# High Peak Borough Council

# Air Quality Action Plan

## In fulfilment of Part IV of the Environment Act 1995

## Local Air Quality Management

## October 2025

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|---|---|
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| **Report Reference Number** | High Peak AQAP |
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# Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality in High Peak Borough Council between 2025 – 2030.

Implementation of the outlined measures will result in the relevant objective being attained by 2025 in AQMA No.1 based on the monitoring results for 2023. The relevant objective is expected to be attained by 2028 in AQMA No.3. In AQMA No.2, the objective has been achieved and the Local Authority are looking at putting ongoing measures in place to maintain compliance and achieve concentrations below 36µg/m³ as measured by diffusion tube to move towards revocation.

The relevant Air Quality Management Areas (AQMAs) addressed by this action plan are outlined below:

- **AQMA No.1: Tintwistle**, declared in September 2019 for exceedance of Nitrogen Dioxide ($NO_2$) for Annual Mean.
- **AQMA No.2: Dinting Vale**, declared in December 2019 for exceedance of Nitrogen Dioxide ($NO_2$) for Annual Mean.
- **AQMA No.3: Fairfield Road**, declared in September 2023 for exceedance of Nitrogen Dioxide ($NO_2$) for Annual Mean.

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas[1,2]. The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion[3]. High Peak Borough Council is committed to reducing the exposure of people in High Peak to poor air quality in order to improve

[1] Environmental equity, air quality, socioeconomic status and respiratory health, 2010
[2] Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
[3] Defra. Abatement cost guidance for valuing changes in air quality, May 2013

health.

In this action plan, we have developed actions to improve air quality that can be considered under six broad topics

- Priority 1: Transport
- Priority 2:  Active and Sustainable Travel
- Priority 3:  Lead by example measures
- Priority 4: Policy, Planning and Statutory measures
- Priority 5: Public Health and Wellbeing Behavioural Change
- Priority 6: Air Quality Monitoring

The main source of air pollution leading to the declaration of the AQMAs in High Peak is road transport emissions, particularly from diesel vehicles. Our priorities are to target transport emissions within the AQMAs through working with local communities and businesses to aid a behavioural shift within the population to promote more sustainable and less polluting methods of transport

Our approach focuses on two main areas; Areas where HPBC has direct influence including:

- reducing HPBC transport emissions;
- promoting alternatives to private motor vehicles;
- encouraging the use of, and facilitating the use of low/zero emissions transport;
- safeguarding and expanding sustainable transport services and routs (such as
- bus and rail facilities);
- provide proactive facilities and measures to support sustainable transport modes including on-site features to encourage sustainable travel methods e.g. cycle path links, cycle storage facilities, bus stops, electric vehicle charging points etc;
- reducing the need to travel by supporting sustainable development and initiatives that help support the local economy, services and facilities; and

Areas where measures can be implemented via a partnership, including:

- Work with National Highways (A628) and Highways Agency at Derbyshire County Council (A57 and A6) to evaluate and implement road improvements or traffic management solutions through a variety of strategies, including, relief

road construction, road junction reconfiguration, Traffic light optimisation, speed control, dynamic signage and use of Urban Traffic Management Systems (UTMs)

- Work with Derbyshire County Council and other partner organisations to agree designated lorry routes, freight handling facilities and greater rail use.

In this AQAP, we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond High Peak Borough Council's direct influence.

It should be noted that evaluation and measures put forward in this AQAP do not take into account the potential impact of the proposed A57 Link Road, which could increase traffic in both AQMA No.1: Tintwistle and AQMA No.2: Dinting Vale. As such, measures put forward in this plan may have to be reevaluated once this scheme has been delivered. Further information on this scheme is presented in Appendix D.

## Responsibilities and Commitment

This AQAP was prepared Environmental Health department of High Peak Borough Council with the support of Bureau Veritas and agreement of the following officers and departments:

HPBC: Planning, Regeneration, Communities (Climate Change), Assets and Commissioning Services.

Derbyshire County Council: Highways Authority, Sustainable Travel Team; Public Health

This draft AQAP has been approved by:

Mark Trillo – Executive Director

Alicia E Patterson – Head of Environmental Health and Licensing

Dr Daniel McCrory – Principal Pollution Officer

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

Progress each year will be reported in the Annual Status Reports (ASRs) produced by High Peak Borough Council, as part of our statutory Local Air Quality Management duties.

If you have any comments on this AQAP, please send them to Daniel McCrory at:

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# 1 Introduction

This report outlines the actions that High Peak Borough Council (HPBC - the Council) will deliver between 2025 - 2030 in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the High Peak. The purpose of the report is to set out how the local authority will exercise its functions in order to achieve the relevant air quality objectives.

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

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within High Peak Borough Council's air quality ASR.

# 2 Summary of Current Air Quality in High Peak Borough Council

Please refer to the latest ASR from High Peak Borough Council for further details on local monitoring.

Within this AQAP, HPBC aims to implement measures which will result in relevant objective(s) being attained. Implemented measures could lead to AQMA 1 and AQMA 2 being revoked in the coming years. The implementation of the AQAP is anticipated to enhance and sustain the air quality within AQMA 1 and AQMA 2. The AQAP would remain in place to manage emissions within AQMA 3 until this AQMA could be revoked. At this point, the air quality will be reviewed and an Air Quality Strategy in line with LAQM PG(22) will be produced.

## 2.1 AQMA No.1: Tintwistle

- **Extent:** A section of Woodhead Road between the Bank Lane/Woodhead Road junction, and the Old Road/Woodhead Road junction.
- **Declared:** September 2019.
- **Pollutant:** Nitrogen Dioxide ($NO_2$) Annual Mean.

The Woodhead Road (A628) is one of the major non-motorway Trans-Pennine crossings routes between Manchester and Sheffield in the Peak District and affords a shorter route compared to the motorway (M62, M1) route. It reaches a maximum altitude of 1486 feet and approximately, 12,300 vehicles use it daily, with around 13% of these being Heavy Goods Vehicles (HGVs).

Air Quality Monitoring along the A628 in Tintwistle prior to 2018 identified exceedances of the annual mean $NO_2$ objective at relevant locations immediately adjacent to the road. This confirmed the findings of a previous Detailed Assessment

and necessitated that an Air Quality Management Area (AQMA) be declared.

In 2023, an updated detailed assessment (based on 2019 data) was completed. This is presented in Appendix C. Based on the results, the following conclusions were made:

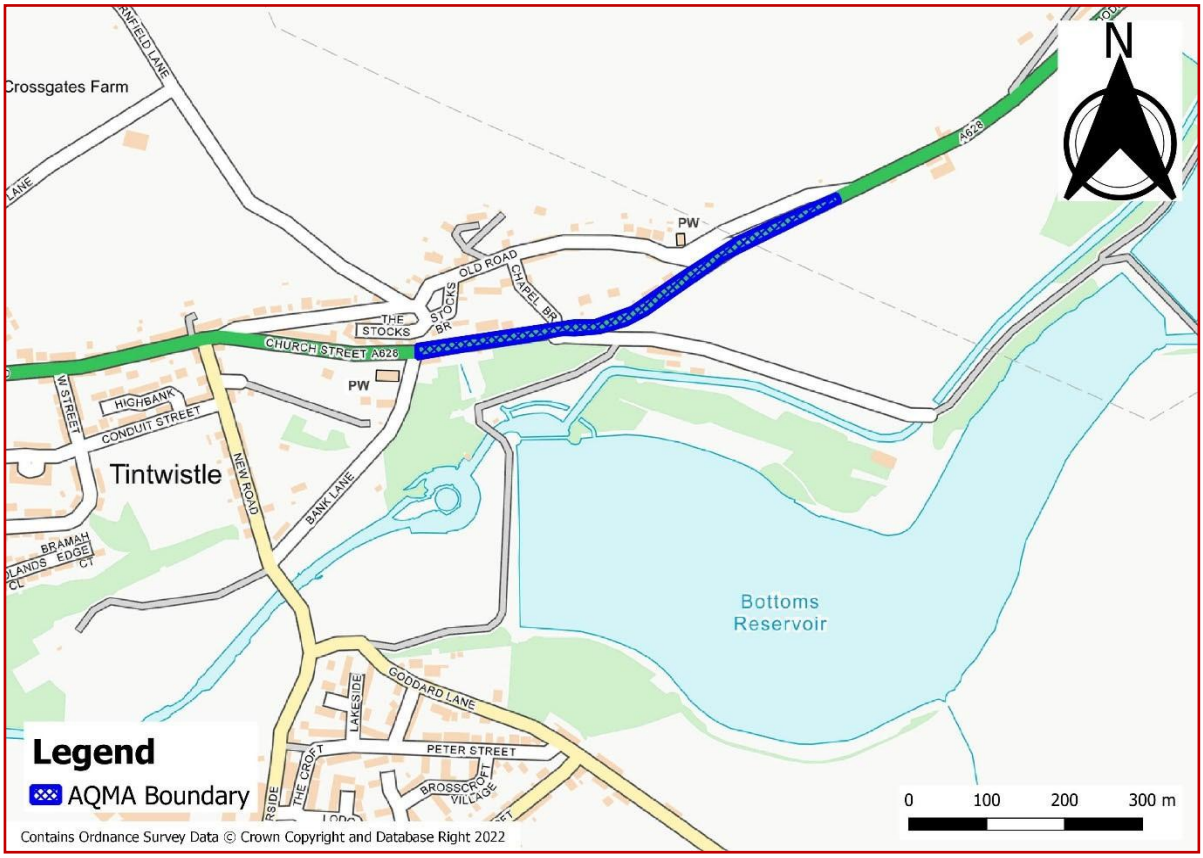
- No exceedances of the $NO_2$ annual mean objective were predicted within the current AQMA designation.
- The low concentrations are likely the result of pollutant concentrations dispersing over the open fields directly adjacent to the modelled road (A628).

Based on the above conclusions, there is a strong argument to revoke this AQMA at this juncture. However, monitoring results indicate a degree of uncertainty around the model at the highest receptor locations, with ongoing monitoring results higher than those predicted by the model (HP5). In addition, there remains uncertainty regarding the potential impacts of the predicted increase in traffic along the A628 as a result of the approved A57 link road, (Appendix D) which is began construction in 2024. It is considered therefore that the AQMA should remain in place at present.

HPBC Air Quality Management Area No1; Tintwistle covers a 580m stretch of the A628 between the Bank Lane / Woodhead Rd Junction and Old Rd/ Woodhead Rd Junction and encompasses 23 properties.

This is shown in  Figure 2.1  and available online 1813_MAP.JPG (1095×751)

**Figure 2.1 Location of AQMA No.1: Tintwistle**




The topography of AQMA No1 section of the Woodhead Road, is a general increasing incline moving Eastbound. Between Bank Street and Chapel Brow, there is a slight incline with gradient between (+) 0 to (+) 2.7% and the speed limit changes from 30 – 40mph, with vehicles accelerating up a gradient (**Error! Not a valid bookmark self-reference.**).

Westbound, the gradient is a slight downhill, but the area is prone to queuing traffic, notably near the Bank Street turn. (

Figure 2.3).

Continuing East Bound, Chapel Brow to Ebenezer Brow crossing, is around 250m, with the speed limit of 40mph. The road rises steeply from a gradient of (+) 2.7% to approximately (+) 7-9% until just prior to the Ebenezer Brow crossing (Figure 2.4).

This Ebenezer Brow crossing is a Pegasus crossing (equestrian crossing), which is a signalised pedestrian crossing, with special consideration for horse riders.

The traffic lights at the Pegasus crossing can mean that, when active, traffic flow within this stretch, which is initially accelerating up a gradient, can potentially be disrupted, causing traffic to slow down/ stop and potentially require significant power to pull away on a fairly steep incline (+) 7-9%, particularly for large HGV vehicles.

This specific location (HP2) has previously recorded the highest emissions of $NO_2$ along the AQMA, although it is not considered representative of relevant exposure.

From the Ebenezer Brow crossing to the end of the AQMA 1, at the junction with old road (Figure 2.5), the gradient remains around 7% and properties are present on the Northern side of the road around 50m from the crossing (HP5).
It is considered that the increase in power required to pull up this gradient, particularly for HGVs, is likely to significantly increase the emissions from these vehicles at these speeds. It is also likely that the slow rates of acceleration associated with the larger vehicles may increase congestion as other lighter vehicles are unable to pass these vehicles easily.

**Figure 2.2 Church Street (A628) /Bank Street Junction, East Bound**


**Figure 2.3 Church Street (A628) /Bank Street Junction, West Bound**


**Figure 2.4 Pegasus Crossing at Ebenezer Brow, East Bound**


*Traffic lights were being replaced at the time of the picture and were located at the sight of the automated monitor box on the left-hand side of the picture

**Figure 2.5 Old Road Junction, East Bound**


## 2.2 AQMA No.2: Dinting Vale

- **Extent:** A section of the A57 between the A626 Glossop Road/A57 Dinting Vale junction and the A57 Dinting Value/Dinting Lane Junction.
- **Declared:** December 2019.
- **Pollutant**: Nitrogen Dioxide ($NO_2$) Annual Mean.

Glossop is a principal market town in the High Peak, located approximately 15 miles east of Manchester and 24 miles west of Sheffield. The area is heavily reliant on the Trans-Pennine routes, with the A57 and A628 being key arteries, connecting Glossop to both Greater Manchester and Yorkshire. The road is used by approximately, 18,300 vehicles daily, with around 83% of these being cars and taxies and 3% HGVs.

Air Quality Monitoring along the A57 in Dinting Vale identified exceedances of the annual mean $NO_2$ objective at relevant locations, immediately adjacent to the road, and necessitated that an Air Quality Management Area (AQMA) be declared.

In 2023, an updated detailed assessment was completed. This is presented in Appendix C. Based on the results, the following conclusions were made:

- Exceedances were recorded at multiple receptor locations within the AQMA, with the $NO_2$ annual mean concentration being over 8 µg/m$^3$ above the AQS objective (48 µg/m$^3$).
- The AQMA boundary should remain in place based on the modelled concentrations

It is considered therefore that the AQMA should remain in place at present.

In addition, there remains uncertainty regarding the potential impacts of the predicted increase in traffic along the A57 as a result of the approved A57 link road, (Appendix D) which is due begin construction in 2024.

HPBC Air Quality Management Area No 2; Dinting Vale covers a 470m stretch of the A57 between Glossop Road (A626) and Dinting Lane, incorporating 54 properties. This is shown in

The heavy traffic flow along the A57 around Glossop can lead to congestion notably at peak times. This can be compounded further, in and around the dinting vale area, by additional factors that affect the traffic flow; such as, single-lane entry signal junctions or mini-roundabouts, the school and associated traffic, bus stops, pedestrian traffic lights and significant on street parking.

An example of traffic along the A57 during evening peak times shown in (Figure 2.7).

Figure 2.6 and available online:

1862_AQMA 2 MAP.JPG (1078×739)

The heavy traffic flow along the A57 around Glossop can lead to congestion notably at peak times. This can be compounded further, in and around the dinting vale area, by additional factors that affect the traffic flow; such as, single-lane entry signal junctions or mini-roundabouts, the school and associated traffic, bus stops, pedestrian traffic lights and significant on street parking.

An example of traffic along the A57 during evening peak times shown in (Figure 2.7).

**Figure 2.6 Location of AQMA No.2: Dinting Vale**

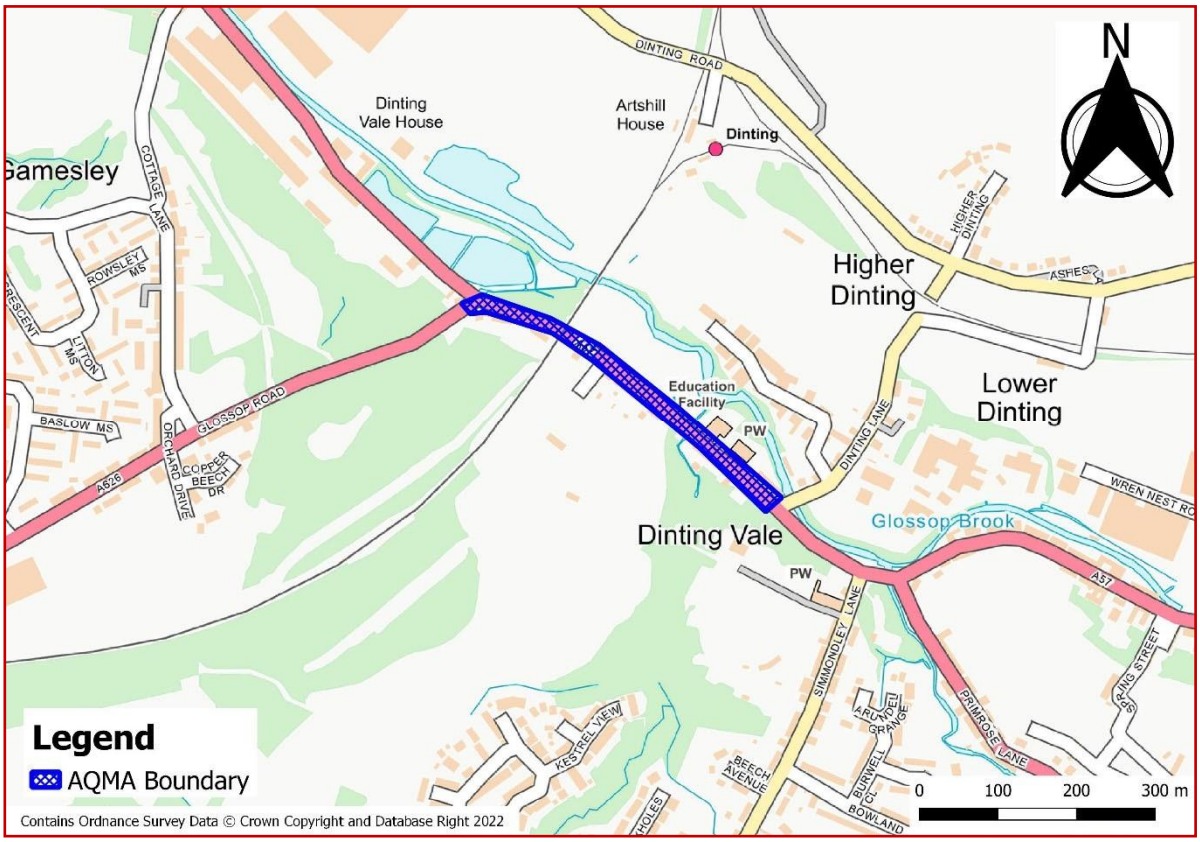



**Figure 2.7 A57 Dinting Vale, East Bound (Dinting Vale)**


## 2.3 AQMA No.3 Fairfield Road

- **Extent:** A section of the A6 Fairfield Road and A53 Buxton between the A6 Fairfield Road /Alma Steet junction through to the A53 Bridge Street and ending at the railway viaduct on the A53 Bridge Street.
- **Declared**: September 2023.
- **Pollutant:** Nitrogen Dioxide ($NO_2$) Annual Mean.

Fairfield Road (A6) is one of the major road arteries in Buxton, connecting Buxton with Stockport and beyond to Greater Manchester. The road is used by approximately, 21,700 vehicles daily, with around 79 % of these being cars and taxies and 7% HGVs.

Air Quality Monitoring and a conservative detailed assessment, undertaken in 2023 (Appendix C) identified exceedances and potential exceedances of the annual mean $NO_2$ objective at relevant locations, immediately adjacent to the road, and necessitated that an Air Quality Management Area (AQMA) be declared.

HPBC Air Quality Management Area No.3: Fairfield covers a 630m stretch of the A6

(and A53) between A6 Fairfield Road /Alma Steet junction, through to the A53 Bridge Street and ending at the railway viaduct on the A53 Bridge Street, incorporating 104 properties. This is shown in The heavy traffic flow along the A6 in and out of Buxton can lead to congestion notably at peak times. This can be compounded further by additional factors that affect the traffic flow; such as, mini-roundabouts, pedestrian traffic lights and frequent road works.

The topography of AQMA No.3 may also affect vehicle emissions, with Fairfield Road having a generally increasing incline moving northbound with an average gradient of around 4%. An example of traffic / gradient along the A57 during evening is shown in Figure 2.9.

**Figure 2.8** and available online: 2320_2_HPBC AQMA No.3 Fairfield.pdf

The heavy traffic flow along the A6 in and out of Buxton can lead to congestion notably at peak times. This can be compounded further by additional factors that affect the traffic flow; such as, mini-roundabouts, pedestrian traffic lights and frequent road works.

The topography of AQMA No.3 may also affect vehicle emissions, with Fairfield Road having a generally increasing incline moving northbound with an average gradient of around 4%. An example of traffic / gradient along the A57 during evening is shown in Figure 2.9.

**Figure 2.8 Location of AQMA No.3: Fairfield Road**

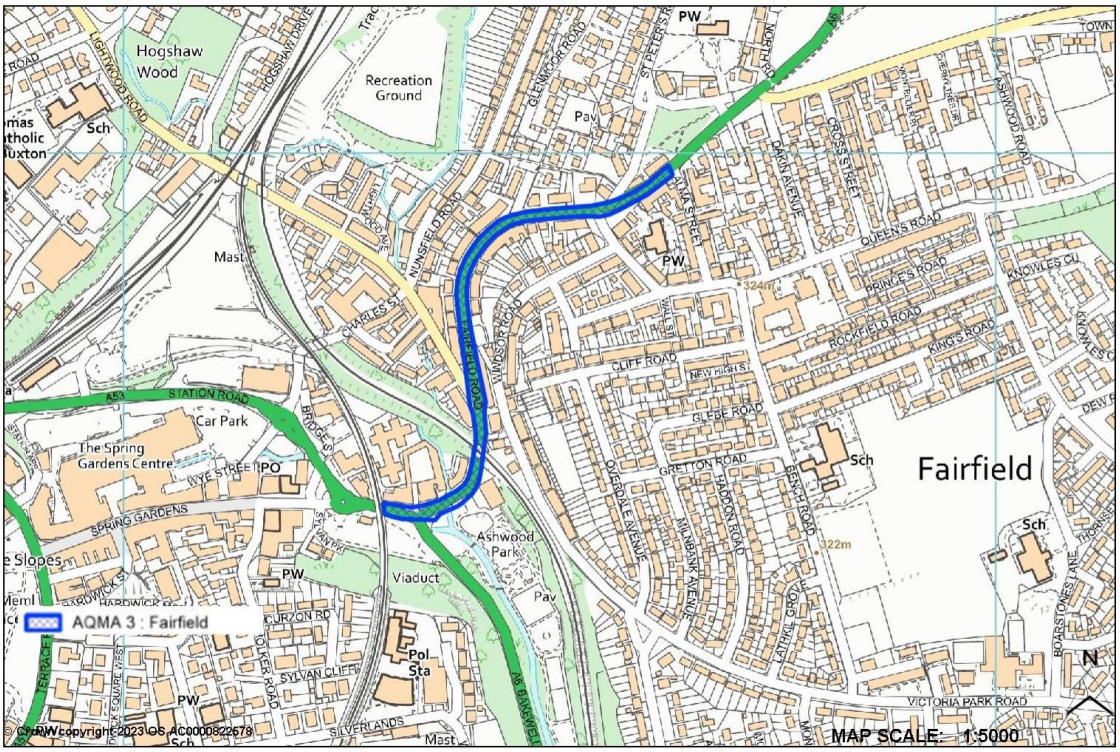



**Figure 2.9 Fairfield Road (A6), North Bound, Buxton**


## 2.4 Review of Air Quality Monitoring

High Peak Borough Council Air Quality Action Plan – 2025 - 2030

### 2.4.1 Local Automatic Air Quality Monitoring

During 2023, High Peak Borough Council did not undertake any automatic (continuous) monitoring. However, there is an Automatic Urban and Rural Network (AURN) site located within the borough, located at Ladybower.

### 2.4.2 Local Non-Automatic Air Quality Monitoring

During 2023, High Peak Borough Council's non-automatic monitoring programme consisted solely of recording $NO_2$ concentrations using a network of 54 sites.

The details of the diffusion tube monitoring within each AQMA for 2023 are shown in Table 2.1.

In 2023, two additional diffusion tube monitoring sites were established in AQMA No.1 Tintwistle; HP62 (installed to increase coverage of AQMA No.1 on the Northbound side) There was one reported exceedance of 43.6 µg/m$^3$, which was reported by HP5. It should be noted however, that following distance correction to predict annual mean concentrations at the nearest receptor, the annual mean of HP63 fell to 34.2 µg/m$^3$, which is no longer within 10% of the AQS objective (36 µg/m$^3$).

Within AQMA No.2 Dinting Vale, two sites were removed only leaving HP21 and HP25. One site in 2023 recorded an annual mean that was within 10% of the AQS objective: 37.4 µg/m$^3$ at site HP25. Following distance correction however, the annual mean fell to 28.4 µg/m$^3$, which is no longer within 10%. HP21 saw a slight increase to 30.3 µg/m$^3$ in 2023.

Within the newly declared AQMA No. 3: Fairfield (formerly the Fairfield area of concern), 2 sites reported exceedances of the annual mean AQS objective (42.5 µg/m$^3$ at site HP33 and 41.0 µg/m$^3$ at HP41) and 2 sites reported annual means within 10% of the AQS objective (37.5 µg/m$^3$ at HP42, and 35.3 µg/m$^3$ at HP44). After distance correction, only one exceedance was reported at HP33, and the concentrations at 2 sites fell beneath 10% of the AQS objective at the nearest receptor 31.6 µg/m$^3$ at HP42 and 35.3 µg/m$^3$ at HP44.

**Table 2.1 - High Peak Borough Council Diffusion Tube Monitoring in AQMAs**

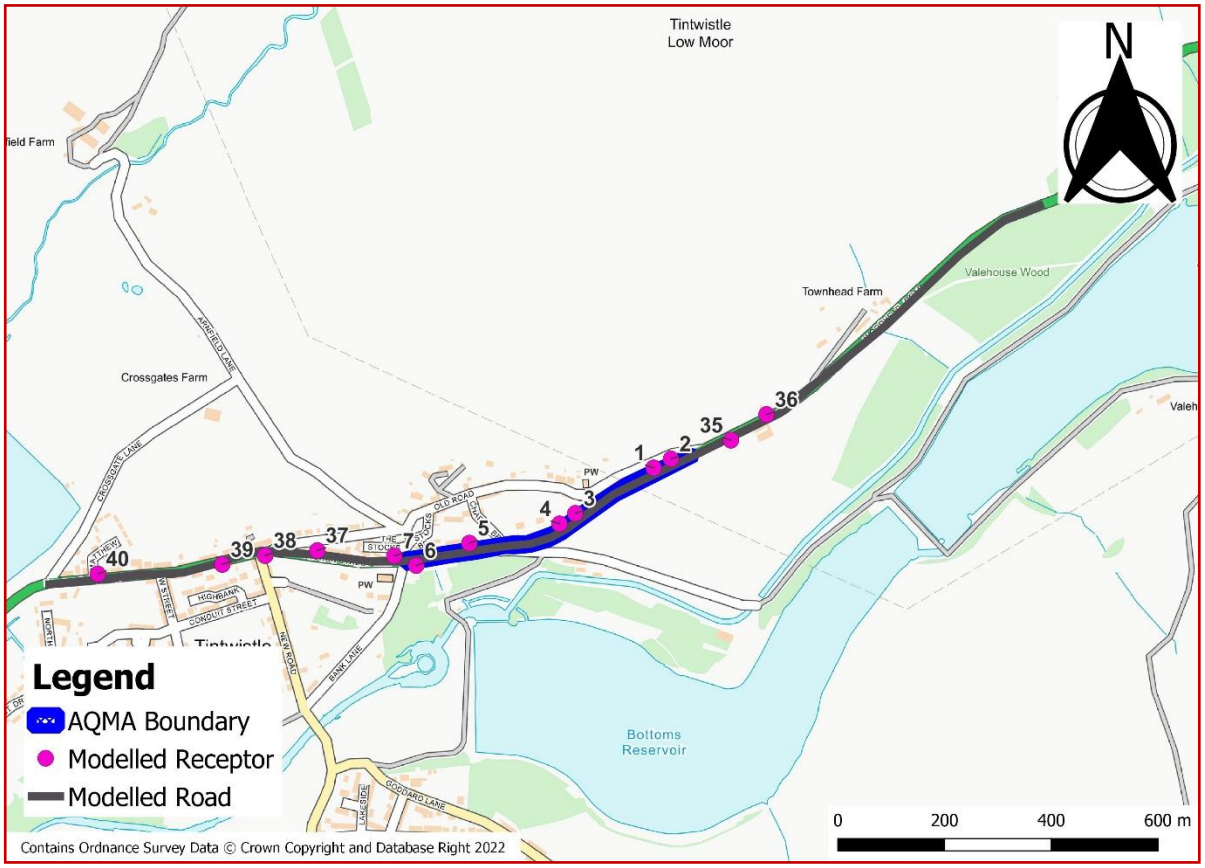
| Site ID | Location | Distance to Road (m) | Annual Mean NO2 Concentration (µg/m$^3$) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| **Within AQMA 1 (Tintwistle)** | | | | | | | | |
| **HP5** | 81 Woodhead Road, Tintwistle | 4.8 | **47.0** | 37.4 | 20.3 | 32.9 | 35.2 | **43.6** |
| **HP6** | 75 Woodhead Road, Tintwistle | 4.1 | 32.8 | 30.0 | 19.7 | 26.5 | 26.0 | 24.9 |
| **HP8** | 34 Church Street, Tintwistle | 2.1 | 39.3 | 35.5 | 24.8 | 30.6 | 27.8 | 26.6 |
| **HP62** | Tintwistle – Woodhead Road & Bank Row(L5) EB | 1.5 | - | - | - | - | 31.6 | 30.7 |
| **HP63** | Tintwistle – Woodhead Road (L6) EB | 1.2 | - | - | - | - | **42.7** | **42.7** |
| **Within AQMA 2 (Dinting Vale)** | | | | | | | | |
| **HP21** | Dinting School (A57) | 1.6 | **41.3** | 38.9 | 29.3 | 32.4 | 29.8 | 30.3 |
| **HP25** | A57 / Dinting Vale / Glossop Road (West Bound) | 0.6 | **53.6** | **46.3** | 36.1 | 36.6 | 37.6 | 37.4 |
| **AQMA 3 Buxton ( Fairfield Road)** | | | | | | | | |
| **HP33** | 136 Fairfield Road | 2.9 | **48.2** | **45.4** | 33.8 | 39.1 | 37.3 | **42.5** |
| **HP41** | 22 Fairfield (South Bound) | 2.1 | - | **44.4** | 34.1 | 35.4 | 36.8 | **41.0** |
| **HP42** | 52 Fairfield (North Bound) | 2.2 | - | **50.3** | 36.5 | **43.7** | **45.5** | 37.5 |
| **HP43** | 101 Fairfield (South Bound) | 1.5 | - | 34.0 | 26.5 | 27.3 | 29.6 | 29.1 |
| **HP44** | Bulls Head Fairfield (North Bound) | 1.6 | - | 36.2 | 30.6 | 36.6 | **40.7** | 35.3 |
| **HP64** | Buxton - Spring Gardens NB | 1.5 | - | - | - | - | 27.1 | 26.1 |
| **HP65** | Buxton - Fairfield Road, Brooklyn Place NB | 2.3 | - | - | - | - | 26.2 | 24.3 |

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

## 2.5 Modelling Results

A modelling exercise was completed using the above monitored concentrations to complete a detailed dispersion model. Full details of which are available in the Technical Assessment appendices to the AQAP. The modelled domain selected key sensitive receptors across the three AQMA areas, as shown below. The modelled results are shown below for the baseline assessment year of 2019.

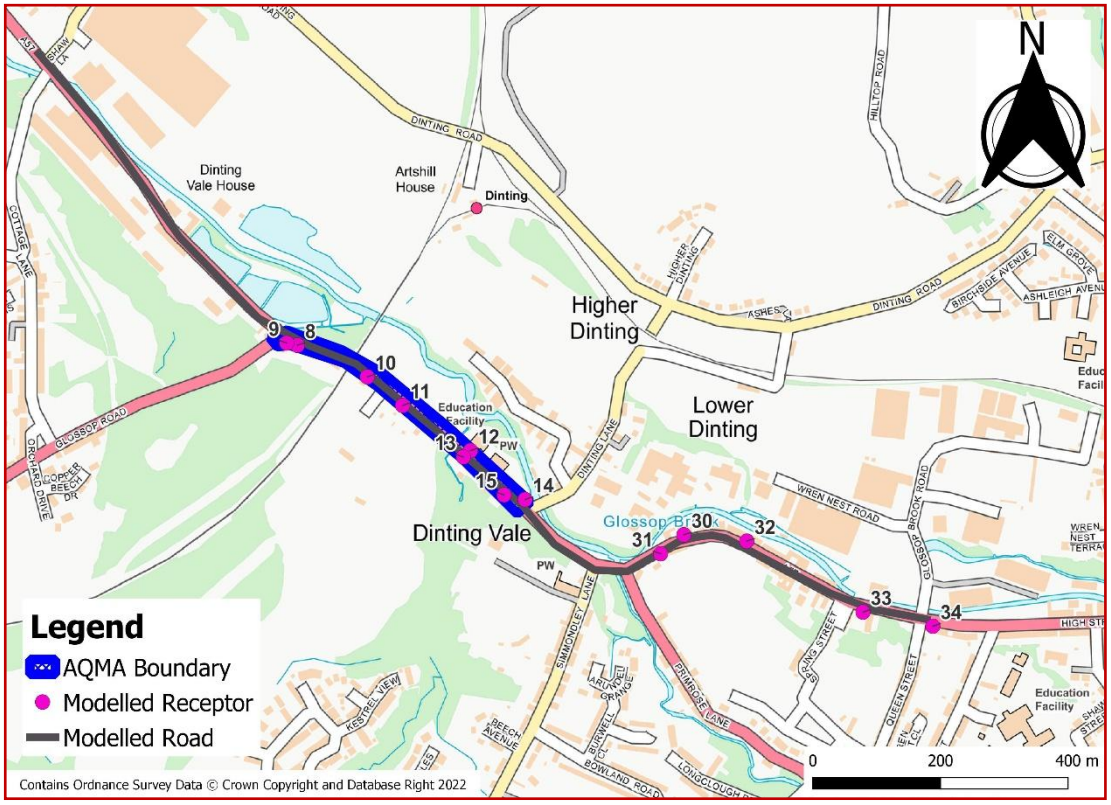
**Figure 2.10 AQMA No.1 (Tintwistle) Modelled Receptors**



## Table 2.2 Modelled Results in AQMA No.1 (Tintwistle)

| Receptor ID | X | Y | 2019 Annual Mean Modelled Concentration (µg/m$^3$) | | |
|---|---|---|---|---|---|
| | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **1** | 402685 | 397440 | 33.7 | 14.0 | 9.2 |
| **2** | 402718 | 397456 | 32.6 | 13.8 | 9.1 |
| **3** | 402538 | 397356 | 29.2 | 12.9 | 8.6 |
| **4** | 402509 | 397336 | 31.5 | 13.5 | 8.9 |
| **5** | 402340 | 397301 | 28.8 | 13.1 | 8.6 |
| **6** | 402240 | 397259 | 27.8 | 11.6 | 7.8 |
| **7** | 402199 | 397277 | 30.6 | 12.6 | 8.4 |
| **35** | 402830 | 397491 | 24.3 | 12.2 | 8.1 |
| **36** | 402897 | 397538 | 33.3 | 13.9 | 9.1 |
| **37** | 402055 | 397287 | 27.3 | 12.5 | 8.3 |
| **38** | 401957 | 397278 | 27.5 | 12.1 | 8.1 |
| **39** | 401877 | 397261 | 28.6 | 12.6 | 8.4 |
| **40** | 401644 | 397244 | 28.9 | 12.9 | 8.5 |

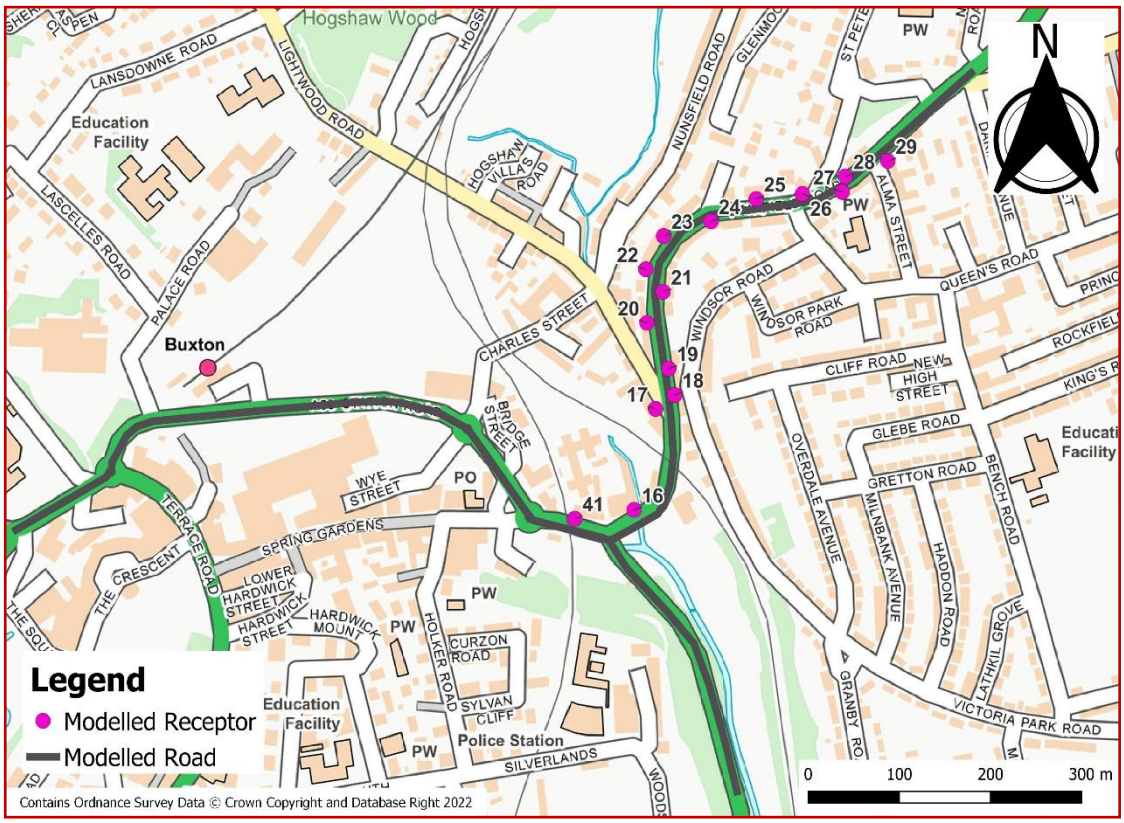
## Figure 2.11 AQMA No.2 (Dinting Vale) Modelled Receptors



## Table 2.3 Modelled Results AQMA No.2 Dinting Vale

| Receptor ID | X | Y | 2019 Annual Mean Modelled Concentration (µg/m³) | | |
|---|---|---|---|---|---|
| | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **8** | 401797 | 394507 | **48.0** | 12.7 | 8.5 |
| **9** | 401780 | 394510 | *39.9* | 12.2 | 8.2 |
| **10** | 401906 | 394458 | 32.4 | 12.9 | 8.5 |
| **11** | 401962 | 394414 | 32.4 | 13.1 | 8.6 |
| **12** | 402068 | 394345 | *36.7* | 13.7 | 9.0 |
| **13** | 402057 | 394335 | 29.2 | 12.4 | 8.2 |
| **14** | 402153 | 394269 | **47.6** | 13.7 | 9.1 |
| **15** | 402121 | 394277 | 32.0 | 12.5 | 8.3 |
| **30** | 402402 | 394215 | 36.3 | 13.5 | 8.9 |
| **31** | 402366 | 394186 | 31.3 | 12.5 | 8.3 |
| **32** | 402501 | 394205 | 40.8 | 14.4 | 9.4 |
| **33** | 402683 | 394096 | 24.2 | 11.7 | 7.7 |
| **34** | 402792 | 394075 | 24.4 | 11.7 | 7.8 |
| **35** | 402830 | 397491 | 24.3 | 12.2 | 8.1 |

## Figure 2.12 Modelled Roads & Sensitive Receptors - Fairfield Road AQMA



### Table 2.4 Modelled Concentrations AQMA no. 3– Fairfield Road

| Receptor ID | X | Y | 2019 Annual Mean Modelled Concentration (µg/m$^3$) | | |
|---|---|---|---|---|---|
| | | | $NO_2$ | $PM_{10}$ | $PM_{2.5}$ |
| **16** | 406366 | 373609 | **50.6** | 17.3 | 10.6 |
| **17** | 406390 | 373717 | 35.6 | 15.2 | 9.3 |
| **18** | 406411 | 373732 | **52.7** | 18.1 | 11.0 |
| **19** | 406404 | 373760 | **52.4** | 18.0 | 11.0 |
| **20** | 406380 | 373809 | **44.3** | 16.7 | 10.2 |
| **21** | 406398 | 373842 | **50.0** | 17.6 | 10.8 |
| **22** | 406379 | 373866 | **45.4** | 16.8 | 10.3 |
| **23** | 406399 | 373901 | **46.0** | 17.0 | 10.3 |
| **24** | 406451 | 373917 | **41.7** | 16.2 | 9.9 |
| **25** | 406500 | 373941 | **50.7** | 17.7 | 10.8 |
| **26** | 406551 | 373947 | **63.0** | 18.8 | 11.6 |
| **27** | 406594 | 373948 | **42.2** | 15.8 | 9.7 |
| **28** | 406598 | 373965 | **59.5** | 19.3 | 11.8 |
| **29** | 406644 | 373982 | 27.5 | 14.4 | 8.7 |
| **41** | 406301 | 373599 | **49.8** | 16.7 | 10.3 |

## 2.6 Public Exposure

The borough of High Peak is situated Derbyshire. There are approximately 90,000 residents currently residing within the borough[4]. Based on the 2020 Lower Layer Super Output Area Population Estimates[5] (LSOA), there are approximately 13 residents within AQMA No.1, 15 within AQMA No.2 and 50 within AQMA No.3. Information from the Indices of Multiple Deprivation (IMD), which are based on deciles of multiple factors of deprivation, and the median age are also included in Table 2.5. The lower the score, the more deprived the area. The IMD varies from 1 to 10 with 1 being most deprived and 10 being least deprived.

[4] Office for National Statistics: Census 2021 Estimates of the population for the UK, England, Wales, Scotland and Northern Ireland. Available at: <https://www.ons.gov.uk/>
[5] Office for National Statistics: Mid-2020 Population Estimates for Lower Layer Super Output Areas in England and Wales. Available at: <https://www.ons.gov.uk/>

### Table 2.5 Population Exposure within High Peak AQMAs

| AQMA | Estimated Population | Average IMD | Median Age |
|---|---|---|---|
| AQMA No.1 | 13 | 5.0 | 38.5 |
| AQMA No.2 | 15 | 7.4 | 43.8 |
| AQMA No.3 | 50 | 4.0 | 49.5 |

As indicated in Table 2.5, AQMA No.3 has the greatest population of the three AQMAs within HPBC. The median age for High Peak is 43.8, compared to the median age for England which is reported as 42. AQMA No.1 has a slightly younger population than the regional and national averages. AQMA 2 has a slightly older population than the national averages and AQMA 3 has an older population by 7.5years compared to the national average.

# 3 High Peak Borough Council's Air Quality Priorities

This chapter presents the main drivers and the approach taken by High Peak Borough Council for the development and subsequent selection of measures that have been included within this AQAP. Included within this section of the AQAP are descriptions of the existing strategies and policies that relate to air quality within the Borough.

A source apportionment study has been completed across the Borough as part of the detailed assessment of the three AQMAs. This is presented in Appendix C. The source apportionment study confirmed that the most significant sources of oxides of Nitrogen ($NO_x$) within all the AQMAs are from vehicles.

In conjunction with the strategies and policies that are currently in place, the conclusions of this apportionment exercise have been used to identify and prioritise the action measures presented within Section 5.

## 3.1 Public Health Context

Poor air quality represents the largest environmental risk to public health in the UK, long-term exposure to air pollution can cause chronic conditions such as cardiovascular and respiratory diseases as well as lung cancer, leading to reduced life expectancy[6]. Pollutants including Nitrogen Dioxide ($NO_2$) and particulate matter ($PM_{10}$, $PM_{2.5}$) are still responsible for 40,000 premature deaths each year nationally according to study by Royal College of Physicians[7]. About 4.9% of all deaths across High Peak were attributable to 'fine' particulate matter ($PM_{2.5}$) in 2023 (Public Health England)[8]. Furthermore, it is estimated that between 2017 and 2025 the total cost to the NHS and social care system of air pollutants (fine particulate matter and nitrogen

[6] https://www.gov.uk/government/publications/air-pollution-applying-all-our-health/air-pollution-applying-all-our-health
[7] https://rcp.ac.uk/media/jzul5jgn/every-breath-we-take-the-lifelong-impact-of-air-pollution-full-report.pdf
[8] Public Health Outcomes Framework, Public Health England. data tool available online at https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/3/gid/1000043/pat/6/ati/501/are/E07000037/iid/93861/age/230/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1/page-options/car-do-0

dioxide), for which there is more robust evidence for an association, will be £1.6 billion.

There is increasing interest and pressure from members of public for local authorities to actively tackle and reduce air pollution in their areas. Previously, there had been no deaths officially linked to air pollution, however in 2020 the first person in the UK had 'air pollution' listed as a cause of death. Although currently there are no legislative outcomes as a result of this, this further increases the pressure and duty of care that local authorities have in order to protect their residents.

Typical trends within the UK show that air pollution tends to affect 'hotspots' (such as roads and traffic intersections etc), and although there may be many contributory causes, diesel engines are particularly recognised as a causal factor. Generally, more air pollution sources, and higher pollutant concentrations are found in more socially disadvantaged areas, consequently air pollution tends to cause most harm to people in socially deprived groups. Air pollution also negatively impacts upon the health of protected ecosystems, and agricultural productivity.

## 3.2 Planning and Policy Context

There are a number of related policies and strategies at the local and regional level that can be tied in directly with the aims of the AQAP. A majority of these policies and strategies are focused on transportation issues and, therefore are likely to help contribute to overall improvements in air quality across the High Peak area. The review of these strategies and policies also assists in not duplicating the work within this AQAP but instead focus on measures outside those considered within these strategies and policies, but that still contribute toward their overall aims.

Local policies contained within the Local Transport Plan for Derbyshire, the Peak District National Park Core Strategy and the Local Plan for High Peak all aim to reduce traffic across High Peak. These policies are currently being implemented through the inclusion of planning conditions.

Environmental Health are a consultee on planning applications and routinely monitor all applications for potential contribution to air quality to ensure that any potentially

unacceptable increases in pollutants are identified and mitigated.

A local authority that contains an AQMA is required to provide an AQAP under Part OV of the Environment Act and Part III of the Environment (NI) Order 2002. The AQAP should be prepared within 18 months of the AQMA declaration as stated in Policy Guidance LAQM.PG22. AQAPs are required to be reviewed regularly under The Environment Act, and the AQAP is to be revised should the local authority consider that further changes are required.

### 3.2.1 Environmental Improvement Plan

The Environmental Improvement Plan[9] had its first revision in 2023 since being published as the 25 Year Environment Plan in 2018. The document sets out the UKs vision of action for the natural world for the next quarter century. To achieve this the document sets 10 goals to help direct and measure progress. Goal 2: Clean air is relevant to this AQAP.

The following text has been pulled from the document and highlights the targets the UK has proposed for achieving reduced emissions and subsequently 'clean' air:

*…"A legal target to reduce population exposure to $PM_{2.5}$ by 35% in 2040 compared to 2018 levels, with a new interim target to reduce by 22% by the end of January 2028.*

- *Legal concentration limits for a number of other key pollutants. We already meet the majority of these limits including for sulphur dioxide and coarse particulate matter. We are working towards meeting compliance with a 40 µg/m3 limit for nitrogen dioxide.*
- *A legal target to require a maximum annual mean concentration of 10 micrograms of $PM_{2.5}$ per cubic metre (µg/m3) by 2040, with a new interim target of 12 µg/m3 by the end of January 2028.*
- *Legal emission reduction targets for five damaging pollutants by 2030 relative to 2005 levels:*

[9] https://assets.publishing.service.gov.uk/media/64a6d9c1c531eb000c64fffa/environmental-improvement-plan-2023.pdf

- *Reduce emissions of nitrogen oxides by 73%. • Reduce emissions of sulphur dioxide by 88%.*
    - *Reduce emission of $PM_{2.5}$ by 46%.*
    - *Reduce emissions of ammonia by 16%.*
    - *Reduce emissions of non-methane volatile organic compounds by 39%."…*

### 3.2.2 Clean Air Strategy 2019

The Clean Air Strategy[10] has been published to set out the case for action at a national level, identifying a number of sources of air pollution within the UK including road transportation (relevant in terms of the City of Lancaster AQMA) and sets out the actions required to reduce the impact upon air quality from these sources. It has been developed in conjunction with three other UK Government Strategies; the Industrial Strategy, the Clean Growth Strategy, and the 25 Year Environment Plan.

Key actions that are detailed within the strategy aimed at reducing emissions from transportation sources include the following:

- The publication of the Road to Zero strategy, which sets out plans to end the sale of new conventional petrol and diesel cars and vans by 2040;
- New legislation to compel vehicle manufacturers to recall vehicles and non-road mobile machinery for any failures in emission control systems, and to take effective action against tampering with vehicle emissions control systems;
- Develop new standards for tyres and brakes to reduce toxic non-exhaust particulate emissions from vehicles. This action would not necessarily target reductions in $NO_2$ for which the AQMAs within Lancaster has been declared;
- The encouragement of the cleanest modes of transport for freight and passengers; and
- Permitting approaches for the reduction of emissions from non-road mobile machinery, especially in urban areas.

[10] Department for Environment, Food and Rural Affairs (2019), Clean Air Strategy.

### 3.2.3 Air Quality Strategy 2023

In August 2023, the Air Quality Strategy[11] superseded the previous Air Quality Strategy (2008).

The strategy plans to set out a framework to enable local authorities to deliver for their communities and contribute to the governments long term air quality goals, this includes the new targets for $PM_{2.5}$.

The Air Quality Strategy is designed for local authorities in England with the focus on three main pollutants, $PM_{2.5}$, $NO_x$ and $NH_3$.

Section 3 of the strategy identifies clear requirements for local authorities to accompany declared AQMA's with an AQAP to provide measures and dates by which they will be carried out. The Air Quality Strategy looks to implement this as air quality is a significant environmental threat to public health. Directors of Public Health are expected to be involved and collaborate with action plans and strategies with other departments and strategies such as climate change. The expectation is that local authorities and their partners deliver air quality improvements within reasonable timeframes. Local authorities should consider prevention and reduction of polluting activities in preference to only taking steps to improve air quality once exceedances have been identified.

### 3.2.4 UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations

Published in July 2017, the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)[12] is the UK governments plan for bringing concentrations of $NO_2$ within statutory limits within the shortest possible time. It is identified that the most immediate air quality challenge within the UK is tackling the issue of $NO_2$ concentrations close to roads, especially within towns and cities. The plan identifies a number of local authorities that were required to complete feasibility studies to define $NO_2$ concentrations on road links identified by the national Pollutant

[11] https://www.gov.uk/government/publications/the-air-quality-strategy-for-england/air-quality-strategy-framework-for-local-authority-delivery

[12] Department for Environment, Food and Rural Affairs, Department for Transport (2017), UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)

Climate Mapping (PCM) model as being in exceedance of the $NO_2$ annual mean objective as set out within the Ambient Air Quality Directive 2008/50/EC.

The UK Plan provides a high level of detail on possible solutions, and their implementation, to reduce $NO_x$ emissions from vehicles, and therefore lower $NO_2$ concentrations. The actions detailed within the UK Plan include the following:

- Implementation of Clean Air Zones (CAZs);
- New real world driving emissions requirements for light passenger and commercial vehicles;
- Additional funding to accelerate the uptake of low emissions buses and also for the retrofitting of older buses;
- Additional funding to accelerate the uptake of hydrogen vehicles and associated infrastructure;
- New mandatory emissions standards for non-road mobile machinery; and
- Local cycling and walking investment plans.

### 3.2.5 High Peak Borough Plan 2023-2027

The High Peak Brough Plan sets out to achieve excellence in the delivery of high-quality services that meet the needs and aspirations of our communities. The first aim is supporting our communities to create a healthier and safer and the fourth is to protect and improve the environment and respond to climate change.

### 3.2.6 Local Plan (2016 - 2031)

The High Peak Local Plan (2016-2031) was formally adopted in April 2016 and provides a framework for delivering development for the period 2016 to 2031, by setting out the development strategy, strategic and development management policies and land designations for the Borough.

Several of the previous policies were updated at this time to reflect a need to improve the environment including air quality: The key policies are:

- Policy EQ1: Climate Change:  Seeks low carbon / renewable sources and development that mitigates and adapts to climate change.
- Policy EQ 10 on Pollution Control and Unstable Land states that: “The Council will protect people and the environment from unsafe, unhealthy and polluted environments.
- Policy CF6 Accessibility and Transport; states that Assessments required to accompany relevant proposals under Policy CF6 should include consideration of the impact of proposals on air quality.

The adopted Local Plan 2016 has now been declared partially out of date. A review of the Local Plan has now commenced to update the policies deemed out of date and consider the scope for wider amendments.

The timetable for the preparation of the new Local Plan and other planning policy documents is provided in the Council's new Local Development Scheme 2025 and will include further strengthen policies around to climate charge and air quality. Provisionally the plan is scheduled for adoption in 2026.

### 3.2.7 Developer Contributions Supplementary Planning Document (SPD)

The Council adopted a new Developer Contributions SPD in 2023. The SPD sets out details regarding the Council's approach to planning obligations and the types of contributions that will be required and makes specific reference to contributions to mitigate air quality impacts.

### 3.2.8 Climate Change Action Plan

High Peak Borough Council declared a Climate Emergency in 2019. The declaration commits the Council to become carbon neutral in its internal operations and the services it delivers, by 2030, and to work with partners to help achieve this target for the High Peak as a whole

In 2021, HPBC published a Climate Change Action Plan (CCAP), which details how the Council will achieve this both within area’s where HPBC has direct control and by

working with key stakeholders and partner organisations, to help the whole borough to achieve net zero.

Although, the CCAP is primarily targeted at reducing carbon emissions, many of the proposed actions are complimentary to the actions proposed to tackle air pollution and are therefore often being jointly implemented.

The key / complimentary actions in the CCAP are:

- Action 2.1: Reduce emissions from Council vehicles and Council related activity.
- Action 2.2: Reduce transport-related emissions by encouraging sustainable development.
- Action 2.3: We will encourage and support the increased use of EV vehicles.
- Action 2.4: We will work in partnership to reduce travel and transport related emissions.
- Action 2.5: We will encourage people to make journeys by walking or cycling ("active travel") rather than by car.
- Action 5.2: We will protect and enhance the existing green infrastructure resource within the towns and villages We will develop and extend the existing elements of green infrastructure, where necessary, to create a multi-functional network that links existing and proposed green spaces.

### 3.2.9 Local Transport Plan 2011 - 2026

The Derbyshire Local Transport Plan (LTP3) published by Derbyshire County Council sets out the strategic transport strategy for Derbyshire transport between 2011–2026. The strategy was informed by a strategic environmental assessment (SEA) that and puts forward several objectives that impact on air quality:

- SEA4: To reduce motorised traffic growth through a combination of demand management measures, land use planning and encouragement of the use of more sustainable travel modes.
- SEA10: Reduce transport's emissions of carbon dioxide and other greenhouse

gases, with the desired outcome of tackling climate change.

- SEA11: Reduce the emission of air pollutants from transport in declared Air Quality Management Areas which relate to local traffic.

The SEA also helped inform related Policy Statements:

Policy Statement- Local Accessibility (TLA1 –8), are designed to minimise the impacts of new developments on the surrounding local networks (highway, public transport, cycling and walking) either by their location, or by implementing measures to alleviate those impacts, such as active travel.

Policy Statements – Freight

- TFR1 seek to open rail lines and rail-served sites where potential exists for future freight use.

Policy statements – environment (TENV1-4)

- TENV3- requires that consideration should be given to the appropriateness of providing infrastructure for alternative vehicle technology, such as the installation and operation of EV charging points in new developments.
- TENV4- Ensure transport elements of developments pay sufficient account to environmental issues Interventions to support the local economy in this and other settlements.

To support mitigation measures by the above policies, DCC has developed an Investment Protocol: Environmental Mitigation and Enhancement – to incorporate environmental mitigation and enhancement in all LTP programme areas.

Derbyshire County Council are in the process of developing a new Integrated Local Transport Plan, emphasis on three key themes, which are growing and levelling of the economy, improving transport for users and reducing environmental impacts.

In support of the aims of the current (and future) LTP, the Connected Future Project was launched in 2022 by DCC, funded by the Derbyshire Highways Hub Advanced Real Time Information (DHART) project, the Bus Service Improvement Plan (BSIP) and the A61 Growth Fund. The project aims to:

- Ensure resilient, healthy and safe communities by improving transportation

links and network efficiency, helping to improve air quality

- Provide high performing, value for money and resident focused services by providing a variety of sustainable transportation options, ensuring our services work together reducing costs and increasing overall network performance
- Creating a prosperous and green Derbyshire by maximising network efficiency, improving facilities for sustainable transport whilst managing the network for improved air quality.

The current key initiatives regarding air quality noted below:

- *Implementation of a Network Intelligence System.* This gathers data from a wide range of static and real-time information sources including, but not limited to, road works, traffic signals, real-time bus information, close circuit television (CCTV), floating vehicle data, variable messaging signs (VMS), meteorological data systems and car parks. The aim to is to connect to all our relevant data gathering systems associated with managing our network as well as other highway authority network information feeds.
- *Pre-emptive Traffic Management Systems (PTMS)* system gathers real-time traffic data, which is gathered from sources including, but not limited to, mapping applications on mobile phones, Bluetooth data, count sites, ANPR cameras and vehicle manufacturers data It provides a real-time network analysis of congestion and highlights areas of the network that may require an intervention to improve flow. Users will be provided with the option to share anonymous location data used to inform other network users of vulnerable road users within their vicinity via a free mobile application – The Drive Application. Derbyshire endeavours to work with vehicle manufacturers to enable this information to be displayed within the vehicle systems.
- *Urban Traffic Control System (UTC)* The UTC system has been deployed to manage our signal-controlled junctions and crossings providing real-time fault management and analysis. On key strategic routes and within key urban areas the system will proactively manage the network using Split

Cycle Offset Optimisation Technique (SCOOT).

### 3.2.10 Derbyshire County Bus Service Improvement Plan 2024 (BSIP)

Derbyshire's Bus Service Improvement Plan 2024 (BSIP), sets out the vision and plan for improving bus services and growing bus patronage across Derbyshire , in line with the National Bus Strategy. The plan sets out ambitious proposals to achieve this goal including:

- measures to improve bus service reliability and journey times;
- measures to improve integration between different bus services and between; bus and rail including the development of transport hubs at important locations to help bring services together;
- the introduction of more environmentally friendly buses.

Following the successful submission of the bus service improvement plan (BSIP) to the Department for Transport, DCC have produced an Enhanced Partnership Plan (EP Plan) which formally adopted the EP plan between the Council and bus operators. The key targets in the EP Plan with regards to Air Quality / emissions (years 1-5) are:

- Implement steps and programme to achieve 95% Euro 6 or better by end 2029/30, including a fleet engine retrofit programme.
- Develop plans for hydrogen and/or electric infrastructure. Initial hydrogen buses to be in operation within 4 years subject to BSIP funding.

In 2022, the council were awarded £47m in funding over three years from the department of transport to implement a number of the proposals in the BSIP.

### 3.2.11 Derbyshire County Council Climate Change Strategy (2021-2025)

The Derbyshire County's Climate Chage Strategy was issued in 2021 and details the actions the council will undertake to become a net zero organisation by 2032 and measures it will implement to help the county to be net zero by 2050; The Strategy contains 28 priority targets across five key areas (four county-wide, one concerning

the Co Theme 1 – Council Estate and Operations council's estate and operations):

- Theme 2 – Low Carbon Economy
- Theme 3 – De carbonising the domestic sector
- Theme 4 - Transport Travel and Infrastructure
- Theme 5 – Waste

### 3.2.12 Vision Derbyshire County Council Climate Change Strategy (2022-2025)

Vision Derbyshire is a shared commitment across Derbyshire's County, district and borough councils, to strategically collaborate to improve outcomes for people and places, speak with one voice as a county, and coordinate our resources better and more sustainably. The Strategy sets out what needs to be done to reduce emissions across the county to net zero by 2050, or sooner, and how Derbyshire's councils will work to achieve this through a series of ambitions and priorities, supported by an action plan. The Framework contained a number of themes under which strategies and actions could be agreed, these were:

- Theme 1 – Energy
- Theme 2 – Travel
- Theme 3 – Air Quality
- Theme 4 – Natural Environment
- Theme 5 – Partnership Working

This includes a range of actions specific measures to reduce carbon emissions and behavioural change that would also benefit air quality to air quality:

- Accelerate the shift to electric vehicles through improving charging point infrastructure and promoting the uptake in these vehicles.
- Reduce the modal share of cars, vans and motorbikes in travel.
- Support the uptake of low and zero carbon transport for personal and business purposes.
- Improve public transport services and infrastructure and increase its modal

share.

- Increase the modal share of active transport (walking and cycling).
- Promote the use of zero carbon fuel sources for transport.
    - Decrease the distance travelled by road freight where possible and promote the use of more efficient vehicles

### 3.2.13 Derbyshire County Council Sustainable Modes of Travel Strategy

The Derbyshire County Council sustainable modes of travel strategy contain information on activities and interventions, undertaken by The County Council to promote sustainable travel to school, in particular the promotion of sustainable and active travel and transport modes. The key objectives are:

- contribute towards the immediate and long-term health and well-being of children and young people through active travel;
- to reduce road traffic, ease congestion and reduce carbon emissions, especially on routes to schools through active travel and the use of public transport and car sharing;
- to allocate resources, where these are available, that create, sustain and maintain a transport infrastructure that is conducive to active, healthy, safe and environmentally friendly ways of travelling to school;
- to use travel planning to create a culture of active and sustainable travel among children and parents that has a long-term impact on future travel choices.

These will be achieved by working with schools, parents, pupils and partnership agencies to more active modes of travel by promoting walking, cycling and scooting, public transport and car sharing through activities and initiatives such as:

- Promotion Mode Shift STARS School Travel Plans
    - Modeshift STARS is the national school's awards scheme that has been established to recognise schools that have demonstrated excellence in

supporting cycling, walking and other forms of sustainable travel.

- Walking
    - by ensuring, where possible, that the walking realm around schools is conducive to travelling by foot
    - by encouraging schools to take part in walk to school campaigns such as the Council's successful initiative – Travel Smart
    - by encouraging park & stride and walking bus initiatives where these are appropriate and
- Cycling and Scooting
    - by promoting and providing cycle/scooter training to pupils through initiatives such as Balanceability, Bikeability and Scooter Smart.
    - by promoting School Travel maps to show the journey options for getting to school
    - by ensuring cycle/highway infrastructure takes into account its potential to support cycling to school where this is possible and appropriate.
    - the promotion of the Derbyshire Cycling Plan to the school community
- Car Sharing
    - by encouraging those who choose to travel to school by car to consider car sharing and to park responsibly.

### 3.2.14 Derbyshire County Council Cycling and Walking Plans

Derbyshire County Council publish a number of Cycling and walking plans that designed to promote and facilitate walking and cycling increase for improved health and wellbeing and support the uptake of sustainable transport modes.

### 3.2.15 Derbyshire Cycling Plan 2016-2030

The Derbyshire Cycle plan underpins DCC aim to create the most connected and integrated county for cycling in the country by:

- Connectivity: High quality connected routes, in all cycling environments, supporting all forms of cycling, creating and supporting economic growth.
- Increased Participation: Behaviour change approaches and targeted participation programmes at community level will support and enable more people to cycle, closing the gaps in participation and reducing health inequalities.
- Effective Communication and Marketing: Excellent, well-connected marketing and communications for Derbyshire residents and visitors to the County, helping to change behaviour, increase confidence and get more people cycling regularly.
- Advocacy: Cross sector advocacy for policy change and implementation at the highest level.

### 3.2.16 Local Cycling and Walking Infrastructure Plan (LCWIP)

The Local Cycling and Walking Infrastructure Plan was prepared in conjunction with Derby, Nottingham and Nottinghamshire (D2N2 partnership). The plan reflects the priorities of the Derbyshire Key Cycle Network and helped identify and prioritise potential improvements to strategic routes.

### 3.2.17 Derbyshire's Key Cycle Network (KCN)

Derbyshire's Key Cycle Network (KCN) was approved by Cabinet in 2020 and consists of the most strategic inter urban routes for commuting, tourism and leisure, catering for pedestrians, cyclists and horse riders, wherever possible. There are 770km of routes which make up the KCN. Around 400km is currently complete and open for use. The remaining 370km has been split into 127 sections, and routes have been prioritised for investment in the short, medium and long term and will be delivered when funding can be secured. These include the following, which have been allocated a medium priority, that would directly benefit the AQMAs in both Glossop

- Link 2: Pennine Bridleway/Trans Pennine Trail - Glossop Road, Gamesley A626 to Gamesley Sidings (Dinting Vale).

And Buxton

- Link 22:  Macclesfield Road to Buxton Rail Station.
- Link 17: Buxton Rail Station to Fairfield Common (A6).
- Link 21: Ladmanlow to Macclesfield Road, Buxton.

As well as a long-term priority in Glossop

- Link 3: Pennine Bridleway - Green Lane, Simmondley to Monks Road.

The Local Cycle Network (LCN) and/ or Town networks forms the connections between the KCN and destinations or town centres. DCC and HPBC are working with partners to deliver a user-friendly, well connected local network in and around towns linking neighbourhoods to jobs and other essential services.  This includes Buxton Walk and Ride project and Move More Glossop (see section 3.2.17).

### 3.2.18 Derbyshire Mobility Hub (Buxton and Hope Valley)

DCC are currently commissioning a piece of work associated with the identification of measures and countywide implementation of hub interventions with the potential to include a mobility hub at Buxton Railway Station and Hope Valley. These will include EV charging and peer to peer car sharing platform, and, to raise awareness and encourage uptake of sustainable transport.

### 3.2.19 Derbyshire Health and Wellbeing Strategy

The Derbyshire Health and Wellbeing Board sets priorities to improve health and wellbeing in Derbyshire. It supports work that brings together individuals, communities and organisations. including High Peak Borough Council, to work collectively improve air quality across Derbyshire via the ongoing implementation of the Derbyshire Joint Strategic Needs Assessment - Air Pollution.

An Air Quality Working Group has been established by the public health Derbyshire

team to explore ways to reduce air pollution locally that focuses on three strategic priorities:

- Facilitate travel behaviour change.
- Reduce sources of air pollution.
- Mitigate against the health impacts of air pollution.

The group reports annually on progress of the strategy to the Derbyshire Health and Wellbeing Board.

As part of the group's activities HPBC along with other stakeholders engaged with several promotions including:

- Producing a short video about tackling air pollution in Derbyshire.
- Promoting Travel Smart Weeks across schools in Derbyshire (e.g. Active Travel and wellbeing).
- Promotion of Clean Air Day, via social media.

### 3.2.20 Move More High Peak

Move More High Peak is collaborative strategy with and community, sports, health, and council organizations that are passionate about inspiring people to move more and make physical activity a part of their everyday lives. As part of the strategy move more will look to minimise environmental impact by encouraging environmentally friendly behaviours, such as to deciding to walk or cycle for that short journey, instead of taking the car, and work collectively to sustain and develop the infrastructure and opportunities for people who are currently active to remain so, and to make these accessible to more people in the High Peak.

In 2022, Move More High Peak supported by HPBC through the Community Climate Change Fund, ran a pilot scheme with two primary schools in Glossop, including Dinting Vale School encouraging active travel. The pilot included an assembly to talk about the benefits of walking from the wider health benefits but also the environmental benefits, including carbon footprint and Nitrogen dioxide emissions and increased the number of children and families walking, cycling & scooting to school by over 30%

In 2023, Move More Glossop commissioned Sustrans, supported by HPBC UK Shared Prosperity Fund to carry out a feasibility study on an active travel route in Glossop, the route is a safe off-road route, takes pedestrians who are community to the school away from the A57. The route links up Hadfield, Hollinworth, Gamesley and Glossop town centre, enable people to make the short car journeys around the town safely on foot or by wheeling.

### 3.2.21 Buxton Town Team

Buxton Town Team is a community organisation who want to make our town a better place to live, work and visit. The Buxton on the move is a comprehensive travel document that has been developed by the Buxton Town for a number of years, in conjunction with other voluntary groups, Derbyshire County Council, High Peak Borough Council and the University of Derby.

### 3.2.22 Buxton Future High Street fund

High Peak Borough Council has successfully secured £6.6m of Future High Street funding from the Central Government. The aim of the Future High Streets Fund is to renew and reshape town centres and high streets in a way that drives growth, improves experience and ensures future economic sustainability which means that they are not fully reliant on retail. The schemes are yet to be finalised but a key component to improve the connectivity between Buxton railway station and the town, to reduce car use and promote active travel.

### 3.2.23 Peak District National Park Core Strategy

The Peak District National Park Core Strategy includes several policies that will impact on air quality:

- Policy T1 of the Peak District National Park Core Strategy aims to reduce the need to travel and encourages sustainable transport by making the National Park's characteristics the primary criterion in planning and design decisions, by

deterring cross-park traffic, and by encouraging sustainable transport (Peak District National Park Authority, 2011).

- Policy LC21 of the Peak District Local Plan (Peak District National Park Authority, 2001) on pollution and disturbance has been retained. It is designed to prevent development that presents a risk of pollution.

## 3.3 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within the three AQMAs, with specific focus on those emissions sources which potentially contribute to the exceedances of the annual mean AQS objective for $NO_2$.to help inform the development of measures as part of the action plan stage of the project, a source apportionment exercise was carried out by High Peak Borough Council in 2023 on all AQMA's (utilising 2019 data) a $NO_x$ (oxides of nitrogen) source apportionment exercise was undertaken for the following vehicle classes:

- Petrol Cars
- Diesel Car
- Rigid HGV
- Petrol LGV
- Artic HGV
- Diesel LGV
- Plug-in Hybrid Petrol Cars
- Hybrid/ CNG Buses
- Buses
- Full Hybrid Petrol Cars
- Full Hybrid Diesel Cars
- Motorcycle

This provided vehicle emission proportions of $NO_x$ that will allow the Council to design specific AQAP measures targeting a reduction in emissions from specific vehicle types for each of the AQMAs (Appendix C).

It should be noted that emission sources of $NO_2$ are dominated by a combination of direct $NO_2$ (f- $NO_2$) and oxides of nitrogen (NOx), the latter of which is chemically unstable and rapidly oxidised upon release to form $NO_2$. Reducing levels of NOx

emissions therefore reduces levels of $NO_2$. As a consequence, the source apportionment study has considered the emissions of NOx which are assumed to be representative of the main sources of $NO_2$.

The sections below detail the source apportionment results for NOx concentrations at modelled receptors for three scenarios:

- The average Total $NO_x$ split across all modelled receptors. This provides useful information to understand the split between local and regional background sources as well as local road sources. In accordance with TG(22), regional background is considered to be the emissions from background sources that the authority is unable to influence and the local background the background emissions they have some influence over. Local Sources give rise to the hotspot areas of exceedances, and the principal sources for the local authority.
- The average $NO_x$ contributions within the AQMA. This will inform potential prominent NOx contributors present within the identified area of exceedance and therefore be useful when testing and adopting action measures; and,
- The location where the maximum road $NO_x$ concentration has been predicted within the AQMA. This is likely to be in the area of most concern within the proposed AQMA and so a good place to test and adopt action measures. Any gains predicted by action measures are however likely to be greatest at this location and so would not represent gains across the whole modelled area.

### 3.3.1 AQMA No.1: Tintwistle

When considering the average $NO_x$ background split across all modelled receptor locations, the following observations were found:

- Regional Background $NO_x$ accounted for 25.6% (5.1 µg/$m^3$).
- Local Background $NO_x$ accounted for 37.5% (7.5 µg/$m^3$).
- Local Road Traffic accounted for 36.9% (7.3 µg/$m^3$).

When considering the average $NO_x$ concentration across all modelled receptor locations, the following observations were found:

- Road traffic accounted for 36.9% (7.3 µg/$m^3$) of total $NO_x$, with background accounting for 63.1% (12.5 µg/$m^3$).
- Of the total road $NO_x$, diesel LGVs are the highest contributing vehicle class, accounting for 32.9%.
- Diesel cars are found to be the second highest contributing vehicle class, accounting for 31.6%.
- Artic HGVs (14.7%) and Rigid HGVs (13.3%) are the third and fourth highest contributing vehicle class respectively, and as a vehicle group, contributing 28% of the total road $NO_x$.
- Petrol cars (4.4%) and buses (1.5%) are the next highest contributors, with the remaining vehicle classes all accounting for less than 0.2% of the total road $NO_x$.

When considering the modelled receptor location at which the maximum road $NO_x$ concentration has been predicted, the following observations were found:

- Road traffic accounts for 79.6% (48.3 µg/$m^3$) of total $NO_x$, highlighting contributions from road traffic to be the core component in areas of where the highest values were found.
- Of the total road $NO_x$, diesel LGVs are found to be the highest contributing vehicle class, accounting for 37.3%. This is higher than the contribution across all modelled receptors and suggests an influence on increased values within key areas of the AQMA.
- Diesel cars are found to be the second highest contributing vehicle class, accounting for 31.4%, which is similar to the observations found across the AQMA;
- Rigid HGVs (14.7%) and Artic HGVs (11.0%) are found to be the third and fourth highest respectively, and as a vehicle group, contributing 25.7% of the total road NOx. This is slightly lower the trend across all modelled receptors but still indicating that HGVs are the significant source of NOx emissions across the AQMA.
- Petrol cars (4.5%), and buses (0.7%) are the next greatest contributors to total road NOx, with the remaining vehicle classes all accounting for less than 0.2% of the total road $NO_x$.

The results of the source apportionment for AQMA No.1: Tintwistle, are presented in Table 3.1. Figure 3.1 displays the average $NO_x$ emissions across all modelled receptors within AQMA No.1.

The NOx source apportionment exercise demonstrates a largely consistent ranking of

contributing vehicle classes exhibited (Diesel LGVs, Diesel Cars Rigid & Artic HGVs and Petrol Cars), where Diesel LDVs are found to be the main contributors to total road NOx concentrations across the Tintwistle AQMA.

When comparing modelled contributions at identified receptor locations within the AQMA, against the max receptor within the AQMA, the increase in emissions is deemed to come from road vehicles and the ranking of contributing vehicle classes is similar. Diesel LDVs are observed to have a slightly influence to total road NOx concentrations within the AQMA but the contribution from Rigid & Artic HGVs has slightly decreased. For all the other vehicle types at the max receptors, they have very similar influence on total road NOx concentrations within the AQMA when compared the average across the AQMA.

The increased contribution of Deisel LDVs compared to HGVs at max receptor within the AQMA receptor, is considered is slightly surprising given the increased emissions associated with HGVs at slow speeds. Though as noted, the model did appear to underpredict at this location so this may have affected source apportionment results. Nevertheless, it demonstrates that Deisel Vehicles, notably Deisel Cars, LDVs and HGVs are the primary contributor to total road NOx. As such, measures contained within the AQAP should focus on reducing emissions from these vehicle classes.

However, the above noted, there is a need to improve understanding of vehicle emissions along AQMA No.1, notably around the area where the highest concentrations were modelled and observed (HP 5 & HP 63).

**Table 3.1 - NOx Source Apportionment Results: AQMA No.1: Tintwistle**

| Results | All Vehicles | Petrol Car | Diesel Car | EV/LPG Car | Petrol LGV | Diesel LGV | Rigid HGV | Artic HGV | Bus | Motor-Cycle | Background |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Average across all modelled receptors | | | | | | | | | | | |
| **$NO_x$ Concentration ($\mu g/m^3$)** | 7.3 | 0.3 | 2.3 | 0.0 | 0.0 | 2.4 | 1.1 | 1.1 | 0.1 | 0.0 | 12.5 |
| **Percentage of Total $NO_x$** | 36.9 | 1.6 | 11.7 | 0.0 | 0.0 | 12.1 | 5.3 | 5.4 | 0.6 | 0.0 | 63.1 |
| **Percentage Contribution** | 100.0 | 4.4 | 31.6 | 0.0 | 0.0 | 32.9 | 14.5 | 14.7 | 1.5 | 0.1 | - |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **to Road $NO_x$** | | | | | | | | | | | |
| **At the Receptor with the Maximum Road $NO_x$ Concentration (ID R115)** | | | | | | | | | | | |
| **$NO_x$ Concentration ($\mu g/m^3$)** | 48.3 | 2.2 | 15.1 | 0.0 | 0.0 | 18.0 | 7.1 | 5.3 | 0.4 | 0.1 | 12.4 |
| **Percentage of Total $NO_x$** | 79.6 | 3.5 | 24.9 | 0.0 | 0.0 | 29.7 | 11.7 | 8.7 | 0.6 | 0.1 | 20.4 |
| **Percentage Contribution to Road $NO_x$** | 100.0 | 4.5 | 31.4 | 0.0 | 0.0 | 37.3 | 14.7 | 11.0 | 0.7 | 0.1 | - |

$NO_2$ Source apportionment has also been completed for the worse case receptor. The calculations are summarised in Table 3.2 and

Table **3.3** below.

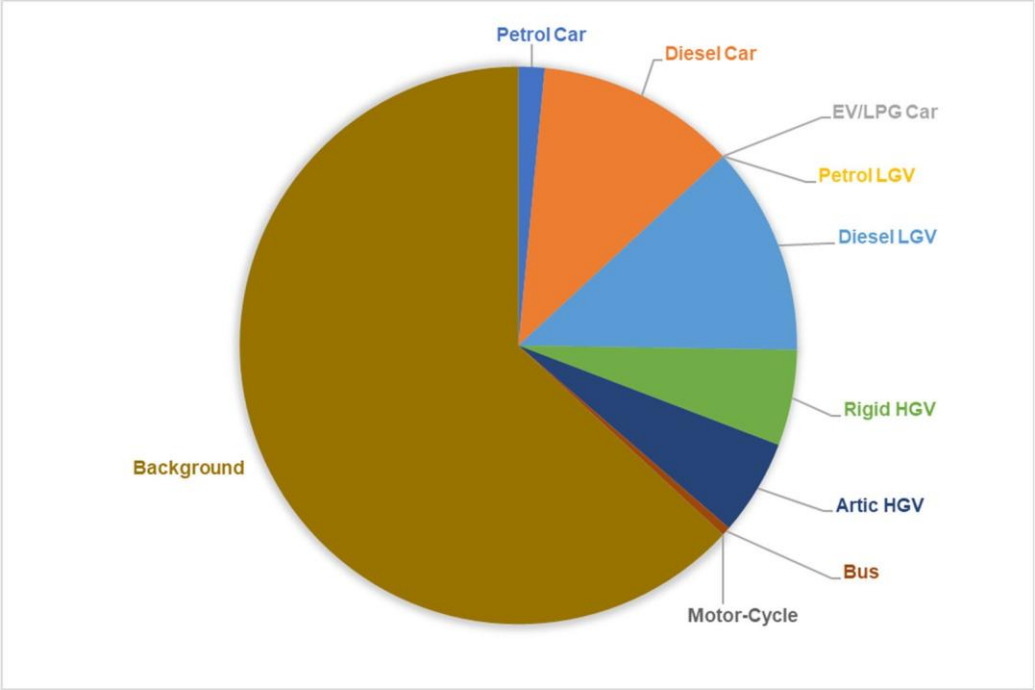
### Table 3.2 - $NO_2$ Source Apportionment Calculations AQMA 1

| Calculation | Concentration ($\mu g/m^3$) |
|---|---|
| Total Background $NO_2$ [TB-$NO_2$] | 7.60 |
| Total Background $NO_x$ [TB-$NO_x$] | 9.70 |
| Regional Background $NO_X$ [RB-$NO_x$] | 3.79 |
| Local Background $NO_X$ [LB-$NO_x$] | 5.91 |
| Regional Background $NO_2$ [RB-$NO_2$] | 2.97 |
| Local Background $NO_2$ [LB-$NO_2$] | 4.63 |
| Total Max Modelled $NO_2$ [T-$NO_2$] | 43.60 |
| Local $NO_2$ Contribution [L-$NO_2$] | 36.00 |

### Table 3.3 – NO2 Source Apportionment from Vehicles in AQMA 1

| Calculation | $NO_2$ Contribution (µg/m3) |
|---|---|
| Petrol Cars | 1.62 |
| Diesel Cars | 11.30 |
| Petrol LGV | 0.00 |
| Diesel LGV | 13.43 |
| HGV | 9.25 |
| Buses | 0.25 |
| Motorcycle | 0.04 |
| Other | 0.11 |

**Figure 3.1 - Average Source Apportionment in AQMA No.1: Tintwistle**




### 3.3.2 AQMA No.2: Dinting Vale

When considering the average $NO_x$ background split across all modelled receptor locations, the following observations were found:

- Regional Background $NO_x$ accounted for 8.0% (5.1 µg/m$^3$).
- Local Background $NO_x$ accounted for 12.1% (7.8 µg/m$^3$).
- Local Road Traffic accounted for the largest majority, 79.9% (51.1 µg/m$^3$).

When considering the average $NO_x$ concentration across all modelled receptor locations, the following observations were found:

- Road traffic accounts for 79.9% (51.1 µg/m$^3$) of total $NO_x$, with background accounting for 20.1% (12.8 µg/m$^3$).
- Of the total road $NO_x$, diesel cars are the highest contributing vehicle class, accounting for 46.9%.
- Diesel LGVs are found to be the second highest contributing vehicle class,

accounting for 26.0%.

- Rigid HGVs (11.9%) and Artic HGVs (2.8%) are found to be the third and sixth highest respectively, and as a vehicle group, contributing 14.7% of the total road NOx.
- Petrol cars (6.2%) and buses (5.7%) are found to be the fourth and fifth highest respectively, with the remaining vehicle classes all accounting for less than 0.3% of the total road $NO_x$.

When considering the modelled receptor location at which the maximum road $NO_x$ concentration has been predicted, the following observations were found:

- Road traffic accounts for 86.3% (81.6 $\mu g/m^3$) of total $NO_x$, highlighting contributions from road traffic to be the core component in areas of exceedance.
- Of the total road $NO_x$, diesel cars are found to be the highest contributing vehicle class, accounting for 35.4%. This is 11.5% lower than the trend across all modelled receptors, but still indicating that Diesel Vehicles are the significant source of NOx emissions across the AQMA
- Rigid HGVs (23.5%). and Artic HGVs (6.9%) are found to be the second and fifth highest respectively, and as a vehicle group, contributing 31.4% of the total road NOx. As a group, this is 16.7% higher than the contribution across all modelled receptors. and suggests a significant influence on exceedance within key areas of the AQMA.
- Diesel LGVs are the third highest contributing vehicle class, accounting for 20.6%.
- Buses (9.0%), and petrol cars (4.3%) found to be the fourth and sixth highest respectively. The increased contribution from buses compared to that observed across the whole AQMA, suggests an influence on exceedance within key areas of the AQMA. The remaining vehicle classes all accounting for less than 0.2% of the total road $NO_x$.

The results of the source apportionment for AQMA No.2: Dinting Vale are presented in Table 3.4 and Figure 3.2 display the average NOx emissions across all modelled receptors within AQMA No.2.

The NOx source apportionment exercise demonstrates a largely consistent ranking of contributing vehicle classes exhibited (Diesel Cars, Diesel LGVs, Rigid & Artic HGVs

Petrol Cars and Buses), where Diesel Cars primarily are found to be the main contributors to total road NOx concentrations across the Dinting Vale AQMA.

When comparing modelled contributions at identified receptor locations within the AQMA, against the max receptor within the AQMA, the increase in emissions is deemed to come from road vehicles. However, the ranking of contributing vehicle has change. Diesel Cars are observed to have a slightly lower but still predominant influence on total road NOx concentrations within the AQMA but the contribution from Rigid & Artic HGVs and Buses has substantially increased. For all the other vehicle types at the max receptors, they have very similar influence on total road NOx concentrations within the AQMA when compared the average across the AQMA.

The hotspot location in the AQMA where the highest levels of $NO_2$ are observed are (HP25) near the junction with Glossop Road. Here the high congestion / slow speeds increase the contribution of total road NOx concentrations from Rigid & Artic HGVs and Buses. As such, measures contained within the AQAP should focus on reducing emissions from these vehicle classes.

The above noted, the detailed assessment was undertaken on 2019 traffic (and emission) data and moving forward there is a need to improve understanding of the emissions along AQMA No.2. In light of both, potential new established traffic patterns as a result of the Covid pandemic but also the potential impacts of the predicted increase in traffic along the A57 as a result of the approved A57 link road, which is due begin construction in 2024, and other committed developments in area.

### Table 3.4 NOx Source Apportionment Results: AQMA No.2: Dinting Vale

| Results | All Vehicles | Petrol Car | Diesel Car | EV/LPG Car | Petrol LGV | Diesel LGV | Rigid HGV | Artic HGV | Bus | Motor-Cycle | Background |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Average across all modelled receptors | | | | | | | | | | | |
| **$NO_x$ Concentration ($\mu g/m^3$)** | 51.1 | 3.2 | 23.9 | 0.0 | 0.0 | 13.3 | 6.1 | 1.4 | 2.9 | 0.0 | 12.8 |
| **Percentage of Total $NO_x$** | 79.9 | 4.9 | 37.4 | 0.0 | 0.0 | 20.8 | 9.5 | 2.2 | 4.6 | 0.1 | 20.1 |
| **Percentage Contribution to Road $NO_x$** | 100.0 | 6.2 | 46.9 | 0.0 | 0.0 | 26.0 | 11.9 | 2.8 | 5.7 | 0.1 | - |

| At the Receptor with the Maximum Road $NO_x$ Concentration (ID R8) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **$NO_x$ Concentration ($\mu g/m^3$)** | 81.6 | 3.5 | 28.9 | 0.0 | 0.0 | 16.8 | 19.2 | 1.4 | 7.3 | 0.0 | 12.9 |
| **Percentage of Total $NO_x$** | 86.3 | 3.7 | 30.6 | 0.0 | 0.0 | 17.8 | 20.3 | 2.2 | 7.8 | 0.0 | 13.7 |
| **Percentage Contribution to Road $NO_x$** | 100.0 | 4.3 | 35.4 | 0.0 | 0.0 | 20.6 | 23.5 | 2.8 | 9.0 | 0.0 | - |

$NO_2$ Source apportionment has also been completed for the worse case receptor. The calculations are summarised in Table 3.5 and

Table **3.6** below.

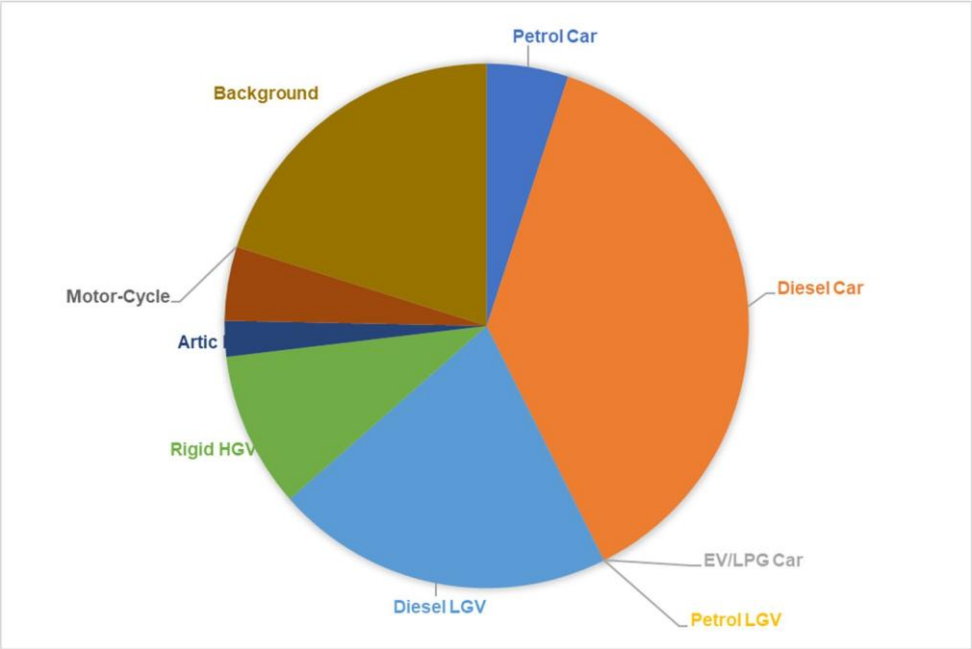
### Table 3.5 - $NO_2$ Source Apportionment Calculations AQMA 2

| Calculation | Concentration ($\mu g/m^3$) |
|---|---|
| Total Background $NO_2$ [TB-$NO_2$] | 8.30 |
| Total Background $NO_x$ [TB-$NO_x$] | 10.60 |
| Regional Background $NO_X$ [RB-$NO_x$] | 3.79 |
| Local Background $NO_X$ [LB-$NO_x$] | 6.81 |
| Regional Background $NO_2$ [RB-$NO_2$] | 2.97 |
| Local Background $NO_2$ [LB-$NO_2$] | 5.33 |
| Total Max Modelled $NO_2$ [T-$NO_2$] | 48.00 |
| Local $NO_2$ Contribution [L-$NO_2$] | 39.70 |

### Table 3.6 – $NO_2$ Source Apportionment from Vehicles at Max Receptor in AQMA 2

| Calculation | $NO_2$ Contribution (µg/m3) |
|---|---|
| Petrol Cars | 1.56 |
| Diesel Cars | 12.76 |
| Petrol LGV | 0.18 |
| Diesel LGV | 7.43 |
| HGV | 9.48 |
| Buses | 3.24 |
| Motorcycle | 0.24 |
| Other | 0.32 |

**Figure 3.2 Average Source Apportionment AQMA No.2: Dinting Vale**




### 3.3.3 AQMA No.3: Fairfield Road

When considering the average $NO_x$ background split across all modelled receptor locations, the following observations were found:

- Regional Background $NO_x$ accounted for 15.7% (5.2 µg/m$^3$).
- Local Background $NO_x$ accounted for 25.1% (8.3 µg/m$^3$).
- Local Road Traffic accounted for the largest majority, 59.2% (19.6 µg/m$^3$).

When considering the average $NO_x$ concentration across all modelled receptor locations, the following observations were found:

- Road traffic accounts for 59.2% (19.6 µg/m$^3$) of total $NO_x$, with background accounting for 40.8% (13.5 µg/m$^3$).
- Of the total road $NO_x$, diesel cars are the highest contributing vehicle class, accounting for 43.5%.

- Diesel LGVs are found to be the second highest contributing vehicle class, accounting for 21.8%.
- Rigid HGVs (13.3%). and Artic HGVs (10.3%) are found to be the third and fourth highest contributing vehicle class respectively, though if considered together are the second highest contributing vehicle group (23.6.%).
- Petrol cars (5.6%) and buses (5.0%) are the next greatest contributor, with the remaining vehicle classes all accounting for less than 0.2% of the total road NOx contribution.

When considering the modelled receptor location at which the maximum road $NO_x$ concentration has been predicted, the following observations were found:

- Road traffic accounts for 90.1% (123.1 μg/$m^3$) of total $NO_x$, highlighting contributions from road traffic to be the core component in areas of exceedance.
- Of the total road $NO_x$, diesel cars are found to be the highest contributing vehicle class, accounting for 42.0%.
- Diesel LGVs are the second highest contributing vehicle class, accounting for 20.4%.
- Rigid HGVs (14.8%) and Artic HGVs (12.1%) are the third and fourth highest contributing vehicle class respectively, though if considered together are the second highest contributing vehicle group (26.9%).
- Petrol cars (5.3%) and buses (5.0%) are the next biggest contributing vehicle class to total road NOx, with the remaining vehicle classes all accounting for less than 0.2%.

The results of the source apportionment for AQMA No.3: Fairfield Road are presented in Table 3.7 and Figure 3.3 display the average NOx emissions across all modelled receptors within AQMA No.2.

The NOx source apportionment exercise demonstrates a largely consistent ranking of contributing vehicle classes exhibited (Diesel Cars, Rigid HGVs & Artic HGVs Diesel LGVs,) to both the total average road NOx concentrations across the AQMA and against the max receptor within the AQMA. The primary difference being a slightly greater contribution NOx concentrations from HGV's (Rigid & Artic) where the maximum road NOx concentration has been predicted. Here the high congestion / slow speeds are likely to increase the contribution of total road NOx concentrations from these sources.

Overall, this suggests that the predominate source of NOx emissions in AQMA No.3. Is from Diesel Vehicles, notably diesel cars and HGVs. As such, measures contained within the AQAP should focus on reducing emissions from these vehicle classes. The volume of traffic and congestion along the A6 Fairfield Road are considered to be the key contributor to elevated levels of $NO_2$ annual mean concentrations within the AQMA.

The above noted, the detailed assessment was undertaken on 2019 traffic (and emission) data and moving forward there is a need to improve understanding of the traffic flows along AQMA No.3 in as a result of the Covid pandemic.

### Table 3.7 $NO_x$ Source Apportionment Results: AQMA 3: Fairfield Road

| Results | All Vehicles | Petrol Car | Diesel Car | EV/LPG Car | Petrol LGV | Diesel LGV | Rigid HGV | Artic HGV | Bus | Motor-Cycle | Background |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Average across all modelled receptors** | | | | | | | | | | | |
| **$NO_x$ Concentration ($\mu g/m^3$)** | 19.6 | 1.1 | 8.5 | 0.0 | 0.0 | 4.3 | 2.6 | 2.0 | 1.0 | 0.0 | 13.5 |
| **Percentage of Total $NO_x$** | 59.2 | 3.3 | 25.7 | 0.0 | 0.0 | 12.9 | 7.9 | 6.1 | 2.9 | 0.0 | 40.8 |
| **Percentage Contribution to Road $NO_x$** | 100.0 | 5.6 | 43.5 | 0.0 | 0.0 | 21.8 | 13.3 | 10.3 | 5.0 | 0.1 | - |
| **At the Receptor with the Maximum Road $NO_x$ Concentration (ID R26)** | | | | | | | | | | | |
| **$NO_x$ Concentration ($\mu g/m^3$)** | 123.1 | 6.5 | 51.7 | 0.0 | 0.0 | 25.1 | 18.3 | 14.9 | 6.1 | 0.1 | 13.5 |
| **Percentage of Total $NO_x$** | 90.1 | 4.7 | 37.8 | 0.0 | 0.0 | 18.4 | 13.4 | 10.9 | 4.5 | 0.0 | 9.9 |
| **Percentage Contribution to Road $NO_x$** | 100.0 | 5.3 | 42.0 | 0.0 | 0.0 | 20.4 | 14.8 | 12.1 | 5.0 | 0.1 | - |

$NO_2$ Source apportionment has also been completed for the worse case receptor. The calculations are summarised in Table 3.8 and Table 3.9 below.

### Table 3.8 - $NO_2$ Source Apportionment Calculations AQMA 3

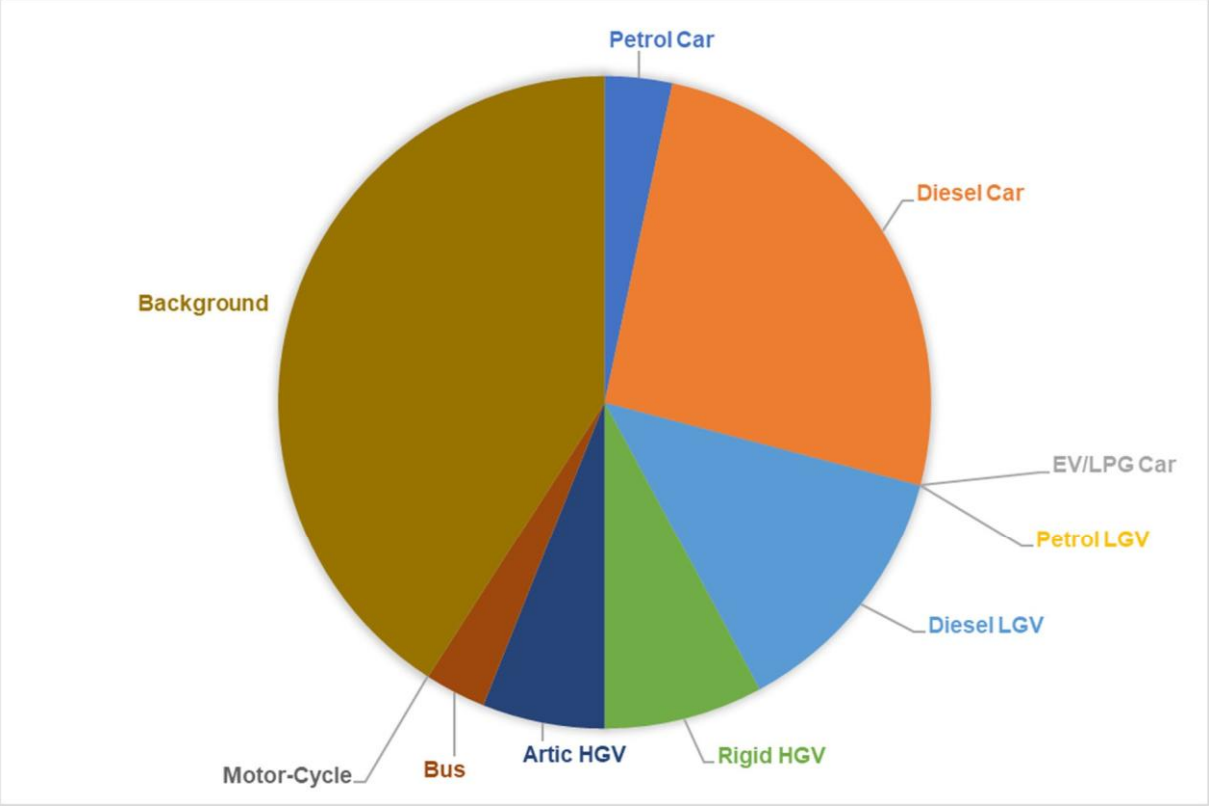
| Calculation | Concentration ($\mu g/m^3$) |
|---|---|
| Total Background $NO_2$ [TB-$NO_2$] | 7.31 |
| Total Background $NO_x$ [TB-$NO_x$] | 9.33 |
| Regional Background $NO_x$ [RB-$NO_x$] | 3.79 |
| Local Background $NO_x$ [LB-$NO_x$] | 5.54 |
| Regional Background $NO_2$ [RB-$NO_2$] | 2.97 |

| Calculation | Concentration (µg/m$^3$) |
|---|---|
| Local Background $NO_2$ [LB-$NO_2$] | 4.35 |
| Total Max Modelled $NO_2$ [T-$NO_2$] | 63.00 |
| Local $NO_2$ Contribution [L-$NO_2$] | 55.69 |

### Table 3.9 – $NO_2$ Source Apportionment from Vehicles at Max Receptor in AQMA 3

| Calculation | $NO_2$ Contribution (µg/m3) |
|---|---|
| Petrol Cars | 1.91 |
| Diesel Cars | 15.12 |
| Petrol LGV | 0.00 |
| Diesel LGV | 7.34 |
| HGV | 9.68 |
| Buses | 1.80 |
| Motorcycle | 0.04 |
| Other | 0.11 |

### Figure 3.3 Average NOx Source Apportionment AQMA 3: Fairfield Road



## 3.4 Required Reduction in Emissions

In line with the methodology outlined in paragraph 7.75 onward of LAQM.TG(22), calculations have been carried out to determine the necessary reduction in road $NO_x$ required to bring each AQMA to compliance. The reduction required at the worst case location within each AQMA is presented, under the assumption that an equal reduction across the entirety of the AQMAs would ensure that all receptors are compliant. In addition, the average reduction required at all receptors predicted to be exceeding within each AQMA is also presented.

It is important to that although reducing $NO_x$ emissions from vehicles will in turn reduce $NO_2$ concentrations, there is a non-linear relationship between $NO_x$ and $NO_2$ concentrations and therefore a greater relative reduction in $NO_x$ may be required.

### 3.4.1 AQMA 1: Tintwistle

The worst-case receptor within AQMA No.1 is located along the A628 in Tintwistle. However, this is based on the 2023 monitoring results at HP5, as the modelling results in the detailed assessment did not indicate any exceedances. The reduction in $NO_x$ required to achieve compliance with the annual mean $NO_2$ objective of 40µg/m$^3$ at this location is **15.58%**.

**Table 3.10 Required Reduction Calculations – AQMA 1: Tintwistle**

| Metric | Value (Concentrations as µg/m$^3$) |
|---|---|
| Worst-Case Relevant Exposure $NO_2$ Concentration | 43.6 |
| Equivalent $NO_x$ Concentration | 97.8 |
| Background $NO_x$ | 10.9 |
| Background $NO_2$ | 8.4 |
| Road $NO_x$ - Current | 47.6 |
| Road $NO_x$ - Required (to achieve $NO_2$ concentration of 39.9µg/m$^3$) | 84.4 |
| Required Road $NO_x$ Reduction | 13.4 |
| Required % Reduction | **15.58%** |

### 3.4.2 AQMA 2: Dinting Vale

The worst-case modelled receptor within AQMA No. 2 is located along the A57 in Dinting Vale, at a residential property. The reduction in $NO_x$ required to achieve compliance with the annual mean $NO_2$ objective of 40µg/m$^3$ at the worst-cast receptor is **24.2%**.

**Table 3.11 Required Reduction Calculations – AQMA 2: Dinting Vale**

| Metric | Value (Concentrations as µg/m$^3$) |
|---|---|
| Worst-Case Relevant Exposure $NO_2$ Concentration | 48.0 |
| Equivalent $NO_x$ Concentration | 93.7 |
| Background $NO_x$ | 12.9 |
| Background $NO_2$ | 9.9 |
| Road $NO_x$ - Current | 80.8 |
| Road $NO_x$ - Required (to achieve $NO_2$ concentration of 39.9µg/m$^3$) | 61.2 |
| Required Road $NO_x$ Reduction | 19.6 |
| Required % Reduction | **24.2%** |

### 3.4.3 AQMA 3: Fairfield Road

The worst-case modelled receptor within AQMA No.3 is located along Fairfield Road at a residential property. The reduction in $NO_x$ required to achieve compliance with the annual mean $NO_2$ objective of 40µg/m$^3$ at this location is **49.6%**.

**Table 3.12 Required Reduction Calculations – AQMA 3**

| Metric | Value (Concentrations as µg/m$^3$) |
|---|---|
| Worst-Case Relevant Exposure $NO_2$ Concentration | 63.0 |
| Equivalent $NO_x$ Concentration | 133.4 |
| Background $NO_x$ | 13.5 |
| Background $NO_2$ | 10.3 |
| Road $NO_x$ - Current | 119.9 |
| Road $NO_x$ - Required (to achieve $NO_2$ concentration of 39.9µg/m$^3$) | 60.4 |
| Required Road $NO_x$ Reduction | 59.5 |
| Required % Reduction | **49.6%** |
| | |

## 3.5 Estimated Year of Compliance

Following the identification of exceedances of the AQS objectives, it is useful to provide an estimate of the year by which concentrations at the identified locations of exceedances will become compliant with the relevant AQS objective. This is initially provided below assuming only the trends for future air quality, as currently predicted by Defra, are realised. The implementation of specific intervention measures to mitigate the local air quality issues, as are currently being developed by the Council within a revised AQAP, would then be considered most likely to bring forwards the estimated date of compliance.

Following the methodology outlined in LAQM.TG(22) paragraph 7.70 onward, the year by which concentrations at the identified locations of exceedances will become compliant with the $NO_2$ annual mean AQS objective has been estimated. This has been completed using the predicted modelled $NO_2$ concentrations from the 2019 Base scenario.

### 3.5.1 AQMA 1

As a worst-case approach, the projection is based upon the receptor predicted as having the maximum monitored concentration in 2023 at HP5. The appropriate roadside $NO_2$ projection factors, as provided on the LAQM Support website[13], are then applied to this concentration value to ascertain the estimated $NO_2$ annual mean reduction per annum, and hence the anticipated year of compliance. In this case, roadside projection factors for 'Rest of UK (HDV <10%)' have been applied, consistent with the worst-case receptor location.

The projected $NO_2$ annual mean concentrations following the above approach are presented in Table 3.14.

[13] https://laqm.defra.gov.uk/tools-monitoring-data/roadside-no2-projection-factor.html

### Table 3.13 Projected Annual Mean $NO_2$ Concentrations AQMA 1

| HP5 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2023 Monitored Annual Mean Concentration (µg/m³) | Predicted Annual Mean Concentration (µg/m³) | | | | | | | | | |
| | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
| 43.6 | **41.1** | *38.7* | *36.5* | 34.2 | 31.8 | 29.5 | 26.8 | 25.2 | 23.6 | 22.3 | 21.1 |
| In **bold**, exceedance of the $NO_2$ annual mean AQS objective of 40µg/m³<br>In *italics*, within 10% of annual mean AQS objective of 40µg/m³<br>Vehicle Adjustment Factor = Rest of UK (HDV <10%) | | | | | | | | | | |

Table 3.13 indicates that the first year by which the predicted monitored concentration will be below the annual mean $NO_2$ AQS objective will be 2025. Additionally, it is expected that concentrations are expected to drop below 10% of the annual mean $NO_2$ AQS objective by 2027.

### 3.5.2 AQMA 2

As a worst-case approach, the projection is based upon the receptor predicted as having the maximum annual mean $NO_2$ concentration, which in this case is Receptor R8. The appropriate roadside $NO_2$ projection factors, as provided on the LAQM Support website14, are then applied to this concentration value to ascertain the estimated $NO_2$ annual mean reduction per annum, and hence the anticipated year of compliance. In this case, roadside projection factors for 'Rest of UK (HDV <10%)' have been applied, consistent with the worst-case receptor location.

The projected $NO_2$ annual mean concentrations following the above approach are presented in Table 3.14.

[14] https://laqm.defra.gov.uk/tools-monitoring-data/roadside-no2-projection-factor.html

### Table 3.14 Projected Annual Mean $NO_2$ Concentrations AQMA 2

| Receptor R8 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Annual Mean Concentration (µg/m³) | Predicted Annual Mean Concentration (µg/m³) | | | | | | | | | | |
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| 48.0 | **48.0** | **48.0** | **46.4** | **44.8** | **42.2** | *39.7* | *37.5* | *35.2* | 32.7 | 30.3 | 27.6 |
| In **bold**, exceedance of the $NO_2$ annual mean AQS objective of 40µg/m³<br>In *italics*, within 10% of annual mean AQS objective of 40µg/m³<br>Vehicle Adjustment Factor = Rest of UK (HDV <10%) | | | | | | | | | | | |

Table 3.14 indicates that the first year by which Receptor R8 will be exposed to a concentration below the annual mean $NO_2$ AQS objective will be 2025. Additionally, it is expected that concentrations are expected to drop below 10% of the annual mean $NO_2$ AQS objective by 2028. 2028 is therefore considered the predicted year of compliance for those receptors used within the model, which are believed to represent worst case exposure within the AQMA 2 (Dinting Vale), in the absence of the implementation of any specific intervention measures to further bring forward local air quality improvements in the area.

### 3.5.3 AQMA 3

As a worst-case approach, the projection is based upon the receptor predicted as having the maximum annual mean $NO_2$ concentration, which in this case is Receptor R26. The appropriate roadside $NO_2$ projection factors, as provided on the LAQM Support website[15], are then applied to this concentration value to ascertain the estimated $NO_2$ annual mean reduction per annum, and hence the anticipated year of compliance. In this case, roadside projection factors for 'Rest of UK (HDV <10%)' have been applied, consistent with the worst-case receptor location.

The projected $NO_2$ annual mean concentrations following the above approach are presented in Table 3.15.

[15] https://laqm.defra.gov.uk/tools-monitoring-data/roadside-no2-projection-factor.html

### Table 3.15 Projected Annual Mean $NO_2$ Concentrations AQMA 3

| Receptor R26 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2019 Annual Mean Concentration ($\mu g/m^3$) | Predicted Annual Mean Concentration ($\mu g/m^3$) | | | | | | | | | | |
| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| **63.0** | **63.0** | **63.0** | **60.9** | **58.8** | **55.4** | **52.2** | **49.3** | **46.2** | **43.0** | 39.8 | 36.2 |
| In **bold**, exceedance of the $NO_2$ annual mean AQS objective of $40\mu g/m^3$<br>In *italics*, within 10% of annual mean AQS objective of $40\mu g/m^3$<br>Vehicle Adjustment Factor = Rest of UK (HDV <10%) | | | | | | | | | | | |

Table 3.15 indicates that the first year by which Receptor R26 will be exposed to a concentration below the annual mean $NO_2$ AQS objective will be 2029. Additionally, it is expected that concentrations are expected to drop below 10% of the annual mean $NO_2$ AQS objective beyond 2030. Beyond 2030 is therefore considered the predicted year of compliance for those receptors used within the model, which are believed to represent worst case exposure within the AQMA 3 (Fairfield Road), in the absence of the implementation of any specific intervention measures to further bring forward local air quality improvements in the area.

# 4 Key Priorities

The source apportionment exercise for the three AQMA's indicated that that:

**In AQMA No.1: Tintwistle**; the Authority's priorities should be focused on:

- The reduction of emissions from (in order of significance); Diesel Light Goods Vehicles (LGVs), Diesel cars, and HDV's (rigid & arctic).
- Improve traffic flow and reduce congestion along the A628, Woodhead Road.
- Improved monitoring and updated traffic counts to develop more accurate model, and better assess identified actions.

**In AQMA No.2: Dinting Vale**; the Authority's priorities should be focused on:

- The reduction of emissions from (in order of significance); Diesel cars, HDV's (rigid & arctic), Diesel Light Goods Vehicles (LGVs), and Buses
- Improve traffic flow and reduce congestion along the A57.
- Improved monitoring and updated traffic counts to develop more accurate model and better assess identified actions.

**In AQMA No.3: Fairfield Road**; the Authority's priorities should be focused on:

- The reduction of emissions from (in order of significance); Diesel cars, HDV's (rigid & arctic) and Diesel Light Goods Vehicles (LGVs).
- Improve traffic flow and reduce congestion along the A6 and A53 Bridge Street junction.
- Expanding diffusion tube network to the north of Fairfield Road and improved monitoring and updated traffic counts to develop more accurate model and better assess identified actions.

The proposed AQAP measures to achieve these goals can be divided into six broad priorities, although there is often considerable overlap between some of the priorities:

- Priority 1: Transport
- Priority 2: Active and Sustainable Travel
- Priority 3: Lead by example measures
- Priority 4: Policy, Planning and Statutory measures

- Priority 5: Public Health and Wellbeing Behavioural Change
- Priority 6: Air Quality Monitoring

The current /proposed High Peak Borough Council AQAP measures are presented in Table 6.1. The below section expands on the rational /detail of these measures and how they relate to the key priorities

## 4.1 Priority 1: Transport Measures

The detailed assessment for all AQMAs indicated that the primary source of Nitrogen dioxide ($NO_2$) leading to the declaration of all the AQMAs across the HPBC area is from diesel road vehicles and in particular where levels of congestion are high, with receptors close to the source/roads. Therefore, reducing transport emissions and easing congestion are the key priority across the AQMAs.

Our approach focuses on two main areas; areas where HPBC has direct influence including:

- Reducing HPBC transport emissions;
- Promoting alternatives to private motor vehicles;
- Encouraging the use of, and facilitating the use of low/zero emissions transport;
- Safeguarding and expanding sustainable transport services and routs (such as bus and rail facilities);
- Provide proactive facilities and measures to support sustainable transport modes including on-site features to encourage sustainable travel methods
    - e.g. cycle path links, cycle storage facilities, bus stops, electric vehicle charging points etc;
- Reducing the need to travel by supporting sustainable development and initiatives that help support the local economy, services and facilities; and

Areas where measures can be implemented via a partnership, including:

- Work with National Highways (A628) and Highways Agency at Derbyshire County Council (A57 and A6) to evaluate and implement road improvements or

traffic management solutions through a variety of strategies, including;

- road junction reconfiguration,
- traffic light optimisation, speed control, dynamic signage and use of Urban Traffic Management Systems (UTMs)

- Work with Derbyshire County Council and other partner organisations to agree designated lorry routes, freight handling facilities and greater rail use.

The implementation of Highways measures is an iterative process requiring a review of current situation before identifying potential interventions that could be introduced. As specific actions are identified by either National Highways or Derbyshire County Council they will be included in Table 6.1

### 4.1.1 AQMA No.1: Tintwistle; National Highways to review Air Quality, junction capacity, Speed limits and Road Safety along the A628 (Tintwistle)

The primary source of emissions within AQMA No.1: Tintwistle is from vehicle emissions, notable diesel vehicles. National Highways are responsible for operating, maintaining and improving the A628 in AQMA No.1: Tintwistle and the implementation of any required transport actions.

East Bound; emissions are impacted by the associated steep incline, this is particularly significant for diesel LDV's and HDVs, as more power and thus fuel is required to climb the gradient, leading to increased emissions. Identifying and improving factors that slow down or affect the free flow of traffic on this gradient, would improve air quality. This could include possibility of improvements to the Pegasus crossing &/or the incorporation of a passing lane on stepper sections to reduce congestion by slow moving vehicles (e.g. HGV's).

West Bound; congestion is linked to the heavy flow of traffic through the area meaning junctions, such as the Woodhead Road/ New Road Junction and the A628/A57T junction in Hollingworth are often over capacity and cause tailbacks traffic through the area. Improvements to these junctions and or traffic light timings to improve flow along this road, notably the Woodhead Road and New Road Junction and in particular the A628/A57T junction in Hollingworth.

Other considerations

- The stopping and starting of a vehicle produce more emissions than if the vehicle was to continue at a constant speed. Improvements / review of traffic speed limits to promote smother transitions between speed limits and improve traffic
- Investigate the potential to reduce the road use by HDV's, along the A628, by encouraging HDVs onto the alternative motorway network (M62) around the Peak District National Park, such as, better signage/ promotion / implementation on an area weight limit or other possible avenues

**Progress**

National Highways have completed a review of road speeds and road safety along the A628, including the section incorporating AQMA No.1: Tintwistle, as part of a Village Gateway project along the A628. The Scheme has now been fully approved and delivery is planned for the early 2025. The impacts to air quality have not been considered specifically but as the scheme is primarily aimed at improving safety and easing congestion, the improved flows should ultimately improve air quality, and the narrowing of the carriageways/ widening of footways may reduce exposure at property facades

National Highways indicate that before further assessments and proposals are undertaken, they will need to assess the impacts of the Village Gateway scheme and crucially the A57 link road once they have all been delivered, in order to gauge next steps, as any future schemes would likely not be appraisable until these major schemes have been delivered.

National Highways also note that based on the results for 2023 (2004, ASR) and using Defra roadside projection factors, the AQMA is projected to be compliant in 2024 AND BEYOND and therefore they do not envisage further interventions being required. However, as part of the A57 Link Roads Development Consent Order 2022 they are required to: monitoring the of air quality in the Tintwistle and Dinting Value AQMA and implement mitigation measures if a breach of any national air quality objectives is reasonably attributable to the operation of the authorised development in

those areas.

### 4.1.2 AQMA No.2: Dinting Vale; DCC Highways Authority to review Air Quality, junction capacity, Speed limits and Road Safety along the A57 (Glossop)

The primary source of emissions within AQMA No.2: Dinting Vale is from vehicle emissions, notable diesel cars and HGVs other diesel vehicles. The heavy traffic flow along the A57 around Glossop can lead to congestion notably at peak times.

The Highway Authority (DCC) are responsible for operating, maintaining and improving the A57 in AQMA No.2: Dinting Vale and the implementation of any required transport actions.

It is considered that currently there is a need to improve the flow of traffic along the A57 in dinting vale by looking at a variety possible junction improvement, notably to the Dinting Vale / Simmondley Lane mini-roundabout and Primrose Lane roundabouts and improvements to the traffic light timings throughout Glossop. Dinting Vale also has 2 pedestrian traffic lights, serving the school and church However, any alterations to pedestrian traffic lights should ensure that the safe crossing of roads remains a priority.

**Progress**

High Peak Brough Council's Glossop Gateway Masterplan (draft) and the local impact report, prepared in response to the A57 link road application, were prepared with the support of DCC and identified several potential actions:

- Individual junction capacity assessments to determine if changes in traffic flow would require amendments to control strategies, lane markings or signal timings.
- Route assessments (particularly of the to remove side-road friction (i.e. review of on-street parking, loading areas, taxi ranks, bus stops, pedestrian crossings, and illegal parking).
- Prioritisation of users (i.e. accept a level of congestion for private users and instead re-allocate road space for walking, cycling and public transport. Priority for buses could also be achieved at signalised junctions via the installation of bus detection.

- Introduce demand management / behavioural change programmes, to make greater use of walking, cycling and public transport for local, short trips.

DCC Highways Authority are currently compiling a further list of measures that are to be instigated in Dinting Vale.

An updated signals controller was installed in Dec 24 at the A57/A626 Glossop Road (Plough Inn), as part of the wider BSIP programme of works and is operational. This update system provides vehicle detection and gives priority to approaching buses, aimed at reducing congestion improving reliability for all users. The VIVACITY equipment originally intended for deployment has been replaced with more standard (Swarko) equipment to avoid on-going revenue implications. This unfortunately eliminates the potential to record vehicle flows. Alternative monitoring equipment options are being considered, however it is unlikely that alternatives to the VIVACITY equipment will provide the opportunity to collect peds/cycles (see Action 2c)

DCC are therefore further looking at the installation of continuous, real-time traffic monitoring equipment (including peds/cycles) to assess the impact of interventions, including periodic queue length/journey time surveys. Currently however, the most viable option likely to be the installation of a permanent ATC site, however this doesn't capture peds/cyclists. Other options have revenue implications. It is also noted though that National Highways will be conducting traffic monitoring as part of the A57(T) Link Roads Scheme.

### 4.1.3 AQMA No.3: Fairfield; DCC Highways Authority to review Air Quality, junction capacity, Speed limits and Road Safety along A6 (Buxton)

The primary source of emissions within AQMA No.3: Fairfield is from vehicle emissions, notable LDVs and other diesel vehicles. The heavy traffic flow along the A6 around Buxton can lead to congestion notably at peak times. This can be compounded further in by other factors that affect the traffic flow; such as, single-lane entry, signal junctions or mini-roundabouts and pedestrian traffic lights. Responses to a resident's survey on air quality in Fairfield indicated that locals considered, HDVs and the large volumes of traffic/ congestion to be the main causes of pollution though this has been compounded by constant roadworks, pedestrian traffic lights and cars

trying to turn right onto Lightwood Road. The majority of respondents indicated that bypass, road improvements and measures to reduce HGV use of Fairfield Road would be their preferred solution.

**Progress**

A report relating to the A6 Fairfield Road corridor traffic and safety has been produced to provide some context surrounding the baseline situation.

One of the issues identified is the operation and safety of the existing A6/A53 roundabout junction. In consideration of the suitability of alternative design options, a traffic count survey was conducted in September 24 at this location. This has been validated against typical traffic flows reported at the A6 permanent ATC counter. Using this data, junction capacity assessments have been undertaken using industry standard modelling software of the existing roundabout and potential signals option (incorporating pedestrian crossings on all arms).

The initial model outputs suggest that a signals scheme may be achievable, and could provide some capacity improvement over the existing layout, facilitating additional vehicles through the junction, with the added benefit of realising pedestrian crossings on all arms.

To progress the scheme, further detailed assessments will be required to support a business case submission, most likely through EMCCA CRSTF commencing 2027/28 at the earliest. A wider 'whole street' approach, incorporating wider complementary scheme objectives will be taken into consideration as part of any designs to realise a comprehensive solution.

A review of the suitability the existing permanent ATC on Fairfield Road has been undertaken. This provides classified volumetric data required to monitor traffic flows and composition. A limitation of this is that it doesn’t record pedestrian or cycle movements. DCC are reviewing their current contracts and are considering alternative supplies that may enhance collection and monitoring. This location will be cited as a priority for upgrade should an opportunity materialise.

### 4.1.4 Electric Vehicle Infrastructure

The detailed assessment for all AQMAs indicated that the primary source of Nitrogen dioxide emissions was from road vehicles, notably diesel vehicles. Prioritising the prevention or reduction of polluting activities (emission reduction), from road vehicles is a primary target across the UK with the UK government pledging to make all new cars and vans effectively zero emission by 2040 (The Road to Zero – 2018). By 2050 it plans for almost every car on the road to be zero emission. The transition to zero emission vehicles is focused on significant uptake of Electric Vehicles and the installation of Electric Vehicle charge points across the brough is considered a key component of the AQAP in facilitating both commercial and residential road users to switch from high emission diesel vehicles to less polluting alternatives at all AQMA's and across the brough as a whole. HPBC and other relevant stakeholders can support electric vehicle uptake via the installation of suitable public recharging infrastructure (e.g. in council-owned car parks) and/or by creating planning guidance that requires the installation of charge points on new developments. With the support of our relevant partners, HPBC should seek to identify the levels and location of charging demand and what type of charging users may require.

Prior to 2018, no networks operated any charge points on public operated car parks in the High Peak. HPBC has been working with Derbyshire County Council, Nottingham City Council and BP Chargemaster as part of a D2N2 known as the "Go Ultra Low Programme", which has the aim to bring electric vehicle (EV) charge points to the area. This project was completed at the end of 2021 and resulted in the installation of rapid charge points for electric vehicles, at several Council owned Car parks across the district including two in Glossop, considered to impact on AQMA No.1 & No.2 and two in Buxton, considered to impact on AQMA No.3.

These initial actions have now been completed but significantly more EV charge points are still need across the brough and HPBC will continue working with DCC on the Low Emission Vehicle Infrastructure(LEVI) Strategy 2019-2029 , with support from the LEVI grant scheme to deliver further charge points across the district, notably in areas that do not have off street parking.

**Progress:**

The first stage of this was to gauge interest from residents on the desirability for charge points in their area by launching and online consultation in 2023 Electric vehicle charging in your area 2024 - Derbyshire County Council,, which continued through 2024.

The proposed EV infrastructure consists of three project strands;

- On-street utilising lamp columns (Mostly 5kW)
- Residential Charging (Mostly 7kW)
- Destination Charging (50kW and above)

### 4.1.5 Parking Strategies

Generally, variable parking pricing structures at council owned carparks could be used to favour some parking locations over others. For example, off-street parking may be made cheaper than on-street parking (to reduce the occupation of road space), 'edge of centre' parking may be cheaper than central parking (to encourage completion of journeys by foot), and the cost of Park and Ride services can be held significantly below the cost of any city centre parking (to reduce the number of vehicles entering town centres). Preferential parking rates could also be used to influence vehicle ownership choices with differential rates being made available for smaller or ultra-low emission vehicles.

Vehicles parked on the highway also create obstacles and reduce road space, increasing journey times and increasing the likelihood of accidents. Large numbers of vehicles parked along roadsides can also slow traffic down and make cycling difficult.

High Peak AQMA No.2 Dinting Vale is subject to significant on street / pavement parking both by residents and during school drop off and pick up times. This creates obstacles and reduce road space, slowing traffic down and contributing to congestion. Introduction of resident permit parking only on the stretch of the A57 in High Peak AQMA No.2 Dinting Vale would indirectly promote active travel for access to Dinting Vale C of E School. This measure would ease congestion and the stopping and starting of vehicles within the AQMA during school drop-off and pick-up. The measure

would therefore force/promote active forms of travel, as people accessing the school are not able to park outside the school. A review of on street /parking along the A57 has been undertaken as part of the Sustrans active travel feasibility study and currently being reviewed as part of the Glossop Active Travel Masterplan.

### 4.1.6 Implementation of Bus service Improvement Plan

Buses and coaches can be a source of transport emissions and have been identified in both AQMA No.2: Dinting Vale and AQMA No.3: Fairfield: as contributing around 5-6% of the $NO_2$ directly. Reducing the emission from buses is therefore key to reducing this contribution and aligns with the goals of the Derbyshire bus service improvement plan.

In addition, in AQMA No.2: Dinting Vale, the position of the bus stop may also impair the free flow of traffic contributing to congestion. However, promoting and improving public transport is also integral to increasing the number of local journeys being undertaken by sustainable travel modes.

### 4.1.7 Development of Derbyshire (or HPBC) Fleet Strategy

The detailed assessment for all AQMAs identified HGVs as one of the primary contributors to road NOx. Therefore, reducing the emissions associated with Freight deliveries would significantly improve air quality in all the AQMA's. The development of a HPBC or Derbyshire Freight Strategy with the vision to minimise the adverse impacts of freight whilst maximising its economic benefits, is an aspirational goal that would benefit all AQMA's and HPBC area as a whole. Rail networks are in reasonably close proximity to all of HPBC AQMA's. A potential significant benefit could be gleaned exploring the potential to increase the amount of freight delivered by rail, as it has been estimated by Network Rail that each freight train takes approximately 76 HGVs off of the road.

The strategy could contain several actions that have the potential to improve air quality:

- Establishing a permanent vehicle weight restriction on the A57 (Snake Pass),
- Promote the route agreements with major Freight Operators to minimises the impact of HGV traffic on local communities and inappropriate routes.
- Explore if rail could be used as an alternative to HGVs to deliver freight at suitable locations.
- Promote Fleet Recognition Schemes such as ECO-Stars and The Fleet Operator Recognition Scheme (FORS) which measure fleet performance and aim to drive up standards across areas such as fuel efficiency, vehicle emissions and safety.
- Create Freight Quality Partnerships (FQPs) between are groups and/or forums between the freight industry, local authorities, local businesses, the local community, environmental groups and others who may have an interest in freight. encourage collaboration to develop an understanding of, and deal with issues relating to freight deliveries.

The East Midlands Combined County Authority EMCCA now have the responsibility for influencing strategic freight movements across the network. DCC will work with EMCCA to raise the importance of this work.

### 4.1.8 Promotion of Fleet advice and recognition schemes across High Peak

The promotion of fleet recognition as ECO-Stars and The Fleet Operator Recognition Scheme (FORS) and fleet advice regarding reducing emissions from bodies such as the Energy Saving Trust and potential funding and grant opportunities will be delivered / promoted as part of HPBC Business support and advice.

## 4.2 Priority 2: Active and Sustainable Travel

Active travel means making journeys in physically active ways such as like walking, wheeling (using a wheelchair or mobility aid) or cycling. As one of primary source of emissions across all AQMA's is from diesel cars encouraging and facilitating less car

driven journeys and more active travel will help improve air quality, reduce congestion and can also offer significant health benefits for regular users.

High Peak Borough council and Derbyshire County Council has already adopted several policies and strategies aimed at enabling and promoting active travel across the borough. Derbyshire County Council is now further developing its approach to walking and cycling through the development of town-specific Active Travel Masterplans. An Active Travel Masterplan sets out the basis on which a significant increase in walking, wheeling, and cycling could be facilitated within a town through ambitious infrastructure investment, supported by a programme of travel behaviour change.

### 4.2.1 Support the development and implementation of a Glossop Active Travel Masterplan

The development of the Active Travel Masterplan for Glossop has been funded by Active Travel England via the Capability and Ambition Fund. It is a comprehensive document and intended that schemes identified within the Glossop Active Travel Masterplan would be submitted to Active Travel England as part of further (and separate) Active Travel Fund tranches and other funding sources

### 4.2.2 Support the development and implementation of an active travel for school's plan for Glossop to Hollingworth and Hadfield

Sustrans on behalf of move more Glossop in partnership with High Peak Brough Council have been commissioned to undertake at potential new cycling routes between Glossop, Dinting, Hadfield, and Hollingworth. The study aims to establish a connected network with a focus on improving walking and cycling infrastructure (Town Network) and enhancing access to schools, employment sites, and the Longdendale Trail.

### 4.2.3 Support the development and implementation of a Buxton on the Move travel plan

The Buxton on the Move plan was developed by Buxton Town Team and partners. The principles behind this plan encompass accessibility, sustainability, active travel and mixed mode transport through Onward Travel Hubs (Mobility Hubs). It could also form the basis of a Buxton Active Travel Masterplan, development of which could release access to further funding via Active Travel England.

### 4.2.4 Support the completion of the Link 2 and Link 3 of Derbyshire's Key Cycle Network in Glossop

As above.

### 4.2.5 Support the completion of the Link 17, Link 21 and Link 22 of Derbyshire's Key Cycle Network in Buxton

As above.

### 4.2.6 Promotion of Walking and Cycling

As above.

### 4.2.7 Increased promotion of School travel plans and improved focus on air quality

DCC is encouraging all schools in Derbyshire to sign-up to Modeshift STARS including those in Glossop and Buxton. There is potential to improved focus on Air Quality in School Travel Plans with practical initiatives and curriculum projects to promote cycling, car share and public transport on the school journey). By improving the education of the impacts of air quality to school children and adults who bring them to and from school, a more active form of travel will hopefully be adopted.

### 4.2.8 Increased promotion of work base travel plans

DCC currently working with businesses, and other organisations, to develop workplace travel plans and to promote flexible working practises and provide access to Modeshift STARS an online travel planning toolkit. Increased promotion of this

service will be provided through HPBC Business support and advice.

### 4.2.9 Promotion of car share schemes

Car sharing is when two or more people travel together for all or part of one trip, reducing emissions and congestion. As all AQMAs are on the main access route (s) to Tintwistle (AQMA No.1) and Glossop (AQMA No.2) and Buxton (AQMA No.3) respectively, improving car sharing via promoting and possible incentives, will help reduce the number of vehicles passing through the AQMAs.

## 4.3 Priority 3: Leading by Example Measures

To encourage wider behavioural changes and reduce NO2 (and other) emissions from Council activities, HPBC are implementing several actions. These actions, as with many actions in the AQAP, align with the actions outlined in the climate change action plan. They are more general actions that are not targeted specifically at the AQMA's but will benefit the borough as a whole.

These will be delivered via the following actions:

- Reduce emissions from Council Fleet
- Reduce emissions from Council Grey Fleet
- Incentivise Council Staff to switch to Low emission vehicles
- Promote and support active Travel for Council Staff
- Revise Councils procurement policy to embed sustainability and low carbon and emissions considerations into decision making
- Review the potential for providing improve access to electrical power supplies to established outdoor event areas to reduce the need for the use of diesel generators by traders

HPBC can also potentially facilitate the reduction of localised generator emissions by

making more electrical sockets available for use in areas that are traditionally used for outside events, such as market places or events areas (e.g Pavillion Gardens).

## 4.4 Priority 4: Policy, Planning and Statutory measures

Existing strategies and policies adopted by HPBC and DCC are key mechanisms for reducing emissions across the district. Planning requirements, such as the requirement for travel plan or Electric Vehicle infrastructure are now embedded within the Planning regime and implementation of these can offer numerous wider air quality benefits. The recent revision to the Developer Contributions SPD in 2023 makes specific reference to contributions to mitigate air quality impacts.

Future revisions of all relevant existing strategies and policies that could potentially impact on local air quality will be reviewed to identify any improvements.

In addition, the council will continue to implement and develop existing statutory provisions that could be used to reduce air pollution across the district.

These will be delivered via the following actions:

**Planning**

- Use of the planning regime to minimise impact of new developments in AQMAs and wider district
- Continue to promote and increase the installation of EV charging points through development control processes

**Policy Review**

### 4.4.1 Review of HPBC Local Plan to include specific policies on air quality

As part of the next review of the Local Plan, consideration should be given to developing specific air quality policies, in addition to consider further opportunities for supporting low emissions vehicles and as well as ensuring that future developments are well connected to bus routes and walking and cycling networks.

### 4.4.2 Develop a supplementary planning document for Air Quality

A draft of the supplementary planning document has been produced this is to be reviewed with the to include emissions from Non-Road Mobile Machinery (NRMM). NRMM means any mobile machine, transportable equipment or vehicle with or without bodywork or wheels which isn't intended for carrying passengers or goods on the road and which incorporates a combustion engine (e.g. dumper truck or diesel generator).

### 4.4.3 Review of Derbyshire County Council Local Transport Policy (LTP4)

The review of Derbyshire being progressed by EMCCA (East Midlands Combined County Authority) with support of the four constituent Highway Authorities is due to commence in 2025. HPBC will be a consultee in this process seek to ensure improvements in local air quality are further considered in the plan.

### 4.4.4 Review of Taxi Licencing Policy to encourage taxis licensed by the Council to comply with vehicle emission limits

Deisel Cars are noted as being the primary contributor to road NOx across both AQMA's. Although, taxis only account for only a small proportion of vehicles in the UK they can have a disproportionate impact on local air quality due to their high mileage, use of diesel and activity in urban areas where there is high population exposure.

### 4.4.5 Review of Street Trading Policy to encourage trader licensed by the Council to comply with emission limits

Street Traders often use generators (NMRM) or vehicles (ice cream vans) that can caused localised pollution hotspots.

### 4.4.6 Smoke Control Enforcement

Domestic burning is the single largest contributor to the UK's harmful particulate matter emissions. $PM_{2.5}$ emissions from domestic burning accounted for 43% of total $PM_{2.5}$ emissions in 2019. The Clean Air Act 1993 was amended by the Environment

Act 2021; and improved the enforcement options available with respect to persistent smoke being emitted in smoke control areas by households, with Councils able to issue fixed penalty charge notices up to £300 to owners of chimneys where it is deemed too much smoke is being emitted, as well as issuing fines up to £1,000 where it is identified that unauthorised fuels are being burnt without an exempt appliance. While these measures are primarily aimed at Particulate matter, improved combustion is also likely to improve associated $NO_2$ emissions.

### 4.4.7 Introduction of New Smoke Control Zones

It is recognised that improvements in smoke control regulation of these smoke control zones will improve air quality within these areas, however, it will not significantly affect the impacts of domestic burning outside of these established zones. HPBC currently has smoke control zones covering High Peak Brough Council currently has Smoke Control Orders covering Glossop, including AQMA No.2 and the majority of Buxton, including AQMA No. 3. Whilst it is recognised that improvements in the regulation of these zones will likely improve air quality within these areas, it will not significantly affect the impacts of domestic burning outside of these established zones. It has been proposed to consolidate and extend current smoke control zones across the district.

The extent of the proposed changes to smoke control areas has not yet been determined and varies from the entire district to the restricting to the more populous towns currently not included, such as, New Mills and Whalley Bridge but should include outstanding areas of Buxton and AQMA No.1: Tintwistle.

## 4.5 Priority 5: Public Health and Wellbeing Behavioural Change

As detailed in Section 3.1, air pollution has a detrimental impact on public health. Therefore, improving air quality within the district is a key priority. The main sources of air pollution in areas of public exposure in HPBC are from vehicle emissions. One of ways way to achieve a reduction in vehicle numbers is to change the attitudes and

behaviour of the population towards travel. The Council has a strong role in facilitating and encouraging behavioural changes, such as increasing the uptake of active or sustainable travel. Measures will include education and awareness raising alongside schemes which incentivise change. Improving air quality to protect public health requires a wide-reaching perspective which is not specific to the AQMAs but instead aims to have a wider impact across the district.

These will be delivered via the following actions:

- Anti-idling promotion and introduction of Anti idling signage at key locations in AQMAs and across the district
- Raise awareness of impacts of coal and wood burning

### 4.5.1 Improve Air Quality web page and develop an Air Quality Portal showing real time pollution levels across the AQMAs and wider district.

Awareness of air pollution issues to the wider public has often been complicated as air pollution is typically invisible to the eye. To bring these invisible pollutants into sight, it is proposed to use real time monitoring data create to create a webpage displaying air pollution levels graphically on maps, initially focussing on the AQMA's but with the vision to role out across the district. In addition the council will continue to:

- HPBC Develop Air Quality Awareness and Promotion events in conjunction with other relevant partners.
- HPBC will support and contribute to the Derbyshire and Derby Air Quality Working Group and related projects

## 4.6 Priority 6: Air Quality Monitoring

### 4.6.1 Installation of continuous Air Quality Monitors in AQMA's

Air quality monitoring is a useful way to continually assess the extent of air pollution in HPBC. It also helps to measure the impact of implementing measures to reduce emissions, and as an evidence base for AQMAs to be revoked.

Currently, $NO_2$ is monitored across HPBC using passive diffusion tubes. They are a cheap, accurate and effective tool for measuring $NO_2$ and are readily deployed at desirable locations. However, diffusion tubes collect data on a monthly basis and cannot be used to understand detailed emission patterns (such as daily or hourly patterns) within that timeframe.

There is a need to gain a better temporal understanding of emission trends within the AQMA's to better identify and evaluate potential interventions.

The chemiluminescent analysers are widely used for continuous monitoring of $NO_2$ concentrations in the UK and throughout the World. It is the reference method specified in the EU First Air Quality Daughter Directive. However, chemiluminescent analysers are expensive to install and maintain, and are often not readily deployed in specific areas of concern due to the installation requirements (size, power supply etc).

In recent years, numerous companies have developed lower cost continual air quality sensors that are smaller than reference analysers and operate on low power and generally allow for the monitoring of other pollutants of concern, notably Particulate Matter. These instruments represent a lower capital investment cost when compared to more complex continuous methods of monitoring. As such, they are an attractive option that allows measurements to be undertaken at improved spatial and temporal resolutions. However, this comes with a trade-off on the accuracy and precision of the measurements being made. A European Certification Scheme for gaseous and particulate matter (PM) is currently under development and there exist a number of $PM_{10}$ and $PM_{2.5}$ monitors that have been certified as suitable for indicative monitoring within the UK. However, although the accuracy of these sensors has gradually improved, and performance verification schemes such as MCERTS are being developed, they are not yet suitable for reporting against the LAQM objectives. In conclusion low-cost sensors could be used to supplement not replace, the existing diffusion tube network and would offer some temporal understanding of indicative pollution trends within the AQMA's, not only for $NO_2$ but also particulate matter, and help better measure the effects of potential mitigation measures. It may also offer the potentially to provide the Public with easy access to air quality data or even link with traffic management systems.

# 5 Development and Implementation of High Peak Borough Council AQAP

## 5.1 Consultation and Stakeholder Engagement

In developing/updating this AQAP, we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 5.1.

The response to our consultation stakeholder engagement is given in Appendix A: Response to Consultation.

**Table 5.1 - Consultation Undertaken**

| Consultee | Consultation Undertaken |
|---|---|
| The Secretary of State | Yes |
| The Environment Agency | No |
| The highways authority | Yes |
| All neighbouring local authorities | Yes |
| Other public authorities as appropriate, such as Public Health officials | Yes |
| Bodies representing local business interests and other organisations as appropriate | No |

## 5.2 Steering Group

The Steering Group consisted of a remote group of relevant stakeholders and consultees both internal, Members, Environmental Health, Planning, Regeneration

and external and Public Health, Derbyshire County Council and National Highways) to the Local Authority.

The Steering group met in person on at the start of July to agree / finalise measures. This built on frequent communication and individual meetings via e-mail and that has occurred across the Local Authority to develop the action plan and assign ownership over the 5-year period of its implementation. The Steering group is set me every 6 months to ensure that the measures are continued to be addressed.

# 6 AQAP Measures

Table 6.1 shows the High Peak Borough Council AQAP measures. It contains:

- a list of the actions that form part of the plan
- the responsible individual and departments/organisations who will deliver this action
- estimated cost of implementing each action (overall cost and cost to the local authority)
- expected benefit in terms of pollutant emission and/or concentration reduction
- the timescale for implementation
- how progress will be monitored

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

## Table 6.1- Air Quality Action Plan Measures

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | National Highways to review Air Quality, junction capacity, Speed limits and Road Safety along the A628 (Tintwistle). | Traffic Management | Control systems, Congestion management, traffic reduction, Urban Traffic | 2023 | 2028 | National Highways / HPBC | National Highways | No | Not Funded | < £10k | Planning | 0.5-1 µg/m³ | Reduction in traffic congestion & NO2 levels at relevant receptors | National Highways have completed a review of road speeds and road safety along the A628 in Tintwistle, including the section incorporating AQMA No.1: Tintwistle, as part of a Village gateway project along the A628. | National Highways indicate that before further assessments and proposals are undertaken, they will need to assess the impacts of the village gateways scheme and also the A57 link road once they have all been delivered, in order to gauge next steps |
| 1b | National Highways to monitor the future impacts of the proposed A57 Link Roads scheme at the AQMAs (1&2) and potential mitigation. | Other | Other | 2028 | 2028 | National Highways DCC/HPBC | National Highways | No | Funded | > £10k | Planning | No increase | No increase in NO2 levels at relevant receptors Completion of Link Road | National Highways have met with DCC to discuss monitoring and additional designated funding | DCC intend to submit a bid through Designated Funds (up to 1m) for the A57 scheme to facilitate design, and construction of infrastructure identified within the Glossop Active Travel Masterplan project. The funds (up to £1m) will not be available until the completion of the scheme in likely to be 2028 |
| 2a | DCC Highways Authority to review Air Quality, junction capacity, Speed limits and Road Safety along the A57 (Glossop). | Traffic Management | Control systems, Congestion management, traffic reduction, Urban Traffic | 2023 | 2028 | DCC | DCC | No | Part Funded | < £10k | Planning | 0.5-1 µg/m³ | Reduction in traffic congestion & NO2 levels at relevant receptors | DCC Highways have held an internal workshop review potential measures and officers are now evaluating any barriers and impacts to identify what measures are currently deliverability | TBC |
| 2b | DCC Highways Authority to Upgrade of the signal controller at the A57/A626 Glossop Road (Plough Inn) junction to reduce congestion and provide priority to buses, improving reliability for all users. | Traffic Management | Control systems, Congestion management, traffic reduction, Urban Traffic | 2024 | 2025/26 | DCC | DCC | No | Part Funded | < £10k | Planning | 0.5-1 µg/m³ | Reduction in traffic congestion & NO2 levels at relevant receptors | An updated signals controller was installed in Dec 24 as part of the wider BSIP programme of works and is operational. This provides vehicle detection and gives priority to approaching buses. The benefits realised from this intervention are being monitored. at this location. | The VIVACITY equipment originally intended for deployment has been replaced with more standard (Swarko) equipment to avoid on-going revenue implications. This unfortunately eliminates the potential to record vehicle flows Alternative monitoring |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | equipment options are being considered, however it is unlikely that alternatives to the VIVACITY equipment will provide the opportunity to collect peds/cycles (see Action 2c). |
| 2c | Installation of continuous, real-time traffic monitoring equipment along A57 (including peds/cycles) to assess the impact of interventions, including periodic queue length/journey time surveys. | Traffic Management | Control systems, Congestion management, traffic reduction, Urban Traffic | 2024/25 | 2025/26 | DCC | DCC | No | Part Funded | < £10k | Planning | 0.5-1 µg/m³ | Reduction in traffic congestion & NO2 levels at relevant receptors | Options currently under consideration. The most viable option likely to be the installation of a permanent ATC site, however this doesn't capture peds/cyclists. Other options have revenue implications. | NH will be conducting monitoring as part of the A57(T) Link Roads Scheme |
| 3a | DCC Highways Authority to review Air Quality, junction capacity, Speed limits and Road Safety along A6 (Buxton). | Traffic Management | Control systems, Congestion management, traffic reduction, Urban Traffic | 2024 | 2025/26 | DCC | DCC | No | Part Funded | < £10k | Planning | 0.5-1 µg/m³ | Reduction in traffic congestion & NO2 levels at relevant receptors | Ongoing. A report relating to the A6 Fairfield Road corridor traffic and safety has been produced to provide some context surrounding the baseline situation. DCC Highways Authority Commission a study to investigate the potential for a comprehensive redesign of the A6/A53 Fairfield Road/Bakewell Road roundabout junction (Buxton). A traffic count survey was conducted in September 24 Using this data, junction capacity assessments have been undertaken. The initial model outputs suggest that a signals scheme may be achievable, and could provide some capacity improvement over the existing layout, facilitating additional vehicles through the junction, with the added benefit of realising pedestrian crossings on all arms. | A wider 'whole street' approach, incorporating wider complementary scheme objectives will be taken into consideration as part of any designs to realise a comprehensive solution. |
| 3b | DCC Highways Authority Commission a study to investigate the potential for a | Traffic Management | Control systems, Congestion management, traffic reduction, | 2024/25 | 2025/26 | DCC | DCC | No | Not yet Funded | 800K | Planning | 0.5-1 µg/m³ | Reduction in traffic congestion & NO2 levels at relevant | The installation of a signals scheme is estimated to cost in the region of £800K. To progress the scheme, further detailed assessments will be required to support a business case | To progress the scheme, further detailed assessments will be required to support a business |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | comprehensive redesign of the A6/A53 Fairfield Road/Bakewell Road roundabout junction (Buxton). | | Urban Traffic | | | | | | | | | | receptors | submission, | case submission, most likely through EMCCA CRSTF commencing 2027/28 at the earliest. |
| 3c | Review of continuous, real-time traffic monitoring equipment along Fairfield Road to assess the impact of interventions, including periodic queue length/journey time surveys. | Traffic Management | Control systems, Congestion management, traffic reduction, Urban Traffic | 2024/25 | 2025/26 | DCC | DCC | No | Part Funded | To be determined | Planning | 0.5-1 µg/m³ | Reduction in traffic congestion & NO2 levels at relevant receptors | The existing permanent ATC on Fairfield Road provides classified volumetric data required to monitor traffic flows and composition. A limitation of this is that it doesn't record pedestrian or cycle movements. | DCC are reviewing their current contracts and are considering alternative supplies that may enhance collection and monitoring. This location will be cited as a priority for upgrade should an opportunity materialise. |
| 4a | Installation of further rapid (50kw +) EV Charging points across borough | Promoting Low Emission Transport | Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging | 2025 | 2025/26 | DCC/HPBC / Midlands Connect | LEVI Fund | No | Funded | £10k - £50k | Planning | <0.5 µg/m³ | Number of EV charge points installed | Final Selection of sites/ locations within the HPBC district being determined | TBC |
| 4b | Installation of On-street charging utilising lamp columns (5kW) across borough | Promoting Low Emission Transport | Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging | 2025 | 2025/26 | DCC/HPBC / Midlands Connect | LEVI Fund | No | Funded | £10k - £50k | Planning | <0.5 µg/m³ | Number of EV charge points installed | Final Selection of sites/ locations within the HPBC district being determined | TBC |
| 4c | Installation of charge points in residential areas (7kW) | Promoting Low Emission Transport | Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging | 2025 | 2025/26 | DCC/HPBC / Midlands Connect | LEVI Fund | No | Funded | £10k - £50k | Planning | <0.5 µg/m³ | Number of EV charge points installed | Final Selection of sites/ locations within the HPBC district being determined | TBC |
| 5 | Review of HPBC parking strategy to Incentivise parking for low emission vehicles | Promoting Low Emission Transport | Emission based parking or permit charges | 2021 | 2023 | HPBC/DCC | HPBC | No | Not funded | < £10k | Planning | <0.5 µg/m³ | TBC | Parking review being undertaken for the Not yet commenced district | TBC |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Implementation of Bus service Improvement Plan | Promoting Low Emission Transport | Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging | 2024 | 2029 | HPPC / DCC /Central Government /Energy Saving Trust | BSIP | No | Fully Funded | > £10m | Implementation on | <0.5 µg/m³ | Achieve 95% Euro 6 or better by end 2029/30, including a Enhanced Partnership Plan (EP Plan) which formally adopted the Develop plans for hydrogen and/or electric infrastructure within 4 years | implementation ongoing | With relevant stakeholders, determine if lower emission buses can be prioritised for services directly impacting on the AQMA's TBC |
| 7 | Development of Derbyshire (or HPBC) Freight and Delivery Fleet Strategy | Freight and Delivery management | Policy | 2025/26 | Not Yet Commenced | EMCCA | TBC | No | TBC | < £10k | Aspirational | <0.5 µg/m³ | Number of LEV in the fleet | Could be produced as part of the DCC LTP review. The East Midlands Combined County Authority EMCCA now have the responsibility for influencing strategic freight movements across the network. DCC will work with EMCCA to raise the importance of this work. | EMCCA have the responsibility for influencing strategic freight movements across the network. DCC will work with EMCCA to raise the importance of this work. |
| 8 | Promotion of Fleet advice and recognition schemes across High Peak | Vehicle Fleet Efficiency | Fleet Efficiency and Recognition Schemes | 2025/26 | On going | HPBC/DCC | HPBC | No | Funded | < £10k | Planning | <0.5 µg/m³ | Number of companies adopting fleet recognition scheme | Not yet initiated | TBC |
| 9a | Support the development and implementation of a Glossop Active Travel Masterplan | Promoting Travel Alternatives | Promotion of active travel | 2023 | 2024/25 | DCC/HPBC / Sustrans /Move More HP | Active Travel England via the Capability and Ambition Fund | No | Funded | £50k - £100k | Planning | <0.5 µg/m³ | TBC | The has been produced Glossop Active Travel Masterplan and is awaiting formal adoption. A delivery plan is being developed | Strategic routes (PBW/ route to school) identified as priorities - seeking quotes before determining next steps. Wider action plan delivery will require partnership and further funding |
| 9b | Support the development and implementation of an active travel for school's plan for Glossop to Hollingworth and Hadfield | Promoting Travel Alternatives | Promotion of active travel | 2023 | 2024/25 | DCC/Sustrans /Move More/HPBC | HPBC UK Shared Prosperity Fund | No | Funded | £10k - £50k | Planning | <0.5 µg/m³ | Implementation plan | Feasibility Study Completed by Sustrans. Implementation likely via Glossop Active Travel Masterplan. Strategic routes (PBW/ route to school) identified as priorities - seeking quotes before determining next steps. | Recommendations may likely to be implemented be through Glossop Active Trave masterplan |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9c | Support the completion of the Trans Pennine Trail & aspirations of the Derbyshire's Key Cycle Network and LCWIP. in Glossop | Promoting Travel Alternatives | Promotion of cycling | 2021 | On going | DCC | DCC | No | Part Funded | < £10k | Implementation | <0.5 µg/m³ | Route Completion | Delivery of interventions associated with the Glossop Active Travel Masterplan. Awaiting approval. Focus on key connectivity e.g. Glossopdale Community School and along the A57 corridor. | TBC |
| 10a | Support the objectives and implementation of the Buxton Sustainable Travel Plan. | Promoting Travel Alternatives | Promotion of active travel | 2021 | On going | Buxton Town Team/DCC/ HPBC | Active Travel England via the Capability and Ambition Fund | No | Part Funded | >1m | Planning | <0.5 µg/m³ | Route Completion | The Buxton - Next Steps project is mostly aligned with and will progress the 'Buxton Boulevard' cross town route as proposed in the travel plan for the town. | TBC |
| 10b | Development of Buxton Walk and Ride Network | Promoting Travel Alternatives | Promotion of active travel | 2023 | On going | DCC/HPBC | DCC/ HPBC Future High Street Fund | No | Part Funded | £50k - £100k | Implementation | <0.5 µg/m³ | Route Completion | A preferred route has been identified to be taken forward, broadly based on the 'Buxton Boulevard' cross town route identified in the Travel Plan resurfacing completed. Some development is being carried out by HPBC | No funding to develop whole network at present |
| 10c | Support the completion of Derbyshire's Key Cycle Network and LCWIP links (White Peak Loop route) erred route)part of Buxton Walk and Ride Network | Promoting Travel Alternatives | Promotion of cycling | 2021 | On going | DCC | Active Travel England via the Capability and Ambition Fund | No | Part Funded | > £1m | Implementation | <0.5 µg/m³ | Route Completion | .Design and preparatory work underway for proposed section of WPL from the end of Monsal Trail at Topley Pike, into and through Buxton to Parks Inn at Harpur Hill. Surface, drainage and accessibility improvements undertaken for route from A515 across Temple Fields onto Green Lane. | |
| 10c | Support the development of Mobility Hub in Buxton | Promoting Low Emission Transport | Other | 2024 | On going | HPBC/DCC /EMCCA | BSIP/DCC | No | Fully Funded | £50k - £100k | Planning | <0.5 µg/m³ | Implementation of mobility hub | DCC are currently commissioning a piece of work associated with the identification of measures and countywide implementation of hub interventions. | |
| 11 | Promotion of Walking and Cycling Travel Alternatives | Promoting Travel Alternatives | Workplace Travel Planning | 2015 | Ongoing | DCC/HPBC | DCC/HPBC | No | Funded | < £10k | Implemented | <0.5 µg/m³ | N/A | Ongoing. https://www.derbyshire.gov.uk/leisure/countryside/access/cycling/cycling.aspx | |
| 12a | Increased promotion of School travel plans and improved focus on air quality | Promoting Travel Alternatives | School Travel Plans | 2018/ 2019 | ongoing | HPBC/ DCC (HPBC) | DCC | No | Funded | < £100k | Implementation | <0.5 µg/m³ | No of School Travel Plans approved & adopted | By 2025, all education settings will have nominated a sustainability lead and put in place a climate action plan see: https://www.gov.uk/guidance/sustainability-leadership-and-climate-action-plans-in-education. Several, including Buxton Community School, have | The number of officers involved in school travel planning at DCC has been reduced |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | signed up to Modeshift STARS to collect mode of travel data to support their climate action plan. | |
| 12b | Work with local schools (Dinting Vale Primary School and Glossopdale Secondary School) to understand and tackle air quality issues, potentially leading to the creation/revision of school travel | Promoting Travel Alternatives | School Travel Plans | 2024 | ongoing | Move More/ HPBC/DCC | HPBC UK Shared Prosperity Fund | Yes | Funded | < £10k | Implementation | <0.5 µg/m³ | No of School Travel Plans approved & adopted | Move More Glossop and the local police have undertaken traffic monitoring with pupils - https://www.derbyshirealert.co.uk/Alerts/A/214632/Vehicle-Pollution-Event-by-students-from-Dinting-School---Thursday-Glossopdale Community school working towards Modeshift STARS | Glossopdale Community school working towards Modeshift STARS The school is hoping to conduct a modal share survey in 2025 School secured an approved travel plan as of March 2025. |
| 13a | Increased promotion of work base travel plans | Promoting Travel Alternatives | Workplace Travel Planning | 2018/ 2019 | Operational | DCC/ HPBC | HPBC/DCC | No | Funded | < £100k | Implemented | <0.5 µg/m³ | No of Business Travel Plans approved & adopted | Quantitative appraisal is on-going. https://www.derbyshire.gov.uk/transport-roads/transport-plans/sustainable-travel/sustainable-travel-and-smarter-choices.aspx | The number of officers involved in travel planning at DCC has been reduced |
| 13b | Work with local business (Fairfield Industrial Estate and Water swallows) to promote the benefits of workplace travel plans.. | Promoting Travel Alternatives | Workplace Travel Planning | 2018 | Operational | DCC/ HPBC | HPBC/DCC | No | Funded | < £10k | Planning | <0.5 µg/m³ | No of Business Travel Plans approved & adopted | DCC looking to support existing Buxton Workplace Travel Forum | The number of officers involved in travel planning at DCC has been reduced |
| 14 | Promotion of car share schemes | Promoting Travel Alternatives | Workplace Travel Planning | 2018/ 2019 | Operational | DCC/ HPBC | HPBC/DCC | No | Funded | < £10k | Implemented | <0.5 µg/m³ | No of Business Travel Plans approved & adopted | Quantitative appraisal is on-going. https://liftshare.com/uk/community/derbyshire | |
| 15a | Reduce emissions from Council Fleet | Vehicle Fleet Efficiency | Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging | 2019 | On going | HPBC/ AES | HPBC | No | Funded | £50k - £100k | Implementation on | <0.5 µg/m³ | Number of LEV in the fleet | The Energy Saving Trust has assessed the councils fleet vehicles. The majority of the fleet comply with are highest EURO emission standard with the rest completed by 2025. Progress reported in Annual climate change report - | |
| 15c | Reduce emissions from Council Grey Fleet | Vehicle Fleet Efficiency | Procuring alternative Refuelling infrastructure to promote Low Emission | 2025 | Ongoing | HPBC | HPBC | No | Funded | £10k - £50k | Planning | <0.5 µg/m³ | Number of LEV in the grey fleet | Initial assessment to be implemented. Progress reported in Annual climate change report | |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Vehicles, EV recharging, Gas fuel recharging | | | | | | | | | | | | |
| 15d | Promote and support active Travel for Council Staff | Promoting Travel Alternatives | Promoting Active Travel | 2022 | Ongoing | HPBC | HPBC | No | Funded | < £10k | Implementation on /planning | <0.5 µg/m³ | Number of Staff engaged in active travel | Cycle to work launched and agile working policy adopted. Progress reported in Annual climate change report, | Uptake of cycle to work scheme has been limited so far. Further promotion ongoing |
| 15e | Incentivise Council Staff to switch to Low emission vehicles | Promoting Low Emission Transport | Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging | 2022 | Ongoing | HPBC | HPBC | No | Funded | £10k - £50k | Implementation on | <0.5 µg/m³ | Number of staff switching to LEV | Review of allowances scheme on going,. Employees EV salary sacrifice launched to facilitate scheme to move to EV . Progress reported in Annual climate change report | Lack of workplace EV chargers |
| 15f | Revise Councils procurement policy to embed sustainability and low carbon and emissions considerations into decision making | Policy Guidance and Development Control | Other policy | 2022 | 2022 | HPBC | HPBC | No | Funded | < £10k | Implementation | <0.5 µg/m³ | TBC | Policy adopted. Progress reported in Annual climate change report | |
| 16a | Use of the planning regime to minimise impact of new developments in AQMAs and wider district | Policy Guidance and Development Control | Other policy | 2005 | Operational | HPBC | Developer Contributions | No | N/A | < £10k | Implementation | <0.5 µg/m³ | Mitigation of AQ achieved Through planning | The Council adopted a new Developer Contributions SPD in 2023 that's makes specific reference to contributions to mitigate air quality impacts. | |
| 16b | Review of HPBC Local Plan to include specific policies on air quality | Policy Guidance and Development Control | Other policy | 2022 | EQ10 Operational Review Ongoing | HPBC | HPBC | No | N/A | < £10k | TBC | <0.5 µg/m³ | New Policy Adopted | Implementation ongoing | Local Plan Review can take a significant time period |
| 16c | Develop a supplementary planning document for Air Quality Planning and Policy Guidance | Policy Guidance and Development Control | Air Quality Planning and Policy Guidance | 2018 | N/A | PHE /East Midlands Councils | HPBC/ PHE | No | N/A | < £10k | TBC | <0.5 µg/m³ | TBC | Further Establishes a range of measures expected by developers Reduction in a range of pollutants from development | To be adapted locally taken to the Air quality group on completion for discussion and local adoption and implementation |
| `17 | Review of Derbyshire County Council Local Transport Policy (LTP4) | Policy Guidance and Development Control | Other policy | 2025 | 2026/27 | EMCCA | EMCCA | No | TBC | < £10k | Planning | <0.5 µg/m³ | TBC | Not Yet Implemented | Responsibility for LTP now with EMCCA Implementation is on- going but can take a significant time period |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | Review of Taxi Licencing Policy to encourage taxis licensed by the Council to comply with vehicle emission limits | Policy Guidance and Development Control | Other policy | 2022 | 2024 | HPBC | HPBC | No | Funded | < £10k | Implementation | <0.5 µg/m³ | Number of LEV Taxis in the fleet. All licensed taxis should meet minimum emission standard | Adopted Policy requires all diesel vehicles to be Euro six and Euro 4 for diesel and petrol vehicles, respectively | Policy adopted and currently being implemented via new and renewal process |
| 19 | Review of Street Trading Policy to encourage trader licensed by the Council to comply with emission limits | Policy Guidance and Development Control | Other policy | 2024 | 2024/25 | HPBC | HPBC | No | Funded | < £10k | Planning | <0.5 µg/m³ | Number of Low emission vehicles should meet minimum emission standard | Adopted Policy will requires all diesel vehicles to be Euro six and Euro 4 for diesel and petrol vehicles, respectively | Proposed changes to street trading licenses needs approval from Council members |
| 20a | Smoke Control Enforcement | Other | Other | Ongoing | Operational | HPBC | HPBC | Yes | Defra Funded | < £10k | Completed | <0.5 µg/m³ | Fines Issued/ complaints received | On going | This is statutory work completed by the Environmental Health team |
| 20b | Introduction of New Smoke Control Zones | Policy Guidance and Development Control | Other policy | 2024/25 | 2025/26 | HPBC | HPBC | No | No | £10k - £50k | Planning | <0.5 µg/m³ | Area Covered by new smoke control order | On-going | The extent of the proposed changes to smoke control areas needs agreement from Council members |
| 21 | Inspect under the Environmental Permit regime | Environmental Permits | Introduction/increase of environment charges through permit systems and economic instruments | Completed | Continual | HPBC | HPBC | No | TBC | < £10k | Completed | <0.5 µg/m³ | Installations adhering to permits and enforcement / penalties for breaches | On-going | This is statutory work completed by the Environmental Health team |
| 22a | Develop Air Quality Awareness and Promotion events in conjunction with other relevant partners. | Public Information | Other | 2017/18 | Operational | DCC / HPBC /Derby & Derbyshire AQ group | Public Health/HPBC and other stakeholder | No | Funded | < £10k | Implementation | <0.5 µg/m³ | Through public awareness / web site use | Implementation is on- going Recent promotions include;Big Walk and Wheel https://bigwalkandwheel.org.uk/ ; Travel Smart week(s), Clean Air Day | |
| 22b | Anti-idling promotion and introduction of Anti idling signage at key locations in AQMAs and across the district | Public Information | Other | 2024 | 2025/2026 | HPBC/ DCC | HPBC | No | Part Funded | < £10k | Planning | <0.5 µg/m³ | Through public awareness /No of signs/ web site use | implementation is on- going, anti- idling signage being designed | |

| Measure No. | Measure | Category | Classification | Estimated Year Measure to be Introduced | Estimated / Actual Completion Date | Organisations Involved | Funding Source | Defra AQ Grant Funding | Funding Status | Estimated Cost of Measure | Measure Status | Target Reduction in Pollutant / Emission from Measure | Key Performance Indicator | Progress to Date | Comments/Potential Barriers to Implementation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22c | Raise awareness of impacts of coal and wood burning | Public Information | Other | 2022 | Operational | HPBC | HPBC/Defra Grant | Yes | Funded | < £10k | Implementation | <0.5 µg/m³ | Through public awareness / web site use | Ready to Burn promotions ongoing via social media Quantitative appraisal is on-going | https://www.highpeak.gov.uk/article/355/Smoke-controlareas |
| 22d | Improve Air Quality web page and develop an Air Quality Portal showing real time pollution levels across the AQMAs and wider district. | Public Information | Other | 2024/25 | 2025/26 | HPBC | HPBC/Developer Contribution | No | Not Funded | £10k - £50k | planning | <0.5 µg/m³ | Through public awareness / web site use | Not yet Implemented | Requires the installation of continuous monitors across the AQMAs and funds through developer contributions |
| 23 | Installation of continuous Air Quality Monitors in AQMA's | Install continuous Air Quality Monitors in AQMA's | Public Information | Other | 2024 | Ongoing | HPBC | HPBC / Defra / Developer Contributions | Part Funded | < £10k | Implementation | <0.5 µg/m³ | No of units installed | Two Zephyr monitors have been installed (Dec 24) on the south bound carriageway adjacent to the key receptor in AQMA 2 (Dinting Vale Primary School) and Fairfield AQMA3, on the north bound (uphill) carriageway | Further installations required |

# 7 Quantification of Measures

## 7.1 Assumptions and Quantification

Many of the measures set out in Table 6.1 are difficult to quantify. As a result, no detailed studies have been able to be completed to reliably inform the likely effect in terms of changing traffic or fleet comparison as a result of measures. The proposed measures allow for a high-level analysis of reductions in emissions based on professional judgement and literature review of similar measures being undertaken by other local authorities. A summary consideration of the measures and expected change in concentrations is contained in Table 7.1.

### Table 7.1– Assumptions around Quantification of Measures

| Measure | Assumptions for Quantification | Assumed Reduction in AQMA | | |
|---|---|---|---|---|
| | | AQMA No.1 Tintwistle | AQMA No.2 Dinting Vale | AQMA No.3 Buxton |
| Speed limit reduction along A628 (Tintwistle) | The effectiveness of measure in isolation is likely to be minimal due to the fact that reducing speeds typically causes increases in emissions from vehicles. However, a lower speed limit enforced on the road could cause drivers to use other roads with higher speed limits which in turn could contribute to reducing emission on the A628. | See section 7.1.1 | | |
| Speed limit reduction along A57 (Glossop) | The effectiveness of measure in isolation is likely to be minimal due to the fact that reducing speeds typically causes increases in emissions from vehicles. Data from the A57 Link road project indicates concentration changes during the measure. | | See section 7.1.2 | |
| Speed limit reduction along A6 (Buxton) | The effectiveness of measure in isolation is likely to be minimal due to the fact that reducing speeds typically causes increases in emissions from vehicles. However, a lower speed limit enforced on the road could cause drivers to use other roads with higher speed limits which in turn could contribute to reducing emission on the A6. | | | See section 7.1.4 |
| Uban Traffic Management and Control in Buxton and Glossop | The measure is expected to reduce traffic flow in Buxton and Glossop. Reduction is based on a 5% and 10% reduction. | | 1- 2µg/m³ | 2 - 4µg/m³ |

| Measure | Assumptions for Quantification | Assumed Reduction in AQMA | | |
|---|---|---|---|---|
| | | AQMA No.1 Tintwistle | AQMA No.2 Dinting Vale | AQMA No.3 Buxton |
| Reduction of speed limits, 20mph zones (Buxton Town Centre and AQMA No.3) | See section 7.1.6 | | | 2 - 4µg/m³ |
| Installation of further rapid EV charging points across Borough | Assumption based on increase of EV uptake causing a reduction of NOx emitting vehicles. Vehicles reduced by 5%, 10% and 25%. See section 7.1.7 | 2 - 4µg/m³ | 2 - 6µg/m³ | 2 - 6µg/m³ |
| Installation of on-street charging across Borough | | | | |
| Installation of charge points in residential areas | | | | |
| Implementation of Bus service improvement plan | Insufficient detail to quantify this measure. It will help promote the use of public transport and reduce emissions from the transport sector. Additionally, studies in Brighton & Hove[16] showed on average 72% reduction on vehicle tailpipe emissions when transitioning from euro-III to euro-VI emission standards. Insufficient detail to quantify this measure. Reduction based on professional judgement with a conservative approach. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Development of a mobility hub in Buxton | The development of the mobility hub is expected to help promote the use of public transport and reduce emissions from the transport sector in Buxton. Insufficient detail to quantify this measure. | | | < 0.5µg/m³ |
| Reduce emissions from the council fleet (change in fleet to Euro VI/EV) | Insufficient detail to quantify accurately. It is unknown the exact number of vehicles in the council fleet. An estimation has been used. See section 6.1.9 | | | 0.5 – 1 g/m³ |
| Reduce emissions from the grey council fleet (change in fleet to Euro VI/EV) | Insufficient detail to quantify accurately. It is unknown the exact number of grey fleet vehicles in the council fleet. An estimation has been used. See section 7.1.10 | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Incentivise | Insufficient detail to quantify | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |

[16] PHE. Case Study: Reduced bus emissions and improved air quality in Brighton & Hove. Available at: https://www.gov.uk/government/case-studies/reduced-bus-emissions-and-improved-air-quality-in-brighton-hove Insufficient detail to quantify accurately. It is unknown the exact number of vehicles in the council fleet. An estimation has been used.

| Measure | Assumptions for Quantification | Assumed Reduction in AQMA | | |
|---|---|---|---|---|
| | | AQMA No.1 Tintwistle | AQMA No.2 Dinting Vale | AQMA No.3 Buxton |
| council staff to switch to low emission vehicles. (change in fleet to Euro VI/EV) | accurately. It is unknown the exact number of vehicles in the council fleet. An estimation has been used. See section 7.1.10 | | | |
| Review of HPBC parking strategy to Incentivise parking for low emission vehicles | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Review of the current resident on-street parking in High Peak AQMA No.2 Dinting Vale | Insufficient detail to quantify this measure. Reduction based on professional judgement. | | < 0.5µg/m³ | |
| With relevant stakeholders, determine if lower emission buses can be prioritised for services directly impacting on the AQMA's | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| With DCC, determine if the road network can be redesigned so that the bus stops within the AQMA are set back from the main road, so traffic can continue to flow. | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| With relevant stakeholders, support the development of a mobility or park and ride in Glossop | Insufficient detail to quantify this measure. Reduction based on professional judgement. | | < 0.5µg/m³ | |
| With relevant stakeholders, support the development of a mobility or park and ride in Glossop | Insufficient detail to quantify this measure. Reduction based on professional judgement. | | < 0.5µg/m³ | |
| Development of Derbyshire (or HPBC) Fleet | Insufficient detail to quantify this measure. Reduction based on professional | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |

| Measure | Assumptions for Quantification | Assumed Reduction in AQMA | | |
|---|---|---|---|---|
| | | AQMA No.1 Tintwistle | AQMA No.2 Dinting Vale | AQMA No.3 Buxton |
| Strategy | judgement. | | | |
| Promotion of Fleet advice and recognition schemes across High Peak | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Support the development and implementation of a Glossop Active Travel Masterplan | Insufficient detail to quantify this measure. Reduction based on professional judgement. | | < 0.5µg/m³ | |
| Support the development and implementation of an active travel for school's plan for Glossop to Hollingworth and Hadfield | Insufficient detail to quantify this measure. Reduction based on professional judgement. | | < 0.5µg/m³ | |
| Support the development and implementation of a Buxton on the Move travel plan | Insufficient detail to quantify this measure. Reduction based on professional judgement. | | | < 0.5µg/m³ |
| Support the completion of the Link 2 and Link 3 of Derbyshire's Key Cycle Network in Glossop | This measure is expected to reduce vehicle emissions in isolation if more journeys are taken by bicycle over vehicles. Insufficient detail to quantify this measure. Reduction based on professional judgement. | | < 0.5µg/m³ | |
| Support the completion of the Link 17, Link 21 and Link 22 of Derbyshire's Key Cycle Network in Buxton | This measure is expected to reduce vehicle emissions in isolation if more journeys are taken by bicycle over vehicles. Insufficient detail to quantify this measure. Reduction based on professional judgement. | | | < 0.5µg/m³ |
| Promotion of Walking and Cycling | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Increased promotion of School travel plans and improved focus | While the direct impact of this measure may be limited in the short-term, it is likely to contribute to maintaining compliance in the AQMA in the long-term by fostering | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |

| Measure | Assumptions for Quantification | Assumed Reduction in AQMA | | |
|---|---|---|---|---|
| | | AQMA No.1 Tintwistle | AQMA No.2 Dinting Vale | AQMA No.3 Buxton |
| on air quality | a culture of environmental awareness and sustainable practices among the younger generation. Insufficient detail to quantify this measure. Reduction based on professional judgement. | | | |
| Increased promotion of work base travel plans | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Promotion of car share schemes | Insufficient detail to quantify this measure. Reduction based on literature review and professional judgement. According to a British case study on Travel Plan[17], an average reduction of 18% in car journeys was achieved among surveyed British organisations. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Promote and support active Travel for Council Staff | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Revise Councils' procurement policy to embed sustainability and low carbon and emissions considerations into decision making | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Review the potential for providing improve access to electrical power supplies to established outdoor event areas to reduce the need for the use of diesel generators by traders | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Use of the planning regime to minimise impact of new developments in AQMAs and wider district | The use of the planning regime to minimize the impact of new developments in the AQMAs and wider district is expected to help mitigate the potential increase in emissions from new developments Insufficient detail to quantify this measure. Reduction based on professional | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |

[17] Newson, C., Cairns, S. & Davis, A. (2002). Making travel plans work: Lessons from UK case studies.

| Measure | Assumptions for Quantification | Assumed Reduction in AQMA | | |
|---|---|---|---|---|
| | | AQMA No.1 Tintwistle | AQMA No.2 Dinting Vale | AQMA No.3 Buxton |
| | judgement. | | | |
| Continue to promote and increase the installation of EV charging points through development control processes | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Review of HPBC Local Plan to include specific policies on air quality | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Develop a supplementary planning document for Air Quality | Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Review of Derbyshire County Council Local Transport Policy (LTP4) | The Review of Derbyshire County Council Local Transport Policy (LTP4) is expected to align transport policies with ait quality objectives. Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Review of Taxi Licencing Policy to encourage taxis licensed by the Council to comply with vehicle emission limits trader licensed by the Council to comply with emission limits | Measure expected to help reduce emissions from the taxi fleet. Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Ant-idling Enforcement on council owned land | Not possible to quantify given the existing amount of idling is not known for comparison. Reduction based on conservative professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Smoke Control Enforcement | The enforcement of Smoke Control measures is expected to help reduce emissions from solid fuel burning. Insufficient detail to quantify this measure. Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Introduction of New Smoke Control Zones | The introduction of new Smoke Control Zones is expected to help reduce emissions from solid fuel burning in the designated areas. Insufficient detail to quantify this | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |

| Measure | Assumptions for Quantification | Assumed Reduction in AQMA | | |
|---|---|---|---|---|
| | | AQMA No.1 Tintwistle | AQMA No.2 Dinting Vale | AQMA No.3 Buxton |
| | measure.<br>Reduction based on professional judgement. | | | |
| Inspect under the Environmental Permit regime | Insufficient detail to quantify this measure.<br>Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Anti-idling promotion and introduction of Anti idling signage at key locations in AQMAs and across the district | Not possible to quantify given the existing amount of idling is not known for comparison.<br>Insufficient detail to quantify this measure.<br>Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Raise awareness of impacts of coal and wood burning | Raising awareness of the impacts of coal and wood burning is expected to help reduce emissions from these sources.<br>Insufficient detail to quantify this measure.<br>Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Improve Air Quality web page and develop an Air Quality Portal showing real time pollution levels across the AQMAs and wider area | Measure expected to help raise public awareness and provide information on air quality in the district.<br>Insufficient detail to quantify this measure.<br>Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Develop Air Quality Awareness and Promotion events in conjunction with other relevant partners. | It is expected to help raise public awareness and promote actions to improve air quality<br>Insufficient detail to quantify this measure.<br>Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Support and contribute to the Derbyshire Air Quality Working and related projects | The continued support and contribution is expected to facilitate collaboration and the development of air quality initiatives in the region. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| Installation of continuous Air Quality Monitors in AQMA's | The installation of continuous air quality monitors in the AQMAs is expected to provide better data and information to support air quality management and decision-making.<br>Reduction based on professional judgement. | < 0.5µg/m³ | < 0.5µg/m³ | < 0.5µg/m³ |
| A57 Link Road changes | Quantified as part of planning application | See 7.1.3 | See 7.1.3 | See 7.1.3 |

### 7.1.1 Speed limit reduction along A628 (Tintwistle)

The council aims to work alongside National Highways to review Air Quality, junction capacity, speed limits and road safety along the A628 (Tintwistle). The effectiveness of measure in isolation is likely to be minimal due to the fact that reducing speeds typically causes increases in emissions from vehicles. However, a lower speed limit enforced on the road could cause drivers to use other roads with higher speed limits which in turn could contribute to reducing emission on the A628. Reduction of speed is based on professional judgement and has been reduced from the current speed limit of 40mph to 20mph.

Using the latest version of the EFT, based on this reduction of speed, there will be an increase of 7.1% in average $NO_x$ emissions across the A628.

**Table 7.2 Tintwistle Emission Based Assessment**

| Scenario | Emissions from Traffic on A628 |
|---|---|
| Average Annual $NO_x$ Emissions without measure (kg/year) | 107,935 |
| Average Annual $NO_x$ Emissions - with measure at full potential (kg/year) | 115,672 |
| Average NOx Emission Increase/Reduction (%) | +7.1 |

Although the above emissions based assessment shows that emissions will increase by 7.1% with the above measure in place, this does not necessarily correlate to increased concentrations of $NO_2$. This is one of the limitations with the assessment is that emissions and concentrations aren't comparable.

### 7.1.2 Speed limit reduction along A57 (Glossop)

HPBC proposes to work alongside DCC Highways to review Air Quality, junction capacity, speed limits and road safety along the A57 (Glossop). The priority here is for AQMA 2 Dinting Dale. The effectiveness of this measure in isolation is likely to be minimal due to the fact that reducing speeds typically causes increases in emissions from vehicles. However, a lower speed limit enforced on the road could cause drivers to use other roads with higher speed limits which in turn could contribute to reducing emission on the A57. Roads within the AQMA along the A57 are 30mph have been reduced to 20mph.

Using the latest version of the EFT, based on this reduction of speed, there will be an

increase of 2.8% in average NOx emissions across the A57.

**Table 7.3 Measure 2 Emission Based Assessment**

| | Emissions from Traffic on A57 |
|---|---|
| Average Annual NOx Emissions without measure (kg/year) | 365,425 |
| Average Annual NOx Emissions - with measure at full potential (kg/year) | 375,724 |
| Average NOx Emission Increase/Reduction (%) | +2.8 |

### 7.1.3 A57 Link Road

The A57 link road project undertaken by National Highways was completed and shows the effects of the project on local $NO_2$ concentrations as part of the Environmental Impact Assesmsent completed for the planning application.

This is available in the Air Quality Assessment at:
https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010034/TR010034-000903-TR010034_9.27_ES_Chapter_5_Air_Quality_Tracked%20D2%20140122.pdf

Table 5-11 in the report linked above presents the change in $NO_2$ concentrations for the A57 link road project. Within AQMA no 2 – Dinting Vale along the A57, receptor concentrations in the AQMA show a small increase of around 1 µg/m³. Within AQMA no.1 (Tintwhistle) there is also a small increase of around 0.4µg/m³ $NO_2$.

While the effect of this scheme within AQMAs will result in small increases, it should be noted that other assessed areas within Glossop at the Market Street/Woolley Lane junction show modelled $NO_2$ reductions of 25.3 µg/m³ and 28.5 µg/m³. It should be noted that the assessment identifies these areas in exceedance of the Air Quality Objective though there is no AQMA declared.

### 7.1.4 Speed limit reduction along A6 (Buxton)

This measure is also aimed at junction capacity, speed limits and road safety along the A6 (Buxton). AQMA 3 (Fairfield Road) along the A6 will be addressed after AQMA 2 above. With a 10mph speed reduction (from 30mph to 20mph) along the A6, using

the latest version of the EFT the emissions are calculated to increase by 35.6%.

### Table 7.4 Measure 3 Emission Based Assessment

| | Emissions from Traffic on A6 |
|---|---|
| Average Annual NOx Emissions without measure (kg/year) | 476,676 |
| Average Annual NOx Emissions - with measure at full potential (kg/year) | 641,426 |
| Average NOx Emission Increase/Reduction (%) | +34.6 |

### 7.1.5 Uban Traffic Management and Control in Buxton and Glossop

Improving the traffic by reducing congestion is expected to have a positive impact on air quality. To assess the reduction in congestion, a reduction in traffic flow of 5% and 10% has been applied in Buxton and Glossop. Using the latest Emissions Factors Toolkit and shown in Table 7.5, $NO_x$ emissions will reduce also.

### Table 7.5 Measure 4 Urban Traffic Management in Buxton and Glossop

| AQMA | Average Baseline Annual NOx Emissions (kg/year) | Average Annual NOx Emissions (kg/year) 5% | Average Annual NOx Emissions (kg/year) 10% |
|---|---|---|---|
| AQMA 3 Fairfield Road Buxton | 1,029, 877 | 978,384 | 926, 890 |
| AQMA 2 Dinting Vale Glossop | 571,531 | 542,955 | 514,378 |

Furthermore, using the highest modelled concentrations within this AQMA from the technical assessment and reducing the NOx by 10 and 5%, a concentration reduction can be quantified. shows for this measure, $NO_2$ concentrations are expected to reduce between 2-4 µg/m³ in the Fairfield AQMA and 1-2 µg/m³ in the Dinting Vale AQMA. The latest version of the NOx to $NO_2$ calculator was used to calculate reductions of $NO_2$ with measures in place. Table 7.6 below shows that within each AQMA, the above measure will likely cause a reduction of 2-4 µg/m³ across each AQMA.

### Table 7.6 $NO_2$ reductions with measures in place

| Reduction in AQMA | Total $NO_2$ |
|---|---|
| Max modelled Concentration in Fairfield AQMA | 49.73 |
| Decrease of 5% vehicles in Fairfield AQMA | 48.34 |
| Decrease of 10% vehicles in Fairfield AQMA | 46.93 |

| Reduction in AQMA | Total $NO_2$ |
|---|---|
| Max modelled Concentration in Dinting Vale AQMA | 39.72 |
| Decrease of 5% vehicles in Dinting Vale AQMA | 38.59 |
| Decrease of 10% vehicles in Dinting Vale AQMA | 37.44 |

### 7.1.6 Introducing 20mph zones within Buxton Town Centre and Fairfield AQMA

To reduce congestion and improve traffic flow through Buxton Town Centre and through AQMA 3. The council aims to do this by introducing 20mph zones throughout Buxton. The latest version of the EFT was used to calculate the new emissions. Most of the roads within Buxton town centre are slow moving approximately 20mph roads, and reducing all roads to 20mph led to an increase of emissions by 1%. Slowing down traffic typically leads to an increase in emissions, so this result is expected. However, 20mph zones could lead to less congestion due to other routes being sought out instead of through the town centre, which in turn may lead to a reduction in emissions within the town centre.

**Table 7.7 Measure 3 Emission Based Assessment within Buxton Town Centre**

| | Buxton Town Centre & AQMA 3 |
|---|---|
| **Average Annual NOx Emissions without measure (kg/year)** | 1,029,877 |
| **Average Annual NOx Emissions - with measure at full potential (kg/year)** | 1,041,379 |
| **Average NOx Emission Increase/Reduction (%)** | +1.1 |

### 7.1.7 Introducing EV charging points (increase EV use)

Below are measures that all include the increase of EV usage:

(a) Installation of further rapid EV charging points across Borough (increase in EVs);

(b) Installation of on-street charging across Borough (increase in EVs); and

(c) Installation of charge points in residential areas (increase in EVs).

The council aims to reduce vehicle emissions and promote low emission travel by introducing these measures throughout the borough. To quantify this measure, the latest version of the EFT has been used. To assess the reduction of vehicles and the increase of EVs, an assumption has been used. To capture measures 6-8, a reduction

of vehicles of 5%, 10% and 25% has been applied. Increasing the EV within the borough will lead to a reduction in emissions. As EVs emit zero NOx.

### Table 7.8 Increase in EV Usage

| | No reduction of vehicles | Reduction of vehicles 5% | Reduction of vehicles 10% | Reduction of vehicles 25% |
|---|---|---|---|---|
| Borough-wide | Average Annual NOx Emissions (kg/year) | | | |
| | 1,884,194 | 1,789,985 | 1,695,775 | 1,413,146 |

To also assess the effects of increase EV uptake on $NO_2$ concentrations, the NOx concentrations at the highest modelled receptor in each AQMA was used. A reduction of 5, 10 and 25% was applied to this concentration. For this measure, $NO_2$ concentrations are expected to reduce between 2-6 µg/m³ in the Fairfield AQMA, 2-6 µg/m³ in the Dinting Vale AQMA and 2-4 µg/m³ in the Tintwistle AQMA. The latest version of the NOx to $NO_2$ calculator was used to calculate reductions of $NO_2$ with measures in place. Table 7.9 below shows that within each AQMA, the above measure will likely cause a reduction of 2-6 µg/m³ across each AQMA.

Based on the changes in road $NO_x$ obtained from the modelling and using the fleet compositions tools within the Emissions Factors Toolkit, indicative changes in the effectiveness of uptake of EVs are shown below.

### Table 7.9 $NO_2$ reductions with measures in place

| Reduction in AQMA | Total $NO_2$ |
|---|---|
| Max modelled Concentration in Fairfield AQMA | 49.73 |
| Increase of 5% EVs in Fairfield AQMA | 48.34 |
| Increase of 10% EVs in Fairfield AQMA | 46.93 |
| Increase of 25% EVs in Fairfield AQMA | 42.43 |
| Max modelled Concentration in Dinting Vale AQMA | 39.72 |
| Increase of 5% EVs in Dinting Vale AQMA | 38.59 |
| Increase of 10% EVs in Dinting Vale AQMA | 37.44 |
| Increase of 25% EVs in Dinting Vale AQMA | 33.78 |
| Max modelled Concentration in Tintwistle AQMA | 31.65 |
| Increase of 5% EVs in Tintwistle AQMA | 30.84 |
| Increase of 10% EVs in Tintwistle AQMA | 30.02 |
| Increase of 25% EVs in Tintwistle AQMA | 27.45 |

### 7.1.8 Implementation of Bus service improvement plan (assumed % reduction

### in traffic)

The council aims the Implementation of Bus Service Improvement Plan which promotes low emission transport. The measure aims to achieve 95% Euro 6 for the bus fleet by the end of 2029/2030. The assessment of this measure was achieved by using the Bespoke Euro Fleet section of the EFT. Within this section, the conventional busses were changed to all be Euro 6 class.

The measure will reduce emissions within the borough by 2.1%.

**Table 7.10 Measure 11a Achieve 95% Euro 6 bus fleet**

| | A6 |
|---|---|
| Average Annual NOx Emissions without measure (kg/year) | 1,869,928 |
| Average Annual NOx Emissions - with measure at full potential (kg/year) | 1,830,965 |
| Average NOx Emission Increase/Reduction (%) | -2.1 |

### 7.1.9 Development of a mobility hub in Buxton (assumed % reduction in traffic)

The council has received funding to support the development of the mobility hub in Buxton. This measure aims to improve mobility in rural areas through increasing transport links and increasing technology in these areas relating to transport. This targets a reduction in vehicle emissions throughout Buxton. A reduction of 5% and 10% within Buxton has been applied using best judgement. The reduction of vehicles within Buxton shows a decrease in emissions.

**Table 7.11 Support the development of Mobility Hub in Buxton**

| | Average Annual NOx Emissions (kg/year) | Average Annual NOx Emissions (kg/year) 5% | Average Annual NOx Emissions (kg/year) 10% |
|---|---|---|---|
| Buxton | 1,029, 877 | 978,384 | 926, 890 |

### 7.1.10 Reduce emissions through council fleet

The below measures relate to the HPBC members to reduce emissions by:

(a) Reduce emissions from the council fleet (change in fleet to Euro VI/EV) – Use bespoke euro fleet to change x number of cars

(b) Reduce emissions from the grey council fleet (change in fleet to Euro

VI/EV) – Use bespoke euro fleet to change x number of cars

(c) Incentivise council staff to switch to low emission vehicles. (change in fleet to Euro VI/EV) – Use bespoke euro fleet to change x number of cars

The latest version of the EFT was used to quantify Measures 24 and 25. The assumption of 50 daily trips to represent the council's fleet has been used. 50 cars were re-categorised from Euro 2 to Euro 6 class. The same was undertaken for 50 LGVs to represent the 'grey fleet'. To represent the addition EVs, 50 daily trips were removed from each road to represent the zero emissions vehicles added to the fleet.

**Table 7.12 Measure 24-26 Reduce emissions through council fleet**

| | Council Fleet cars (kg/year) | Council 'Grey Fleet' (kg/year) | Council Fleet EVs (kg/year) |
|---|---|---|---|
| **Borough-wide without measures** | 1,884,194 | 1,884,194 | 1,884,194 |
| **Borough-wide with measure** | 1,878,186 | 1,818,115 | 1,878,250 |

## 7.2 Cost Benefit Analysis of Measures

### 7.2.1 Methodology

Using the above assumptions around the quantitative pollution reduction and assumed costs, each measure was given a score as set out below, which are in line with the latest LAQMTG(22) supplementary guidance to determine the impact of air quality improvement measures[18].

**Table 7.13 - Cost Score**

| Estimated Cost of Measure | Score |
|---|---|
| < £10k | 7 |
| £10k - £50k | 6 |
| £50k - £100k | 5 |
| £100k - £500k | 4 |
| £500k - £1m | 3 |
| £1m - £10m | 2 |
| > £10m | 1 |

**Table 7.14 - Benefit Score**

| Estimated Reduction in Pollutant Concentrations | Score |
|---|---|
| >0.5µg/m³ | 1 |

[18] LAQM.TG(22) Supplementary Guidance England excl. London. Determining the impact of air quality improvement measures. Defra (2024)

| Estimated Reduction in Pollutant Concentrations | Score |
|---|---|
| 0.5-1 µg/m³ | 2 |
| 1-2 µg/m³ | 3 |
| 2-3 µg/m³ | 4 |
| 3-4 µg/m³ | 5 |
| 4-5 µg/m³ | 6 |
| >5 µg/m³ | 7 |

Using the scores above, the below matrix was implemented to work out the cost-benefit. Higher scores are awarded for those measures which are cheapest with the greatest effect, with the lowest scores awarded for those which will be costly with limited reduction in pollution.

### Table 7.15 - Cost Benefit Scoring Matrix

| | | Estimated Reduction in Pollutant Concentrations | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | >0.5µg/m³ | 0.5-1 µg/m³ | 1-2 µg/m³ | 1-2 µg/m³ | 2-3 µg/m³ | 3-4 µg/m³ | >4 µg/m³ |
| Cost of Measure | < £10k | 7 | 8 | 10 | 12 | 14 | 16 | 18 |
| | £10k - £50k | 6 | 7 | 8 | 10 | 12 | 14 | 16 |
| | £50k - £100k | 5 | 6 | 7 | 8 | 10 | 12 | 14 |
| | £100k - £500k | 4 | 5 | 6 | 7 | 8 | 10 | 12 |
| | £500k - £1m | 3 | 4 | 5 | 6 | 7 | 8 | 10 |
| | £1m - £10m | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | > £10m | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

The analysis also accounts for the feasibility of implementing the measures, with those likely to progress given a higher priority than those which are acknowledged to be a challenge to implement. The feasibility score factors in local influences such as political backing, accessibility to funding options and resources available. As such, each measure was assigned a 'Feasibility' score based on the table below. The score from the matrix was multiplied by this score.

### Table 7.16 - Feasibility Scores

| Feasibility Score | Score |
|---|---|
| Measure has already been started and just requires progressing | 7 |
| Very easy to implement, and political good will towards this, sufficient resources | 6 |
| Easy to implement, general political goodwill and available resources | 5 |
| Possible to implement but may require some learning/campaigning, moderately time intensive | 4 |
| Possible to implement but not straightforward and will require some learning/campaigning, moderately time intensive | 3 |
| Challenging to implement, would require some campaigning, time intensive | 2 |
| Very Difficult to implement, no political appetite, time and resource intensive | 1 |

### 7.2.2 Cost-Benefit Analysis

Following the above assessment, it has been possible to rank the measures by cost, benefit and feasibility. With the feasibility weighting meaning that measures which are the easiest to progress are scored higher, these are prioritised.

Following a cost-benefit analysis, thirteen of the measures analysed obtained the highest overall score (49) followed by 10 measures which obtained an overall score of (42).

The measures that scored the highest have low cost and are indirect interventions that focus on individual / group behavioural change and do not involve direct impact on infrastructure. These measures aid behavioural shifts within the wider population and businesses to promote more sustainable and less polluting methods of transport. They are easy to implement at a low cost. Their aim is to promote better practices and behaviours across wider areas specially reducing the use of private cars.

The measure that scored the lowest was the measure which aims to introduce from Cauldon Lowe Quarries to Stoke-on-Trent to facilitate increased use of rail for transporting freight from quarries. This is the case as it is an expensive measure with low indirect air quality effect upon the AQMAs. Despite this, is important to consider the direct effect of the measure in the entire population.

The measure that scored the lowest was the measure was the Implementation of Bus service Improvement Plan. This is the case as it is an expensive measure with low direct air quality effect

**Table 7.17 – Cost Benefit Analysis of Measures**

| Prioritised Measure | Measure | Cost Score | Air Quality Effect Score | Feasibility Score | Overall Score |
|---|---|---|---|---|---|
| 1 | Promotion of Walking and Cycling Travel Alternatives | 7 | 1 | 7 | 49 |
| 1 | Increased promotion of School travel plans and improved focus on air quality | 7 | 1 | 7 | 49 |
| 1 | Increased promotion of work base travel plans | 7 | 1 | 7 | 49 |
| 1 | Promotion of car share schemes | 7 | 1 | 7 | 49 |
| 1 | Promote and support active Travel for Council Staff | 7 | 1 | 7 | 49 |
| 1 | Revise Councils procurement policy to embed sustainability and low | 7 | 1 | 7 | 49 |

| Prioritised Measure | Measure | Cost Score | Air Quality Effect Score | Feasibility Score | Overall Score |
|---|---|---|---|---|---|
| | carbon and emissions considerations into decision making | | | | |
| 1 | Review of HPBC Local Plan to include specific policies on air quality | 7 | 1 | 7 | 49 |
| 1 | Develop a supplementary planning document for Air Quality Planning and Policy Guidance | 7 | 1 | 7 | 49 |
| 1 | Review of Derbyshire County Council Local Transport Policy (LTP4) | 7 | 1 | 7 | 49 |
| 1 | Ant-idling Enforcement on council owned land | 7 | 1 | 7 | 49 |
| 1 | Smoke Control Enforcement | 7 | 1 | 7 | 49 |
| 1 | Raise awareness of impacts of coal and wood burning | 7 | 1 | 7 | 49 |
| 1 | Develop Air Quality Awareness and Promotion events in conjunction with other relevant partners. | 7 | 1 | 7 | 49 |
| 14 | National Highways to review Air Quality, junction capacity, Speed limits and Road Safety along the A628 (Tintwistle). | 7 | 2 | 3 | 42 |
| 14 | DCC Highways Authority to review Air Quality, junction capacity, Speed limits and Road Safety along the A57 (Glossop). | 7 | 2 | 3 | 42 |
| 14 | DCC Highways Authority to review Air Quality, junction capacity, Speed limits and Road Safety along A6 (Buxton). | 7 | 2 | 3 | 42 |
| 14 | Support the development and implementation of a Buxton on the Move travel plan | 7 | 1 | 6 | 42 |
| 14 | Incentivise Council Staff to switch to Low emission vehicles | 6 | 1 | 7 | 42 |
| 14 | Review of Taxi Licencing Policy to encourage taxis licensed by the Council to comply with vehicle emission limits | 7 | 1 | 6 | 42 |
| 14 | Review of Street Trading Policy to encourage trader licensed by the Council to comply with emission limits | 7 | 1 | 6 | 42 |
| 14 | Inspect under the Environmental Permit regime | 7 | 1 | 6 | 42 |
| 14 | Anti-idling promotion and introduction of Anti idling signage at key locations in AQMAs and across the district | 7 | 1 | 6 | 42 |
| 14 | Support and contribute to the Derbyshire Air Quality Working and related projects to develop Area wide Strategies to reduce emissions and improve air quality | 7 | 1 | 6 | 42 |
| 24 | With relevant stakeholders, support the development of a mobility or park and ride in Glossop | 6 | 1 | 6 | 36 |
| 24 | Support the development and | 6 | 1 | 6 | 36 |

| Prioritised Measure | Measure | Cost Score | Air Quality Effect Score | Feasibility Score | Overall Score |
|---|---|---|---|---|---|
| | implementation of an active travel for school's plan for Glossop to Hollingworth and Hadfield | | | | |
| 24 | Reduce emissions from Council Grey Fleet | 6 | 1 | 6 | 36 |
| 24 | Introduction of New Smoke Control Zones | 6 | 1 | 6 | 36 |
| 28 | Review of HPBC parking strategy to Incentivise parking for low emission vehicles | 7 | 1 | 5 | 35 |
| 28 | Review of the current resident on-street parking in High Peak AQMA No.2 Dinting Vale | 7 | 1 | 5 | 35 |
| 28 | Promotion of Fleet advice and recognition schemes across High Peak | 7 | 1 | 5 | 35 |
| 28 | Use of the planning regime to minimise impact of new developments in AQMAs and wider district | 7 | 1 | 5 | 35 |
| 28 | Continue to promote and increase the installation of EV charging points through development control processes | 7 | 1 | 5 | 35 |
| 33 | Support the DCC "Green Towns" pilot scheme to reduce the speed limit in Buxton Town Centre and AQMA No.3: Fairfield from 30mph to 20mph and determine the impact of AQ emissions, traffic flow and safety | 4 | -1 | 4 | 32 |
| 34 | Installation of further rapid (50kw +) EV Charging points across borough | 6 | 1 | 5 | 30 |
| 34 | Installation of On-street charging utilising lamp columns (5kW) across borough | 6 | 1 | 5 | 30 |
| 34 | Installation of charge points in residential areas (7kW) | 6 | 1 | 5 | 30 |
| 34 | Support the development of Mobility Hub in Buxton | 5 | 1 | 6 | 30 |
| 34 | Support the development and implementation of a Glossop Active Travel Masterplan | 5 | 1 | 6 | 30 |
| 34 | Reduce emissions from Council Fleet | 5 | 1 | 6 | 30 |
| 40 | Development of Derbyshire (or HPBC) Freight and Delivery Fleet Strategy | 7 | 1 | 4 | 28 |
| 40 | Support the completion of the Link 2 and Link 3 of Derbyshire's Key Cycle Network in Glossop | 7 | 1 | 4 | 28 |
| 40 | Support the completion of the Link 17, Link 21 and Link 22 of Derbyshire's Key Cycle Network in Buxton | 7 | 1 | 4 | 28 |
| 40 | Review the potential for providing improve access to electrical power supplies to established outdoor event areas to reduce the need for the use of diesel generators by traders | 7 | 1 | 4 | 28 |

| Prioritised Measure | Measure | Cost Score | Air Quality Effect Score | Feasibility Score | Overall Score |
|---|---|---|---|---|---|
| 44 | Improve Air Quality web page and develop an Air Quality Portal showing real time pollution levels across the AQMAs and wider district. | 6 | 1 | 4 | 24 |
| 44 | Installation of continuous Air Quality Monitors in AQMA's | 6 | 1 | 4 | 24 |
| 46 | Investigate the use of Uban Traffic Management and Control in Buxton and Glossop | 4 | 1 | 4 | 16 |
| 47 | With relevant stakeholders, determine if lower emission buses can be prioritised for services directly impacting on the AQMA's | 5 | 1 | 3 | 15 |
| 48 | With DCC, determine if the road network can be redesigned so that the bus stops within the AQMA are set back from the main road, so traffic can continue to flow. | 6 | 1 | 2 | 12 |
| 49 | Implementation of Bus service Improvement Plan | 1 | 1 | 3 | 3 |

# Appendix A: Air Quality Action Plan Appraisal

The Action Plan should set out information on air quality obtained by the Council as part of the Local Air Quality Management process required under the Environment Act 1995 (as amended by the Environment Act 2021) and subsequent Regulations.

This Appraisal Report covers the Draft Air Quality Action Plan (AQAP) for 2025 - 2030 submitted by High Peak Borough Council (HPBC), covering three AQMAs declared for exceedances of the annual mean $NO_2$ objective. The AQMAs covered by the AQAP are as follows:

- AQMA No.1: Tintwistle, declared in September 2019;
- AQMA No.2: Dinting Vale, declared in December 2019; and
- AQMA No.3: Fairfield Road, declared in September 2023.

The AQAP utilises the Defra AQAP report template as a basis for the report, and therefore contains much of the required detail and is well formatted and presented throughout, with some minor exceptions. The AQAP has been supported by a dispersion modelling appendix, which provides much of the technical supporting information and appears largely to have been conducted as per specified technical guidance.

HPBC conducts a local air quality monitoring campaign, well summarised in the AQAP, with a total of 15 diffusion tube monitoring locations across the three AQMAs. Each AQMA is also afforded a detailed explanation of the factors perceived as contributing to the exceedances, which enhances the reader's understanding of the context and therefore perception of the impact of the AQAP.

There has been a general downward trend in $NO_2$ concentrations since 2018 (the period referenced in the AQAP), though two of the three AQMAs monitored concentrations greater than 40 $\mu g/m^3$ in 2022, with the third having one location within 10% of the objective standard. Defra therefore supports the validity of all three AQMA declarations at this time (noting that distance correction reduces the concentration experienced at locations of relevant exposure), validating the need for the AQAP. It has however been stated that implementation of the outlined measures is expected to result in the relevant objective being attained by 2023 in both AQMA No.1 and 2 and by 2028 in AQMA No.3.

The impacts of poor air quality on public health have been explained in detail within the AQAP, citing the PHE fraction of mortality attributable to air pollution ($PM_{2.5}$, specifically) which in HPBC is 5.1%.

This is in addition to an extensive planning and policy section, which sets the context for the AQAP thoroughly. At a local scale, the High Peak Local Plan is a key policy driver, which contains three policies pertinent to air quality. A number of other local and regional strategies are also referenced, all of which emphasise reducing pollutant emissions or promoting health and wellbeing, so the reader can therefore have confidence the AQAP aligns with the wider strategic direction of HPBC, and implementation is therefore more likely to be achievable.

Source apportionment, undertaken in 2023 utilising 2019 data as a worst case, has also been included, undertaken for each AQMA in turn.

This demonstrated that on average across AQMA 1, 36.9% of total $NO_x$ was attributed to road traffic, with a higher relative contribution from local background sources. LGVs were found to be the dominant proportion of this (32.9% of the total road $NO_x$), followed by diesel cars, HGVs, petrol cars and then buses. Road traffic contributions increased at the location with the highest total $NO_x$ concentration, though the relative split between road vehicles remained broadly consistent. This indicates that LGVs should specifically be targeted with measures in AQMA 1, but that other measures beyond road traffic may also be effective in reducing local background contributions.

On average across AQMA 2, a larger 79.9% of total $NO_x$ was attributed to road traffic. In this AQMA, diesel cars were found to be the dominant proportion of this (46.9% of the total road $NO_x$), followed by LGVs, HGVs, petrol cars and then buses. Road traffic contributions increased at the location with the highest total $NO_x$ concentration, and the relative split between road vehicles shifted slightly, with HGVs being more prevalent within the breakdown (a combined 34.4% of total road $NO_x$). This indicates that HGVs should specifically be targeted with measures in AQMA 2.

Finally, on average across AQMA 3, a larger 59.2% of total $NO_x$ was attributed to road traffic. In this AQMA, diesel cars were found to be the dominant proportion of this (43.5% of the total road $NO_x$), followed by HGVs, LGVs, petrol cars and then buses. Road traffic contributions increased at the location with the highest total $NO_x$ concentration, though the relative split between road vehicles remained broadly consistent. This indicates that HGVs could also be targeted with measures in AQMA 3.

The required road traffic $NO_x$ emissions to reach compliance has also been calculated, with a 23.5% reduction being required to achieve compliance in AQMA 1, 24.2% in AQMA 2 and 49.6% in AQMA 3. It is considered that this should be achievable over the life cycle of this AQAP for AQMAs 1 and 2, but that this may be more challenging to achieve in AQMA 3.

The AQAP's actions have been developed within six broader priorities, which can be

summarised as focussing on Transport and Travel, the Council leading by example, Policy led measures, and Public Health and Information.

Responses to formal consultation are yet to be received, so it is assumed that a summary of responses will be added to the Final version. Due consideration should also be afforded to any measures that have not been taken forward post consultation where relevant within Appendix B, with clear reasons for not pursuing these provided. Steering group activities have also been omitted.

On an individual measure basis, a total of 49 air quality measures have been included, with the primary focus on transport related interventions, following from the source apportionment data. That said, there is also a strong policy and public information focus. Whilst there is very little quantification of impacts presented, the specific measures which are considered most likely to bring about direct air quality improvements are those related to highways interventions (nominally measures 1-5), particularly those related to AQMA No. 3, which should be prioritised where possible given this AQMA requires the greatest reductions to achieve compliance.

Other measures include electric vehicle charging, taxi and parking regulatory policy, encouraging more sustainable modes of transport, and bus related measures. Non-transport measures focus on air quality planning guidance, the control of domestic combustion emissions (through smoke control areas), and public information / awareness campaigns.

The Draft AQAP is accepted, on the basis that the following comments are incorporated into the Final AQAP, and future iterations. Specifically, more quantification of the measures' impacts would be required for a Final AQAP to be considered acceptable, so that the AQAP clearly demonstrates how and when the measures contribute toward compliance, particularly for AQMA No. 3.

## Commentary

- There are presumed typos on the AQMA naming (AQMA 2 is described as AQMA 22, and AQMA 3 listed as AQMA 2) within the Executive Summary which could be rectified.

  *Rectified*

- There are also broken cross references and on the contents page(s) and footnotes in Chapter 3, to be addressed.

  *Rectified*

- Also, whilst this may be a function of uploading to the LAQM Portal, hyperlinks were not working in the document, which could be checked prior to publication.

- High Peak's AQMA No. 3 does not appear to be listed in the UK-Air Database, which should be updated accordingly.

  *In progress*

- Whilst the Policy section is currently extensive, the national scale policy affecting the AQAP could also be referenced.

  *See Section 3.2*

- Per section 2.22 of LAQM.TG(22), AQAPs should also, where possible, include the population within the AQMA area. The Office for National Statistics provides population data which can be used for this purpose. The smallest available area is for 'Lower Super Output Areas' (LSOA). Additional information can also be found at the LSOA level for information on inequality, such as the Indices of Multiple Deprivation.

  *See Section 2.5*

- Whilst the $NO_x$ source apportionment is a reasonable estimate, source apportionment of $NO_2$ could be added due to the non-linear relationship between these pollutants as per paragraph 7.109 of LAQM.TG(22). This can be carried out using the methodology in Box 7.5 or through dispersion modelling.

  *See Section 3.3*

  That said, the analysis of source apportionment at different locations i.e. averaged across the AQMA, and at the location of maximum pollutant concentrations, can be considered an example of best practice.

  *Confirmed*

- Section 3.5 states actions have been developed under seven priorities, but only six are listed.

  *Rectified*

- It is felt that some of the measures could be consolidated such that the list can be more easily digested and managed. For example, there are multiple measures covering EV charging, promoting sustainable travel methods, travel planning, three related to smoke domestic combustion emissions control and two covering anti idling. Some consolidation of these may be beneficial, if purely for the sake of reporting progress on an annual basis. That said, the current granularity is commendable and so this is at the local authorities' discretion.

  *No action*

- The AQAP determines qualitatively that the actions are likely to be effective, but doesn't accurately quantify any of the specific measures' impacts, which would help the reader to understand the relative merits of particular interventions. As per paragraph 2.85 of LAQM.TG(22), an AQAP should contain quantification of the impacts of measures as a minimum. This could be aided by the dispersion modelling already undertaken, by using the Emissions Factors Toolkit for road traffic emissions, or by utilising existing planning assessments where relevant (for example the A57 link road).

  *See Section 7.1.3*

- A detailed cost benefit analysis of the measures would also be beneficial, so the reader can easily and quickly understand the likely efficacy of each measure, and compare them against each other, to determine which are likely to be the highest priorities.

  *See Section 6.2*

- There are several gaps in the measures tables presently, including, in some cases, estimated cost of measure, KPIs and comments on any barriers to implementation, all of which should be populated within the Final AQAP in as much detail as available.

  *See Table of measures*

- It is considered important that the outcomes of the A57 link road project are included within the AQAP as these become known, which may necessitate updates more frequently than the stated 5 year cycle. This is to ensure the possibility of negative impacts in AQMAs 1 and 2 are suitably addressed, if these come to fruition, to ensure compliance is maintained here.

*See section 7.1.2*

- Whilst this has been done in some places, it may also be useful to demonstrate which measures are expected to have impacts in which AQMAs given the AQAP covers multiple, which each have different scales of intervention required.

  *See section 3.5.1.1 onwards*

- The effect of incline / gradient on AQMAs 1 and 3 is often mentioned, but this doesn't appear to have been accounted for within the supporting dispersion modelling Appendix C, which appears otherwise robust, albeit with an underprediction of potential exceedance within the vicinity of diffusion tube site HP31.

  *The modelling assessment undertaken was verified to account for emissions on this road. Given that the model verified successfully It is considered that the model is suitable for determining baseline concentrations as of 2019, in combination with the more recent monitoring data.*

- It would be beneficial if the responses to consultation, once received, and signposts within the document showing how these were directly considered, were thoroughly summarised within the AQAP, specifically within Appendix A. Appendix B can also be populated with any measures not taken forward, post consultation (for example measure 5).

  *See Appendix*

- Activities of the Steering Group have been omitted from section 4.2, which should be rectified. The intended meeting schedule of the Steering Group through the implementation phase of the AQAP should be added, to ensure that the Group continues to meet and that measures are implemented effectively.

- Defra also recommends that Directors of Public Health approve Final AQAPs, which it appears from the Draft is the intention.

- As it is considered possible based on the presented trends that compliance will be achieved within the AQMAs during the AQAP's life cycle (which can be more clearly demonstrated when responding to these appraisal comments in the Final version), the plan may benefit from setting out in more detail how the local authority will ensure that air quality standards and objectives are to be maintained after they have been achieved, for example by drawing on the Derbyshire Air Quality Strategy or drafting a local version, and specifically relating to the A57 link road.

*See Section 2.0*

# Glossary of Terms

| Abbreviation | Description |
|---|---|
| AQAP | Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values' |
| AQMA | Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives |
| AQS | Air Quality Strategy |
| ASR | Air quality Annual Status Report |
| Defra | Department for Environment, Food and Rural Affairs |
| EU | European Union |
| LAQM | Local Air Quality Management |
| $NO_2$ | Nitrogen Dioxide |
| $NO_x$ | Nitrogen Oxides |
| $PM_{10}$ | Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less |
| $PM_{2.5}$ | Airborne particulate matter with an aerodynamic diameter of 2.5µm or less |