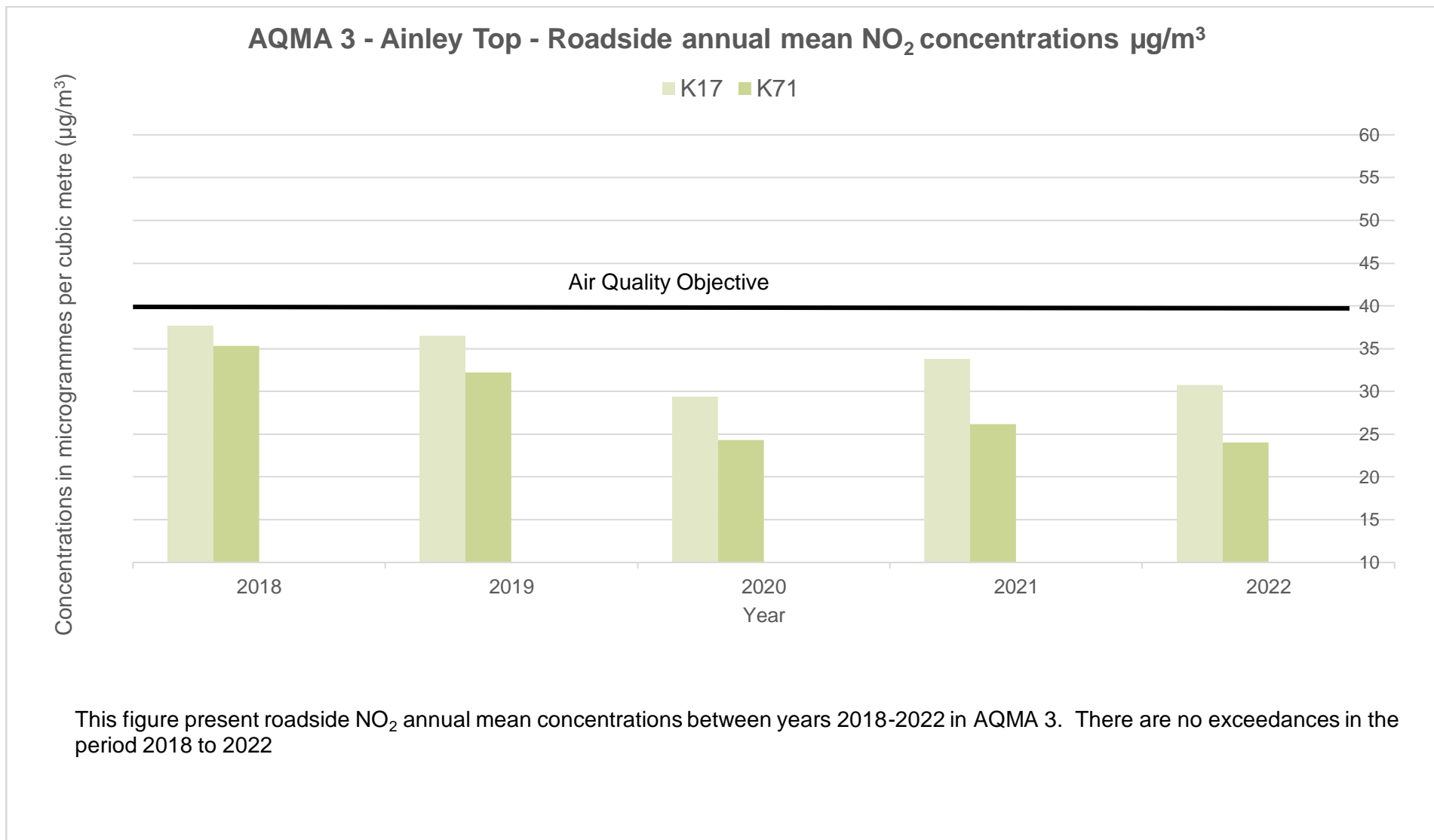


Figure A.5 – Trends in Annual Mean NO₂ Concentrations, AQMA 4

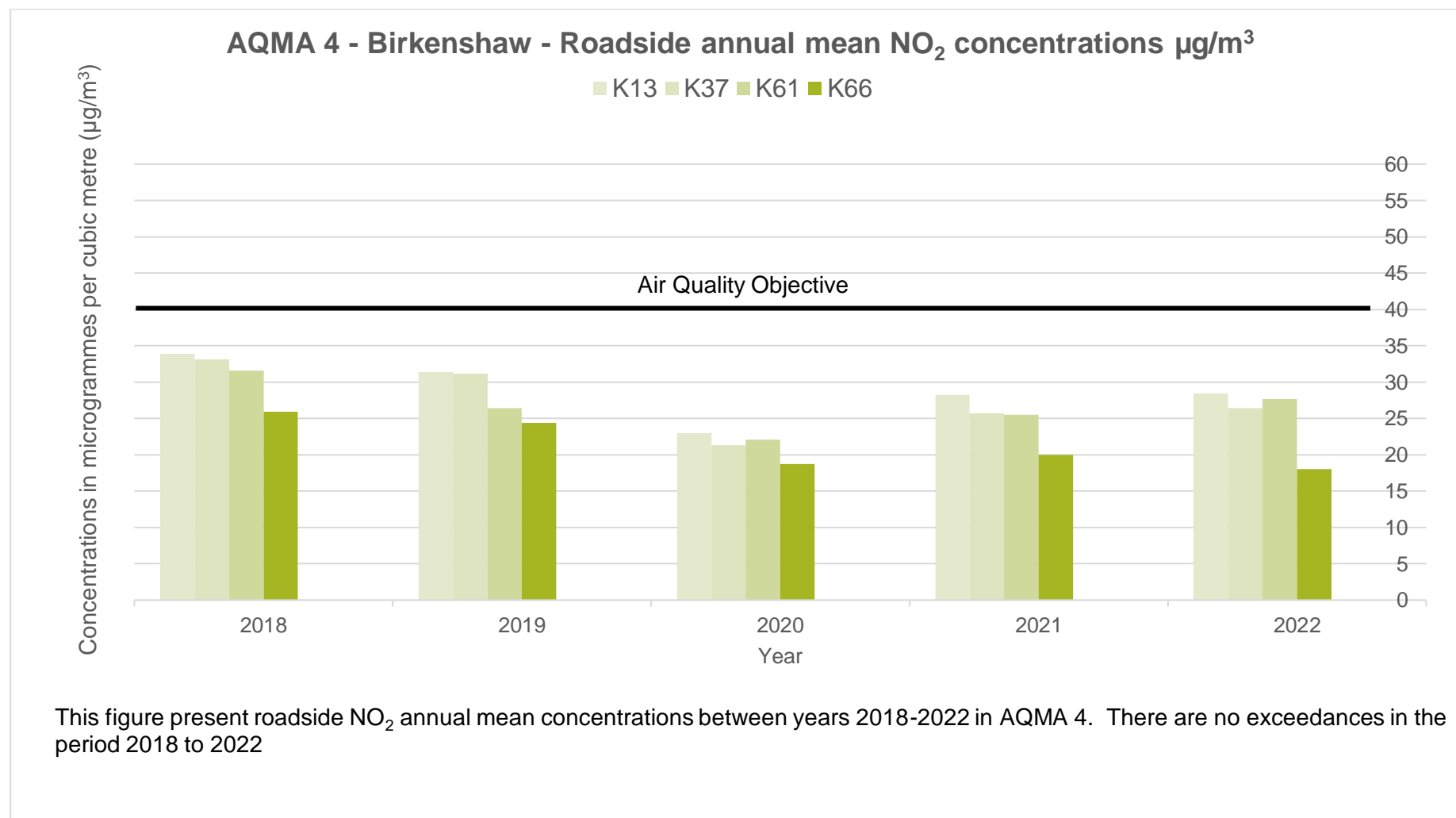


Figure A.6 – Trends in Annual Mean NO₂ Concentrations, AQMA 5

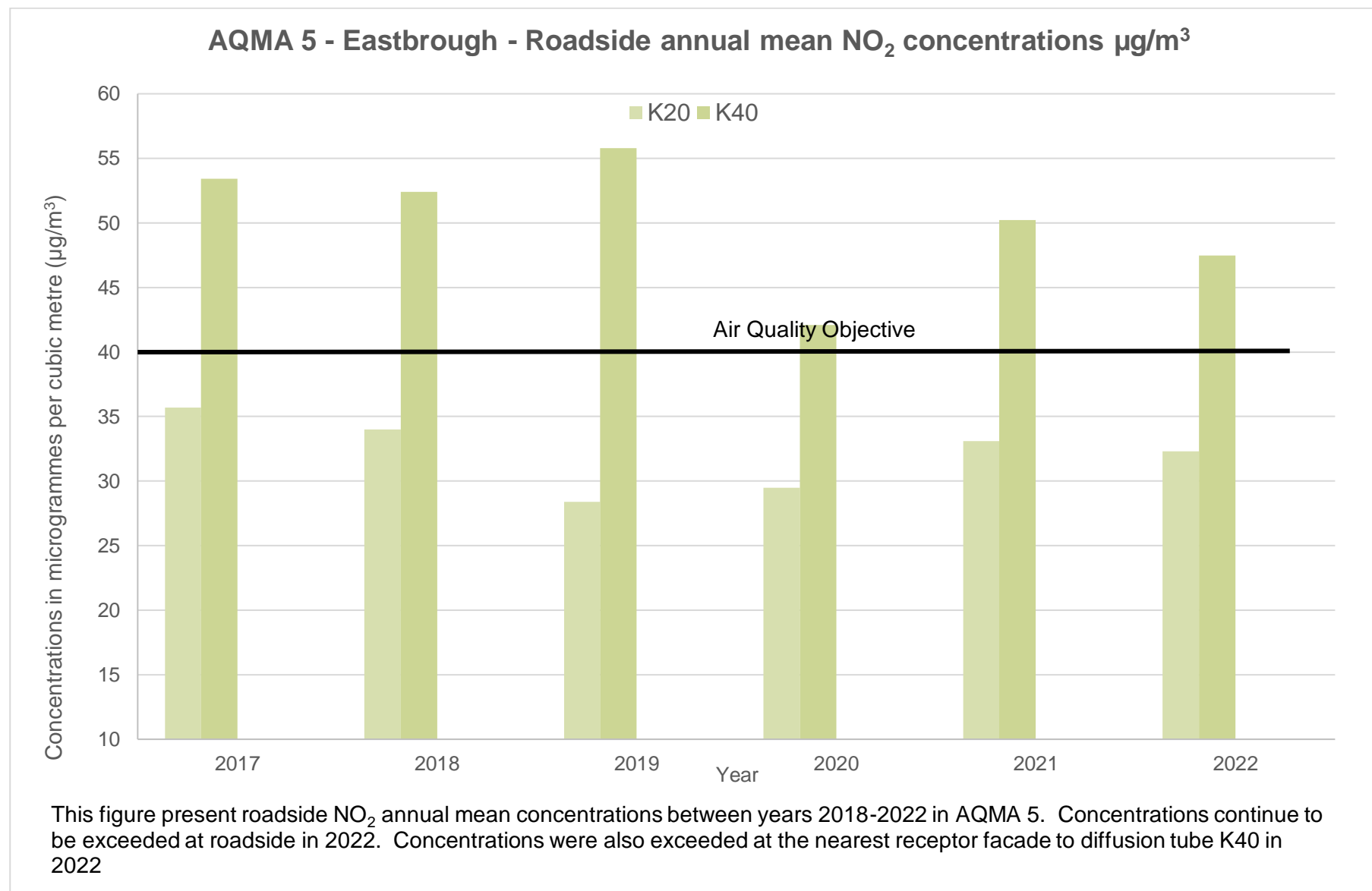


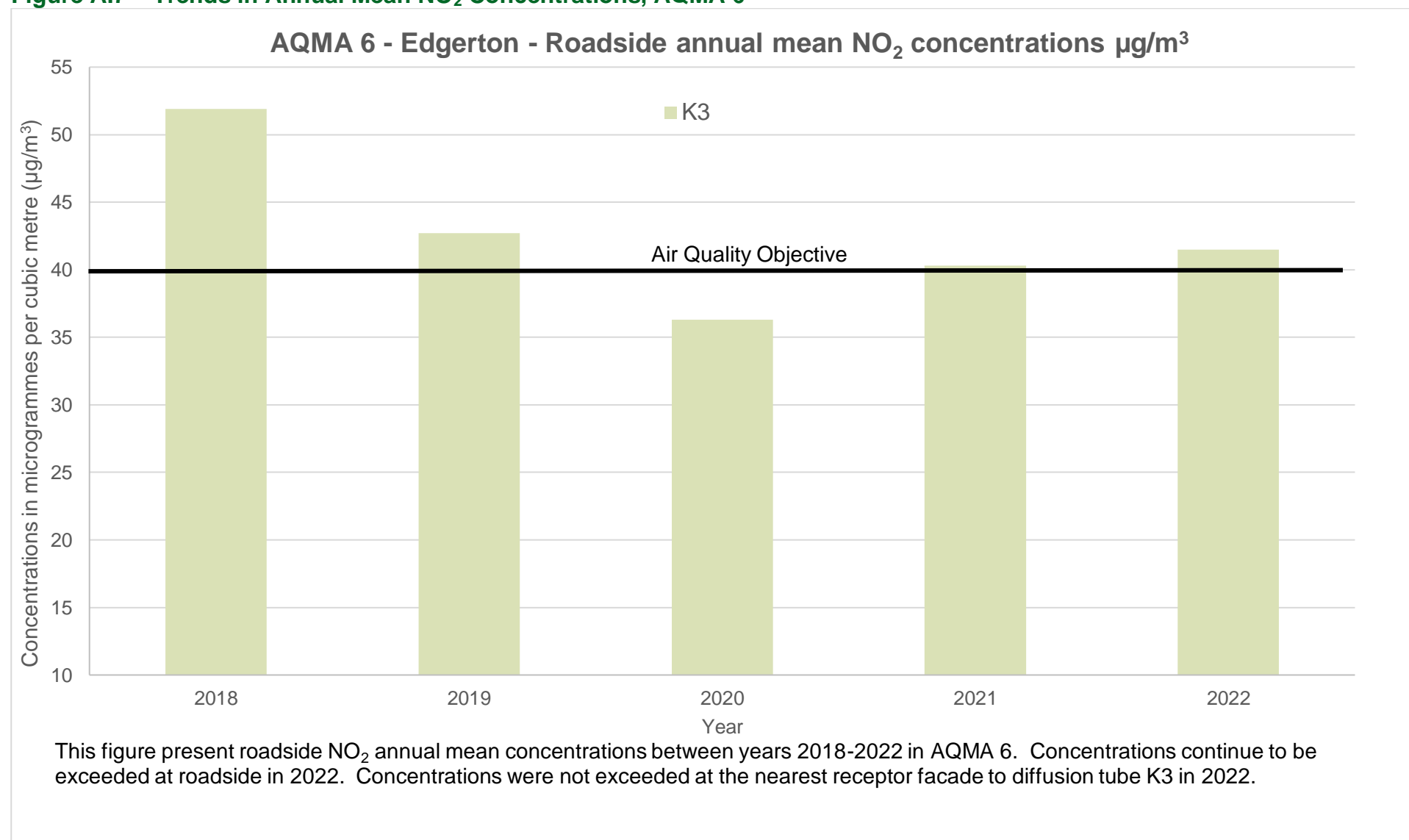
Figure A.7 – Trends in Annual Mean NO₂ Concentrations, AQMA 6

Figure A.8 – Trends in Annual Mean NO₂ Concentrations, AQMA 7

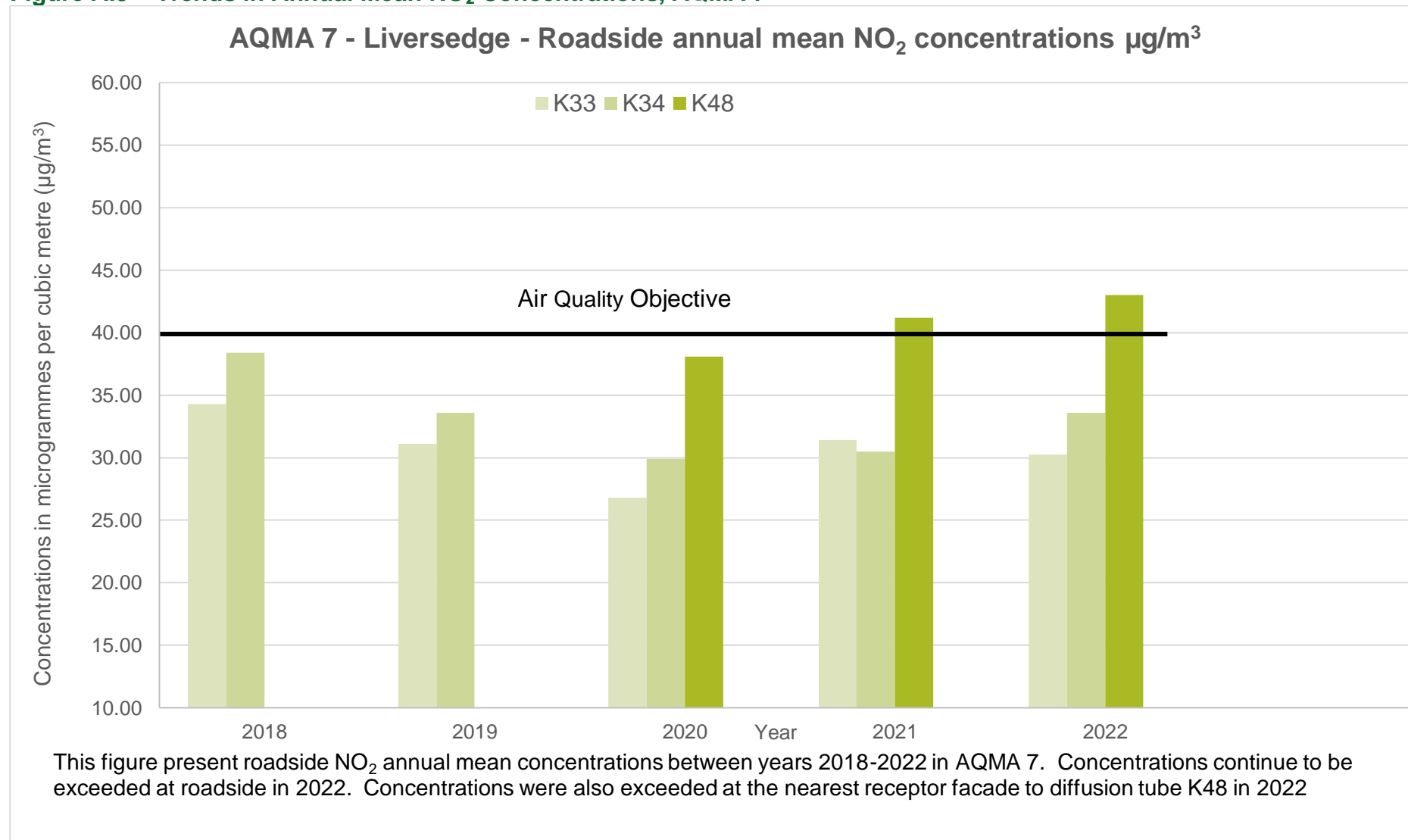


Figure A.9 – Trends in Annual Mean NO₂ Concentrations, AQMA 8

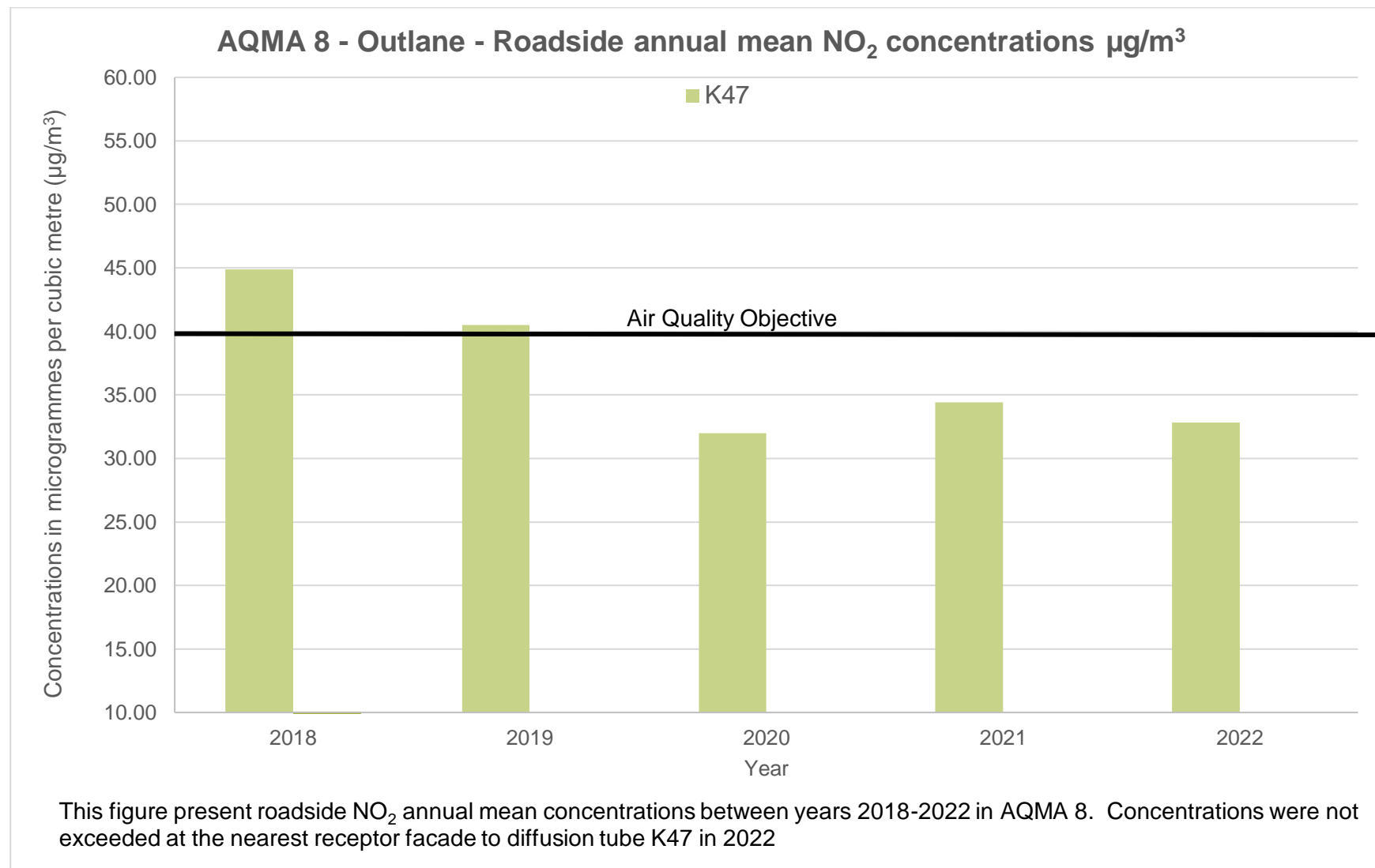


Figure A.10 – Trends in Annual Mean NO₂ Concentrations, AQMA 9

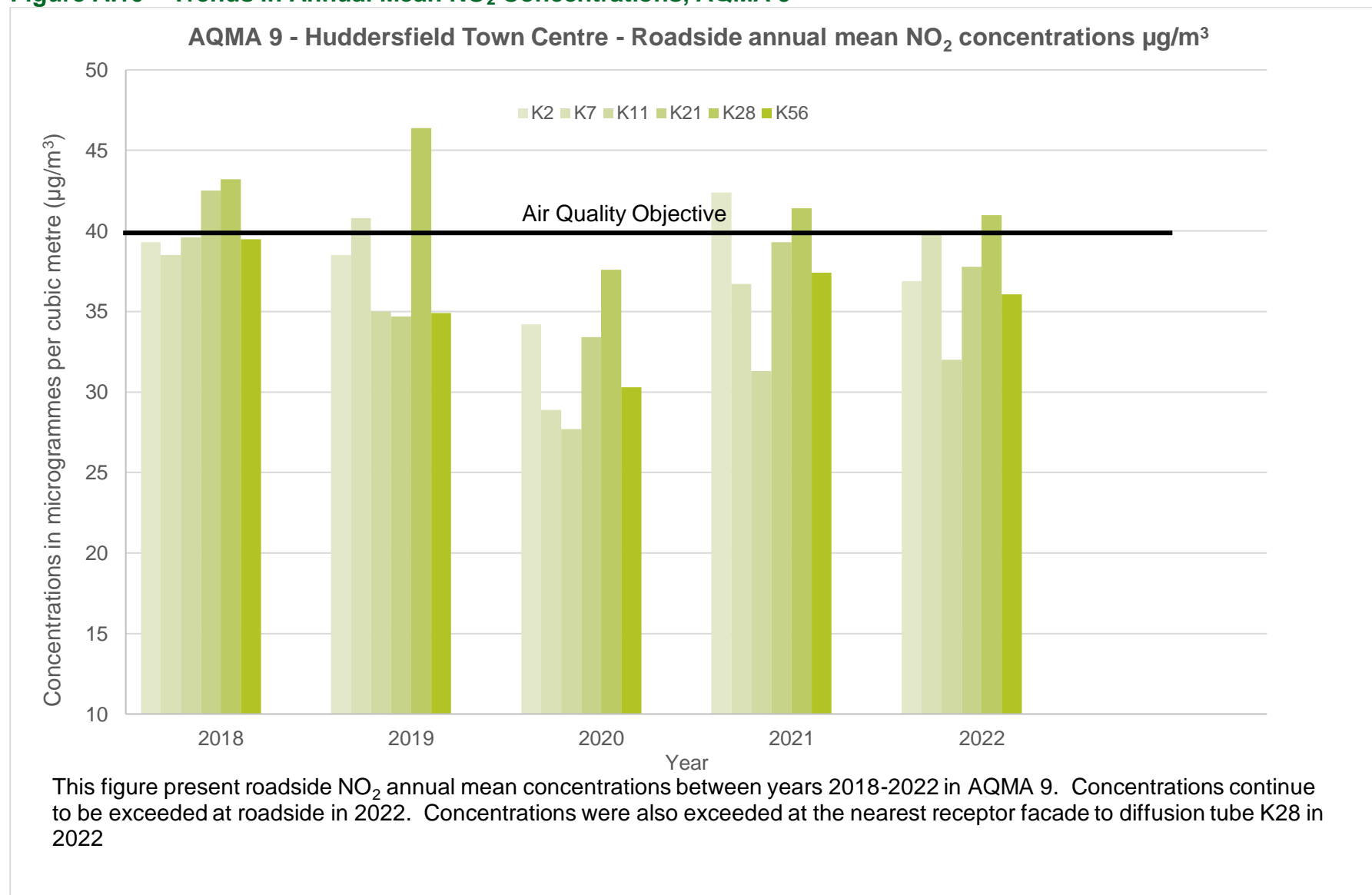


Figure A.11 – Trends in Annual Mean NO₂ Concentrations, AQMA 10

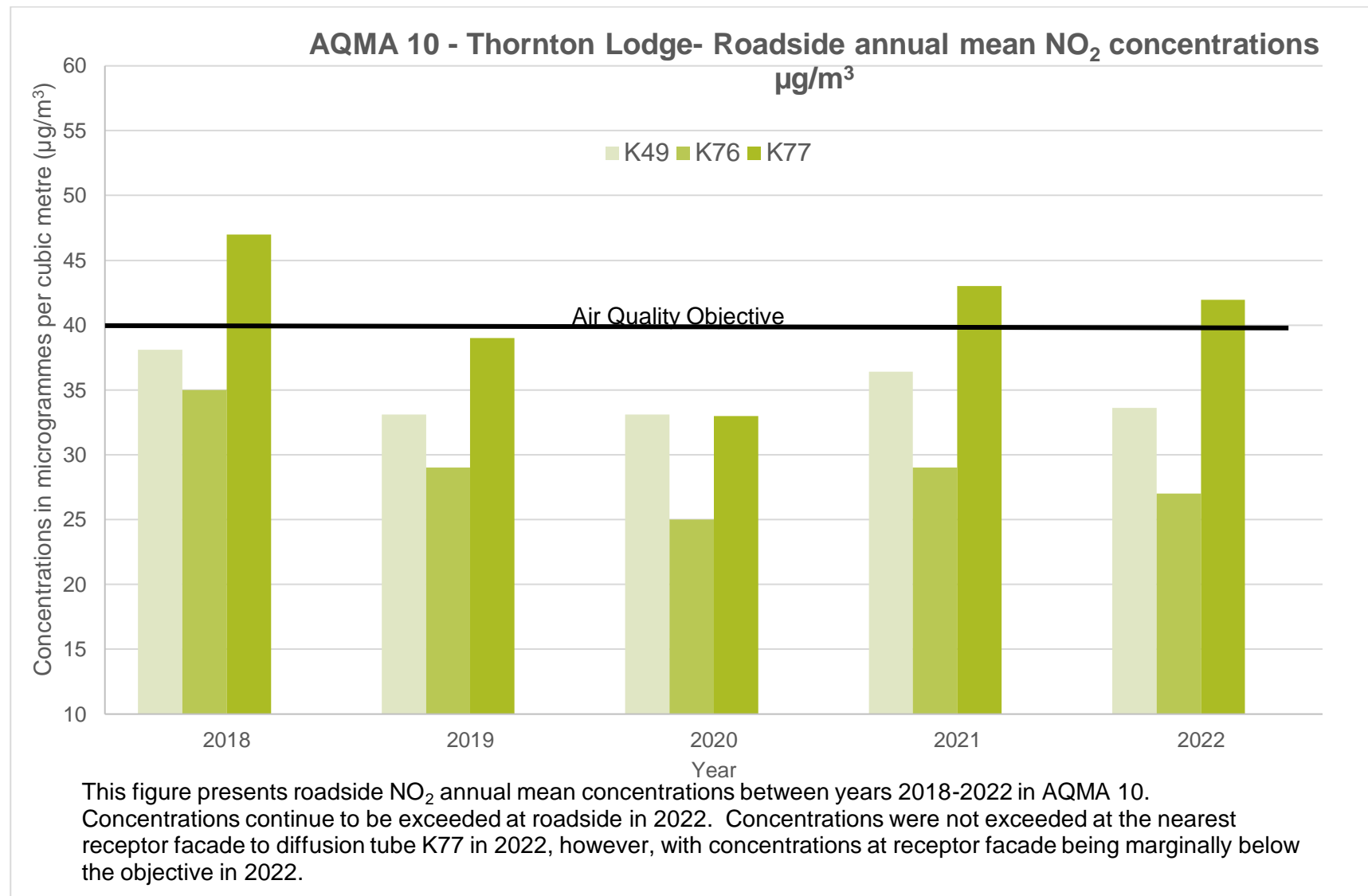


Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	424060	421912	Urban Background	98.5	98.5	n/a	n/a	0	0	0
CM2	417255	420761	Roadside	n/a	n/a	n/a	n/a	0	n/a	n/a
CM3	411739	419007	Roadside	99.9	33.4	n/a	n/a	0	n/a	0 (55)

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m³ have been recorded.

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

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

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

Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	424060	421912	Urban Background	99.9	50.3	n/a	n/a	n/a	n/a	12.6

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the PM₁₀ annual mean objective of 40µg/m³ are shown in **bold**.

All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	424060	421912	Urban Background	99.9	50.3	n/a	n/a	n/a	n/a	0 (20)

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m³ have been recorded.

Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

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

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

Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
CM1	424060	421912	Urban Background	99.9	50.3	n/a	n/a	n/a	n/a	8.3
CM2	417255	420761	Roadside	80.2	31.9	n/a	n/a	12.2	n/a	9.7
CM3	411739	419007	Roadside	93.9	33.4	n/a	n/a	9.3	n/a	8.9

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

Notes:

The annual mean concentrations are presented as µg/m³.

All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

Table A.9 – SO₂ 2022 Monitoring Results, Number of Relevant Instances

Kirklees Council does not undertake monitoring of sulphur dioxide gas within the district.

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	Number of 15-minute Means > 266µg/m ³	Number of 1-hour Means > 350µg/m ³	Number of 24-hour Means > 125µg/m ³

Notes:

Results are presented as the number of instances where monitored concentrations are greater than the objective concentration.

Exceedances of the SO₂ objectives are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed a year).

If the period of valid data is less than 85%, the relevant percentiles are provided in brackets.

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

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

Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2022 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
K1	424506	421535	72.6	70.0	69.8	58.2	50.3	34.9	59.1	60.7	54.0	58.4	65.1	65.6	59.9	45.5	-	
K2	414214	416504	48.1	53.5	48.4	41.4	40.0	45.9	43.2	41.9	48.1	53.5	56.8	61.6	48.5	36.9	-	
K3	413504	417439	48.7	55.3	54.5	45.6	51.8	59.3	57.6	54.8	53.4	56.7	58.4	59.2	54.6	41.5	38.0	
K4	424464	424395	38.8	36.4	45.1	31.2	25.4	25.8	28.6	30.3	35.1	33.5		44.9	34.1	25.9	-	
K5	422443	420380	20.7	32.4	48.9	30.3	29.3	27.2	34.8	33.1	35.1	43.6	48.9	49.2	36.1	27.5	-	
K6	417878	421054							46.0	47.3	50.8	46.3	49.8	56.9	49.5	36.8	31.2	
K6a	417872	421050	51.9	10.1	53.3	53.3	43.2	39.1							41.8	32.5	-	
K7	414434	416744	50.9	43.5	67.0	58.8	46.0	36.8	44.7	51.4	59.4	49.6	57.5	66.4	52.7	40.0	37.3	
K8	414498	417798	43.8	40.0	50.9	43.7	38.9	35.9	38.5	38.2	42.2	43.8	48.5	52.3	43.1	32.7	-	
K9	417280	420482	37.7	35.6	45.2	31.8	23.1	22.3	24.6	29.8	29.3	31.7	37.9	39.5	32.4	24.6	-	
K10	411861	418270						9.9	11.9	15.1	13.2	16.2	22.6	20.8	15.7	12.3	-	
K11	414359	416277	52.9	45.3	52.2	33.6	36.2	36.2	37.6	38.7	34.4	40.6	48.6	49.0	42.1	32.0	-	
K12	417302	425961						13.0	16.7	16.3	17.9	23.6	30.6	28.5	20.9	16.4	-	
K13	420377	427871	42.0	39.4	48.3	32.8	34.6	29.0	32.0	32.4	30.1	38.9	45.8	44.0	37.4	28.5	-	
K14	413667	416467	21.9	17.6	30.2	17.2	12.6	9.2	11.1	11.7	14.0	14.9	19.9	25.5	17.2	13.0	-	
K15	411715	419032	51.8	43.5		42.3	37.4	42.8	38.2	39.6	32.0	32.3	35.6	36.4	-	-	-	Triplicate Site with K15, K16 and K17 - Annual data provided for K17 only
K16	411715	419032	33.7	44.3	56.0	43.2	37.8	42.8	39.4	39.1	34.9	32.7	34.9	38.4	-	-	-	Triplicate Site with K15, K16 and K17 - Annual data provided for K17 only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
K17	411715	419032	51.5	42.7	51.5	43.4	38.0	45.2	40.9	36.6	35.7	32.7	36.8	38.3	40.4	30.7	-	Triplicate Site with K15, K16 and K17 - Annual data provided for K17 only
K18	422686	426229	39.6	43.4	65.2	44.1	35.2	33.5	37.7	46.4	47.0	44.7	53.4	53.5	45.3	34.4	-	
K19	423563	421014	45.2	44.4	63.4	49.5	43.2	32.5	40.7	42.9	45.8	46.9	50.3	54.0	46.6	35.4	-	
K20	424858	421904	30.4	50.9	55.2	38.3	40.7	35.0	40.8	37.0	36.2	46.1	48.8	50.9	42.5	32.3	-	
K21	414149	416686	47.6	44.8	60.3	51.3	46.7	42.3	43.0	48.4	49.1	51.2	53.8	57.7	49.7	37.8	30.9	
K22	417424	420490	47.4	46.6	56.2	44.1	39.6	31.9	41.3	43.9	47.8	46.7	52.4	53.1	45.9	34.9	-	
K23	418483	420978	57.8	46.0	63.5	42.3	42.3	40.9	42.8	45.7	44.3	n/a	39.4	49.3	46.8	35.5	-	
K24	409775	418397	42.4	39.1	35.8	40.4	41.4	37.2	35.6	45.5	30.1	30.9	31.8	43.4	37.8	28.7	-	
K25	417255	420360	36.5	30.3	44.9	34.3	26.0	20.2	24.9	27.5	28.6	30.8	37.5	39.5	-	-	-	Triplicate Site with K25, K26 and K27 - Annual data provided for K27 only
K26	417255	420360	32.3	31.0	45.9	34.4	25.4	18.3	23.8	27.9	27.4	29.2	34.7	35.4	-	-	-	Triplicate Site with K25, K26 and K27 - Annual data provided for K27 only
K27	417255	420360	36.9	30.5	45.6	34.2	26.1	18.5	24.4	27.7	27.5	31.9	37.4	37.6	31.3	23.8	-	Triplicate Site with K25, K26 and K27 - Annual data provided for K27 only
K28	414745	416710	63.7	59.0	60.1	48.0	48.7	50.3	48.6	46.0	46.2	57.3	56.0	63.0	53.9	41.0	40.8	
K29	424425	421499	41.6	36.4	49.6	38.3	29.5	22.9	31.9	33.8	36.5	38.0	43.8	45.8	37.3	28.4	-	
K30	424457	421510	40.8	39.2	55.9	41.5	32.4	25.2	29.7	38.7	39.5	39.0	44.5	48.3	39.6	30.1	-	
K31	413400	417495	35.5	30.6	45.3	32.5	25.0	26.3	29.4	30.0	29.5	32.4	34.1	37.4	32.3	24.6	-	
K32	413513	417481	59.7	48.3	54.7	46.3	47.6	43.2	47.2	48.0	49.2	51.9	52.1	53.6	50.2	38.1	32.7	
K33	420727	423668	33.6	39.8	52.1	42.4	34.7	29.1	32.4	38.8	39.6	34.2	49.2	51.5	39.8	30.2	-	
K34	420845	423770	45.4	39.8	59.9	47.3	37.0	34.1	37.9	47.8	46.3	42.3	44.2	48.1	44.2	33.6	-	
K35	420853	423866	58.1	53.7	64.1	55.3	56.4	56.0	55.2	63.7	64.1	54.6	63.4	61.5	58.8	44.7	33.7	
K36	420304	419766	40.7	32.7	51.1	39.6	33.6	26.8	32.3	37.8	39.4	32.0	37.8	42.5	37.2	28.3	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
K37	420356	427810	37.2	34.8	44.9	30.5	28.4	28.8	30.8	30.9	31.3	35.3	44.5	40.1	34.8	26.4	-	
K38	420222	427764	51.7	39.5	58.2	48.1	47.8	43.7	45.6	47.2	47.4	42.7	55.0	51.2	48.2	36.6	25.5	
K39	424526	424326	47.2	39.7	56.9		34.3	30.6	34.5	41.4	42.5	41.1	53.2	55.0	43.3	32.9	-	
K40	424922	421972	67.2	59.3	69.3	61.5	58.7	54.6	57.2	56.0	61.9	65.8	70.1	68.2	62.5	47.5	43.8	
K41	418285	426630	32.5	45.7	41.2	34.3	32.9	35.5	35.1	38.3	38.8	37.5	40.2	42.7	37.9	28.8	-	
K42	424969	422002	43.6	40.0	58.8	44.6	33.1	30.0	35.6	41.2	44.5	46.8	57.2	57.1	44.4	33.7	-	
K43	425093	422024	52.5	55.3	46.6	46.0	39.9	38.7	40.4	43.2	45.1	51.8	53.9	59.9	47.8	36.3	30.3	
K44	425179	422116	51.3	45.2	41.4	32.3	34.0	37.8	42.6	33.8	36.0	42.6	46.3	45.7	40.8	31.0	-	
K45	414483	417726	41.3	34.0	53.3	42.1	41.5	42.3	44.7	45.3	49.3	47.9	51.0	48.3	45.1	34.3	-	
K46	414402	417806	27.7	26.1	44.1	31.4	20.8	16.9	21.3	26.9	29.1	26.9	34.0	31.1	28.0	21.3	-	
K47	407942	417261	44.1	52.8	39.0	41.0	43.9	47.5	48.2	46.4	41.2	38.1	37.1	39.1	43.2	32.8	-	
K48	421039	423673	63.4	54.9	65.2	50.7	47.9	45.0	58.3	57.8	52.6	58.1	62.1	63.4	56.6	43.0	-	
K49	413659	416182	43.3	44.9	53.5	44.0	33.8	37.4	35.8	40.7	44.2	47.1	50.6	55.8	44.3	33.6	-	
K50	413414	415981	56.7	56.3	64.5	54.0	46.5	46.2	46.4	48.8	47.3	57.4	64.0	53.5	53.5	40.6	37.9	
K51	421898	423576	50.5	42.5	49.4	43.7	37.0	31.5	35.0	38.9	41.0	39.4	37.2	47.3	41.1	31.2	-	
K52	417627	416472	43.0	35.1	44.2	37.0	33.6	31.0	34.5	35.2	36.7	34.0	38.7	40.3	36.9	28.1	-	
K53	411564	415902	41.1	38.0	43.9	37.4	32.3	30.7	29.7	33.0	37.5	31.8	42.5	44.7	36.9	28.0	-	
K54	425196	421566	57.4	48.9	52.3	43.8	39.7	41.5		84.0	42.9	44.1	47.6	48.3	50.0	38.0	35.2	
K55	414187	408264	44.2	36.6	30.6	32.7	30.7	31.2	30.3	30.1	31.6	31.7	37.8	38.6	33.8	25.7	-	
K56	415009	416420	38.6	48.0	60.6	50.5	42.9	40.8	42.3	46.5	48.5	43.6	56.8	50.3	47.5	36.1	-	
K57	414291	417281	29.5	30.4	39.5	27.3	20.0	16.1	20.6	20.2	24.2	28.5	37.6	32.7	27.2	20.7	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
K58	414350	417270	54.8		49.5	41.5	45.7	40.0	45.4	43.3	42.6	45.2	55.4	55.5	47.2	35.9	-	
K59	412944	417244	39.3	34.7	41.5	36.4	31.3	12.2	26.7	33.5	37.4	33.2	37.5	39.0	33.6	25.5	-	
K60	422435	425889	50.2	38.9	41.7	31.4	27.4	27.7	30.7	34.0	34.8	35.8	43.0	45.3	36.7	27.9	-	
K61	420441	427353	39.8	38.5	46.6	31.4	29.5	30.1	32.3	28.5	37.7	36.0	43.0	43.4	36.4	27.7	-	
K62	420472	427360	45.3	44.2	40.2	25.8	26.9	28.6	29.9	23.0	25.2	40.0	43.2	41.6	34.5	26.2	-	
K63	419866	427561	26.9	39.0	43.7	38.6	25.3	25.3	27.8	27.7	26.5	26.4	34.6	38.6	31.7	24.1	-	
K64	419914	427588	53.7	62.6	66.4	48.2	51.3	53.7	55.9	53.5	53.4	62.9	67.1	61.1	57.5	43.7	-	
K65	419981	427623	53.1	54.5	49.9	42.2	37.2	41.0	41.7	40.5	40.0	43.5	51.9	54.8	45.9	34.9	-	
K66	420349	427434	25.1	27.9	34.5	21.5	18.9	15.7	20.1	18.0	20.7	25.6	31.6	25.3	23.7	18.0	-	
K67	421128	427298	30.7	30.9	34.2	23.9	22.7	21.0	25.1	22.4	24.0	30.6	36.2	35.3	28.1	21.3	-	
K68	425185	423684	39.5	33.6	40.1	27.9	25.1	22.6	24.6	27.7	28.0	30.1	38.0	38.3	31.3	23.8	-	
K69	418237	426555	42.1	35.4	36.4	32.0	25.9	24.0	24.9	29.0	29.6	28.9	37.1	38.9	32.0	24.3	-	
K70	423247	420761	41.5	32.5	50.3	37.8	32.7	31.8	39.9	44.1	44.8	54.3		45.4	41.4	31.4	-	
K71	411007	419190	32.4	33.8	45.0	36.6	31.2	24.4	25.9	31.3	26.7	24.5	32.9	35.1	31.7	24.1	-	
K72	410227	418653	43.9	33.3	36.5	35.3	33.6	33.1	31.6	35.2	32.6	27.4	30.1	39.2	34.3	26.1	-	
K73	410080	418568	48.5	35.2	43.9	39.0	38.4	36.5	34.5	39.0	28.4	30.2	37.0	40.8	37.6	28.6	-	
K74	410095	418559	31.8	31.1	32.5	30.2	24.3	21.2	21.3	25.5	22.6	21.7	22.1	31.7	26.3	20.0	-	
K75	413153	415894	14.9	37.1	52.0	39.2	33.2	28.1	31.2	32.4	37.0	35.4	43.3	44.2	35.7	27.1	-	
K76	413198	415957	40.0	42.1	49.4	39.5	27.5	25.1	26.3	28.2	32.2	30.9	40.4	46.7	35.7	27.1	-	
K77	413455	416013	66.4	55.7	58.0	52.8	52.5	50.5	51.5	56.2	55.9	50.2	53.7	58.8	55.2	41.9	39.4	
K78	413464	415983	30.2	24.6	40.1	33.3	22.8	16.1	19.6	25.6	26.4	24.7	32.5	37.2	27.8	21.1	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
K79	423903	427756	30.7	40.6	51.0	52.1	33.9	31.5	35.8	46.3	44.1	34.7	45.5	50.4	41.4	31.5	-	
K80	425566	423696	38.1	38.1	44.1	34.8	29.6	24.3	30.5	30.8	36.0	35.4	37.7	38.9	34.9	26.5	-	
K81	422991	426992	35.0	35.3	44.5	39.0	29.8	25.5	31.7	32.2	37.9	40.2	47.5	46.1	37.1	28.2	-	
K82	422036	415941	23.2	17.8	25.6	22.1	18.1	16.5	17.7	21.8	21.6	20.5	24.8	25.6	21.3	16.2	-	
K83	424203	414975	30.6	25.7	39.5	29.8	27.6	24.9	27.6	30.2	27.2	32.6	35.6	34.0	30.4	23.1	-	
K84	422923	408553	24.1	21.7	35.8	27.4	21.3	18.8	20.2	24.8	26.6	22.4	26.9	31.6	25.1	19.1	-	
K85	419380	409777	25.1	21.8	33.0	24.0	19.0	17.1	19.6	18.1	22.7	23.8	29.1	29.2	23.5	17.9	-	
K86	415164	416323	28.4	31.1	41.6	33.0	28.3	24.5	28.5	31.3	36.0	34.3	39.5	29.3	32.2	24.4	-	
K87	424409	421271	47.9	39.7	50.7	39.5	30.6	32.9	36.4	39.4	37.4	43.2	48.0	50.4	41.3	31.4	-	
K88	422403	425845	41.6	39.4	48.6	38.1	32.5	29.3	32.1	37.5	39.0	39.6	48.2	49.0	39.6	30.1	-	
K89	419362	427203	39.8	34.5	41.7	34.8	30.6	29.9	32.9	34.9	33.1	40.1	51.4	42.0	37.1	28.2	-	
K90	419262	427060	40.7	35.3	42.4	38.5	32.1	30.0		35.0	32.0	36.5	41.3	36.2	36.4	27.6	-	
K91	412647	418008	30.0	25.7	52.5	33.7	33.2		36.1		44.8	35.5	38.1	38.1	36.8	27.9	-	
K92	418656	426078	44.7	31.8	39.3	26.5		21.6	26.1	27.2	27.7	29.5	38.4	34.7	31.6	24.0	-	
K93	427802	427802	35.2	36.9	54.8	44.3	29.8	21.4	27.6	30.0	33.1	32.1	41.9	37.0	35.3	26.9	-	
K94	426242	423106	41.4	46.1	53.6	41.1	32.2	31.9	36.7	36.6	40.0	44.2	55.1	50.3	42.4	32.2	-	
K95	414170	408118	36.0	32.0	36.7	33.9	25.2	20.9	22.6	23.7	27.3	28.6	33.8	36.2	29.7	22.6	-	
K96	414227	408161	31.6	28.1	33.2	25.7	21.7	20.2	21.7	25.3	25.9	25.2	29.4	29.7	26.5	20.1	-	
K97	409762	418019	20.4	20.0	31.4	22.0	16.1	13.8	17.3	19.0	18.6	18.5	23.9	25.0	20.5	15.6	-	
K98	414092	408133	33.2	28.6	34.1	33.4	26.9	21.2	21.9	24.9	26.7	25.8	30.1	30.1	28.1	21.3	-	
K99	426312	422830	20.0	24.1	46.2	30.3	19.6	17.0	19.7	26.7	29.9	25.4	36.1	36.7	27.6	21.0	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
K100	412477	417290	36.2	27.0	39.6	29.0	20.0	20.4	21.7	24.5	23.7	25.1	30.1	33.7	27.6	21.0	-	
K101	413531	417137	32.7	26.7	49.7	40.8	27.7	22.7	26.2	32.6	37.8	30.8	35.8	40.3	33.7	25.6	-	
K102	418540	421188	41.7	43.9	39.8	32.6	28.2	24.7	23.6	29.5	31.6	28.9	35.0	38.5	33.2	25.2	-	
K103	419426	420293	35.5	30.8	39.1	30.8	21.7	19.4	21.8	23.3	24.3	26.9	32.1	36.8	28.5	21.7	-	
K104	415810	420554	34.2	25.6	34.7	22.5	21.2	22.1	25.8	27.0	25.5	30.5	32.6	33.6	27.9	21.2	-	

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1.
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.
- Local bias adjustment factor used.
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.
- Kirklees Council confirm that all 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Kirklees During 2022

Kirklees Council has identified the following significant sources relating to air quality within the reporting year of 2022. These formally approved planning applications were all assessed for their operational phase air quality impact and suitable mitigation of impact conditioned in accordance with the WYLES AQ and Emissions Technical Planning Guidance document:

- Chidswell, Dewsbury, 2020/92331, (full application approved 2022), hybrid application including 1350 residential units
- Blackmoorfoot, Huddersfield, 2020/19546 (outline application, approved 2022), 770 residential units, including ancillary development
- Huddersfield Cultural Heart, 2022/92348 (full application, approved 2022), proposed redevelopment of Huddersfield town centre

The Councils' Environmental Planning team review all planning applications for air quality impact in accordance with the WYLES guidance, along with the issuing of S106 planning agreements to offset impact, when appropriate.

All planning applications in Kirklees can be viewed using the [online portal](#).

Additional Air Quality Works Undertaken Kirklees Council During 2022

Kirklees Council has not completed any additional works within the reporting year of 2022

QA/QC of Diffusion Tube Monitoring

Nitrogen dioxide diffusion tubes for 2022 were analysed by the Socotec Laboratory. This laboratory uses the analytical technique of the grid absorbent being 50% triethanolamine

(TEA) in acetone. The analytical technique used is spectrometry, at a wavelength of 540 nanometres.

Socotec participate in the WASP / Air PT scheme for nitrogen dioxide diffusion tubes and has previously participated within the survey's interlaboratory comparison scheme.

Laboratory performance in 2022 was based two of the AIR PT annual performance criteria for NO₂ diffusion tubes used in Local Air Quality Management¹⁴. For these AIR PT rounds (AR049 January-February 2022 and AR050 May-June 2022), the results of measurements based on a satisfactory z-score of < +/- 2 were 100%. Changing of tubes adhered to the 2022 Diffusion Tube Monitoring Calendar.

Diffusion Tube Annualisation

Annualisation is required for any site with data capture less than 75% but greater than 25%. Our Kirklees Council 2022 diffusion tube data have been annualised where required using Defra's Diffusion Tube Data Processing Tool v3.0, following guidance within Chapter 7 of LAQM.TG22: NO_x and NO₂ Monitoring, including the procedure laid out in Box 7.10.

The four background continuous monitoring sites within the region used to calculate the annualisation factors were Barnsley Gawber, Dewsbury Ashworth Grove, Leeds Centre and Bradford Mayo Avenue. Annualised data are presented in Table C.1 below. The diffusion tubes sites requiring annualisation of 2022 data are K6, K6a, K10 and K12.

¹⁴ [WASP – Annual Performance Criteria for NO₂ Diffusion Tubes \(defra.gov.uk\)](https://www.defra.gov.uk)

Table C.1 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Leeds Centre	Annualisation Factor Dewsbury Ashworth Grove	Annualisation Factor Bradford Mayo Avenue	Annualisation Factor Barnsley Gawber	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
K6 (NO ₂)	0.9778	0.9804	1.0003	0.9526	0.9778	49.5	48.4
K6a (NO ₂)	1.0225	1.0204	0.9996	1.0527	1.0238	41.8	42.8
K10 (NO ₂)	1.0264	1.0485	1.0384	1.0140	1.0318	15.7	16.2
K12 (NO ₂)	1.0264	1.0485	1.0384	1.0140	1.0318	20.9	21.6
CM3 (NO ₂)	0.8671	0.8500	0.9147	0.8224	0.8635	21.2	18.3
Site ID	Annualisation Factor Leeds Centre	Annualisation Factor Hull Freetown	Annualisation Factor York Bootham	Annualisation Factor Sheffield Devonshire Green	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
CM1 (PM ₁₀)	1.132625	1.194688	1.090536	1.177479	1.148832	11	12.6
CM1 (PM _{2.5})	1.136096	1.245804	1.183249	1.200659	1.191452	7	8.3
CM2 (PM _{2.5})	0.989205	1.146109	1.013192	1.086154	1.058665	9.1	9.7
CM3 (PM _{2.5})	0.989205	1.146109	1.013192	1.086154	1.058665	8.2	8.7

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Kirklees Council have applied a national bias adjustment factor of 0.76 to the 2022 monitoring data. A summary of bias adjustment factors used by Kirklees Council over the past five years is presented in Table C.2.

Kirklees Council currently have two co-location studies conducted at our monitoring stations, but due to inadequate data capture in 2022, none of our studies had data capture >75% and are therefore not valid to be used to generate a local bias adjustment factor.

Consequently, we interrogated the National Bias Adjustment Factor Spreadsheet¹⁵ for co-location studies in 2022 using Socotec analysis of diffusion tubes (50% TEA in acetone). There were 26 co-location studies to subsequently generate our 2022 bias adjustment factor.

In 2021 previously we also used a nationally derived bias adjustment factor (Socotec, 50% TEA in acetone), and note the similarity of the factors for 2021 and 2022 (0.78 and 0.76 respectively).

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	National - SOCOTEC	03/23	0.76
2021	National - SOCOTEC	04/22	0.78
2020	National - WY Analytical Services	09/19	0.77
2019	National - WY Analytical Services	06/18	0.8
2018	National - WY Analytical Services	09/17	0.8

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

¹⁵ [National Bias Adjustment Factors | LAQM \(defra.gov.uk\)](https://defra.gov.uk)

We have adopted a cautious approach when calculating NO₂ fall-off with distance from the road. This calculation requires the use of local background concentrations to derive the final calculated concentration at receptor façade. There are two sources of local background NO₂ concentration data which we can use for Kirklees data, these being the use of data from the AURN monitoring station within Kirklees at Dewsbury Ashworth Grove: the other being the use of Defra's 1 km grid square data¹⁶. We have undertaken a comparative exercise using the two datasets for each distance corrected diffusion tube location and applied the data exhibiting the highest concentrations accordingly.

Table C.3 – NO₂ Fall off With Distance Calculations (concentrations presented in µg/m³)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
K1	0.8		45.5	20.7		
K2	4.1		36.9	18.0		
K3	2.4	4.4	41.5	18.0	38.0	
K6	4.0	11.6	36.8	18	31.2	
K7	0.5	1.0	40.0	18	37.3	
K13	2.6	4.7	28.5	18	27.1	Additional calculation outside of diffusion tube processing tool to inform Table 2.1 (current concentrations within AQMA 4)
K17	6	14	30.7	18	27.3	Additional calculation outside of diffusion tube processing tool to inform Table 2.1 (current concentrations within AQMA 3)
K21	2.1	9.0	37.8	18.0	30.9	
K28	3.1	3.2	41.0	19.3	40.8	
K32	2.6	7.6	38.1	18.0	32.7	
K35	1.9	11.3	44.7	18.0	33.7	
K38	1.0	19.3	36.6	18.0	25.5	
K40	1.6	2.8	47.5	18.0	43.8	
K43	1.9	7.9	36.3	18.0	30.3	
K50	2.5	4.1	40.6	18.0	37.9	

¹⁶ [Background Maps | LAQM \(defra.gov.uk\)](https://www.defra.gov.uk/Background-Maps/LAQM/)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
K54	3.2	5.9	38.0	20.7	35.2	
K56	2.8		36.1	18.0		
K64	0.1		43.7	18.6		
K77	2.2	3.4	41.9	18.0	39.4	

QA/QC of Automatic Monitoring

Continuous monitoring for 2022 have been scaled, validated and ratified in house, including the removal of erroneous data (in accordance with paragraph 7.153 of LAQM.TG (22)) and applying relevant scaling calculations in line with LAQM.TG (22).

Tables C5 and C6 below detail the QA/QC regime for each of our continuous monitoring stations.

Table C.5 Roadside 3 – Bradley Details

Station	Roadside 3 – Bradley
Analyser Model	Horiba: APNA-360CE, MET-One BAM
Logging system	Each analyser has a data distribution board and communicates directly via modem for data several times per day per day
Calibration Gas	450 ppb NO in N ₂ , zero air scrubber
Routine Calibration	Onsite LSO calibration every two to four weeks
Daily zero and span Check	No
Air Conditioning	Yes
Service Contract	Horiba: 2 x 6 monthly service and breakdown/repair call out.

Table C.6 Roadside 6– Ainley Top Details

Station	Roadside 6 – Ainley Top
Analyser Model	Horiba: APNA-360CE, MET-One BAM
Logging system	Each analyser has a data distribution board and communicates directly via modem for data several times per day per day
Calibration Gas	450 ppb NO in N ₂ , zero air scrubber
Routine Calibration	Onsite LSO calibration every two to four weeks
Daily zero and span Check	No
Air Conditioning	Yes
Service Contract	Horiba: 2 x 6 monthly service and breakdown/repair call out.

PM₁₀ and PM_{2.5} Monitoring Adjustment

Kirklees Council currently use MET-One Heated Beta Attenuation Monitors for PM_{2.5}. In accordance with LAQM.TG (22) paragraph 7.155 a correction factor is not required.

Automatic Monitoring Annualisation

Automatic monitoring annualisation data is presented in Table C.1. Annualisation is has been undertaken for the automatic monitoring data capture less than 75% but greater than 25%.

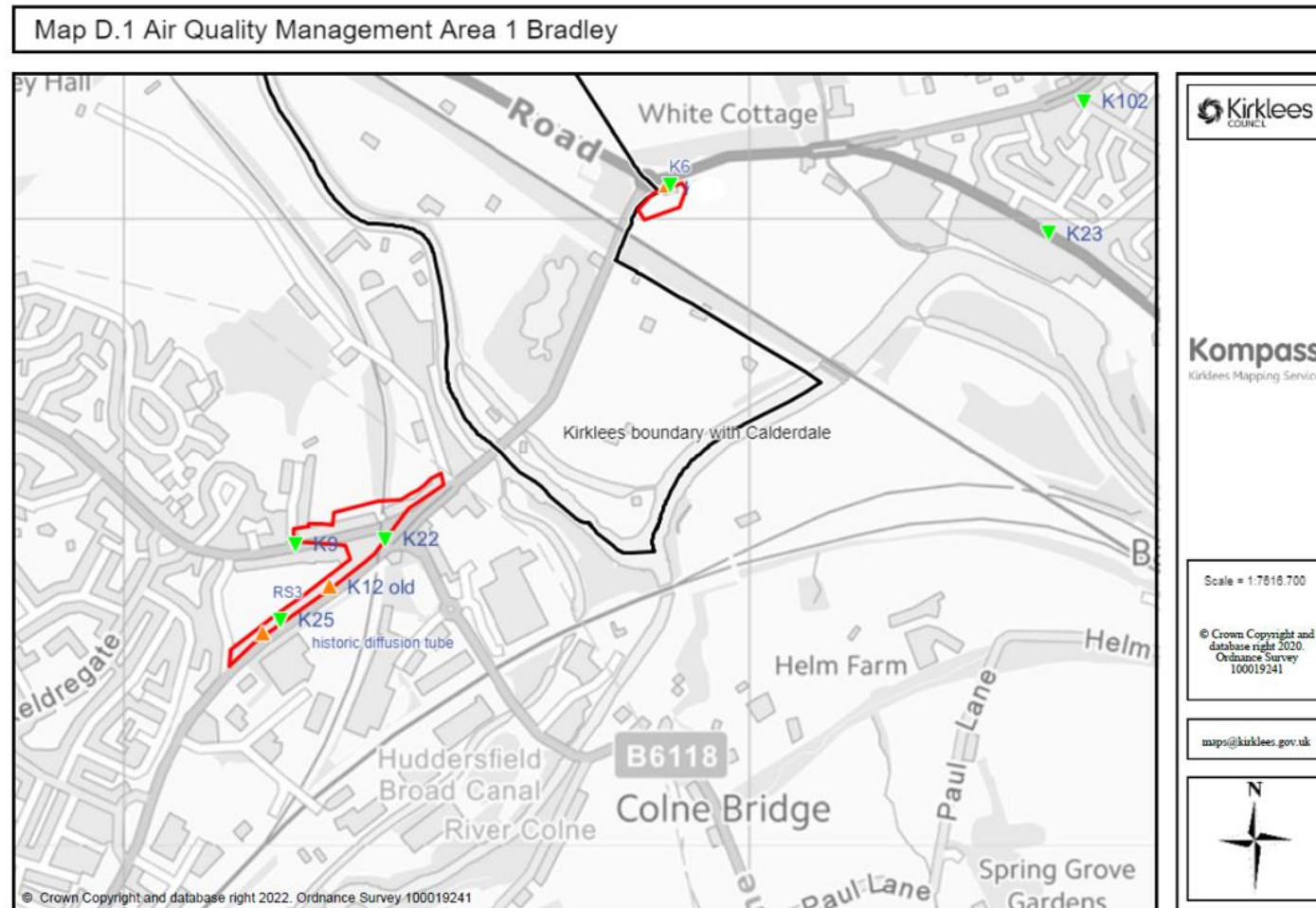
Automatic monitoring annualisation was undertaken for the 2022 Dewsbury Ashworth Grove (CM1) PM₁₀ and PM_{2.5} data and for PM_{2.5} for our CM2 (Bradley) and CM3 (Ainley Top) datasets. These data were annualised against the appropriate 2022 particulate matter data for Leeds Centre, Hull Freetown, York Bootham and Sheffield Devonshire Green AURN urban centre and urban background monitoring stations. Automatic monitoring annualisation was also undertaken for the 2022 NO₂ dataset for our CM3 (Ainley Top) monitoring station. Relevant annual and period monitoring data capture rates can be found in tables A.6, A.7 and A.8. Annualisation was undertaken in accordance with LAQM.TG (22).

NO₂ Fall-off with Distance from the Road

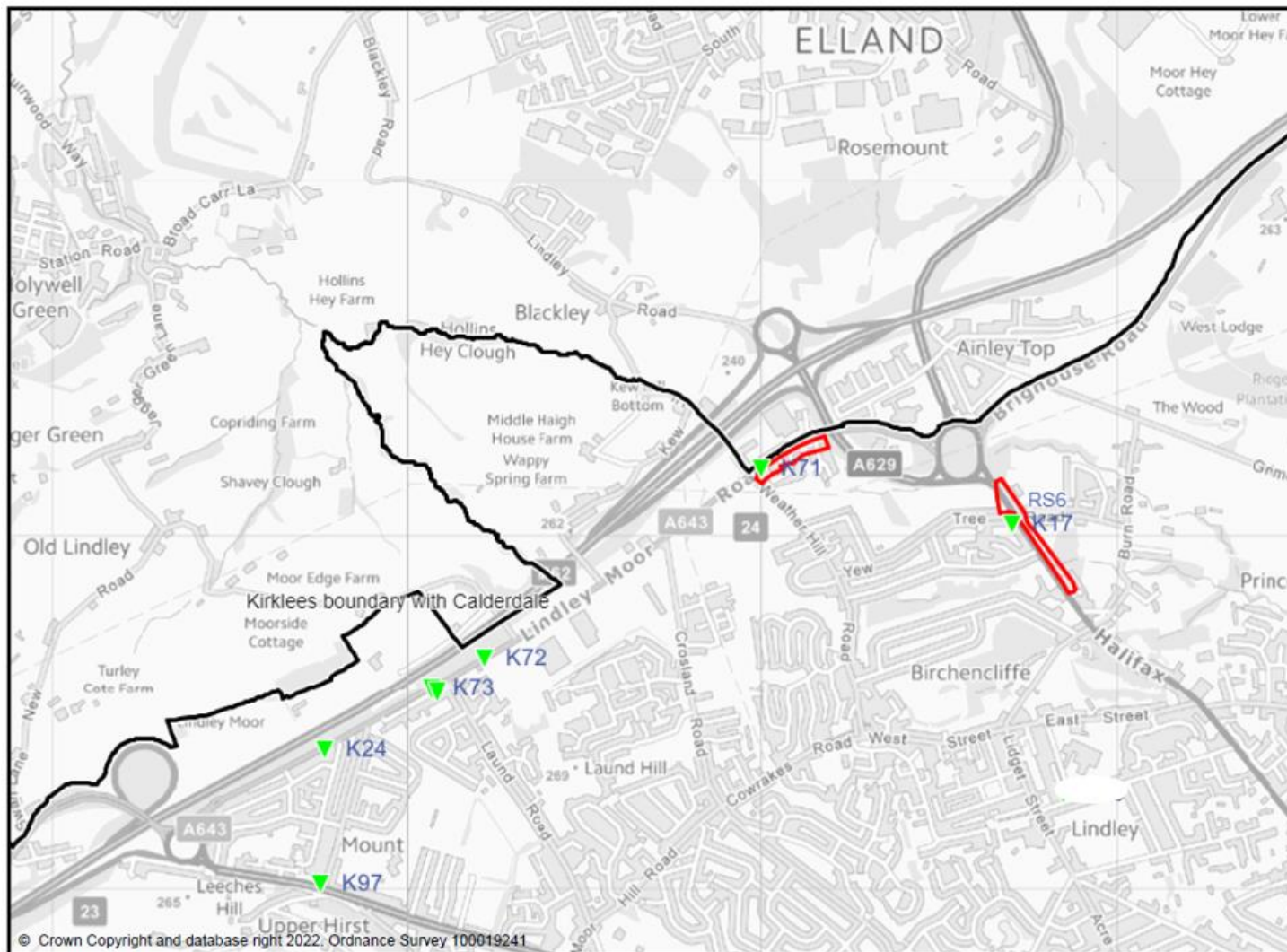
Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

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

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



Map D.2 Air Quality Management Area 3 Ainley Top



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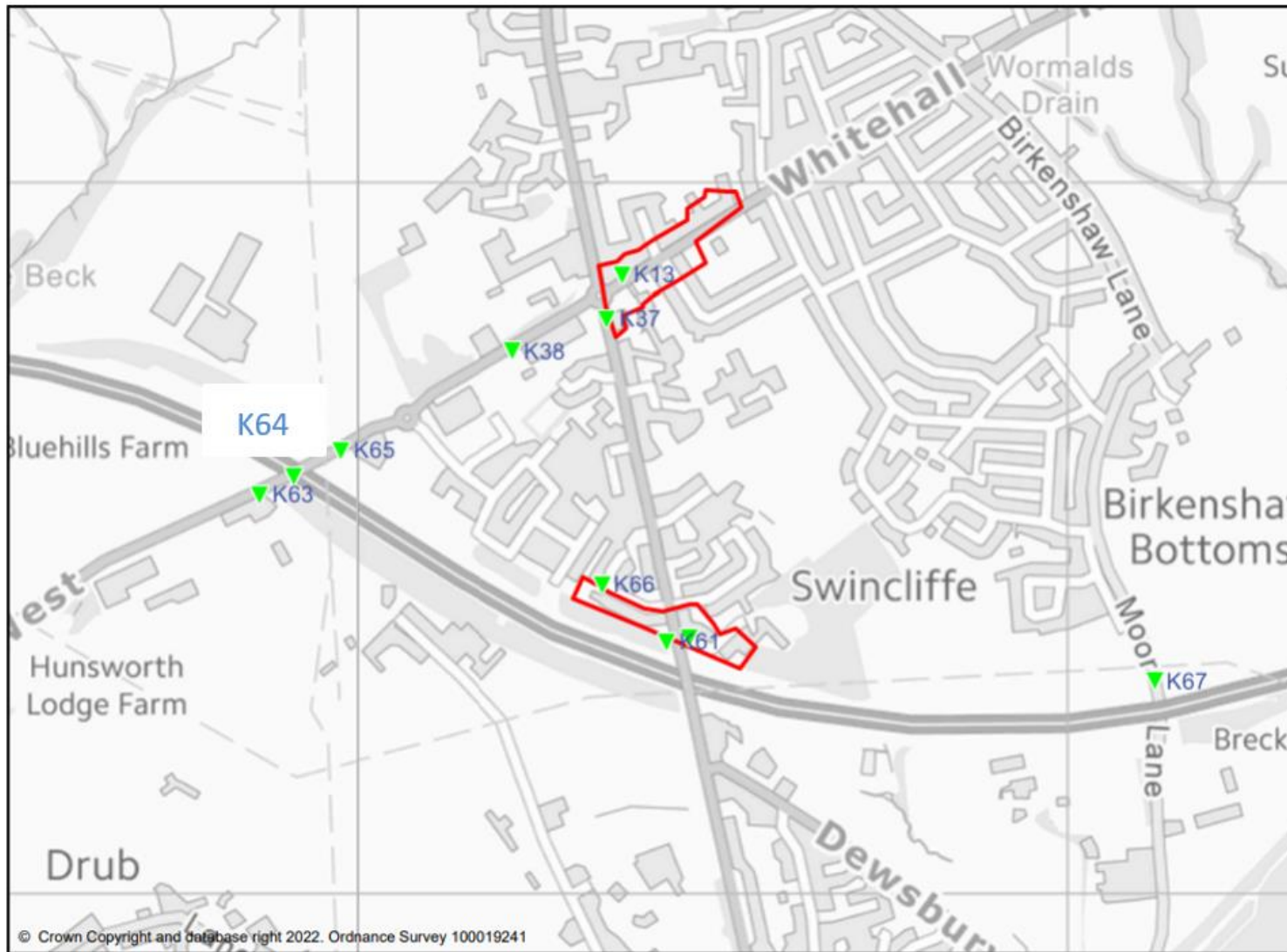
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Map D.3 Air Quality Management Area 4 Birkenshaw

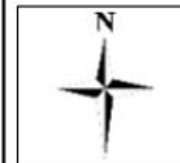


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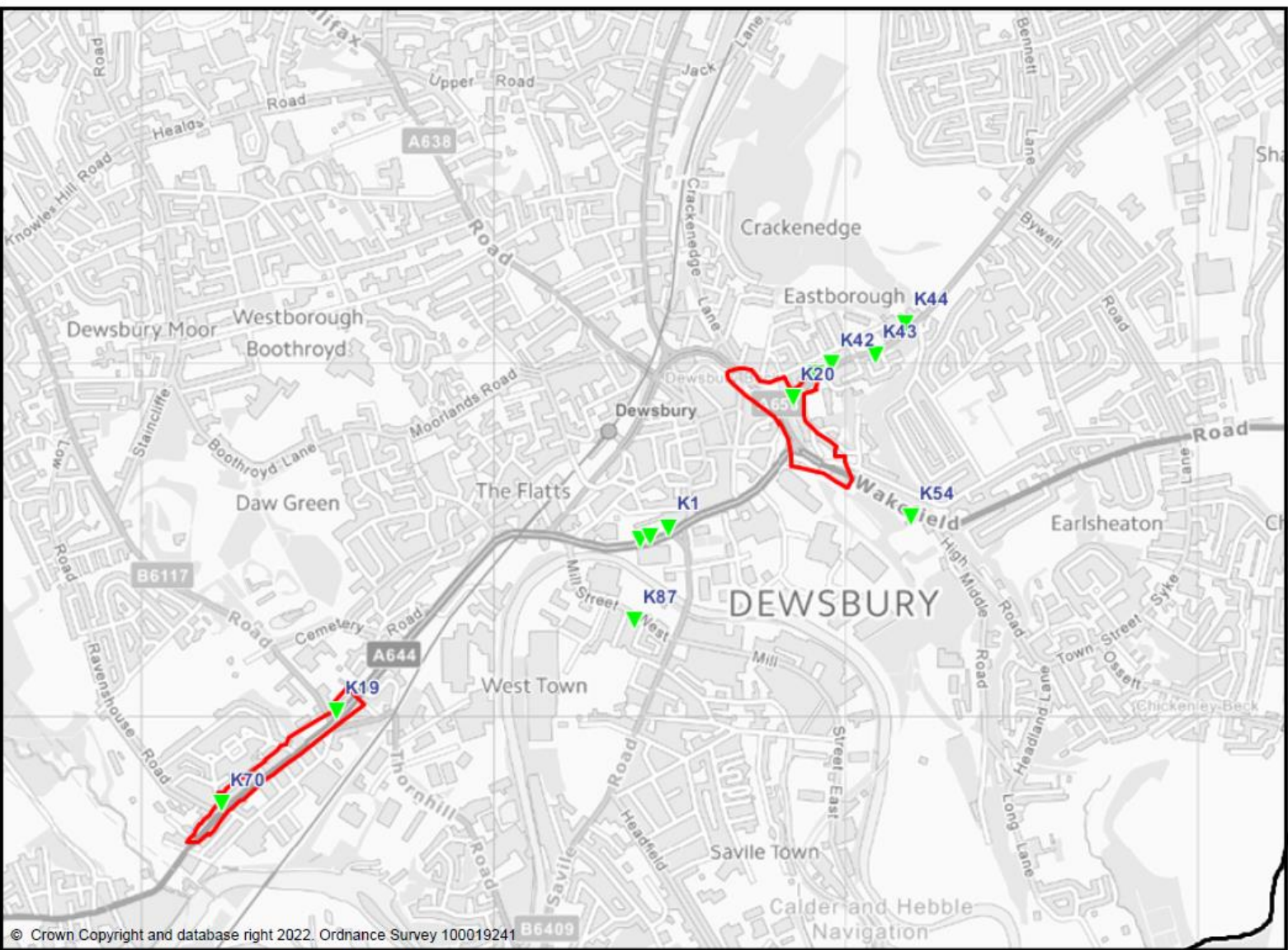
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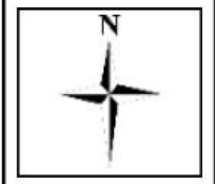
Map D.4 Air Quality Management Area 5 Eastborough



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Kirklees Mapping Service

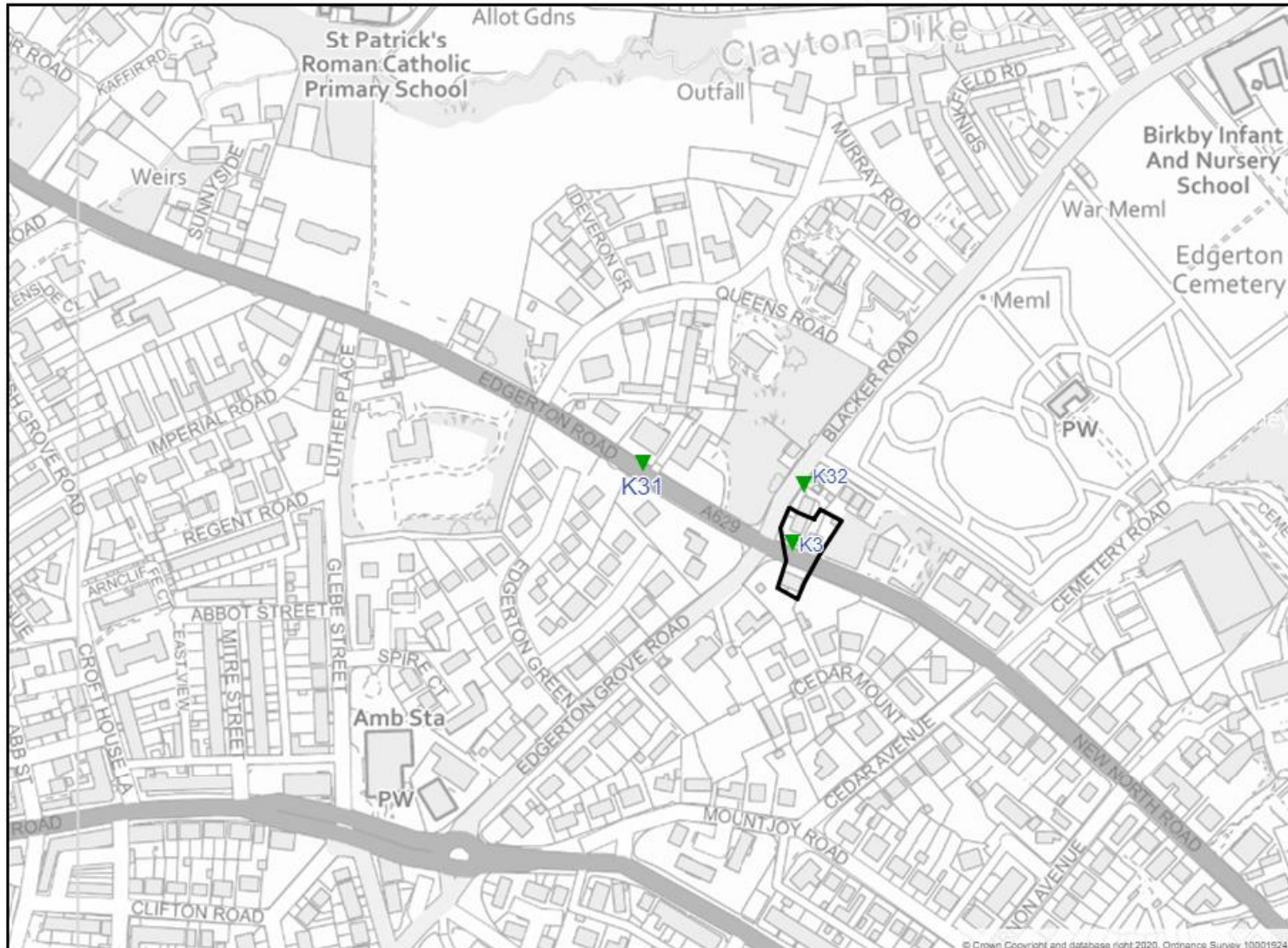
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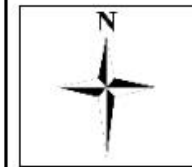
Map D.5 Air Quality Management Area 6 Edgerton



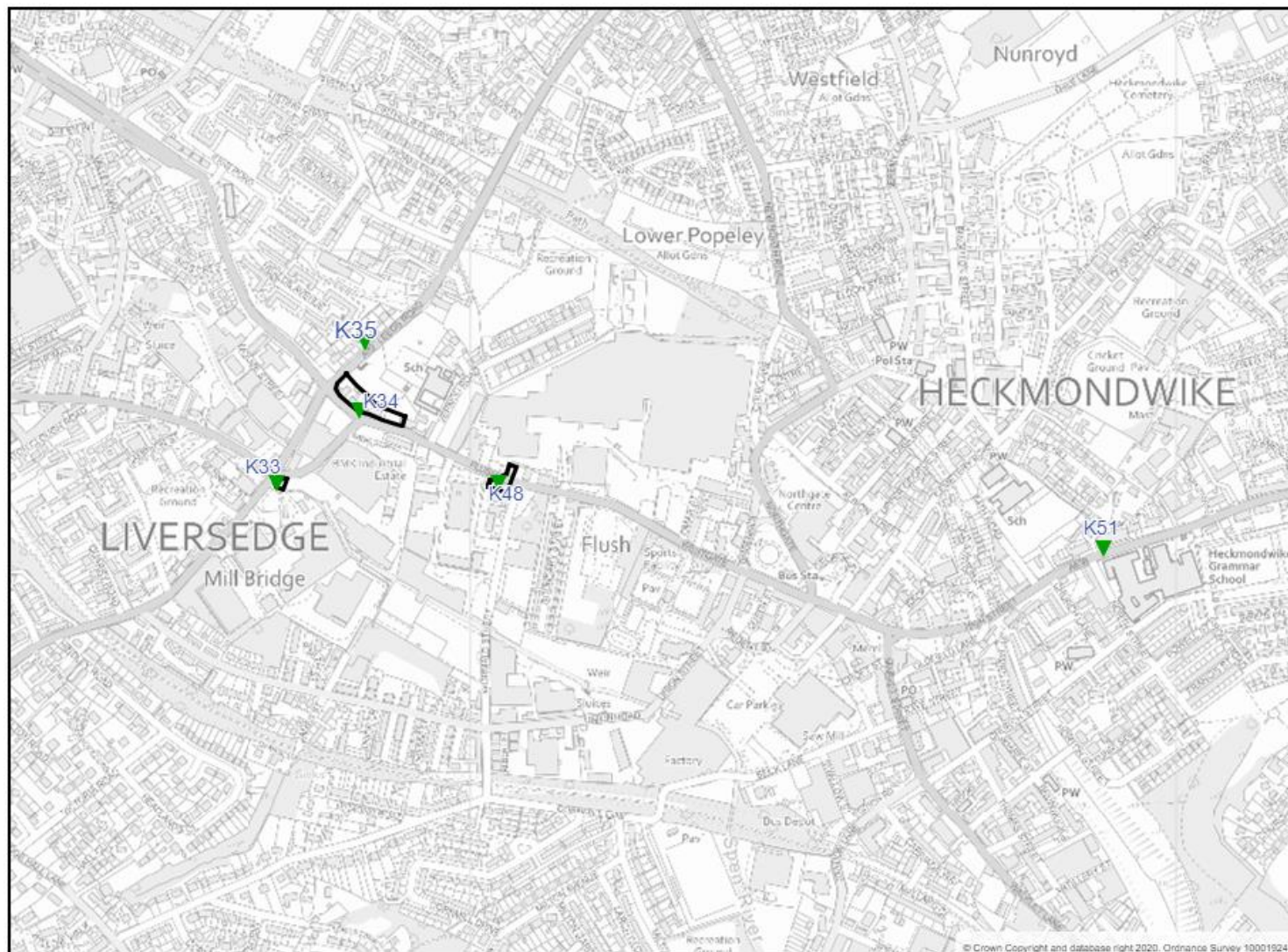
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Map D.6 Air Quality Management Area 7 Liversedge





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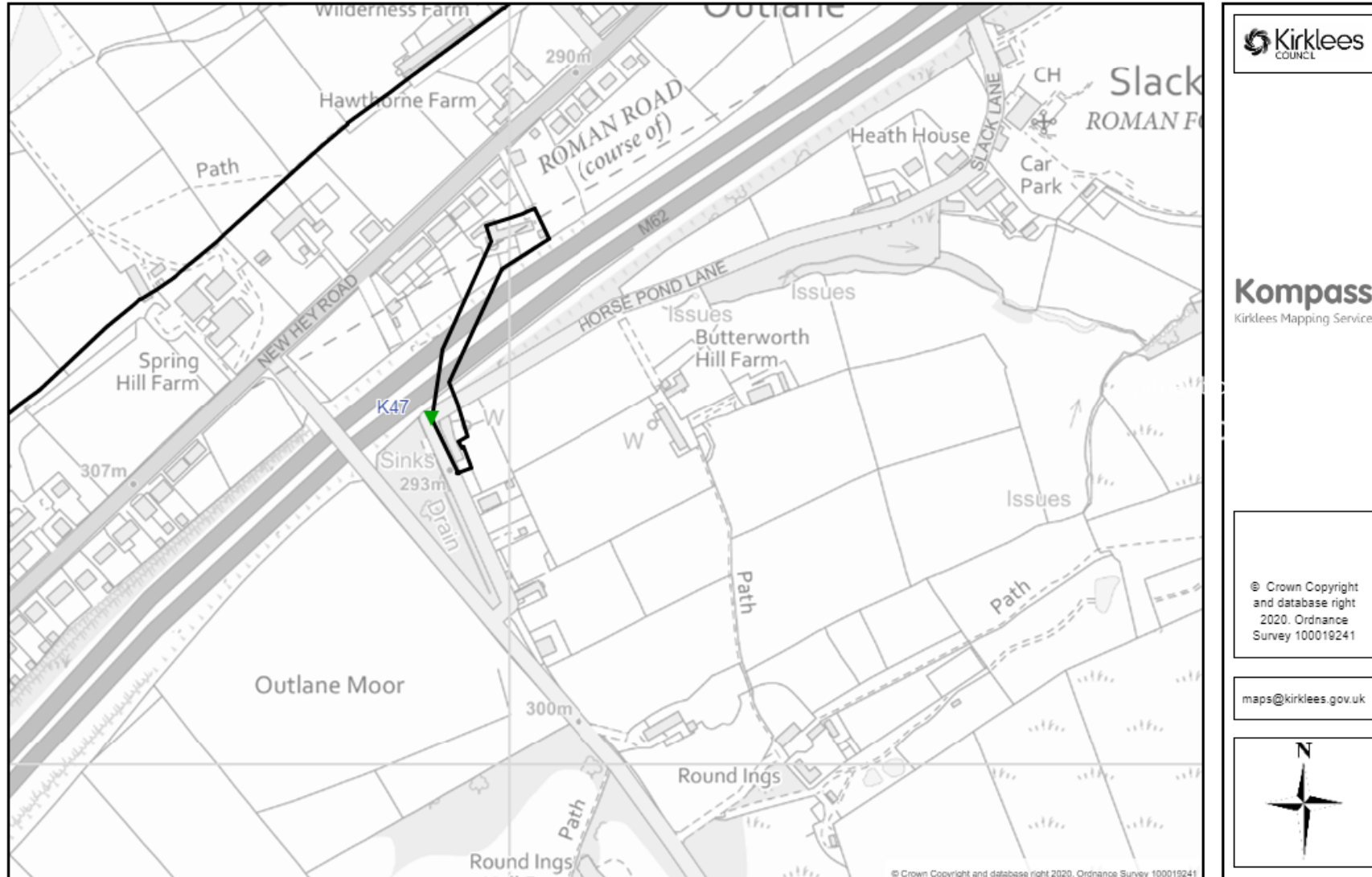
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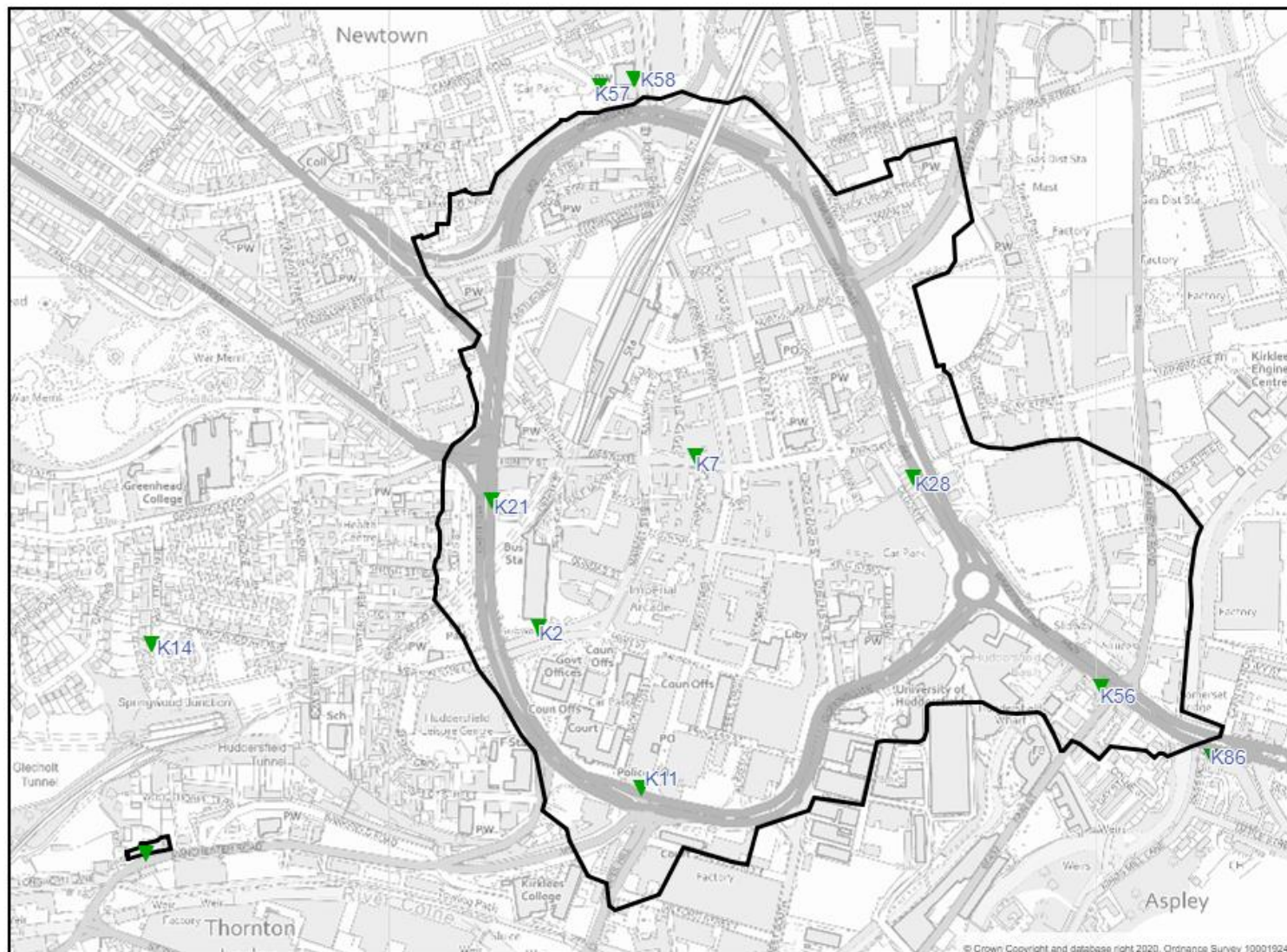
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Map D.7 Air Quality Management Area 8 Outlane



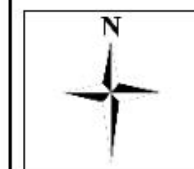
Map D.8 Air Quality Management Area 9 Huddersfield Town Centre



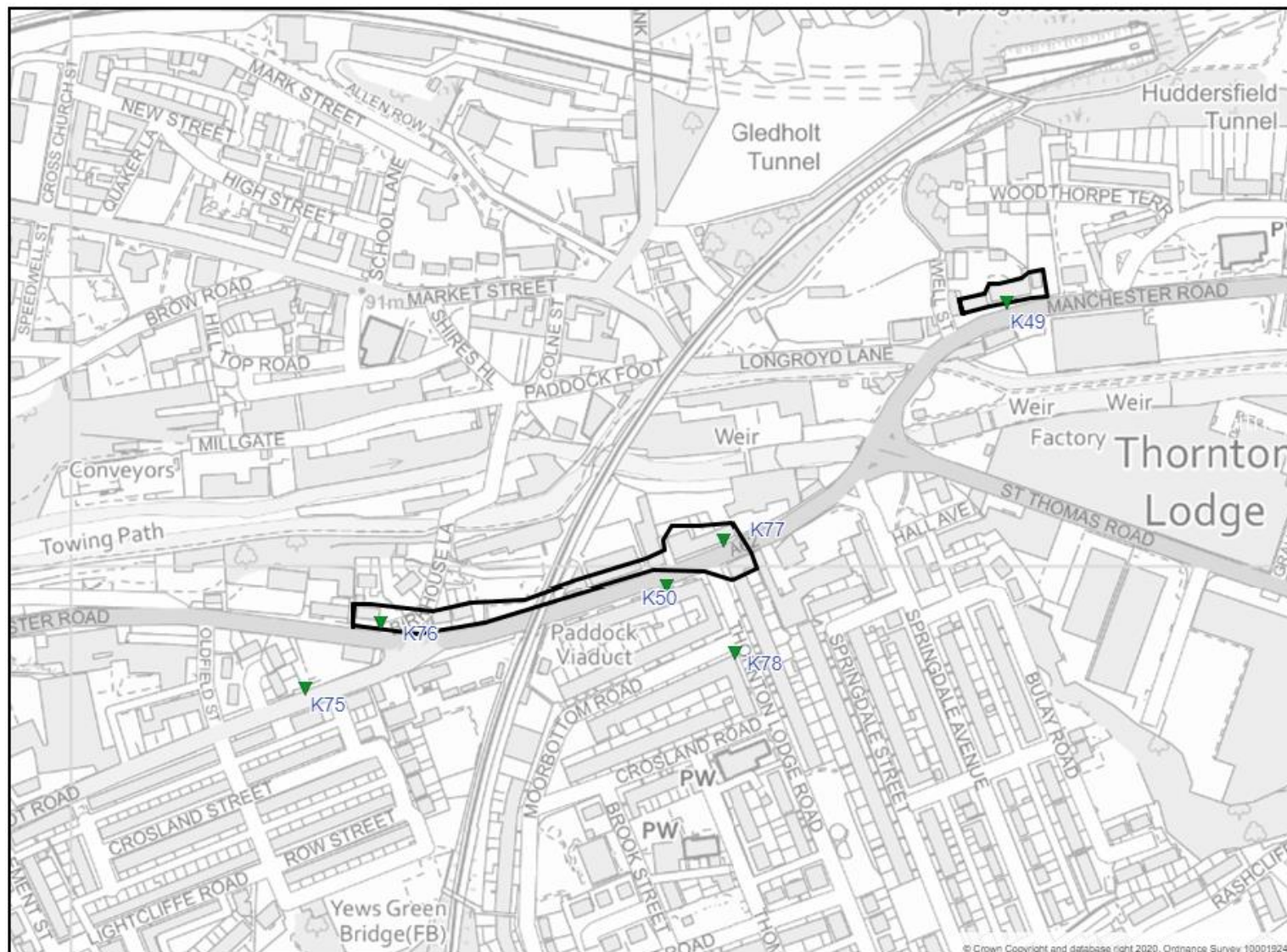
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Map D.9 Air Quality Management Area 10 Thornton Lodge





Kirklees Council

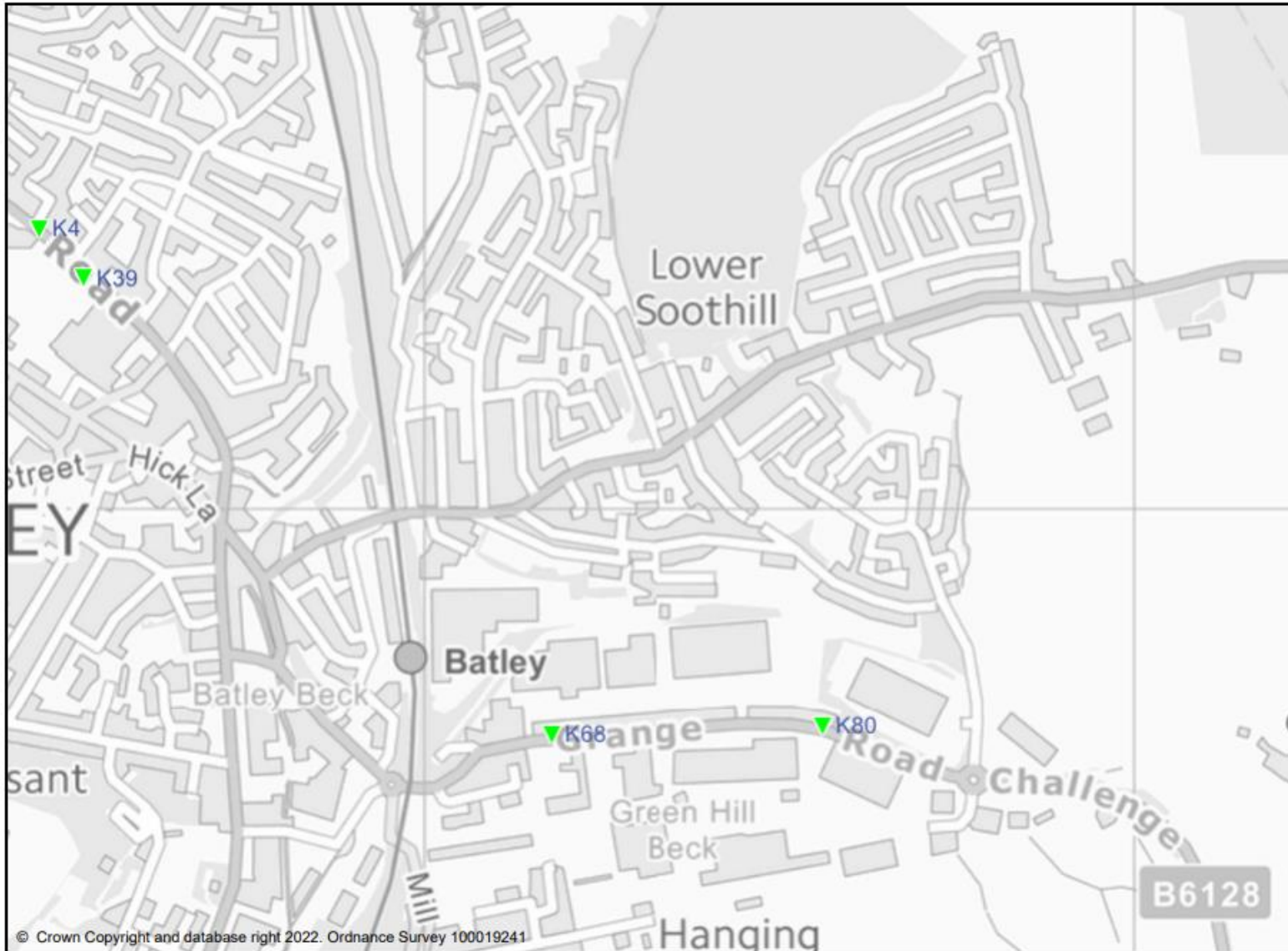
Kompass
Kirklees Mapping Service

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Map D.10 Air Quality Monitoring in Batley



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Map D.11 Air Quality Monitoring in Ravensthorpe / Scouthill (AQMA 2)




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Map D.12 Air Quality Monitoring in Mirfield



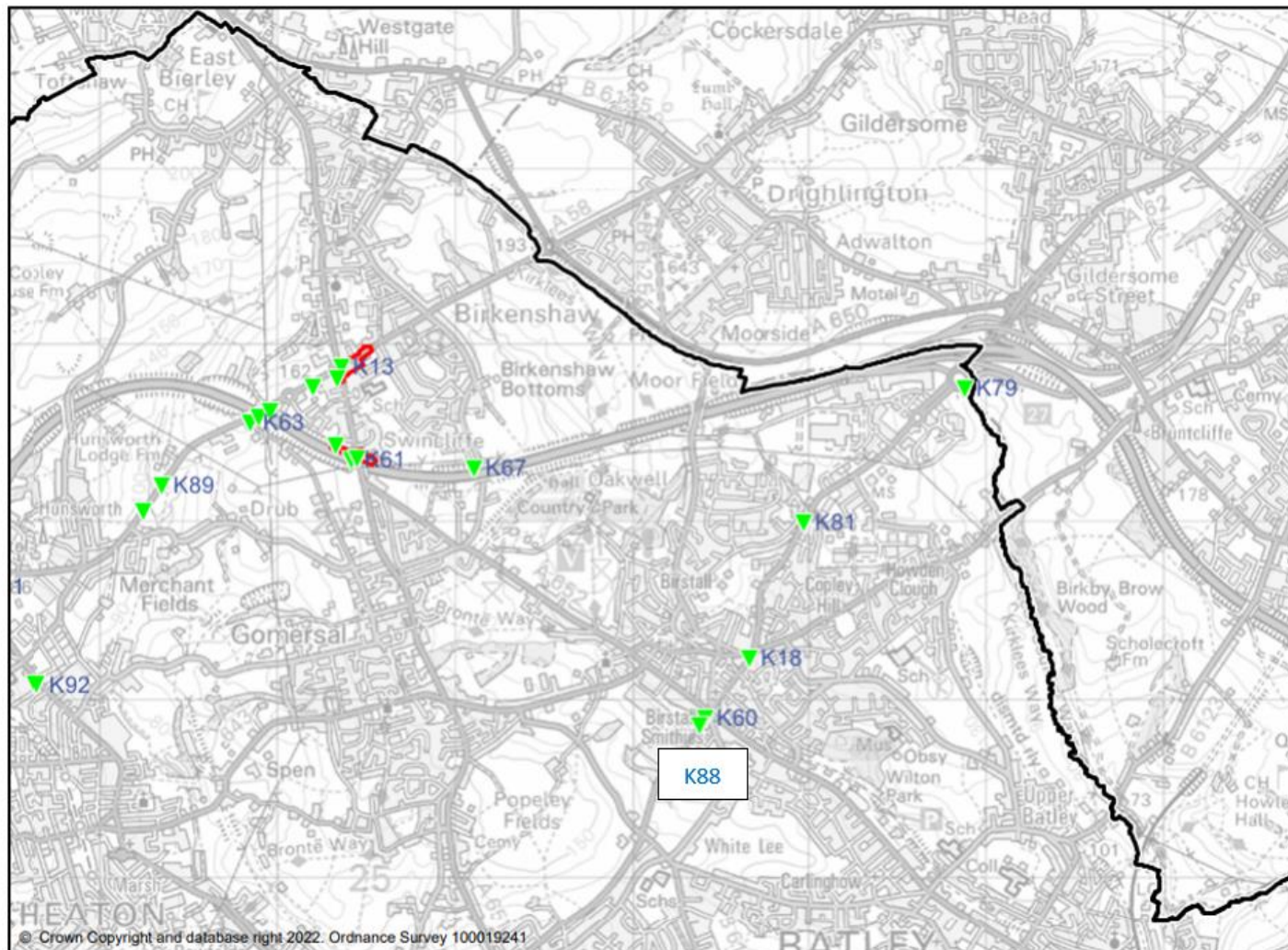
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Map D.13 Air Quality Monitoring in Birstall



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Kirklees Mapping Service

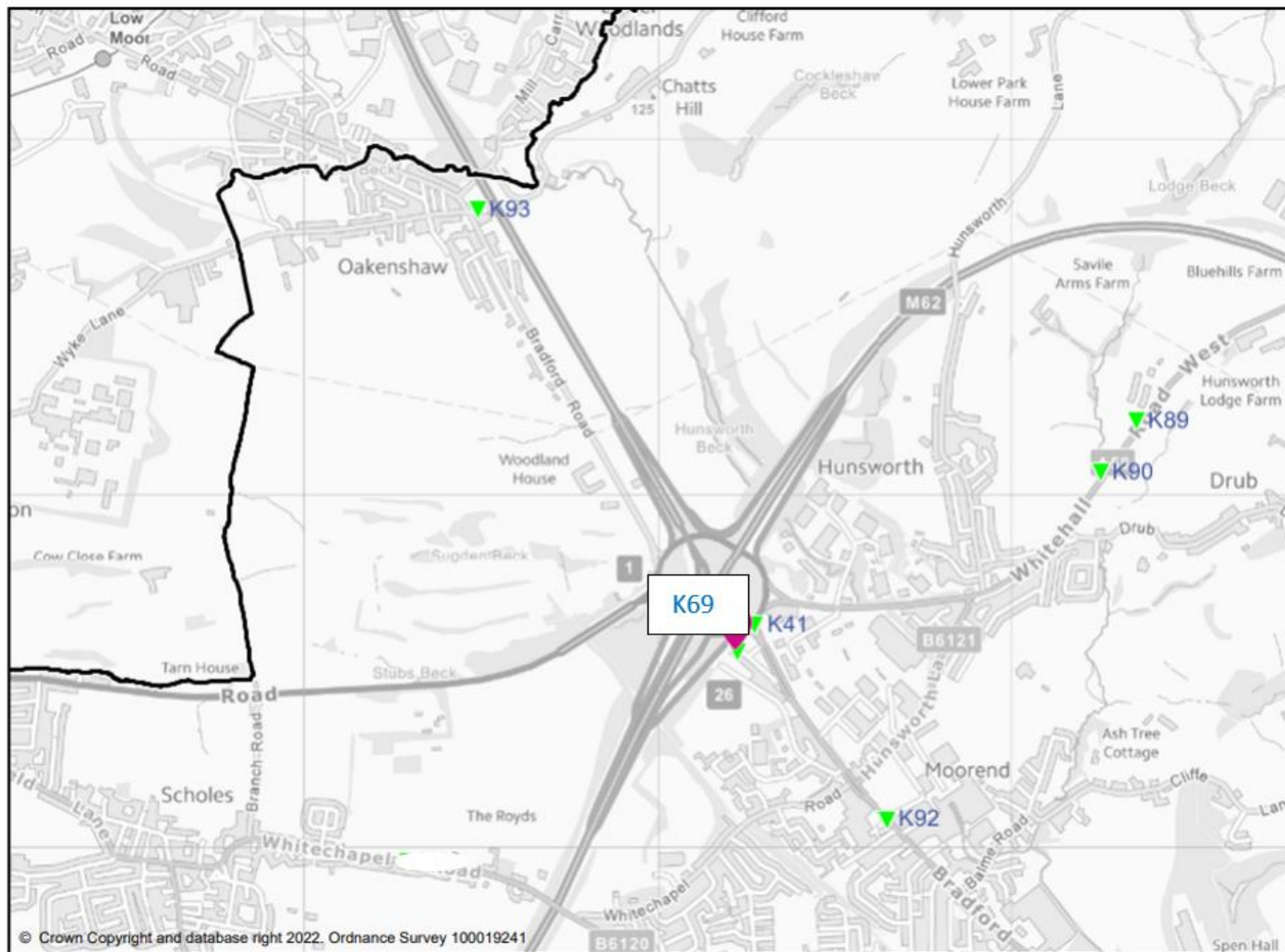
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Map D.14 Air Quality Monitoring in Cleckheaton, Hunsworth & Oakenshaw



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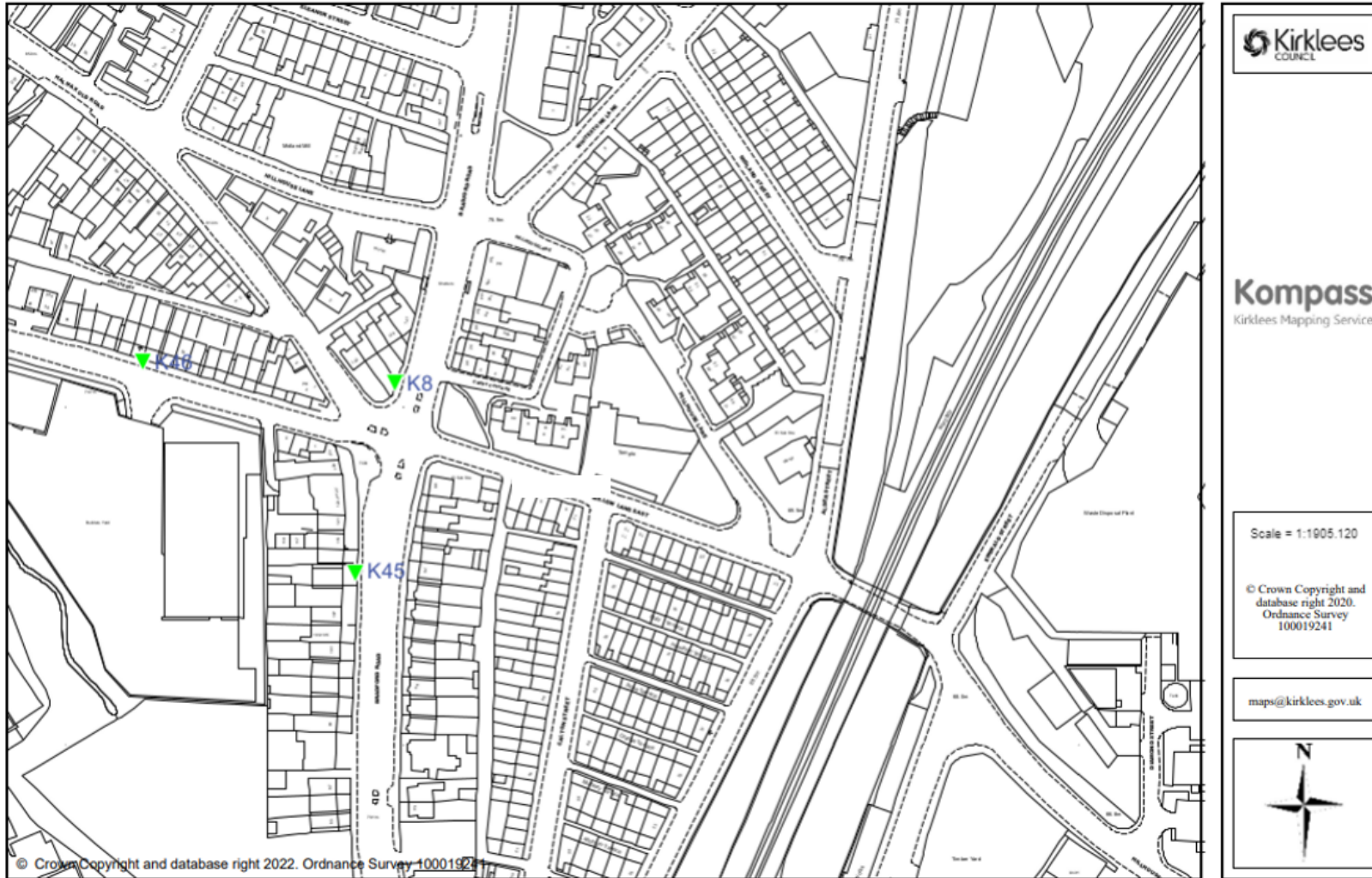
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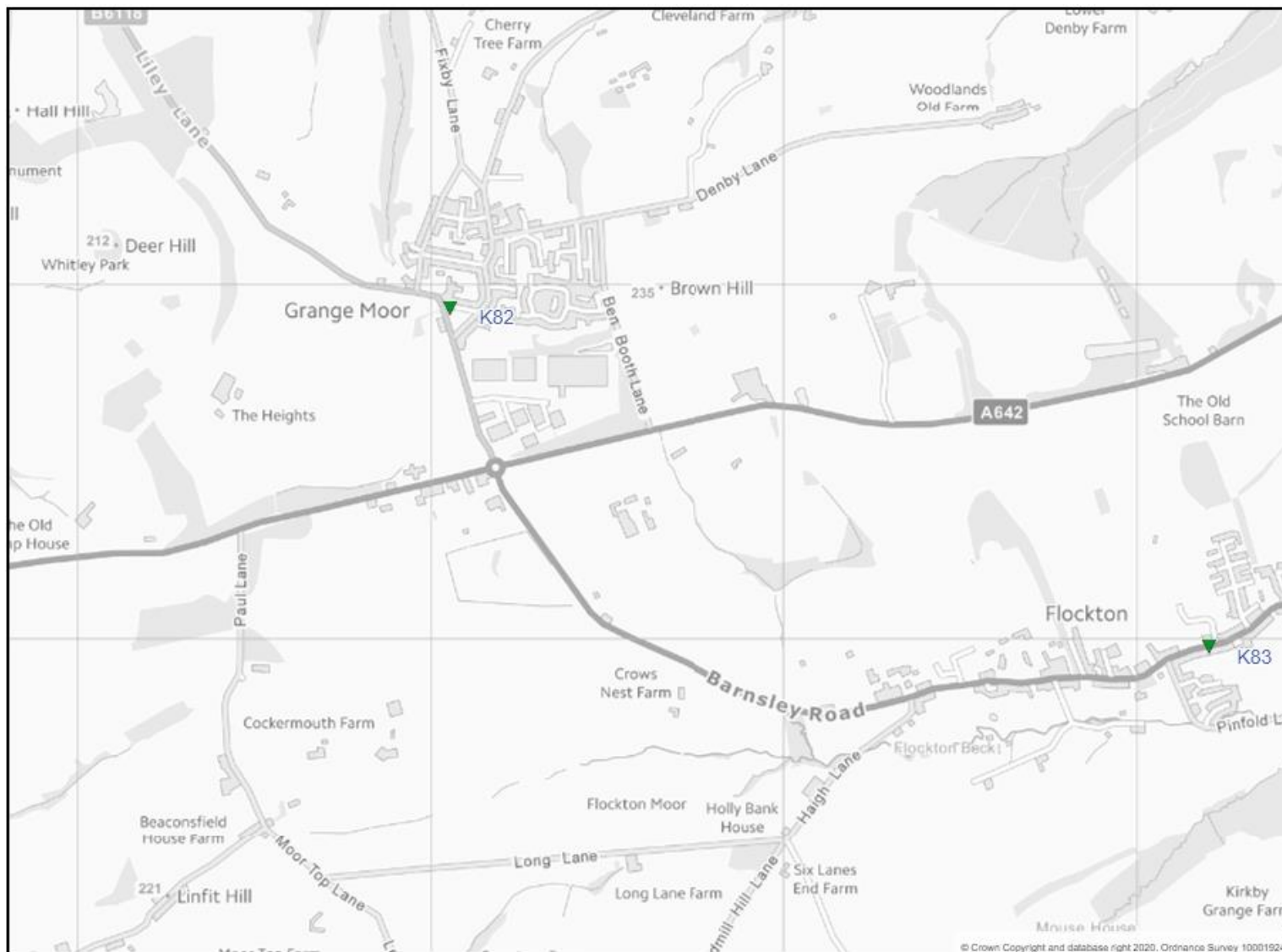
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Map D.15 Air Quality Monitoring in Fartown



Map D.16 Air Quality Monitoring in Grange Moor and Flockton



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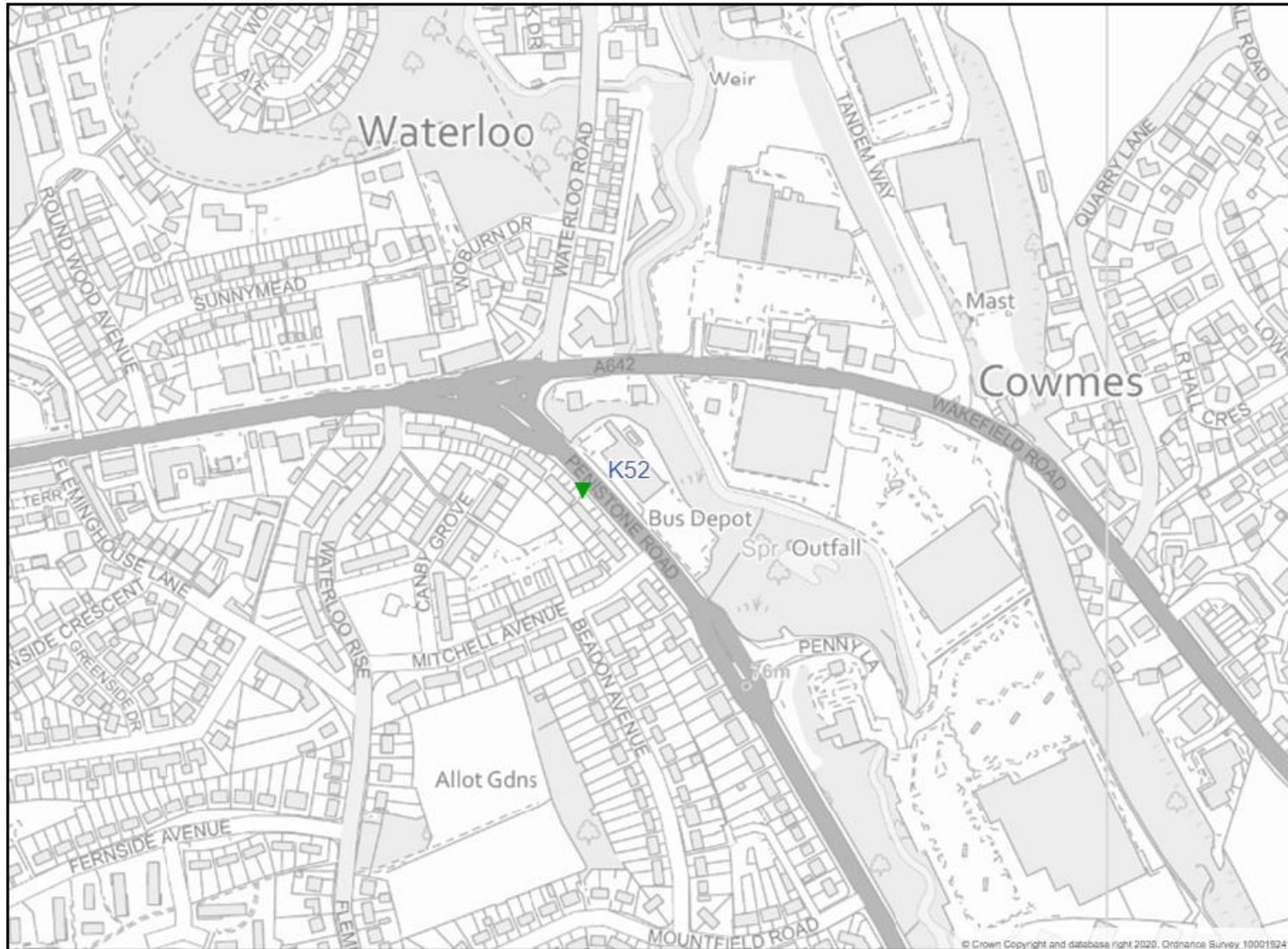
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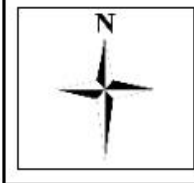
Map D.17 Air Quality Monitoring in Waterloo



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Map D.18 Air Quality Monitoring in Milnsbridge





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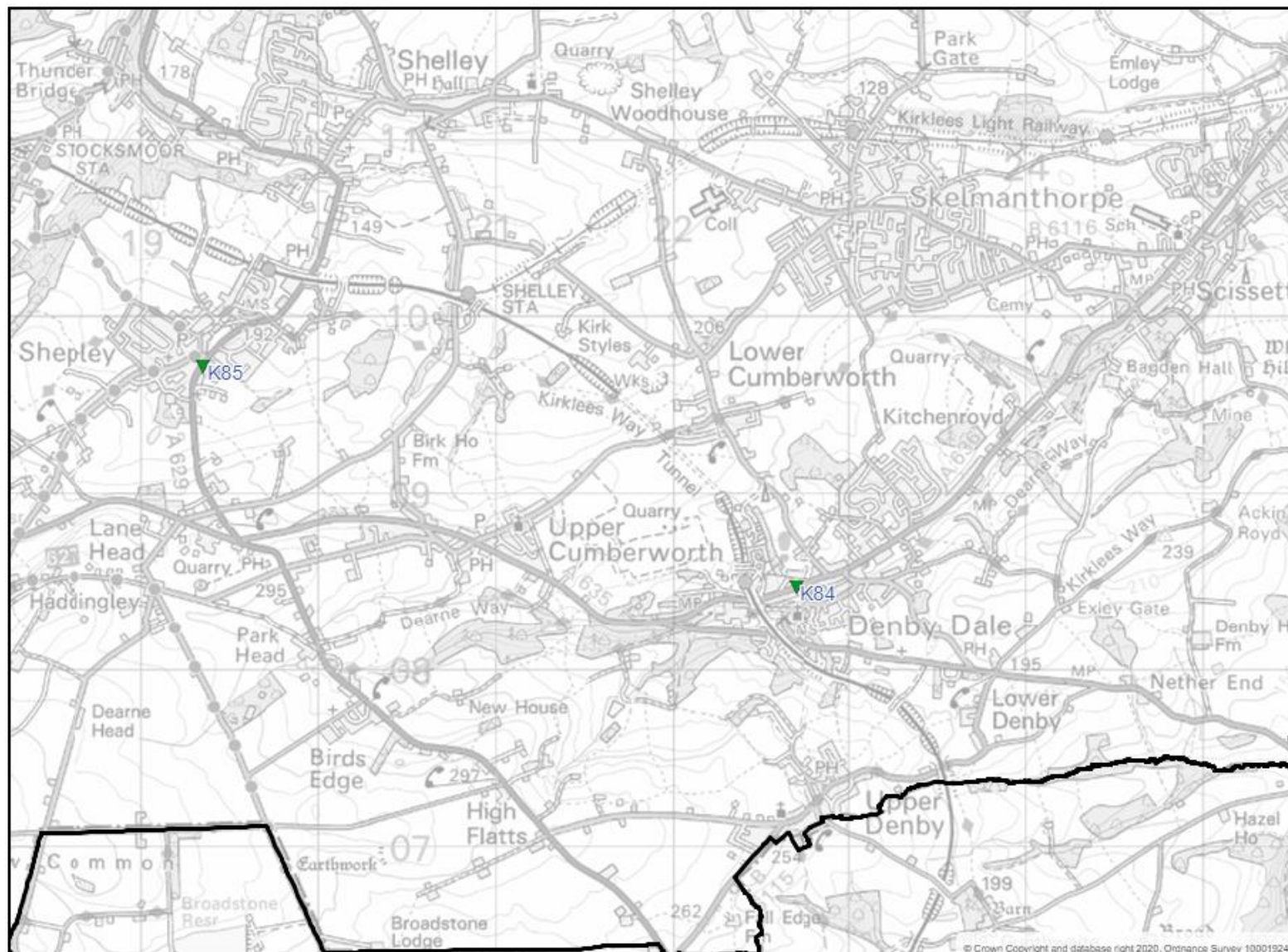
Scale = 15233.4


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Map D.19 Air Quality Monitoring in Shepley and Denby Dale






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Map D.20 Air Quality Monitoring in Holmfirth



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Map D.21 Air Quality Monitoring in Shaw Cross



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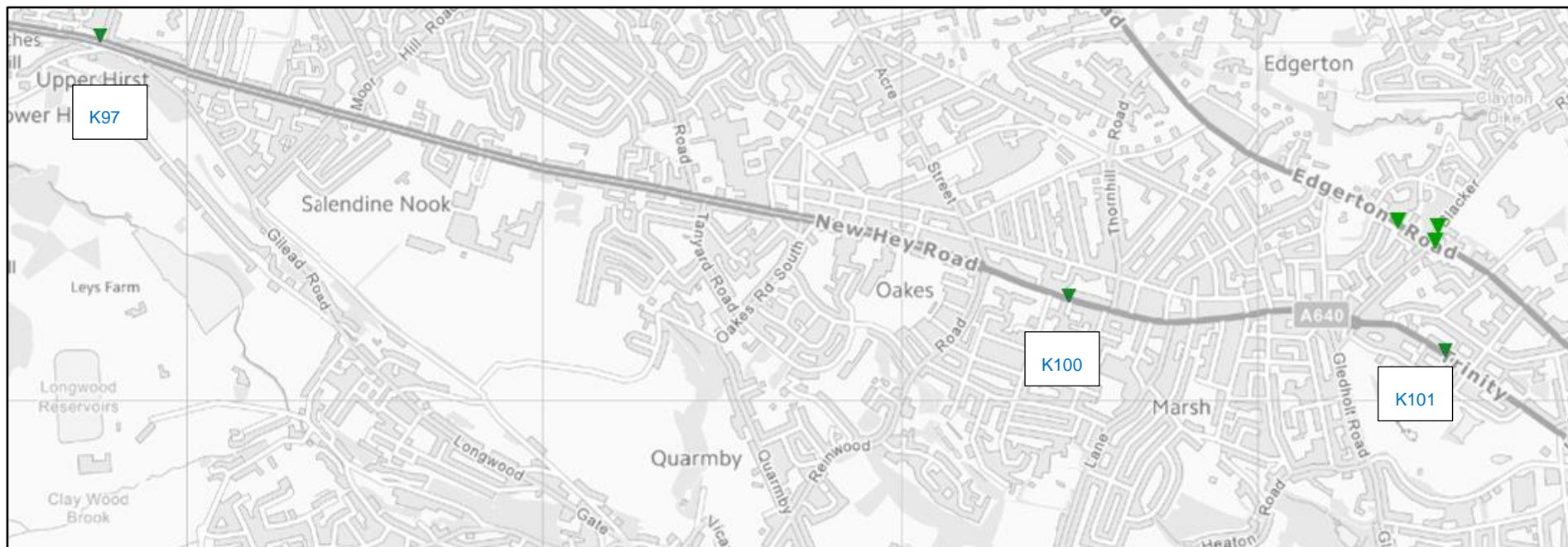
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Map D.22 Air Quality Monitoring in Oakes & Marsh



Map D.23 Air Quality Monitoring in Bradley



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England¹⁷

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

¹⁷ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Appendix F: Table 2.2, Key Performance Indicators

Measure No	Measure	Key Performance Indicator
G.1	Adoption of the West Yorkshire Low Emissions Strategy (WYLES)	<p>Kirklees Council Target; +Conclusions of WYLES benchmarking project demonstrating full compliance with WYLES Objectives</p> <p>Kirklees Council Target; Delivery of key WYLES objectives; Obj 2. Age of vehicles in bus fleet measured by; +Change in bus fleet composition towards newer Euro Cat Vehicles</p> <p>Obj 3. Electric Vehicle Uptake Measured by increase in the; +Number of newly registered E.V vehicles within Kirklees +Number of E.V's using charging Infrastructure +Number of Green Parking Permits issues within district</p> <p>Obj 4. ECO-Stars Freight Recognition Scheme Measured by increase in; +Number of operators signed up within the district +Number of fleet vehicles included in the scheme +Number of Operators improving their ECO-Star scores after re-visits</p> <p>Obj 6. Taxi Fleet Improvements measured by; +increase in the number of licensed Hybrid / ULEV vehicles +reduction in the age of the vehicles licensed +reduction in number of diesel vehicles licensed</p>
G.2	Kirklees Council - workplace Active travel	<p>West Yorkshire Target: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030</p> <p>Kirklees Council Measurable: +Number of employees using sustainable travel modes to commute to work.</p>
G.3	Kirklees Sustainable Travel to School Strategy	<p>West Yorkshire Target: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026 Kirklees Council Targets: +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030</p> <p>Kirklees Council Measurable:</p>

Measure No	Measure	Key Performance Indicator
		+Number of employees using sustainable travel modes to commute to work.
G.4	Bike-ability training provided to school children	Kirklees Council Targets: +Increase cycling travel mode by 300% between 2018 baseline and 2030 Kirklees Council Measurable: + Number of children participating in scheme
G.5	City Cycle Grant	Kirklees Council Targets: + Continued use of the scheme, measured by grant uptake +Contributes to the wider target to increase cycling travel mode by 300% between 2018 baseline and 2030 Kirklees Council Measurable: + Number of grant applications
G.6	Green Parking Permit allowing free parking for ULEV Vehicles within Council owned car parks.	Kirklees Council Targets: +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. Kirklees Measurable: + Number of ULEV vehicles registered within Kirklees District
G.7	Service level agreements across West Yorkshire for ULEV Parking permits to allow free parking across the region	Kirklees Council Targets: +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. Kirklees Measurable: + Number of ULEV vehicles registered within Kirklees District
G.8	City Car Club ran within Kirklees district	Kirklees Council Measurables; + Number of members within the scheme + Number of car trips for Kirklees based cars

Measure No	Measure	Key Performance Indicator
G.9	Finance & Promote Car Sharing Website	<p>Kirklees Council Targets: + Increased membership on scheme + Increase number of car shares on system</p> <p>Kirklees Council Measurables; + Number of members on the website + Number of users car sharing</p>
G.10	E.V Fleet Feasibility Study for council fleet	<p>Kirklees Council Targets: +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. + Implementation of further recommendation from study upon completion</p> <p>Kirklees Council Measurables; + Minimum of 27 diesel vehicles to be replaced by 2021 +Number of E.V vehicles within the council fleet</p>
G.11	Conversion of applicable council fleet to electric vehicles	<p>Kirklees Council Targets: +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. + Implementation of further recommendation from study upon completion</p> <p>Kirklees Council Measurables; + Initial replacement of 27 diesel vehicles with E.V's by 2021</p>
G.12	Kirklees Bike to Work Scheme	<p>Kirklees Council Targets: + Continued use of the scheme, measured by grant uptake +Contributes to the wider target to increase cycling travel mode by 300% between 2018 bassline and 2030</p> <p>Kirklees Council Measurable: + Number of grant applications</p>
G.13	Update Kirklees Air Quality Strategy	<p>Kirklees Council Measurable: + Adoption of new 5 year Action Plan</p>
G.14	Assess planning applications in accordance with procedures in the WYLES Planning Guidance Document and require the relevant mitigation included on development	<p>Kirklees Council Targets: +Assess all planning applications in accordance with WYLES Planning Guidance Document + Require developers to integrate air quality mitigation into developments according to size of building project</p> <p>Kirklees Council Measurables; + Number of E.V chargers installed within new developments +Section 106 contributions</p>

Measure No	Measure	Key Performance Indicator
G.15	Create a Green Procurement Toolkit	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Integrate Air Quality as a consideration on all procurement exercises across Council + Creation of a Green Procurement Toolkit + Once created, number of procurement exercises assessed against the green procurement toolkit
G.16	Subsidised Bus/Rail Card for Kirklees Council Staff	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Increase in the number of short journeys using public transport + Reduction in number of low mileage journeys for grey & council fleet <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Number of Bus/Rail Card applications + Number of bookings of the company railcards + Number of trips taken in grey fleet or fleet vehicles that are 1mile or less
G.17	Kirklees Policy on Employee Transport (Employee Handbook)	<ul style="list-style-type: none"> + Contribute to increase in the number of short journeys using public transport + Contribute to the reduction in number of low mileage journeys for grey & council fleet + Reduce grey fleet mileage + Increase ULEV Council Fleet Mileage year on year from baseline year 2020 <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> + Number of grey fleet miles + Number of Fleet vehicle miles + Number of trips taken using bus/rail cards
G.18	Retro-fitting Applicable vehicles within the Bus Fleet with Emissions Abatement Equipment	<p>West Yorkshire Target;</p> <ul style="list-style-type: none"> + 300 Buses Retrofitted with Exhaust abatement technology by Dec 2019 <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> + Number of buses Retro-fitted
G.19	Electric Vehicle Strategy	<p>Kirklees Council Target;</p> <ul style="list-style-type: none"> + Creation of an Electric Vehicle Strategy for the District by Dec 2020 + Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year inline with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Creation and adoption of Electric Vehicle Charging Strategy

Measure No	Measure	Key Performance Indicator
G.20	West Yorkshire ECO-Stars Scheme	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Year 2 target to get 30 new member for the West Yorkshire Scheme + Year 2 target to re-assess 50% of year 1 members (25 re-assessments) <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> +Number of operators signed up within the district +Number of fleet vehicles included in the scheme +Number of Operators improving their ECO-Star scores after re-visits
G.21	West Yorkshire Electric Vehicle Taxi Scheme	<p>Kirklees Council Target;</p> <ul style="list-style-type: none"> +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. + Implementation of further recommendation from study upon completion+increase in the number of licensed Hybrid / ULEV vehicles+reduction in the age of the vehicles licensed +reduction in number of diesel vehicles licensed+ increase E.V Taxi charger network usage year on year <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> +Installation of 17 Rapid Chargers within Kirklees District by March 2020 + Number of licensed Hybrid / ULEV vehicles +Number of vehicles 8 years or older

Measure No	Measure	Key Performance Indicator
G.22	West Yorkshire Low Emission Strategy Officer	<p>Kirklees Council Target; +Conclusions of WYLES benchmarking project demonstrating full compliance with WYLES Objectives</p> <p>Kirklees Council Target; Delivery of key WYLES objectives; Obj 2. Age of vehicles in bus fleet Measured by; +Change in bus fleet composition towards newer Euro Cat Vehicles</p> <p>Obj 3. Electric Vehicle Uptake Measured by increase in the; +Number of newly registered E.V vehicles within Kirklees +Number of E.V's using charging Infrastructure +Number of Green Parking Permits issues within district</p> <p>Obj 4. ECO-Stars Freight Recognition Scheme Measured by increase in; +Number of operators signed up within the district +Number of fleet vehicles included in the scheme +Number of Operators improving their ECO-Star scores after re-visits</p> <p>Obj 6. Taxi Fleet Improvements Measured by; +increase in the number of licensed Hybrid / ULEV vehicles+reduction in the age of the vehicles licensed+reduction in number of diesel vehicles licensed</p>
G.23	Joint Strategic Assessment for Air Quality	<p>Kirklees Council Target; +Continued partnership working between Public Health and Environmental Health + Contribute to the delivery of work streams outlined in KJSA</p> <p>Kirklees Council Measurables; + Adoption of the Strategy</p>
G.24	Corporate Carbon Reduction Targets	<p>Kirklees Council Target; + Reduction of 15,214t CO2 by 2021</p> <p>Kirklees Council Measurables; + Tonnes of CO2 reduction per year</p>
G.25	West Yorkshire Energy Accelerator Project	<p>West Yorkshire Target; + Estimated 590kt CO2 reduction focusing on high emission industrial sector</p> <p>Kirklees Council Measurables; + Tonnes of CO2 reduction per year</p>

Measure No	Measure	Key Performance Indicator
G.26	Air Quality to be included in a relevant Supplementary Planning Guidance Document	<p>Kirklees Council Targets: +Assess all planning applications in accordance with WYLES Planning Guidance Document + Require developers to integrate air quality mitigation into developments according to size of building project</p> <p>Kirklees Council Measurables; + Number of E.V chargers installed within new developments +Section 106 contributions</p>
G.27	Trialling Hybrid and E.V Bin Wagon	<p>Kirklees Council Target; + Determine the savings / issues around ULEV Bin Wagons +Promote findings within industry</p> <p>Kirklees Council Measurables; + Report on trial impacts</p>
G.28	Feasibility Study on use of E.V Mobile Maintenance Equipment	<p>Kirklees Council Target; + Determine cost savings of E.V M.M.E + Replace appropriate M.M.E with E.V equivalent +Promote findings within industry</p> <p>Kirklees Council Measurables; + Construction of a report outlining viability of E.V M.M.E's + Number of M.M.E's replaced with E.V alternatives.</p>
G.29	Feasibility of delivery of Council Officer Car Lease Scheme and delivery (limiting the available options by emission output)	<p>Kirklees Council Target; + Determine the viability of a Council Officer Lease Scheme with built in ULEV promotionScheme aim is to contribute to; +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets.</p> <p>Kirklees Council's Measurables; + Number of ULEV Car Leases</p>
G.30	Grey Fleet Telematics Trial	<p>Kirklees Council Targets: +Reduce number of grey fleet miles for the council year on year. Baseline year is year prior to introduction of telematics system +Contribute to increase in the number of short journeys using public transport + Reduce grey fleet mileage+ Increase ULEV Council Fleet Mileage year on year from baseline year 2020</p> <p>Kirklees Council Measurables; + Number of vehicle miles + Number of grey mile trips + Number of service car trips</p>

Measure No	Measure	Key Performance Indicator
G.31	Master naught Telematics System	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> +Reduction in number of Driver accidents year on year +Reduction in number of speeding / unsafe driving reports year on year +Identify appropriate targeted driver training for safe and eco driving <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> + Number of speeding exceedances +Number of heavy breaking events
G.32	Pool Bike Feasibility Study	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> +Assess pool bike usage +Determine barriers of pool bike system +Promote pool bikes <p>+ Contributes to the reduction in number of low mileage journeys for grey & council fleet</p> <p>+Contributes to the wider target to increase cycling travel mode by 300% between 2018 baseline and 2030</p> <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> + Number of pool bike bookings +Number of miles undertaken on pool bike
G.33	Robust Travel Survey to determine better travel plans internally	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Increase the number of completed travel surveys year on year +Collect relevant data to assists with decision making process <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> + Number of Travel Survey responses + Yearly report on results of travel survey
G.34	Installation of pollution sensor technology within our AQMA's in conjunction with recognised monitoring to demonstrate validity of new devices	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Create a report analysing the validity of sensor technology +Analyse cost effectiveness of sensors when measured against existing monitoring tools +Improve accuracy of current AQ monitoring network <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> + Report outlining the issues relating to Sensor Technology
G.35	Engagement within the district with regional plans on alternative Low Emission Fuel Sources	<p>West Yorkshire Target;</p> <ul style="list-style-type: none"> + Contribute towards regional low emission fuel source projects currently in development
G.36	Review how Environmental Health delivers regulatory requirements of the Clean Air Act	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Reduce number of burning / smoking chimney complaints+Increased business engagement +Integrate new Clean Air Act into Kirklees Council work procedures <p>Kirklees Council Measurables;</p> <ul style="list-style-type: none"> + Number of complaints Smoking Chimney Complaints to Environmental Health

Measure No	Measure	Key Performance Indicator
G.37	Implementation of the Medium Combustion Plant Directive through the planning process	<p>Kirklees Council Target; + All plant meeting directive to be registered with relevant authority + Signpost relevant businesses of directive at development control stage</p> <p>Kirklees Council Measurables; + Number of permits issued within the district</p>
G.38	Zoning project to identify errant PPC businesses	<p>Kirklees Council Targets: + Permit all relevant businesses in accordance with the PPC Regulations.</p> <p>Kirklees Council Measurables; + Number of errant PPC businesses identified + Number of areas assessed</p>
G39	Kirklees Walking and Cycling Strategic Framework	<p>West Yorkshire Target: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030 + Increase in number of coaches, leaders & volunteers + Improvement in communication with public.</p> <p>Kirklees Council Measurables; +Creation of a policy document around Walking and Cycling</p>
G.40	Kirklees Neighbourhood Housing Solid Fuel Policy	<p>Kirklees Council Targets: + Prohibit installation of solid fuel stoves +Educate residents on the policy</p> <p>Kirklees Council Measurables; +Number of Solid Fuel Stoves within KnH properties</p>
G.41	West Yorkshire Travel Plan Network	<p>West Yorkshire Targets: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026 +Increase number of local businesses registered as members</p> <p>Kirklees Council Measurables; + Number of Kirklees businesses that are members of the Travel Plan Network</p>
G.42	Development of a Comms Strategy to promote air quality, modal shift and successful emission reduction projects	<p>Kirklees Council Targets: +Creation of a Comms Strategy for AQ, incorporating joint messages for Green Streets, Public Health, Carbon Reduction and other linked work streams</p> <p>Kirklees Council Measurables;</p>

Measure No	Measure	Key Performance Indicator
		+Strategy document outlining plans to promote Air Quality +Number of promotion activities
G.43	Collaborative working with NHS Trusts within District	Kirklees Council Targets: + Set up liaison program with NHS Trusts + Increase number of linked work streams with NHS Trusts
G.44	Collaborative working with University of Huddersfield	Kirklees Council Targets: + Increase number of linked work streams with Huddersfield University
G.45	Collaborative working with Commercial Bus Companies within the district	Kirklees Council Targets: + Set up liaison program with Bus Companies + Increase number of linked work streams with Bus Companies
G.46	Collaborative working with Highways England	Kirklees Council Targets: + Set up liaison program with Highways England + Increase number of linked work streams with Highways England
G.47	De-centralised Energy Use	Kirklees Council Targets: +Contribute towards targets set by Climate Emergency Work Group Kirklees Council Measurables; + CO2 reductions
G.48	Smart Systems to manage energy use within Local Authority Buildings	Kirklees Council Targets: +Contribute towards targets set by Climate Emergency Work Group Kirklees Council Measurable: + CO2 Reductions
G.49	Study the impact of Green Infrastructure	Kirklees Council Target; +To assess the validity of the use of vegetation as a mitigation solution +To determine the best vegetation to reduce air pollution +To assess cost effectiveness of Green Infrastructure +Promote findings within industry Kirklees Council Measurables; + Report determining the impact of Green Infrastructure
G.50	Generate a pollution based calculation similar to that currently used in carbon reduction calculations	Kirklees Council Target; + Aim to create a simple calculation which will allow the organisation to determine theoretical NO2 / PM10 concentration , which in turn allows firms to set targets similar to Carbon system Kirklees Council Measureable; + Creation of an easier system for calculating emission impact

Measure No	Measure	Key Performance Indicator
G.51	Research gathering to inform development of neighbourhood plans as part of Local Plan integration	<p>Kirklees Council Targets: + Collected dataset of a quality that allows informed development control decisions to be made.</p> <p>Kirklees Council Measurable: + Report containing data to inform neighbourhood plans</p>
G.52	Development Clusters Research and Solution Systems	<p>Kirklees Council Targets: + To collect a dataset of a quality that allows informed development control decisions to be made.</p> <p>Kirklees Council Measureable; + Report containing quality dataset</p>
G.53	Feasibility Study of current Traffic Model and identify further highways improvement projects	<p>Kirklees Council Targets: + Use outcomes from feasibility study to identify other highways improvement projects within the district.</p> <p>Kirklees Council Measurable: + Report outlining the validity and potential improvements to current traffic model</p>
G.54	Voluntary Clean Air Zone Feasibility Study	<p>Kirklees Council Targets: + Full cost analysis measured against impact of implementing non-charging clean air zone.</p> <p>Kirklees Council Measurable: + Report outlining viability of non-charging clean air zone.</p>
G.55	Study into the impact of topography onto clean bus technology	<p>Kirklees Council Targets: + Determine the best bus technology to utilise within the district + Promote findings within industry</p> <p>Kirklees Council Measurable: +Report demonstrating the most appropriate bus technology to deliver a cost effective low emission service within a district with hilly topography</p>
G.56	Project to engage with public on solid fuel regarding compliance into UK Clean Air Strategy	<p>Kirklees Council Targets: + Reduce number of burning / smoking chimney complaints +Increased business engagement +Reduction in particulate associated with solid fuel</p> <p>Kirklees Council Measurable: + Number of smoking chimney complaints</p>
G.57	Feasibility study into changing internal governance and decision making to further incorporate air quality	<p>Kirklees Council Targets: + Use outcomes from feasibility study to identify policy to integrate AQ within.</p> <p>Kirklees Council Measurable: + Report outlining the validity and potential improvements to current policy to incorporate AQ in decision making</p>

Measure No	Measure	Key Performance Indicator
G.58	Feasibility Study into On street electric vehicle charging solutions	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Report outlining the viable solutions to provide charging to properties without off-street parking
G.59	Creation of a delivery plan for Kirklees EV Charging	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Report outlining the a delivery plan to providing charging network across the district to meet future needs
G.60	Provision of EV Charging in all communities of Kirklees	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Each council ward to have an even spread of charging network per head of population +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets. <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Number of chargers in each ward
G.61	Improvements to the Cycling Network, linking all the Kirklees Towns and with neighbouring districts	<p>West Yorkshire Target:Contribute to;</p> <ul style="list-style-type: none"> +Sustainable travel mode increase from 36% in 2011 to 42% by 2026 <p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> +Improve pre-existing walking / cycling facilities within district + Connect local towns and neighbouring districts with improved cycling and walking facilities +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030 +Improvement in facilities across the district for cycling and clear links between all towns within the district.

Measure No	Measure	Key Performance Indicator
		<p>Kirklees Council Measurable: +Number of tows connected by cycle network</p>
G.62	Use of Technology and publicity to incentivise and increase Active travel during commute and business activities	<p>Kirklees Council Targets: +Development of an App to collect data and recommend appropriate methods of transport Contribute towards; +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030.</p> <p>West Yorkshire Target: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026.</p> <p>Kirklees Council Measurables; +Creation of an App promoting modal shift +Number of journeys made by walking / cycling</p>
G.63	Project to promote and incentivise working at home to reduce commuter miles	<p>West Yorkshire Target: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: +Alter modern way of working and reduction in commuter miles +Support business to operate in a modern way +Promote best practice currently being adopted within Kirklees Council</p> <p>Kirklees Council Measurable: + Number of walking / cycling trips</p>
G.64	E.V research project to identify appropriate demographics and locations within the district.	<p>Kirklees Council Targets: + Report outlining the best focus for council delivery plan to providing charging network across the district to meet future needs +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets.</p>

Measure No	Measure	Key Performance Indicator
		<p>Kirklees Council Measurable: +Report outlining demand for ULEV within the district</p>
G.65	Feasibility study into the integration of National and Local UTMC	<p>Kirklees Council Targets: + Linked UTMC system between HE and Kirklees Council systems +Improved Journey Times +Improved Road user experience</p> <p>Kirklees Council Measurable: +Report outlining requirements to integrate HE UTMC and Kirklees UTMC</p>
G.66	Feasibility study into the use of anti-adling measures as a control on emissions, giving focus to areas of poor air quality	<p>Kirklees Council Target; +To assess the validity of the use of anti-idling as a mitigation solution +To determine the best / appropriate locations for anti-idling +To assess cost effectiveness of anti-idling enforcement +Creation of a report determining the impact of anti-idling +Promote findings within industry</p> <p>Kirklees Council Measurable: + Report outlining feasibility of anti-idling measures within the district</p>
G.67	E.V Salary Sacrifice Scheme	<p>Kirklees Council Targets: +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets.</p> <p>Kirklees Measurable: + Number of ULEV vehicles registered within Kirklees District +Reduce Council's Grey Fleet Emissions</p>
G.68	£1million E.V Infrastructure Project	<p>Kirklees Council Targets: + Each council ward to have an even spread of charging network per head of population +Contributes to wider target to increase in percentage of ULEV registered vehicles within the district year on year in line with national average. + Contributes to wider target to meet the projected IMF target of 30% of registered cars within the district to be ULEV by 2027 + Contributes to wider target for 100% car sales to be ULEV's within by 2040 in line with national government targets.</p>

Measure No	Measure	Key Performance Indicator
		<p>Kirklees Council Measurable: + Number of chargers in each ward</p>
AQMA1.1	<p>Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Managements System within AQMA 1</p>	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA1.2	<p>Feasibility Study to Alter SCOOT to incorporate actual Air Quality pollution levels</p>	<p>Kirklees Council Targets: + Report outlining impact of integrating monitors into UTMC system. Looking at cost, flowtimes and pollutant reduction +Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA1.3	<p>Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system</p>	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA1.4	<p>Cooper Bridge Road Improvements Project</p>	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>

Measure No	Measure	Key Performance Indicator
AQMA1.5	Resource Smart Corridor	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA1.6	Kirklees Northern Orbital Route	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network + Bypass current road network and remove traffic from close proximity to residential properties</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA1.7	Trial of Smart UTMC Technology systems within relevant AQMA's	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA2.1	A640 Road improvements (Mirfield to Dewsbury)	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA2.2	Program of Deep Cleaning to Paths and Road within the AQMA	<p>Kirklees Council Target; + Keep exceedance of daily PM10 below daily AQO</p> <p>Kirklees Council Measurable: + Daily Exceedances of PM10</p>

Measure No	Measure	Key Performance Indicator
AQMA2.3	Extension of Ravensthorpe Train Station	<p>West Yorkshire Targets: + Increased services to train station + Increase in patronage</p> <p>Kirklees Council Measurable: + Number of passengers using Ravensthorpe Station + Number of services stopping at Ravensthorpe Station</p>
AQMA2.4	Kirklees "Virtual Emissions Monitoring Project" to rationalise SCOOT system	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed + AM/PM Queue times</p>
AQMA2.5	Kirklees Northern Orbital Route	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network + Bypass current road network and remove traffic from close proximity to residential properties</p> <p>Kirklees Council Measurable: + Average road speed + AM/PM Queue times</p>
AQMA2.6	Trial of Smart UTMC Technology systems within relevant AQMA's	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed + AM/PM Queue times</p>
AQMA3.1	A629 Road improvements as part of Halifax to Huddersfield Road Scheme	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network</p> <p>Kirklees Council Measurable: + Average road speed + AM/PM Queue times</p>

Measure No	Measure	Key Performance Indicator
AQMA3.2	Assessment of Cycling Infrastructure between Ainley Top and Huddersfield Town Centre	<p>West Yorkshire Target: Contribute to; +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: Contribute to; + Connect local towns and neighbouring districts with improved cycling and walking facilities +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030 Improvement in facilities across the district for cycling and clear links between all towns within the district</p> <p>Kirklees Council Measurable: + Construction of new Cycling Infrastructure within the district</p>
AQMA3.3	Feasibility into the development of System Activated Planned Cycles	<p>West Yorkshire Target: Contribute to; +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: Contribute to; + Connect local towns and neighbouring districts with improved cycling and walking facilities +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030 Improvement in facilities across the district for cycling and clear links between all towns within the district</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA4.1	Study into the impact of speed control along the national highway as an emissions reduction tool.	<p>Kirklees Council Targets: +Work with Highways England to implement the recommendations of the study</p> <p>Kirklees Council Measurable: +Creation of a document that determines the impact of speed reduction on the motorway and best method to deliver emissions reduction</p>

Measure No	Measure	Key Performance Indicator
AQMA 4.2	Trial of NOx absorbent material integrated into roundabout design	<p>Kirklees Council Target: +Installation off material on roundabout</p> <p>Kirklees Council Measurable: +NO2 Concentrations adjacent to roundabout</p>
AQMA5.1	Free City Bus for Dewsbury Town Centre	<p>West Yorkshire Target: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: +Increase bus patronage</p> <p>Kirklees Council Measurable: + Number of passengers using service</p>
AQMA5.2	A640 Road improvements (Mirfield to Dewsbury)	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA5.4	Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Managements System	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA5.5	Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA5.6	Trial of Smart UTMC Technology systems within relevant AQMA's	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>

Measure No	Measure	Key Performance Indicator
AQMA 5.7	Installation of Green Screen at Eastborough J&I School	Kirklees Council Target; +Install a screen to block diffusion of pollutants from ring road Kirklees Council Measurable: +Concentrations within the playground
AQMA6.1	A629 Road improvements as part of Halifax to Huddersfield Road Scheme	Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network Kirklees Council Measurable: + Average road speed +AM/PM Queue times
AQMA6.2	Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Managements System	Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process Kirklees Council Measurable: + Average road speed +AM/PM Queue times
AQMA6.3	Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system	Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process Kirklees Council Measurable: + Average road speed +AM/PM Queue times
AQMA6.4	Trial of Smart UTMC Technology systems within relevant AQMA's	Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process Kirklees Council Measurable: + Average road speed +AM/PM Queue times
AQMA7.1	Install Split Cycle Offset Optimisation technique (SCOOT) Traffic Managements System	Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process Kirklees Council Measurable: + Average road speed +AM/PM Queue times

Measure No	Measure	Key Performance Indicator
AQMA7.2	Kirklees "Virtual Emissions Monitoring Project" to rationalise SCOOT system	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA7.3	Trial of Smart UTMC Technology systems within relevant AQMA's	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA8.1	Study into the impact of speed control along the national highway as an emissions reduction tool.	<p>Kirklees Council Targets: +Work with Highways England to implement the recommendations of the study</p> <p>Kirklees Council Measurable: +Creation of a document that determines the impact of speed reduction on the motorway and best method to deliver emissions reduction</p>
AQMA9.1	Free City Bus for Dewsbury Town Centre	<p>West Yorkshire Target: +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: +Increase bus patronage</p> <p>Kirklees Council Measurable: + Number of passengers using service</p>
AQMA9.2	Huddersfield Heat Network Scheme	<p>Kirklees Council Target; +Contribute towards targets set by Climate Emergency Work Group</p> <p>Kirklees Council Measurables; +Number of boilers removed + CO2 reductions</p>
AQMA9.3	Resource Smart Corridor	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>

Measure No	Measure	Key Performance Indicator
AQMA9.4	Huddersfield Southern Gateway Transport Scheme	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA9.5	Huddersfield Ring Road Junction Improvements	<p>Kirklees Council Targets: + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network</p> <p>Kirklees Council Measurable: + Average road speed +AM/PM Queue times</p>
AQMA9.6	Feasibility Study in to Pedestrianizing Areas of Town Centre for Cycling Access	<p>West Yorkshire Target: Contribute to; +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Targets: Contribute to; + Connect local towns and neighbouring districts with improved cycling and walking facilities +Increase cycling travel mode by 300% between 2018 baseline and 2030 +Increase walking travel mode by 20% between 2018 baseline and 2030</p> <p>Improvement in facilities across the district for cycling and clear links between all towns within the district</p> <p>Kirklees Council Measurable: + Creation of a document cost analysing benefits of pedestrianizing / cycling only in town centre areas</p>
AQMA9.7	Trans-Pennine Express Improvement Scheme	<p>West Yorkshire Target: Contribute to; +Sustainable travel mode increase from 36% in 2011 to 42% by 2026</p> <p>Kirklees Council Measurable: +Number of rail passengers</p>

Measure No	Measure	Key Performance Indicator
AQMA9.8	Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Average road speed +AM/PM Queue times
AQMA9.9	Input into the development of the Town Centre Master Plan	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> +Inclusion of Air Quality within the Town Centre Master Plan Document <p>Contribute towards targets for planning;</p> <ul style="list-style-type: none"> + Number of E.V chargers installed within new developments <p>+Predicted monetary damage compared against mitigation spend / Section 106 contributions</p>
AQMA9.10	Trial of Smart UTMC Technology systems within relevant AQMA's	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Average road speed +AM/PM Queue times
AQMA10.1	Huddersfield Southern Gateway Transport Scheme	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Reduction in queuing times and increased through flow + Increased capacity on the road + Redistribution of vehicles on network <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Average road speed +AM/PM Queue times
AQMA10.2	Kirklees "Virtual Emissions Monitoring Project" to rationale SCOOT system	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Average road speed +AM/PM Queue times

Measure No	Measure	Key Performance Indicator
AQMA10.3	Kirklees "Virtual Emissions Monitoring Project" to rationalise SCOOT system	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Average road speed +AM/PM Queue times
AQMA10.4	Trial of Smart UTMC Technology systems within relevant AQMA's	<p>Kirklees Council Targets:</p> <ul style="list-style-type: none"> + Reduction in queuing times and increased through flow + Reduced stop / start driving style + Increased efficiency in combustion engine process <p>Kirklees Council Measurable:</p> <ul style="list-style-type: none"> + Average road speed +AM/PM Queue times

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
FIDAS	Fine Dust Analysis System
LAQM	Local Air Quality Management
MCERTS	Environment Agency emissions and air quality Monitoring Certification Scheme
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SCOOT	Split Cycle Offset Optimisation Techniques, a real adaptive traffic control system
SO ₂	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Kirklees Council, Air Quality Action Plan, 2019-24, [Kirklees Air Quality Action Plan](#)
- Kirklees Council, Air Quality Annual Status Reports, 2019, 2020, 2021, 2022
- Defra correspondence – appraisal of Kirklees Council 2022 Air Quality Annual Status Report
- Environment Agency, August 2017, Performance Standards for Indicative Ambient Particulate Monitors, version 4
- United Kingdom Health Security Agency, Public Health Outcomes Framework
- Defra – Environment Act 2021
- Kirklees Council, Climate Change Action Plan for Kirklees 2022



Update on Local Air Quality Management

Environment and Climate Change Scrutiny Panel 25.10.23

Air Quality, Electric Vehicle Infrastructure, Energy & Climate Change,
Public Protection



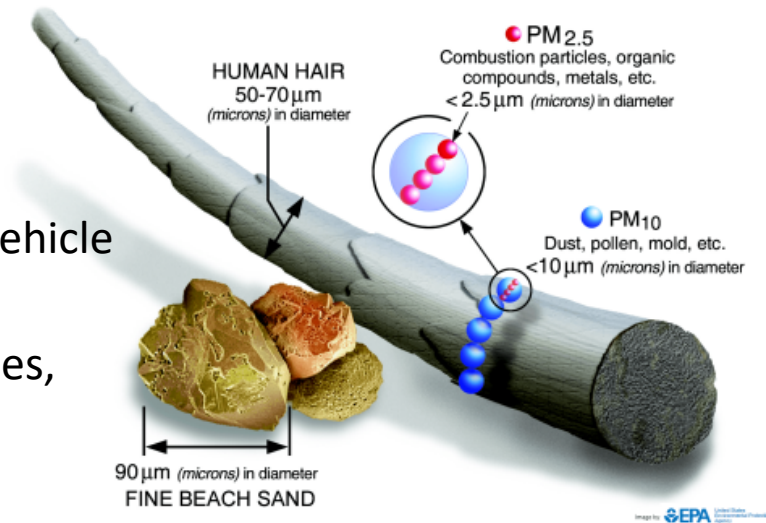
Background

- Environment Act 1995 introduced Local Air Quality Management (LAQM) - statutory duty, to review and assess air quality within the district, and take action where air pollution concentrations were found to be breaching legal, health-based standards
- Ten previously declared air quality management areas (AQMAs)
- Air Quality Action Plan 2019-2024 ([Kirklees Air Quality Action Plan](#))
- Progress with improving local air quality detailed within the Council's Air Quality 2023 Annual Status Report- submitted to DEFRA annually.
- Main findings of 2023 Annual Status Report detailed within this presentation.



Air Pollution- Explained

- Air pollution has a significant effect on public health, and poor air quality is the largest environmental risk to public health in the UK (Public Health England).
- Air quality across the Kirklees is generally good, that is, if we consider national trends or if we compare ourselves with other local authorities or London.
- There are however air pollution hotspots in Kirklees where it has been necessary to declare Air Quality Management Areas (AQMA).
- AQMA is an area where nitrogen dioxide or NO_2 (a colourless gas) associated with vehicle emissions consistently exceeds the legal limit of 40 ug/m^3 (annual average).
- Or where Particulate Matter (PM_{10} or $\text{PM}_{2.5}$) associated with dust (industrial processes, construction, brake, tyre) or vehicle soot are higher
 - PM_{10} relates to particles less than 10microns, $\text{PM}_{2.5}$ = particles less than 2.5microns.
 - Nitrogen Dioxide is the primary pollutant in 9 of the 10 AQMAs
- AQMAs are typically areas where houses are built up and close to busy roads. This result in poor dispersion of pollutants due to a “canyon” effect.



Kirklees Air Quality monitoring update (Annual Status Report)

- The Annual Status Report (ASR) provided in the report, is an annual document which provides an overview of air quality monitoring and our Air Quality Action Plan progress.
 - The ASR is published annually on our website: [Air pollution | Kirklees Council](#)
- It is required to be submitted to DEFRA annually, providing progress and monitoring results.
- The report undertakes a review of the past year so although called the ASR 2023, it reports on air quality the year before i.e., 2023 reports on the period January 2022 to December 2022 as well as previous years.
- The ASR reports on AQ monitoring that takes places across the Borough. These sites are chosen to gather data at locations close to motorway influenced roads, 'A' road junctions or key commuter roads prone to congestion with nearby receptors.
- After submission, DEFRA confirm approval and ratification of the report. They also provide feedback each year after the LA submission and confirmation.



Kirklees Air Quality monitoring

Automatic Monitoring sites:



Automatic Monitoring Station



Diffusion Tube



Zephyr Sensor



Air Quality- Links to Public Health

Air pollution affects everyone but there are **inequalities in exposure** and the **greatest impact on the most vulnerable**

older people
(65 and older)

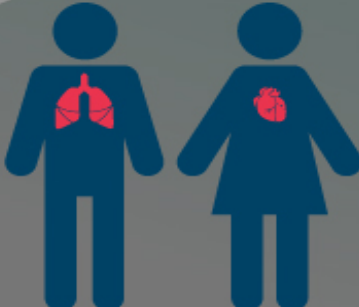


pregnant women



communities with poorer air quality
(eg. those situated closer to main roads)

those with cardiovascular disease and/or respiratory disease



children



Health effects of air pollution

short-term effects

exacerbation of asthma

cough, wheezing and shortness of breath

episodes of high air pollution increase respiratory and cardiovascular hospital admissions and mortality

long-term effects

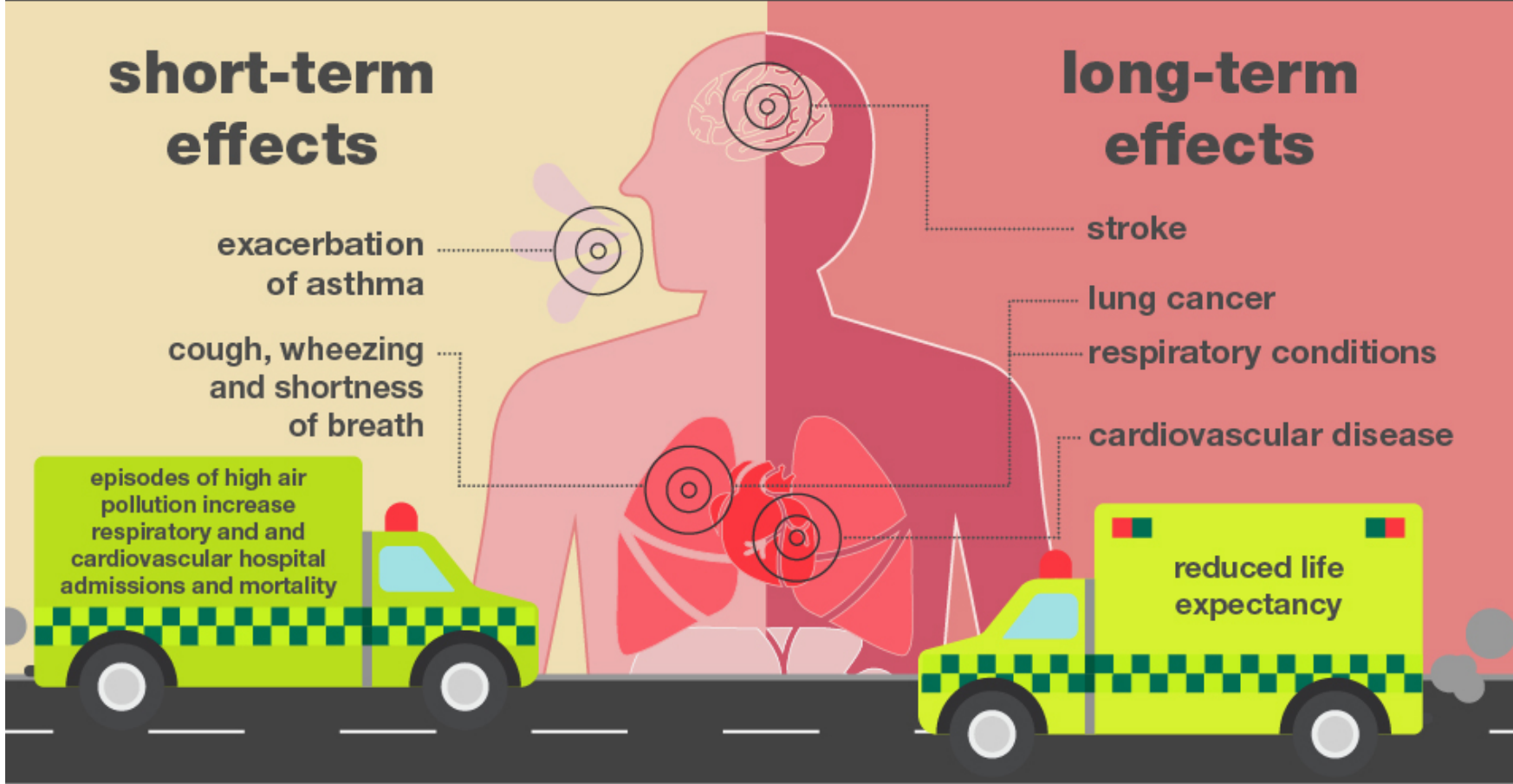
stroke

lung cancer

respiratory conditions

cardiovascular disease

reduced life expectancy

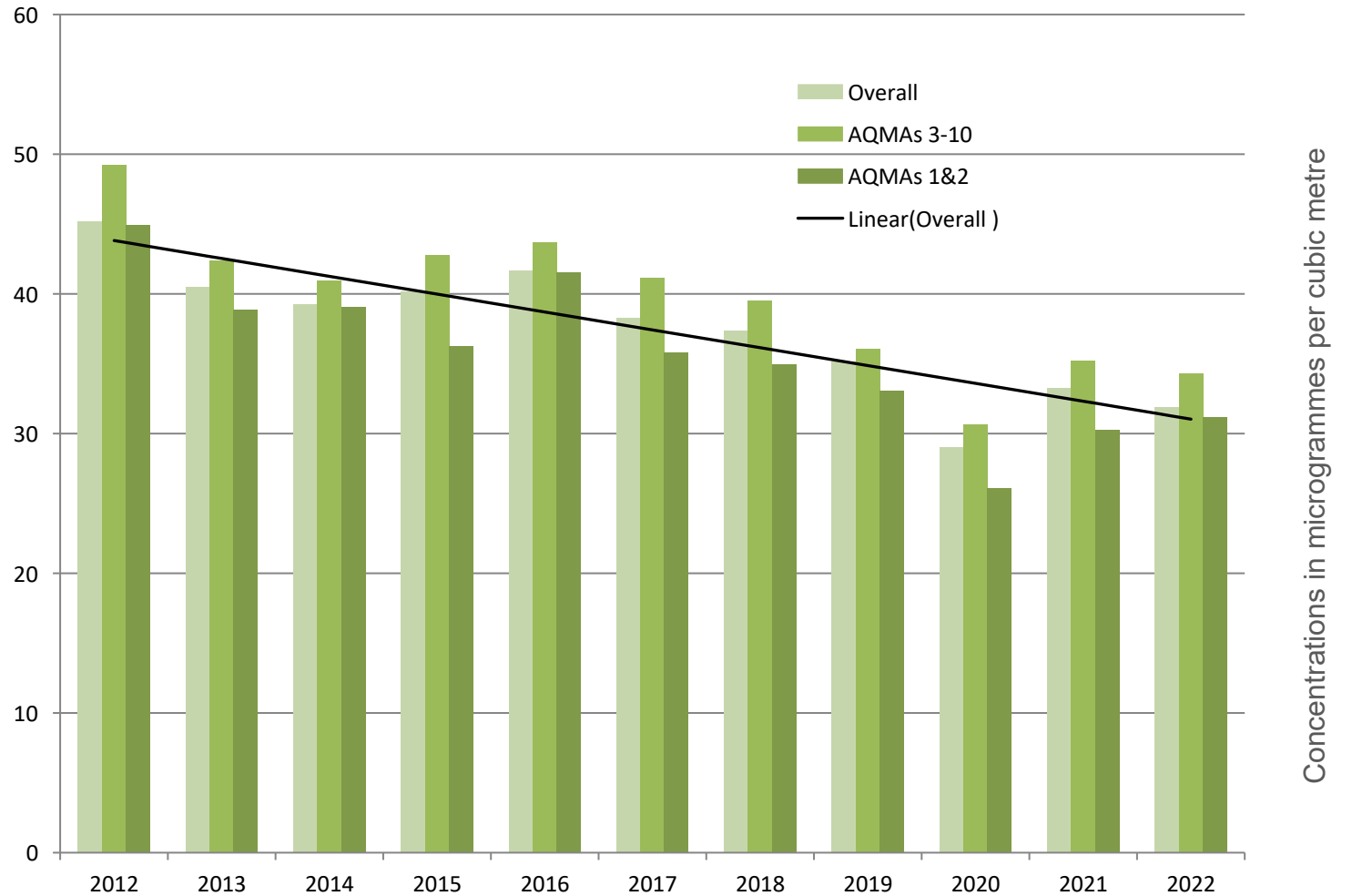


Trends In Annual Average NO₂ concentrations

Overall decline in concentrations since 2012, combination of local and national actions

Concentrations within three AQMAs meeting legal standard for last 5 years

However, continued breaching of legal standard in another 3 AQMAs in 2022



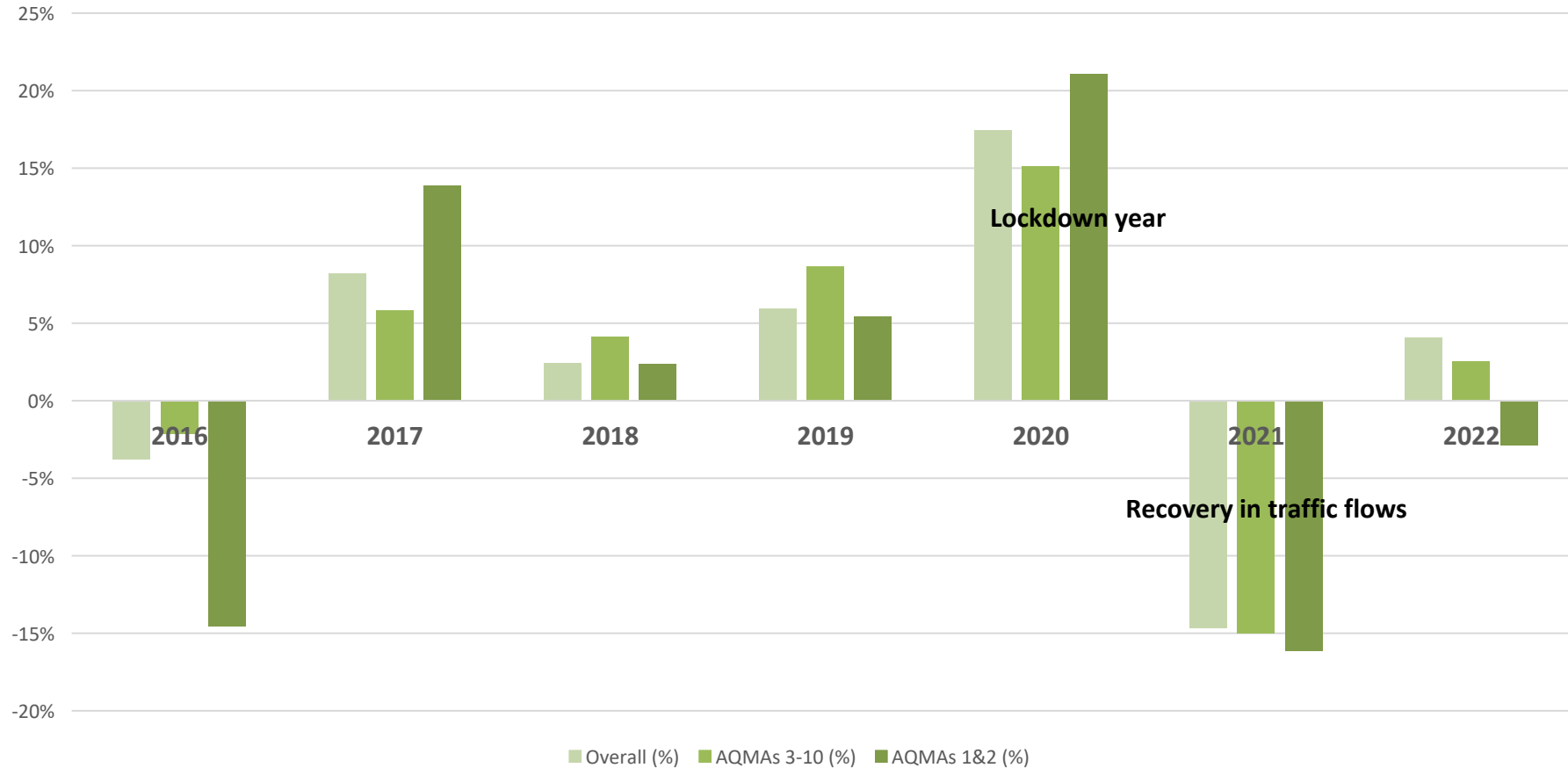
Kirklees Air Quality Management Areas

AQMA Name	Location	Pollutant/ AQ Objective	Level of Exceedance	
			At Declaration	Now
AQMA 1*	Cooper Bridge and Leeds Rd/Bradley Rd junction	NO ₂ 40 µg/m ³ Annual mean	73 µg/m ³	31 µg/m ³
AQMA 2+	A644 Huddersfield Road, Ravensthorpe	PM ₁₀ 24 Hour Mean	43 days	N/A
AQMA 3*	(A629) Halifax Rd and Ainley Top	NO ₂ 40 µg/m ³ Annual mean	44 µg/m ³	27 µg/m ³
AQMA 4*	Birkenshaw adjacent M62 and junction of A62 and A651	NO ₂ 40 µg/m ³ Annual mean	45 µg/m ³	27 µg/m ³
AQMA 5	A653 Leeds Rd, Eastborough, Dewsbury	NO ₂ 40 µg/m ³ Annual mean	60 µg/m ³	<u>44 µg/m³</u>
AQMA 6	A629, Edgerton, junction with Blacker Road	NO ₂ 40 µg/m ³ Annual mean	54 µg/m ³	38 µg/m ³
AQMA 7	A638 Wakefield Road, (Liversedge)	NO ₂ 40 µg/m ³ Annual mean	45 µg/m ³	<u>43 µg/m³</u>
AQMA 8	Properties adjacent M62, Outlane	NO ₂ 40 µg/m ³ Annual mean	54 µg/m ³	33 µg/m ³
AQMA 9	A62 Southgate, (Huddersfield town centre)	NO ₂ 40 µg/m ³ Annual mean	55 µg/m ³	<u>41 µg/m³</u>
AQMA 10	A62 Manchester Road, Longroyd Bridge / Thornton Lodge	NO ₂ 40 µg/m ³ Annual mean	47 µg/m ³	39 µg/m ³



Kirklees Roadside NO₂ – percentage change in annual average concentrations

A positive percentage change represents a reduction in annual mean NO₂ concentrations, whilst a negative percentage change represents an increase in annual mean NO₂ concentrations

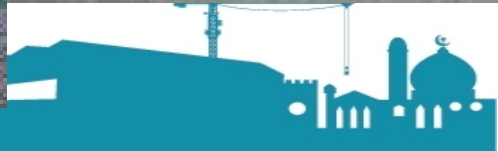


Case Study, consideration of an additional action

- AQMA No. 5 Leeds Road, Eastborough, Dewsbury
- Highest concentrations within Kirklees, breaching of the annual mean objective for NO₂ gas
- Steep hill, uphill gradient, small number of houses affected
- Additional actions required – new and innovative solution, shouldn't rely on longer term vehicle upgrades to resolve AQ issue.
- £500K External funding sought through Defra AQ grant, announcement expected Spring 2024. Bid proposed an innovative Air Quality solution provided by Pollution Solutions, called **Roadvent**. Grant scheme highly competitive.
- Roadvent works by extracting exhaust fumes/AQ pollution from within the road area and funnelling through a filtration system to mitigate the AQ impact and lower AQ concentrations.
- Laboratory test result suggests Roadvent could be an effective solution but will need to assess in 'real world' scenario/on location. Pilot could be used to showcase to other LA's successful solution.



Innovative Solution- Pilot Opportunity (if grant application successful)



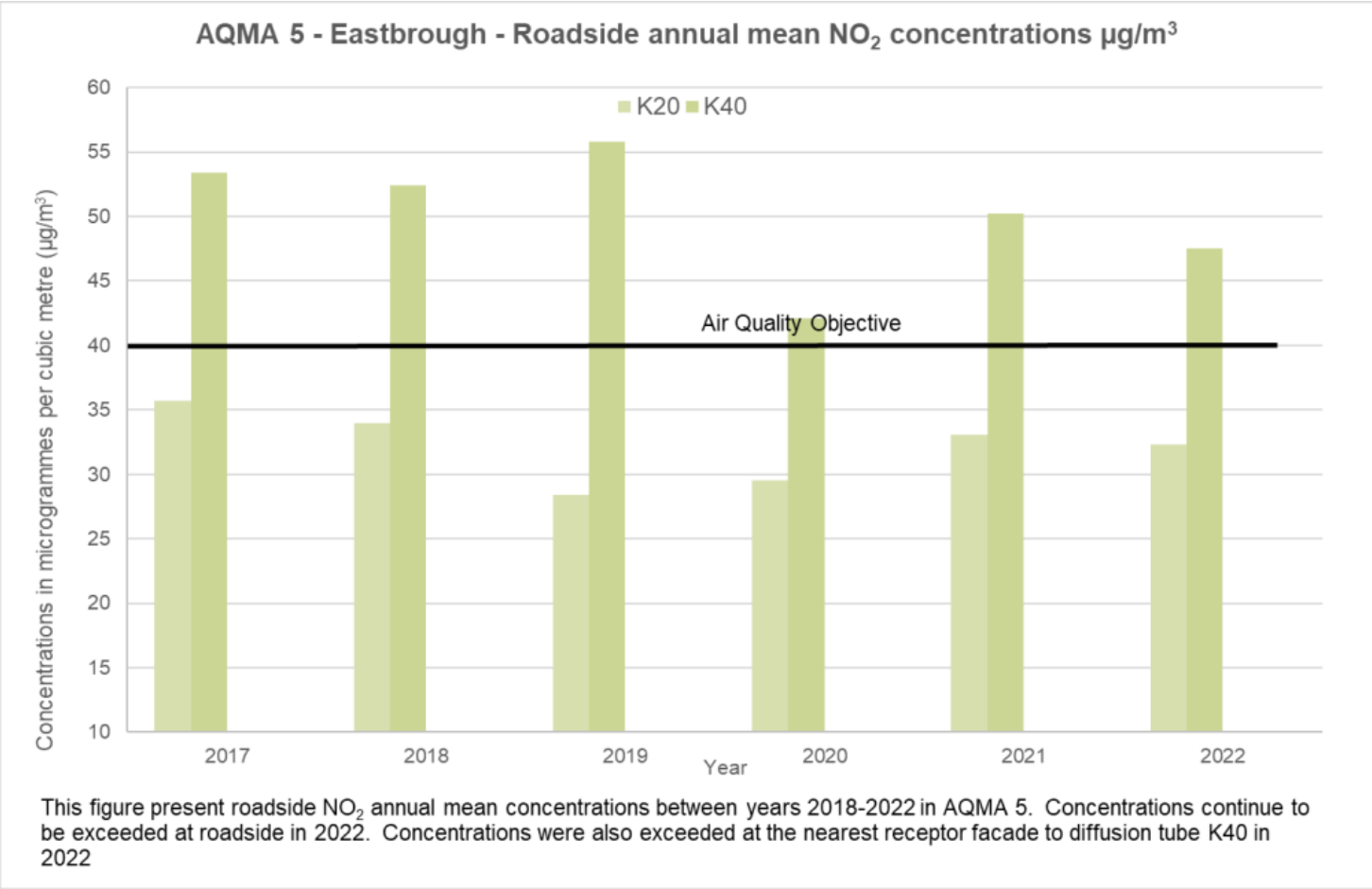
Trends In Annual Average NO₂ concentrations

Uphill gradient, increased emissions
Residential properties close to roadside



Close to Eastborough Junior and Infant School, schoolchildren walking and playing in the AQMA

Busy commuter route to Leeds and M62



Air Quality Action Plan 2019-2024

- Coming to the end of current five-year plan, to be revised
- Stakeholder contributions and officer Steering Group
- Plan revision to take account of existing and predicted AQMA status
- Development of a complimentary Air Quality Strategy at the same time



Development of the Air Quality Action Plan and Air Quality Strategy

- Air Quality Action Plan (AQAP) - AQMAs
- Air Quality Strategy – whole of Kirklees
- Link to other strategies
 - National, Regional, Local
- **Partnerships**
 - Officer
 - Community (public consultation), Ward Members etc.
 - External
- Consideration of existing and additional actions
- Use of existing internal funding and proactively seek external funding opportunities (e.g., Defra Air Quality Grant bid) to fund action plan measures
- Embed air quality within Council work



Environment Act 2021- ongoing watching brief

- Air quality was identified as a focal point of the Environment Act 2021
- There are a number of air quality measures within the Act which range from the high level to the very specific. Secretary of state can set legal targets for:
 - Fine particulate matter (PM_{2.5}) - an annual mean target of 10 µg/m³ by 2040 (national target but local authorities expect to contribute to meet target)
 - Strengthens powers under 1993 Clean Air Act – more powers to reduce particulate matter emissions from domestic sources
 - Environment Act 2021 requires local to secure and maintain air quality standards, including revision of AQAP if new measures required
 - DPHs closely involved with development of AQAPs and AQS to align with public health work
 - Partnership working



Next Steps 2023-2025

- Completion of West Yorkshire Low Emission Strategy with WY partners
- Create Air Quality Action Plan Steering Group
 - Approach Public Health to Chair the group and encourage joint working
- Draft Air Quality Action Plan and Air Quality Strategy
- Formal consultation process, review comments and incorporate where appropriate
- Adoption of Plan and Strategy
- Revocation of AQMAs where appropriate
- Publication of Air Quality Annual Status Reports



Any Questions?

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CLIMATE CHANGE AND ENVIRONMENTAL SCRUTINY PANEL – WORK PROGRAMME 2023/2024

MEMBERS: Cllrs Jackie Ramsay (Chair) John Taylor, Matthew McLoughlin, Timothy Bamford, Hannah McKercher, Matthew McLoughlin , Will Simpson, Garry Kitchen (Coptee) and Jane Emery (Coptee)

SUPPORT: Jodie Harris – Principal Governance and Democratic Engagement Officer

FULL PANEL DISCUSSION		
THEME/ISSUE	APPROACH / AREAS OF FOCUS	OUTCOMES / ACTIONS
Cumulative Impact Assessment	<p>New Issue:</p> <p><u>Meeting of the Panel to be held 4th July 2023</u></p> <p>The purpose of this report is to brief Members of the Environment and Climate Change Scrutiny Panel on proposals to introduce a Cumulative Impact Assessment Policy under the Licensing Act 2003.</p>	<p>The Panel recommended that:</p> <ol style="list-style-type: none"> 1. The data be reviewed where it was felt to be incorrect (particularly in relation to Dewsbury Town centre) and be shared with the Panel. 2. The maps be made clearer and shared with the Panel following review with the Public Health Department. 3. Where figures less than 50 had been blocked out in the report that liaison took place with the Public Health Department to obtain actual figures and that these be shared with the Panel. 4. The quality of the report presented be improved and formatted to a higher standard before presentation to the Panel moving forwards. 5. A review of areas be undertaken where streets may be excluded by the boundary line and allow for issues to persist (i.e.- Trinity Street). 6. The ambition for the Public Consultation was made clear and that a statistically valid figure against the overall population for the number of public respondents be set to ensure broad representation and meaningful engagement. 7. Consideration be given to amending the period within which the Public Consultation was to be held to ensure the student population be represented. 8. The Panel be informed with the outcomes of the Public Consultation if approved by the Licencing Panel.

		<p>9. The Panel be provided with information in relation to; those licences that were being reviewed (i.e.- where areas were congested with premises selling cheap alcohol), the scope for refusal and evidence of good practice.</p> <p>10. It was important to be inclusive in the approach and that consideration continue to be given to the inclusion of other areas.</p> <p>11. If the Consultation be approved, that an email be sent to all Ward Members asking them to put forward the areas that they represent for consideration if they felt it would be useful.</p> <p>12. The Panel to be informed if the Consultation was approved and for an update be provided on progress prior to further consideration by Licensing and Full Council.</p>
<p>White Rose Forest – Summary Review 2022/23</p>	<p>New Issue:</p> <p><u>Meeting of the Panel to be held 4th July 2023</u></p> <p>The Panel considered a presentation in relation to White Rose Forest – Summary review 2022/23 and looking ahead to 2023/24</p>	<p>The Panel noted the report, White Rose Forest – Summary review 2022/23 and looking ahead to 2023/24 and recommended that Kirklees specific data be provided in relation to the Green Streets be provided to the Panel.</p>
<p>Waste Strategy Update</p>	<p><u>Meeting of the Panel to be held 30th August 2023</u></p> <p>In 2023/2024, the Environment and Climate Change Panel will receive an update around work undertaken to refresh the strategy in light of recent financial challenges and changes to legislation.</p> <p><i>Background:</i></p> <p><i>The former Economy and Neighbourhoods Scrutiny Panel first scrutinised the new Waste Strategy in 2021. In 2022/23 there was a focus on pre-decision scrutiny of the Waste Strategy Capital Update and the Cabinet decision 2nd August 2022 was taken to approve funds.</i></p>	

	<p><i>Overall, the Panel were supportive of the strategy and recommended that, 'the idea of rewarding individual businesses be considered in the development of the Community Reward Scheme. A joined up and borough wide approach be taken to the reuse shop and bulky waste initiatives in later stages of development'.</i></p>	
<p>Snow Warden Volunteer Scheme Update</p>	<p><u>Meeting of the Panel to be held 30th August 2023</u></p> <p>In 2023/2024, the Environment and Climate Change Panel will receive an update around learning from snow wardens, under the theme of Winter Maintenance.</p> <p><i>Background:</i></p> <p><i>The former Economy and Neighbourhoods Scrutiny Panel reviewed the approach taken to Winter Maintenance 7th September 2021 which included a focus on the link to planning.</i></p> <p><i>Key issues noted included the maintenance of active travel routes during winter and of the challenges around housing growth, resources, and capacity for winter maintenance. It was agreed that the current policy for winter maintenance should be assessed. This work was undertaken an update was given 30th August 2022.</i></p>	
<p>Council Owned Tree and Woodland Management Policy</p>	<p><u>Meeting of the Panel to be held 25th October 2023</u></p> <p>The Panel will consider the finalised draft replacement Council Owned Tree and Woodland Management Policy.</p>	

<p>Air Quality Update</p>	<p>Background:</p> <p><i>The former Economy and Neighbourhoods Scrutiny Panel received an update in October 2019. A number of areas to monitor were identified following implementation of the Action Plan.</i></p> <ol style="list-style-type: none"> 1. <i>Which measures have proven effective, and which provide good value for money.</i> 2. <i>Addressing the issue of vehicles with idling engines particularly outside schools.</i> 3. <i>How the planning system can be used/will address issues in relation to infrastructure to encourage sustainable transport/active travel.</i> 4. <i>Improving infrastructure to encourage travel by public transport/cycling and walking.</i> 5. <i>Encouraging/ facilitating better options for travel to school to reduce use of private cars.</i> <p><i>In 2022/23 the Panel received notification of the publication of the Annual Status Report (ASR) for consideration with a view for a formal update to follow. The ASR provided a look back on Air Quality monitoring data for the calendar year of 2021 as well as some progress made in relation to the Air Quality Action Plan (AQAP)</i></p> <p><u>Meeting of the Panel to be held 25th October 2023</u></p> <p>The Panel will consider the 2023 Air Quality Annual Status Report (ASR) and will receive a presentation providing an update on Local Air Quality Management.</p>	
<p>Environmental Sustainability Strategy</p>	<p>New Issue:</p> <p><u>Meeting of the Panel to be held 29th November 2023</u></p>	

	The Panel will receive an update on the Environmental Sustainability Strategy.	
Heat District Energy Network	<p><u>Meeting of the Panel to be held 10th January 2023</u></p> <p>The Panel will receive an update on the Heat District Energy Network.</p> <p><i>Background:</i></p> <p><i>The former Economy and Neighbourhoods Scrutiny Panel were updated on the outcome of the Huddersfield District Energy Network Outline Business Case Study, draft Cabinet report and proposed next steps prior to Cabinet adoption 20th September 2022.</i></p>	
Waste Procurement	<p><u>Meeting of the Panel to be held 10th January 2023</u></p> <p>The Panel will consider an update in relation to Waste Procurement to in relation to work undertaken in the scrutiny of the Waste Strategy update.</p>	
Parks and Greenspace Vision	<p><u>Meeting of the Panel to be held 10th January 2024</u></p> <p>The Panel will receive an update in respect of Parks and Greenspace Vision</p>	
Parking Strategy Review	<u>Meeting of the Panel to be held 21st February 2024</u>	

	<p>The Panel will consider an update in respect of Parking Strategy Review. To include use of pesticides.</p>	
<p>Highways and Road Safety</p>	<p><u>Meeting of the Panel to be held 21st February 2024</u></p> <p>The Panel will consider an update in relation to Highways and Road Safety. To include street lighting.</p> <p><i>Background:</i></p> <p><i>The former Economy and Neighbourhoods Scrutiny Panel received a presentation around Highways Safety which set out The Councils statutory responsibilities, (as per the Highways Safety Act), (i.e.- Safe vehicles, speeds, roads and behaviours as well as Post collision learning and care). The presentation also covered issues in relation to capital funding, and the Vision Zero ambition to eliminate road deaths and serious injuries (KSI's) to zero by 2040 and improve road safety for everyone using a safe systems approach. The Panel recommended that more emphasis be placed on enforcement and that the council continue to promote, persuade and influence driver behaviour as well as maintaining strong partnership work with the Police.</i></p>	
<p>Events</p>	<p><u>Meeting of the Panel to be held 27th March 2024</u></p> <p>The Panel will receive an update in respect of local events (i.e.- Woven/Pride/Year of Music)</p> <p>-</p>	
<p>Statutory Health and Safety Service Plan 2023-23</p>	<p><u>Meeting of the Panel to be held 27th March 2024</u></p>	

<p>Food Safety Service Plan 2023</p>	<p>The Environment and Climate Change Panel will receive an update in respect of the Health and Safety and Food Safety Service Plans.</p> <p><i>Background:</i></p> <p><i>The former Economy and Neighbourhoods Scrutiny Panel received an update on the performance of the Food Safety Team against the priorities set in the Food Safety Service Plan 2022 and the delivery of the Health and Safety Service Plan 2022-23. Overall, the Panel were positive about the updates and recommended that communication with Community Groups to help increase their understanding of the regulations under Martyn’s Law (if brought forward) were key.</i></p>	
LEAD MEMBER BRIEFING ISSUES		
THEME/ISSUE	APPROACH / AREAS OF FOCUS	LEAD OFFICER
1.		
2.		

Items scheduled:

- Cumulative Impact Assessment (July)
- White Rose Forest – Summary review 2022/23 and looking ahead to 2023/24 (July)
- Waste Strategy Review (August)
- Snow Warden Volunteer Scheme Update (August)
- Air Quality Action Plan (October)
- Environmental Sustainability Strategy TBC (October)
- Heat District Energy Network (October)
- Waste Procurement (Private Item) (November)

- Future Bereavement Services Offer (TBC)
- Parks and Greenspace Vision (January)
- Events (Woven/Pride/Year of Music) (January)
- Highways and Road Safety (February)
- Parking Strategy Review (February)
- Statutory Food Hygiene Plan 2024 – 2025 / Statutory Health & Safety Plan 2024 – 2025 (March)

Items not yet scheduled:

- Fleet Replacement
- Street Lighting

Upcoming Panel visits Ideas:

- Energy from Waste (EfW) and Materials Recycling Facility (MRF) Scrutiny Visit (September)